Draft Supplemental Environmental Impact Report

ExxonMobil Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project

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April 2019

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List of Abbreviations and Acronyms

°F	Degrees Fahrenheit
AADT	Annual Average Daily Traffic
AAPL	All American Pipeline
AB	Assembly Bill
ADT	Average Daily Traffic
AEP	Association of Environmental Professionals
AMM	Avoidance and Minimization Measure
ANSI	American National Standards Institute
API	American Petroleum Institute
ARC	American Carbon Registry
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATCM	CARB Airborne Toxic Control Measure
BACT	Best Available Control Technologies
bbl	Barrels (one barrel is 42 gallons)
bbls	Barrels
bbls/day	Barrels per day
BETX	Benzene, Ethylbenzene, Toluene, and Xylenes
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
BOEM	Bureau of Ocean Energy Management, Regulation and Enforcement
BPD	Barrels Per Day
BSEE	Bureau of Safety and Enforcement (Federal agency that oversees OCS operations)
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention Program
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CAPCOA	California Air Pollution Control Officers Association
CAR	Climate Action Reserve
CARB	California Air Resources Board
CAS	Climate Action Strategy
CCA	California Coastal Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCPS	Center for Chemical Process Safety
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDTSC	California Department of Toxic Substances Control
CEC	California Energy Commission
CEHC	California Essential Habitat Connectivity Project
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	California Fire Code

CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
CH_4	Methane
CHP	California Highway Patrol
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
CO-TRMPP	Crude Oil Transportation Risk Management and Prevention Program
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CSFM	California State Fire Marshal
CVC	California Vehicle Code
CWA	Clean Water Act
CZLUO	County's Coastal Zone Land Use Ordinance
dB	Decibel
dBA	A-Weighted Decibel
DPM	Diesel Particulate Matter
DPS	Distinct Population Segments
DSR	Slow Order Delays
DTSC	Department of Toxic Substances Control
ECAP	Energy and Climate Action Plan
ECAs	Essential Connectivity Areas
ECB	Emergency Containment Basin
eGrid	Emissions & Generation Resource Integrated Database
EIA	U.S. EPA, Energy Information Administration
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERCs	Emission Reduction Credits
ERP	Emergency Response Plan
ERPG	Emergency Response Planning Guidelines
ESHA	Environmentally Sensitive Habitat Area
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FH	Flood Hazard
FHWA	Federal Highway Administration
FPP	Foxen Petroleum Pipeline
FRP	Facility Response Plan
GDP	Gross Domestic Product
GGRF	Greenhouse Gas Reduction Fund
GHG	Greenhouse Gases

gpm	Gallons per minute
GWP	Global Warming Potential
H_2S	Hydrogen Sulfide
HAP	Hazardous Air Pollutants)3
HARP	Hotspots Analysis and Reporting Program
HC	Hydrocarbons
HCFs	Hydrofluorocarbons
HCP	Habitat Conservation Plans
HHI	Health Hazard Index
HID	United Kingdom Health and Safety Executive Hazardous Installation Directorate
HMTA	Hazardous Materials Transportation Act
hr	Hour
HRA	Health Risk Analysis
hrs	Hours
IIPP	Injury and Illness Prevention Program
IPCC	Intergovernmental Panel on Climate Change
IRRS	Spill Cleanup Impact Reduction and Restoration Supplement
ISO	International Organization for Standards
km	Kilometers
KPRA	Kingpin-to-Rearmost-Axle
LACT	Lease Automatic Custody Transfer
lbs	Pounds
lbs/day	Pounds per day
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Plan
LDAR	Leak Detection and Repair
LFC	Las Flores Canyon
LOS	Level of Service
LUCD	Land Use and Development Code
MBTA	Migratory Bird Treaty Act
M-CR	Coastal Related Industry
MMT	Million Metric Tons
mph	Miles Per Hour
MT/yr	Metric Tons Per Year
$MTCO_2E$	Metric Tons of Carbon Dioxide Equivalent
MW	Megawatts
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NGL	Natural Gas Liquids
NMFS	National Marine Fisheries Service
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration Fisheries
NOP	Notice of Preparation

NO_X	Nitric Oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	Federal New Source Performance Standards
O_3	Ozone
OCS	Outer Continental Shelf
ODT	Offer to Dedicate
OPR	Office of Planning and Research
OPRP	Oil Spill Response Plan
OPS	Office of Pipeline Safety
OS&T	Offshore Storage and Treatment Vessel
OSHA	Occupational Safety and Health Administration
OSPR	Office of Spill Prevention and Response
OSRP	Pacific Region Oil Spill Response Plan
OTP	Oil Treatment Plant
PCE	Passenger Car Equivalent
PERP	CARB Portable Equipment Registration Program
PFCs	Perfluorocarbons
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM	Particulate Matter
$PM_{2.5}$	Suspended Particulate Matter (aerodynamic diameter of $\leq$2.5 microns)
PM_{10}	Suspended Particulate Matter (aerodynamic diameter of $\leq$10 microns)
POPCO	Pacific Offshore Pipeline Company
ppb	Parts per Billion
ppm	Parts Per Million
PRC	Public Resources Code
PSM	Process Safety Management
PTO	Permit to Operate
QRA	Quantitative Risk Assessment
RMP	Risk Management Plan
ROC	Reactive Organic Compounds
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SBC	Santa Barbara County
SBCAG	Santa Barbara County Association of Governments
SBCAPCD	Santa Barbara County Air Pollution Control District
SBCFD	Santa Barbara County Fire Department
SCC	Southern California Coast
SCCAB	South Central Coast Air Basin
SCCC	South Central California Coast
SCE	Southern California Edison
SEIR	Supplemental Environmental Impact Report
SF_6	Sulfur Hexafluoride
SIP	CARB State Implementation Plan

SLOC	San Luis Obispo County
SMARA	Surface Mining and Reclamation Act
SMPS	Santa Maria Pump Station
SMR	Santa Maria Refinery
SO_2	Sulfur Dioxide
SPCC	Spill Prevention, Control and Countermeasure Plan
SSRRC	System Safety and Reliability Review Committee
SWITRS	Statewide Integrated Traffic Records System
SWMP	Stormwater Management Program
SWPPP	Storm Water Pollution Prevention Plan
SYU	Santa Ynez Unit
TAC	Toxic Air Contaminants
TIMS	Transportation Injury Mapping System
TLA	Truck Loading Area
TPY	Tons Per Year
TQRA	Transportation Quantitative Risk Assessment
TT	Transportation Terminal
U.S. EPA	United States Environmental Protection Agency
UFC	Uniform Fire Code
UKHSE	United Kingdom Health and Safety Executive
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
UV	Ultraviolet
V/C	Volume to Capacity
VCS	Verified Carbon Standard
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
VRS	Vapor Recovery System
$\mu g/m^3$	Microgram Per Cubic Meter

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Executive Summary

This Supplemental Environmental Impact Report (SEIR) has been prepared to address the environmental impacts associated with the proposed Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project (proposed Project). The proposed Project would allow for the phased restart of the SYU facilities.

ExxonMobil Production Company, a division of Exxon Mobil Corporation ("the Applicant") is proposing the Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project to take a phased approach to restarting offshore oil production at the SYU facilities by initiating interim trucking of limited crude oil production until a pipeline alternative becomes available to transport crude oil to a refinery destination. Trucking of crude oil would cease once a pipeline became available or after seven years, whichever is shorter, unless extended by County decision makers. Crude trucks would load crude oil at the Las Flores Canyon (LFC) facility and then deliver the crude to either the Santa Maria Pump Station (SMPS) in Santa Maria or the Plains Pentland Terminal in Kern County.

The LFC facility property is located approximately twelve (12) miles west of the City of Goleta and one (1) mile north of Highway 101. The LFC facility is located on a 550-acre parcel zoned M-CR (Coastal Related Industry) APN 081-220-014, at 12000 Calle Real in the Goleta Area. The location of the LFC facility and the two receiving terminals are shown in Figure ES-1.

This SEIR is an informational document that is being used by the general public and governmental agencies to review and evaluate the proposed Project. The reader should not rely exclusively on the Executive Summary as the sole basis for judgment of the proposed Project. Specifically, the SEIR should be consulted for information about the environmental effects associated with the proposed Project and potential mitigation measures to address or minimize those effects.

The remainder of the Executive Summary consists of the following sections:

- An introduction, which discusses the regulatory oversight in the preparation of the EIR and public scoping process, and agency use of the EIR.
- A brief description of the proposed Project.
- A brief description of the Alternatives evaluated in detail in the SEIR.
- A discussion of how the environmental setting (i.e., baseline) was established for the proposed Project.
- A summary of key impacts of the proposed Project, alternatives, and cumulative development.
- A discussion of the Environmentally Superior Alternative.

Tables ES-1 through ES-4, located at the end of the Executive Summary, summarizes the impacts and mitigation measures for the proposed Project and provides a summary of the key cumulative impacts. The impacts and mitigation measures for the proposed Project are discussed in detail in Section 4.0 of the SEIR.

Figure ES-1 Project Location

Source: Google, Google Earth data © Google 2018.

ES.1 Introduction

The purpose of the Executive Summary is to provide the reader with a brief overview of the proposed 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 proposed Project.

The County of Santa Barbara, as Lead Agency under the California Environmental Quality Act (CEQA), determined than an SEIR would be required as part of the permitting process for the proposed Project. In compliance with State CEQA Guidelines, the County, as the Lead Agency, prepared a Notice of Preparation (NOP) for the proposed Project and solicited comments through distribution of the NOP. The NOP was issued for a 30-day comment period, which began on June 15, 2018 and ended on July 16, 2018. On July 11, 2018, the County held a Scoping Meeting at the Planning Commission Hearing Room, Engineering Building, 123 E. Anapamu Street, Santa Barbara, CA. 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 SEIR. A Scoping Report is included as Appendix A of the SEIR that contains a summary of the scoping comments, a copy of the NOP, and all the written comments received on the NOP.

In addition to the County, the Santa Barbara County Air Pollution Control District (SBCAPCD) requires a CEQA analysis of the proposed Project in order to act on the Project. No other agencies need to issue discretionary permits for the proposed Project. The County, as the CEQA Lead Agency, will act first on the proposed Project before any of the responsible agencies take action on the Project. Santa Barbara County decision-makers will use the SEIR for decision-making purposes regarding the proposed Project. If the proposed Project is approved by all required permitting agencies, the County would oversee the implementation of the Mitigation Monitoring and Reporting Program as presented in Section 7.0 of this SEIR for the proposed Project construction and operations to ensure that these activities are conducted in accordance with the Development Plan permit conditions.

ES.2 Description of Proposed Project

This section of the Executive Summary provides a brief description of the proposed Project. A complete description is provided in Section 2.0 of this SEIR.

ExxonMobil is asking Santa Barbara County for a revision to Development Plan 87-DP-32cz, which covers operations of the existing SYU facilities. The proposed Project would allow for the construction of truck loading racks at the LFC facility and allow for produced crude oil to be trucked from the LFC facility to one of two receiving terminals. Trucking would occur seven days per week, 24-hours per day, with no more than 70 trucks leaving the SYU facility within a 24-hour period. The Project would include minor modifications to the Las Flores Canyon (LFC) facilities including the installation of four Lease Automatic Custody Transfer (LACT) Units, associated piping, electrical and communication connections, pipe and equipment supports, truck loading racks, operator shelter, paving of selected areas, and minor containment and drainage grading.

The truck loading facilities would be located in the Truck Loading Area (TLA), which is within an existing developed portion of the LFC facilities, north of the Transportation Terminal (TT). The site for the TLA is approximately 2.91 acres and the loading rack and associated truck loading lanes (four loading lanes) would occupy 0.12-acre of that area. New piping would be installed to transport crude oil to the truck loading rack and to transport truck vapors back into the LFC vapor recovery system for processing and use as plant fuel.

Each truck would transport approximately 160 barrels of crude oil (6,720 gallons), for a daily average crude oil production rate of about 11,200 barrels. This represents about one-third of the oil production rate from the SYU facilities prior to their shut-in in May of 2015.

The crude oil trucks would use Calle Real and the Refugio/U.S. Highway 101 interchange. The crude trucks would travel to one of two existing receiving terminal. The first is the Phillips 66 Santa Maria Pump Station (SMPS), which is located at 1580 East Battles Road, east of the City of Santa Maria in Northern Santa Barbara County. The SMPS receives crude via truck and pipeline and then transfers the crude via pipeline to the Phillip 66 Santa Maria Refinery, located in Southern San Luis Obispo County. Figure ES-2 provides and overview of the proposed trucking routes.

The second receiving site is the Plains Pentland Station which is located at 2311 Basic School Road in Maricopa in Kern County. This terminal has access to the crude oil pipeline network in the San Joaquin Valley which can be used to move crude north to the Bay Area or south to the Los Angeles Basin. Trucks going to the Plains Petland terminal would be limited to 68 trucks per day. The number of trucks going to each terminal is unknown. The SEIR evaluated the impacts of 70 trucks per day going to the SMPS or 68 trucks per day going to the Plains Pentland Terminal.

ES.3 Objectives of the Proposed Project

Pursuant to Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines, the description of the proposed Project is to contain "a clearly written statement of objectives" that would aid the lead agency in developing a reasonable range of alternatives to evaluate in the SEIR and would aid decision makers in preparing findings and, if necessary, a statement of overriding considerations. The County is the lead CEQA agency responsible for preparing the SEIR. The County decision-makers will consider the SEIR for certification and the proposed Project for approval.

The proposed Project objectives are summarized as follows:

- Temporarily transport limited SYU crude oil production while a pipeline transport option is unavailable, enhancing ExxonMobil's positive community impact in the region, e.g., increasing production-related tax revenue and bringing back local jobs.
- Restore a portion of SYU wells and equipment to a desired state of operation to best maintain facility integrity during an unknown pipeline restoration period.
- Re-establish SYU production in a safe and environmentally responsible manner. Apply experiences from past SYU operations and previous, successful de-inventory trucking project. Leverage experiences gained from the phased restart program to facilitate a smooth full production restart when a pipeline transport option becomes available.
- Increase energy supply via restart of a local petroleum resource which would serve to reduce demand for imported oil and reduced risk of marine tanker spills.

ES.4 Description of Alternatives

Alternatives to the proposed Project were developed per CEQA Guidelines Section 15126.6. This SEIR uses a screening analysis to limit the number of alternatives evaluated in detail throughout the SEIR. Use of the screening analysis assures that only alternatives that reduce significant impacts of the proposed Project, are technically feasible, and attain most of the basic proposed Project objectives are evaluated and compared in the SEIR.

Figure ES-2 Proposed Truck Routes to Receiving Facilities

Source: : ExxonMobil, Application-Appendix B, December 2017

Section 2.7 of the SEIR provides a complete description of all alternatives considered in the screening analysis, including explanation for rejecting potential alternatives for further analysis. The following are the alternatives selected through the screening analysis for more detailed study in the SEIR.

ES.4.1 No Project Alternative

Under the No Project Alternative, the truck unloading facilities would not be constructed and no trucking would occur. The LFC and SYU facilities would remain in their preserved state until such time as a pipeline becomes available. Plains Pipeline, LLC is currently in the process of permitting a replacement pipeline.

CEQA requires that the No Project Alternative be evaluated along with its impacts as part of the EIR (CEQA Guidelines Section 15126.6(e) (1)). The proposed Project objectives would not be met under the No Project Alternative.

ES.4.2 Reduced Trucking Alternative

The Reduced Trucking Alternative was developed to reduce the risk of an oil spill impacting biological, cultural and water resources, the only significant and unavoidable impact identified for the proposed Project. By reducing the maximum daily number of trucks carrying crude oil, the likelihood of an oil spill would thereby be reduced as well. The Reduced Trucking Alternative would limit the trucking of oil from the LFC facility to a maximum of 50 trucks per day (8,000 barrels per day of oil). Truck transportation would occur seven days per week, 24-hours per day, with no more than 50 trucks loads leaving the LFC facility within a 24-hour period. Trucks could either travel to the SMPS or the Plains Pentland Terminal. The facilities that would be built at LFC would be the same as the proposed Project. Truck routes to the two receiving terminals would be the same as the proposed Project.

The feasibility of limiting the proposed Project to a maximum of 50 trucks per day is uncertain. After the shutdown of the Plains All American Pipeline on May 19, 2015, ExxonMobil worked to reduce production from the SYU facilities to a minimum level in order to allow for continued operation in anticipation of a possible pipeline restart, with the produced oil being stored in the LFC crude oil storage tanks. On May 21, 2015 ExxonMobil was able to reduce production to about 10,000 barrels of oil per day, which would be equivalent to about 63 trucks per day. ExxonMobil worked to determine minimum production levels that could be achieved without compromising the safe operations of the SYU facilities. On May 25, 2015 production was further curtailed to 9,000 barrels of oil per day, which would be equivalent to about 57 trucks per day. However, at these lower levels of production Exxon experienced several operational issues associated with the low flow-rates of produced fluids coming from the SYU platforms that included issues with the emulsion pipeline from the platforms to the LFC and exceedance of air permit limits with the cogeneration turbines. Exxon subsequently shut their facility down once it was understood that the pipeline may be down indefinitely.

ES.4.3 No Trucking During Rainy Periods Alternative

The No Trucking During Rainy Periods Alternative was developed to reduce the likelihood of an oil spill impacting biological, cultural and water resources by prohibiting trucking operations during periods of heavy rain. In the event of an oil spill from a tanker truck, the potential impacts to biological and water resources could be greater during periods of rain events since the oil could be transported more easily into waterways by the rain runoff along drainage areas and stormwater management systems.

When the National Weather Service predicts a 50% chance of receiving ½-inch of rain or more in a 24-hr period in the areas along the truck routes, no trucking would occur unless the rain event does not

materialize. When truck loading operations cannot occur, the produced crude oil would be stored in the existing onsite crude oil storage tanks at the LFC facility. Based upon 44-years of historical rain data it is likely that trucking would not occur for an average of 9 days per year with a maximum of about 27 days per year.

Under this alternative, the annual number of truck trips would remain the same as the proposed Project (25,550). To make up for the days when trucking is not allowed due to projected rain days, the limit on the peak truck trips per day leaving the LFC facility would be increased to 78 trucks. Construction of the truck loading facilities would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS and the Plains Pentland Terminal would remain the same as for the proposed Project.

ES.4.4 Trucking to the Santa Maria Pump Station (SMPS) Only Alternative

This alternative was developed to limit the need to transport crude to the Plains Pentland Terminal. This would eliminate the impacts associated with trucking the crude between Santa Maria and the Plains Petland Terminal, which primarily uses State Route 166, except in the case of an extended shutdown of the SMPS. Under this alternative, the crude oil would be trucked to the SMPS only unless the truck loading facilities at the SMPS or the Santa Maria Refinery (SMR) are down for an extended period of time (10 days or more). Under normal operations, 70 trucks per day would travel from the LFC facility to the SMPS.

In the event of an extended shutdown at the SMPS or SMR, the Applicant would be allowed to transport crude oil to the Plains Pentland Terminal with a maximum of 34 trucks per day throughout the duration of the disruption. At this rate of trucking the SYU facilities could continue at the production rate of the proposed Project for approximately 40 conservative days assuming the LFC crude oil storage tanks were half full at the time the extended SMPS shutdown began. If the extended shutdown lasted more the about 40 days, the SYU facilities would likely need to be shut-in.

Once the SMPS or SMR returns to normal operating conditions, to make up for lost shipping days and to transport the excess crude that has been stored in the crude tanks this alternative would allow for up to 78 trucks per day between the LFC facility and the SMPS . However, the annual number of trucks leaving the LFC facility would be limited to 25,550, which is the same as the proposed Project.

With this alternative a new truck unloading lane would be built at the SMPS. The sixth truck lane at the SMPS would provide a temporary unloading point for trucks to offload crude oil at the station while the Plains Pipeline is out of service. The addition of the sixth truck unloading lane would also help ease the crude truck congestion during peak hours, increase traffic flow efficiency, and optimize operations at the SMPS. Operation of the new truck loading lane at the SMPS would be the same as operation of the other five existing truck unloading lanes.

Construction of the truck loading facilities at the LFC facility would remain the same as for the proposed Project. The truck loading operations and the truck routes would remain the same as for the proposed Project.

ES.5 Environmental Setting (i.e., 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 Pubic Resources Code § 21002.l(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.)

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 proposed 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 determines 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 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 SYU and onshore LFC facilities operate under a County issued Development Plan 87-DP-32cz which allows for the production of a maximum of 140,000 barrels of dry oil per day, and processing of 87,000 barrels per day of produced water. The SYU Project has under gone several CEQA and NEPA reviews, including a 1984 EIR/EIS and a 1986 SEIR. Both of these environmental review documents addressed the impact of construction and operation of the SYU offshore and onshore facilities. ExxonMobil has the ability to restart the SYU facilities at any time without approval from decision-makers. The County Development Plan 87-DP-32cz, was issued in September of 1986. Production started in 1993, and the facilities were in operations until shortly after the shutdown of Plains Lines 901 and 903. After the shutdown of the Plains pipelines, the SYU facilities continued to operate for a few weeks, and once it became clear that the pipeline would be down for an indefinite period, Exxon's facilities were shut-in and placed in a preserved state pending the restart of the Plains pipelines or approval of another mode of crude oil transportation.

To allow for a clear assessment of the proposed crude oil trucking impact, and to avoid confusing the impacts of the proposed Project with the permitted operations of the existing SYU facilities, the baseline for purposes of environmental review was considered to be the physical environmental conditions as of 2018 (when the NOP was released), with the baseline adjusted as necessary to include the SYU operations prior to shutdown. In making these adjustments, the average of the last full three years of operation prior to the shutdown of the Plains Lines 901 and 903 (2012-2014) was used. The average crude oil production rate for these three years was about 28,400 barrels per day, which is less than this historical average production rate for the past 19 years (48,866 barrels per day).

Adjustment of the baseline to account for the operations of the SYU and onshore LFC facilities is appropriate since these facilities have undergone extensive CEQA review and are fully permitted to operate and have all the necessary entitlements for to operate up to a throughput of 140,000 barrels per day of crude oil.

ES.6 Impacts of Proposed Project, Alternatives, and Cumulative Development

In the Impact Summary Tables at the end of this Executive Summary and throughout the SEIR, impacts of the proposed Project and alternatives, have been classified using the categories Class I, II, III, and IV as described below.

- Class I – Significant unavoidable adverse impacts for which the decisionmaker must adopt a statement of Overriding Considerations: These are significant adverse impacts that cannot be effectively avoided or mitigated. No measures could be taken to avoid or reduce these adverse effects to insignificant or negligible levels. Even after application of feasible mitigation measures, the residual impact would be significant.
- Class II – Significant environmental impacts that can be feasibly mitigated or avoided for which the decision maker must adopt Findings and recommended mitigation measures: These impacts are potentially similar in significance to those of Class I but can be reduced or avoided by the implementation of feasible mitigation measures. After application of feasible mitigation measures, the residual impact would not be significant.
- Class III – Adverse impacts found not to be significant for which the decision maker does not have to adopt Findings under CEQA: These impacts do not meet or exceed the identified thresholds for significance. Generally, no mitigation measures are required for such impacts.
- Class IV – Impacts beneficial to the environment.

The term "significance" is used in these tables and throughout this SEIR to characterize the magnitude of the projected impact. For the purposes of this SEIR, a significant impact is a substantial or potentially substantial change to resources in the local project area or the area adjacent to the project in comparison to the threshold of significance established for the resource or issue area.

These thresholds of significance are discussed by issue area in Section 4.0 of the SEIR. For each impact, the applicable project phase has been identified as shown below.

- **Accidental Spill:** Impacts associated with the spill of crude oil, either on or offsite.
- **Construction:** Impacts associated with construction activities.
- **Operations:** Impacts due to the operation of the proposed Project.

The remainder of this section provides a brief discussion of the Class I and II impacts identified for the proposed Project, the alternatives and cumulative development. A detailed listing of the impacts associated with the proposed Project can be found in the Impact Summary Tables. Sections 4.1 through 4.5 provide a comprehensive discussion of possible impacts of the proposed Project and discussions of the impacts associated with the cumulative development. Section 5.0, Environmental Analysis and Comparison of Alternatives, provides an analysis of the impacts of each selected alternative, compares the impacts of each alternative relative to the proposed Project, and identifies the Environmentally Superior Alternative.

ES.6.1 Impacts Associated with the Proposed Project

Hazardous Materials and Risk. One significant and unavoidable (Class I) impact was identified for the proposed Project (see Table ES-1) that relates to an offsite accidental spill of crude oil from a truck accident that has the potential to impact sensitive resources including biological, cultural, and water

resources (Impact RISK.3). The maximum spill from a truck would be about 160 barrels (6,720 gallons). The initial spill would likely be on the road pavement, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would influence the severity of impacts to biological, cultural and water resources. The annual probability of 160 barrel spill occurring was estimated to be equivalent to once in 86 years for trucks going to the SMPS and once in 30 years for trucks going to the Plains Pentland Terminal. Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources.

Mitigation measure RISK-1 requires updates emergency response plans to include the crude oil trucking operations which would serve to reduce the overall impacts of a spill and associated cleanup operations. Mitigation measure RISK-2 requires additional safety features for the trucks that would serve to reduce the overall likelihood of an accident thereby reducing the likelihood of an oil spill. Use of these measures would reduce the likelihood of an accident by about 29 percent. Even with implementation of mitigation, in the event of an accidental spill associated with the trucking operations, the impacts to biological, water, and cultural resources could be significant and unavoidable (Class I) particularly if a spill was to enter a waterway or occur during a rainy period.

The significant but mitigable (Class II) impacts (see Table ES-2) identified for the proposed Project are related to construction activities and routine operations, as summarized below.

Air Quality. Mobile source daily NO_x emissions associated with the operation of the crude oil trucks going to the Plains Pentland Terminal would exceed the County's threshold of 25 pounds per day (Impact AQ.3). Daily NO_x emissions for the crude trucks going to the SMPS would be below the County threshold. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. Implementation of mitigation measure AQ-1 that requires a truck emission management plan would assure that the daily NO_x emission threshold of 25 pounds is not exceeded. This could be accomplished by limiting the number of trucks that can go to the Plains Pentland Terminal or with the use of compressed natural gas (CNG) tanker trucks or a mixture of vehicles types and destinations. With the implementation of this mitigation measure the mobile source air impacts would be less than significant with mitigation (Class II).

It is likely that crude oil trucks for the proposed Project would displace trucks currently going to the SMPS from the east (i.e., San Joaquin Valley). Based upon 2.5 years of historical data (2016-mid 2018), about 67 percent of the trucks loading crude at the SMPS are coming from east. These trucks have an average round trip travel distance of 255 miles. This longer travel distance for the trucks from the east increases the transportation cost of delivering the crude to the SMPS. There may be an economic incentive for Phillip 66 to displace trucks from the east with crude from the proposed Project due to the potentially lower transportation costs. If crude from the east was displaced, there would be a net reduction in some truck air emissions. While is likely that crude oil from the proposed Project would displace crude oil coming from the east, there is no guarantee that this would happen. Therefore, no reduction in the project impacts has been considered for this potential displacement.

Climate Change/Greenhouse Gases. The annual greenhouse gas (GHG) emissions from the proposed Project would exceed the County's threshold of 1,000 $MTCO_2e$ per year for trucks servicing both the SMPS and the Plains Petland Terminal (Impact GHG.1). Mitigation measure GHG-1 which requires a reduction in GHG emission or offsetting the annual GHG emissions which would reduce the GHG impacts to less than significant (Class II).

As discussed above under air quality, it is likely that trucks from the proposed project would displace trucks currently going to the SMPS from the east (i.e., San Joaquin Valley) due to the longer transportation route and associated higher transportation costs. Displacing 38 trucks per day coming from the east with 70 trucks per day from the proposed Project would reduce GHG emissions by about 22 percent or 424 $MTCO_2e$ per year. The 38 trucks are the number of truck that would need to be displaced for all the proposed Project trucks to have access to the SMPS based upon the recent historical data.

While is likely that crude oil from the proposed project would displace crude oil coming from the east, there is no guarantee that this would happen. Therefore, no reduction in the project GHG impacts has been considered for this potential displacement.

Transportation and Circulation. Trucks transporting crude to the SMPS would use the U.S. Highway 101 Southbound/Betteravia Road intersection. This intersection operates at a level of service (LOS) F during the PM peak hours. The proposed Project would add a total of six passenger car equivalents (PCEs) per hour during the peak PM hours (Impact TR.2). This exceeds the County threshold of five PCEs. None of the intersections for the route the Plains Petland Terminal would have a significant traffic impact.

Mitigation measure TR-1 would restrict trucks from the proposed Project from using the U.S. Highway 101 Southbound ramp/Betteravia Road intersection during the peak P.M. hours. With implementation of this mitigation measure impacts to this intersection would be less than significant with mitigation (Class II).

Caltrans, in cooperation with the City of Santa Maria, is currently studying an operational improvement project to address the existing deficiency at the U.S. Highway 101/Betteravia Road interchange. The operational improvements would include widening the U.S. Highway 101 Southbound Off-Ramp to provide a second right turn lane and installing two new eastbound thru lanes on Betteravia Road at the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection. It is anticipated that this project would be complete by the end of 2019. When complete the U.S. Highway 101 Southbound/Betteravia Road intersection would operate at and LOS of B with the proposed Project, and therefore, mitigation measure TR-1 would no longer be needed.

Crude oil trucks traveling along Calle Real during the morning and afternoon hours could present a safety risk to local school children that take the bus to school and could be a potential significant impact in the event of an accident (Impact TR.3). Implementation of mitigation measure TR-2 would restrict the use of Calle Real by crude oil trucks during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school busses are operating along Calle Real. With implementation of this mitigation measure impacts to traffic safety hazards would be less than significant with mitigation (Class II).

ES.6.2 Impacts Associated with the Alternatives

As discussed in Section ES.4 several alternatives to the proposed Project were evaluated that had the potential to reduce significant impacts. The relative impacts of each of these alternatives to the proposed Project are summarized below.

No Project Alternative

The No Project Alternative would eliminate all the impacts of the proposed Project since no trucking of crude oil would occur.

Reduced Trucking Alternative

Hazardous Materials/Risk of Upset. The Reduced Trucking Alternative would reduce the likelihood of an accidental oil spill from trucking since the probability of a truck accident leading to an oil spill would be reduced due to fewer daily trucks. The annual probability of 160 barrel spill occurring was estimated to be equivalent to in once in 122 years for trucks going to the SMPS and once in 39 years for trucks going to the Plains Pentland Terminal for the Reduced Trucking Alternative.

Under the Reduced Trucking Alternative, the flow rates in the emulsion pipeline from the SYU platforms to the LFC facility would be reduced to levels that would allow for water to separate from the oil which would increase the potential for corrosion in the pipeline. This flow rate is also not adequate for effective pipeline pigging operations. These factors would serve to increase the likelihood of a release from the emulsion pipeline due to increase corrosion and lack of accurate pipeline integrity data from pigging. Also, at these low flow rates the leak detection system on the emulsion pipeline may not function properly making it more difficult to detect a leak.

This alternative would result in a small reduction in the probability of a crude oil spill from a tanker trucks but would increase the probability of a spill from the offshore emulsion pipeline from the Platforms to the LFC facility. With this alternative impacts to sensitive resources (biological, cultural and water) would remain significant and unavoidable (Class I) in the event of an accidental oil spill.

Air Quality. With the Reduced Trucking Alternative, the daily mobile source NO_x emissions would be reduced by about 30% compared to the proposed Project. However, the daily mobile source NO_x emissions for trucks going to the Plains Petland Terminal would remain above the County threshold of 25 pounds per day. This assumes all 50 trucks go to the Plains Pentland Terminal. Mobile source NO_x emissions for trucks going to the SMPS would be below the County threshold. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. Implementing of mitigation measure AQ-1 would reduce these impacts to less than significant (Class II).

However, this alternative would substantially increase CO emissions of the cogeneration system gas turbine in LFC due to combustion inefficiencies that occur at low loads. At the production rate associated with 50 trucks per day it is likely that the CO emissions from the cogeneration system gas turbine in LFC would exceed the SBCAPCD permitted limits.

Climate Change/Greenhouse Gas Emissions. Peak year GHG emissions with this alternative would be about 25% lower than for the proposed Project but would still exceed the County threshold of 1,000 $MTCO_2e$ per year for trucks servicing both the SMPS and the Plains Petland Terminal. Implementation of mitigation measure GHG-1 would reduce GHG impacts to less than significant (Class II).

Transportation and Circulation. The peak PM hour traffic for this alternative would be the same as for the proposed Project so the impacts to the U.S. Highway 101 Southbound/Betteravia Road intersection would remain the same as the proposed Project. Implementation of mitigation measure TR-1 would reduce traffic impacts to less than significant (Class II).

With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. However, the number of trucks present during this period would be reduced so the probability of an incident would be reduced compared to the proposed Project. Implementation of mitigation measure TR-2 would reduce traffic safety hazards impacts to less than significant (Class II).

No Trucking During Rainy Periods Alternative

Hazardous Materials/Risk of Upset. The No Trucking During Rainy Periods Alternative would have the same annual spill probabilities as the proposed Project since the annual number of trucks would be the same. It is likely that not tucking during period of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions. However, the accident data for trucks is not detailed enough to determine the effects due to wet weather. Therefore, no adjustment has been made to the accident rate. Under this alternative, the likelihood for a spill impacting waterways would be reduced since it would be less likely that the spilled oil would get transported via the rainwater to the creeks and other drainages. This would reduce the likelihood of a spill impacting sensitive resources. However, impacts to sensitive resources (biological, cultural and water) would remain significant and unavoidable (Class I) in the event that an accidental spill occurred.

Air Quality. Under the No Trucking During Rainy Periods Alternative, the peak daily criteria pollutant emissions from mobile source would be about 11% higher than for the proposed Project due to the higher number of daily trucks (78 vs. 70). Daily NO_x mobile source emissions to the Plains Pentland Terminal would exceed the County threshold of 25 lbs/day. This assumes all 78 trucks go to the Plains Petland Terminal. Under the case were all the trucks go to the SMPS, the daily NO_x mobile source emissions would be below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. Implementing of mitigation measure AQ-1 would reduce these impacts to less than significant (Class II).

Climate Change/Greenhouse Gas Emissions. Peak year GHG emissions with this alternative would be the same as for the proposed Project and would exceed the County threshold of 1,000 $MTCO_2e$ per year for trucks servicing both the SMPS and the Plains Petland Terminal. Implementation of mitigation measure GHG-1 would reduce GHG impacts to less than significant (Class II).

Transportation and Circulation. The peak PM hour traffic for this alternative would be slightly higher than for the proposed Project due to the higher daily truck trips (78 trucks per day), which would increase the PCE from six to eight. This PCE would exceed the threshold of five PCEs for intersections operating at LOS F. The impacts to the U.S. Highway 101 Southbound/Betteravia Road intersection would remain about the same as the proposed Project. Implementation of mitigation measure TR-1 would reduce traffic impacts to less than significant (Class II).

With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. However, the number of trucks present when trucking was occurring would be increased so the probability of an incident would be increased compared to the proposed Project. However, it is likely that not tucking during period of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions. Implementation of mitigation measure TR-2 would reduce traffic safety hazards impacts to less than significant (Class II).

Trucking to the SMPS Only Alternative

Hazardous Materials/Risk of Upset. The Trucking to the SMPS Only Alternative would have a similar annual spill probabilities as the proposed Project for trucks going to the SMPS since the annual number of trucks would be the same. This alternative would substantially reduce trucking to the Plains Pentland Terminal, which has a higher probably of spill due to the longer travel route. Trucking to the Plains Pentland Terminal would only be allowed if an extended shutdown of the SMPS occurred (10 days or greater). This would substantially reduce the potential for spill impacts along the portions of the route

that is used for just the Plains Pentland Terminal. Accidental spill impacts to sensitive resources (biological, cultural and water) for this alternative would remain significant and unavoidable (Class I) in the event that an accidental spill occurred.

Air Quality. Under the Trucking to the SMPS Only Alternative, the peak daily criteria pollutant emissions from mobile source would the same as for the proposed Project for trucks going to the SMPS for normal operations (70 trucks per day to the SMPS). In the event of an extended shutdown of the SMPS and/or SMR up to 34 trucks per day could go to the Plains Pentland Terminal. Once the SMPS and/or SMR resume normal operations, up to 78 trucks per day could go to the SMPS to account for the reduction in trucking. In all cases the criteria air pollutants from mobile sources would be below the County thresholds and impacts would be less than significant (Class III). This alternative would eliminate the Class II daily NO_x impact for mobile emission for trucks going to the Plains Pentland Terminal.

Climate Change/Greenhouse Gas Emissions. Peak year GHG emissions with this alternative would exceed the County threshold of 1,000 $MTCO_2e$ per year. This alternative would add additional GHG emissions at the SMPS due to construction and operation of the sixth truck loading lane. Implementation of mitigation measure GHG-1 would reduce GHG impacts to less than significant (Class II). This alternative would substantially reduce the higher GHG emissions associated with trucks going to the Plains Pentland Terminal since trucks would go to the Plains Pentland Terminal only if there was an extend shutdown of the SMPS and/or the SMR.

Transportation and Circulation. The peak PM hour traffic for this alternative would be between six and eight PCEs depending upon the number of trucks per day (70 or 78 trucks per day) traveling to the SMPS. This PCE would exceed the threshold of five PCEs for intersections operating at LOS F. The impacts to the U.S. Highway 101 Southbound/Betteravia Road intersection would be similar to the proposed Project. Implementation of mitigation measure TR-1 would reduce traffic impacts to less than significant (Class II).

With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. The number of trucks present during this period would be the same as the proposed Project. Implementation of mitigation measure TR-2 would reduce traffic safety hazards impacts to less than significant (Class II).

ES.6.3 Impacts Associated with the Cumulative Development

Section 15130(a)(1) of the CEQA Guidelines (14 CCR, Div. 6, Ch. 3) states that a "cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." CEQA requires a discussion of the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (14 CCR §15130(a)). Section 3.0 of this SEIR provides a list of past, present, and probable future projects that could have cumulative effects with the proposed Project. Table ES-4 provides a summary of the proposed Project's cumulative effects. The significant cumulative effects identified in the SEIR are summarized below.

Air Quality. Many of the cumulative projects would generate mobile source emissions along the same routes as the proposed Project. In particular, the proposed ERG, Aera and PetroRock Cat Canyon oil development project would generate traffic on some of the same roadway from construction, drilling, and operational activities. Implementation of mitigation measure AQ-1 would assure that the proposed Projects contribution to cumulative air emissions would be less than significant with mitigation.

The 2016 Ozone Plan indicate a growth in population and employment of as much as 11 percent to 2025. While there is growth projected, emissions of NO_x are projected to decline substantially primarily due to the incorporation of technologies associated with on-road regulations. Also, the proposed Project is

relatively short-term, no longer than 7 years in duration relative to the long-term planning documents so it would not have a lasting cumulative effect.

Climate Change/Greenhouse Gas Emissions. As discussed in Sections 4.2.3 and 4.2.4, the geographic extent and context of climate change is global, and the impacts caused by GHG emissions are, by their nature, cumulative. Emissions of carbon dioxide (CO_2) and methane (CH_4) are long-lived and contribute to the total amount of GHG in the atmosphere, and the effects of GHG emissions are not limited to the localities where they are generated.

The impact of the cumulative projects would add to the impact of global GHG emissions. The cumulative projects would add to the baseline GHG inventory of approximately 1.5 $MMTCO_2e$ in the unincorporated areas of Santa Barbara County, based on data published in the ECAP for 2007 showing 1,192,970 $MTCO_2e$ under County jurisdiction and 315,890 $MTCO_2e$ from stationary sources under APCD jurisdiction. All the cumulative projects would be required to comply with existing plans and, for non-residential and non-commercial projects, would be subject to the County threshold of 1,000 $MTCO_2e$. Implementation of mitigation measures GHG-1 for the proposed Project would assure that the proposed Project's contribution to cumulative GHG emission was less than significant with mitigation.

Hazardous Materials and Risk of Upset. The cumulative risk of upset impacts is related to cumulative oil trucking from other oil development projects in the Santa Maria area. As discussed in Section 3.2.2, there are several oil development projects in Northern Santa Barbara County that would involve the trucking of crude oil and/or light oil for blending. The cumulative oil trucking projects would result in several overlapping truck route segments. Along certain portions of the proposed truck routes, there could be as many as 141 trucks per day carrying crude oil, blended crude or light crude during the peak year overlap with the proposed Project. Of these, most of the proposed trucks would be associated with the ExxonMobil's proposed Project (50%) and the Aera East Cat Canyon Redevelopment Plan Project (38%).

In the event of an accidental oil spill resulting from a truck accident, the potential to impact sensitive biological, cultural and water resources exist. The volume, location and timing (seasonal) of any potential spill could influence the severity of impacts to these sensitive resources. Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources.

All these cumulative oil trucking projects would be required to have emergency response and restoration plans that cover spills that have the potential to result from trucking operations. mitigation measure RISK-1 would require the Applicant to update their oil spill and restoration plans to cover the proposed trucking operations. However, even with these plans in place, the potential for a full tanker oil spill and the associated environmental effects of the spill and its clean-up still exists.

Even with mitigation, in the event of an accidental spill associated with oil trucking operations, the cumulative impacts to biological, cultural and water resources could be significant and unavoidable depending upon the location of the spill and weather conditions at the time of the spill.

ES.7 Environmentally Superior Alternative

Section 5.0, Environmental Analysis and Comparison of Alternatives, provides an analysis of the impacts of each selected alternative, compares the impacts of each alternative to the proposed Project, and identifies the Environmentally Superior Alternative. Tables 5-19, 5-20, and 5-21 in Section 5.0 provide a relative comparison of the Class I and Class II impacts of each alternative to the proposed Project by issue area and impact.

The No Project Alternative was found to be the environmentally superior alternative since none of the impacts associated with the proposed Project or other alternative would occur. This would apply for both the SMPS and Plains Pentland Terminal. Under the No Project Alternative, no trucking would occur. The SYU facilities would remain in their current preserved state until such time as a pipeline becomes available to transport the crude oil. However, the No Project Alternative would not meet any of the objectives of the proposed Project. CEQA requires that if the No Project Alternative is found to be the environmentally superior alternative then the next most environmentally preferred alternative from among the other alternatives must also be identified.

The No Trucking During Rainy Periods Alternative was found to be the next environmentally superior alternative among the other alternatives. The major environmental advantage to this alternative is that it would reduce the probability of an accidental oil spill impacting biological, cultural and water resources, which was the only Class I impact identified for the proposed Project. This would apply for both the SMPS and the Plains Petland Terminal. By not allowing trucking when rainfall of ½ inch or more in a 24-hour period is predicted, the potential for impacting these sensitive resources from a spill would be reduced but would still remain significant and unavoidable (Class I). All the Class II impacts for this alternative could be mitigated to less than significant.

Table ES.1
Proposed Project CLASS I Impacts
Impacts That May Not Be Fully Mitigated to Less Than Significant Levels

(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
HAZARDOUS MATERIALS AND RISK OF UPSET (Section 4.3)			
RISK.3	Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	Accidental Spills	**RISK-1-Updated Emergency Plans.** The following existing plans shall be updated to include the trucking operations. a. LFC Spill Prevention Control and Countermeasure Plan (SPCC) – Section 2.6 shall be updated to cover the truck loading rack. The section shall include a brief description of the rack and loading operations, and the measures in place to avoid releases of oil. b. LFC Emergency Response Plan (ERP) - The ERP shall be updated to include the truck loading operations with the FLC facility. This shall include a discussion of the actions to be taken in the event of an oil spill from the loading operations, including reference to other emergency plans. c. SYU Facility Response Plan (FRP) – The FRP shall be updated to include the truck loading operations with the FLC facility. This shall include a discussion of the actions to be taken in the event of an oil spill from the loading operations, including reference to other emergency plans. d. SYU Spill Cleanup Impact Reduction and Restoration Supplement (IRRS) – This plan shall be updated to address any additional sensitive biological resources that could be present along the truck transportation routes. As needed, the measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during spill response and cleanup operations shall be updated to any unique aspects of the transportation routes that are not covered under the existing IRRS. The IRRS shall also include an Emergency Contingency and Treatment Plan for Cultural Resources. The treatment plan shall include: (1)Protocols for determining the cultural resources regulatory setting of the incident site; (2) methodologies for identifying cultural resources, as needed, within the incident site (e.g., California Historical Resources Information System records search, agency contact, field survey); (3) if cultural resources are present, identify measures for their avoidance, protection, and treatment; and (4) identification of a cultural resource monitor and Native American monitors that would be contacted in the event of a spill. **PLAN REQUIREMENTS and TIMING**: The updated emergency plans shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. The requirements of the approved Action Plan shall be implemented by the Owner/Applicant as necessary in the

Table ES.1
Proposed Project CLASS I Impacts
Impacts That May Not Be Fully Mitigated to Less Than Significant Levels
(Impacts that must be addressed in a "statement of overriding consideration" if the project is approved in accordance with Sections 15091 and 15093 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
			event of a spill. The Owner/Applicant shall report its implementation of emergency measures to P&D consistent with the Santa Barbara County's Emergency Notification Guidance Matrix, which is part of the approved LFC Emergency Response Plan. **MONITORING:** P&D shall conduct onsite inspection(s) to verify and document implementation of emergency action measures. **RISK-2-Truck Hazard Mitigation Plan**. A Truck Hazard Mitigation Plan shall be prepared that addresses the various aspects of truck operation safety, including: carrier qualifications, driver selection and training, electronic driver vehicle inspection report/maintenance systems, approved travel routes, truck loading/unloading procedures, and use of onboard safety systems such as speed limiters, dual-sided dashboard video cameras, and geographical information management systems. In addition, incident and annual reporting procedures shall be included. This Truck Hazard Mitigation Plan can be included as part of the applicant proposed CO-TRMPP. **PLAN REQUIREMENTS and TIMING**: The Truck Hazard Mitigation Plan shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. **MONITORING:** P&D shall verify implementation of the approved Truck Hazard Mitigation Plan through review of incident and annual reports, and site inspection as needed throughout Project operations.

Table ES.2
Proposed Project CLASS II Impacts
Impacts That Can Be Mitigated to Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Sections 15091 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
AIR QUALITY AND GREENHOUSE GASES (Section 4.1)			
AQ.3	Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Operations	**AQ-1-Trucking Emissions Management Plan.** The Applicant shall provide a Trucking Emissions Management Plan to ensure that emissions of NOx do not exceed the daily thresholds during trucking operations to the Plains Pentland Terminal. The Plan shall provide the following performance standards and criteria: a) fleet specifications, b) operational requirements, c) reporting requirements and d) the air quality emission calculations to document that tanker truck emissions shall meet the 25 pounds per day threshold for NOx for the entire route. The Plan shall include one of the following specific performance criteria: 1) the use of only trucks to haul crude oil powered by CNG engines with a certified NOx emission factor at least 50 percent less than the 2017 diesel model year trucks; 2) a prescribed mix of crude oil truck deliveries utilizing 2017 model year trucks ensuring that no more than 25 percent of truck trips travel to Pentland; 3) Surrender emission offsets to the SBCAPCD in an amount equal to that needed to ensure that total emissions are below the thresholds; 4) Provide a specific mix of CNG vehicles and 2017 model year truck trips destinations to meet the thresholds; or 5) Other County and SBCAPCD approved equivalent technologies or measures. The Plan shall include engine exhaust performance standards data to support the air quality calculations and shall include the requirement for monthly activity logs to the County. **PLAN REQUIREMENTS:** The Applicant shall provide the required plans, offsets and/or certifications to P&D and the SBCAPCD. **TIMING:** The Applicant shall provide P&D with the Plan for review and approval prior to issuance of the Zoning Clearance. **MONITORING:** P&D compliance monitoring staff will maintain the approved plan on file, review the activity logs and monitor for compliance during operational activities in consultation with the SBCAPCD.
CLIMATE CHANGE AND GREENHOUSE GASES (Section 4.2)			
GHG.1	Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.	Construction and Operations	**GHG-1-GHG Emissions Reductions**. The Permittee shall reduce or offset annual incremental greenhouse gas (GHG) emissions from project-related sources. The incremental GHG emissions are those GHG emissions resulting from project construction, operations and related sources. These incremental emissions are estimated to be less than or equal to 9,449 $MTCO_2e$ for the first year and 8,909 $MTCO_2e$ for subsequent years,

Table ES.2
Proposed Project CLASS II Impacts
Impacts That Can Be Mitigated to Less Than Significant Levels
(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Sections 15091 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
			assuming worst-case simultaneous construction and operation activities, minus the County's threshold of 1,000 $MTCO_2e$ for each applicable year. The Permittee shall prepare and implement a GHG Reduction and Reporting Plan that describes how annual GHG emissions could be reduced or offset. The Plan shall include provisions for and outline of an annual report to the County that summarizes the emission reduction measures implemented, quantifies the Project-related estimated GHG emissions for the year, and demonstrates the quantity of credits surrendered. Each annual report shall reconcile the actual emissions of the previous year with the mitigation quantity, in terms of $MTCO_2e$. The standard of performance for this mitigation is a reduction or offset of greenhouse gas emissions from Project-related sources at a one-to-one (1:1) ratio. Onsite GHG reductions should be exhausted to the extent feasible prior to surrendering credits or offsets from offsite projects. If credits are derived from offsite mitigation, preference should be given to those generated in Santa Barbara County. Implementing the required amount of any of the following types of emission reductions shall be an acceptable means of mitigation: • GHG reductions generated within the County by implementing a GHG reduction project consistent with any methodology approved by either the Santa Barbara County Board of Supervisors or the Santa Barbara County Air Pollution Control District for the purpose of providing CEQA mitigation. • GHG reductions represented by registry offset credits listed with and verified by an ARB approved Offset Project Registry pursuant to Section 95980.1 of Title 17, Public Health Code (17 CCR 95980.1). • GHG reductions represented by registry offset credits listed with and verified by: American Carbon Registry (ACR); Climate Action Reserve (CAR); or Verified Carbon Standard (VCS). • GHG reductions created as a result of complying with Cap-and-Trade Program requirements related to stationary source emissions, as evidenced by the Permittee making auction purchases of State-owned Cap and-Trade Program Allowances or ARB offset credits issued pursuant to Section 95981.1 of Title 17, Public Health Code (17 CCR 95981.1). Note that reductions to any onsite GHG reductions (such as reduced use of

Table ES.2
Proposed Project CLASS II Impacts
Impacts That Can Be Mitigated to Less Than Significant Levels
(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Sections 15091 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
			combustion equipment) will go towards reducing the stationary source's Cap and Trade obligation, and therefore are not applicable to mobile source GHG reduction credit. Freely allocated allowances held by the Applicant and allowances purchased by the Applicant from entities other than the State of California shall not be used as mitigation under this measure because they are tradable compliance instruments for the Cap-and-Trade Program. If the Permittee has made auction purchases of State-owned Cap-and-Trade Program allowances to comply with Cap-and-Trade Program requirements and it has transferred funds to the State (e.g., for deposit into the Greenhouse Gas Reduction Fund (GGRF) for statewide GHG reductions), the levels of GHG offsets needed for mitigation under this measure may be reduced by the quantity of previously State-owned allowances purchased by the Permittee. The Permittee's demonstration of making auction purchases to fund acceptable mitigation shall occur in the GHG Reduction and Reporting Plan annual report after the applicable Cap-and-Trade compliance period, and the demonstration may rely on publicly available reports. General criteria for acceptable credits include: • Real: emission reduction must have actually occurred, as the result of a project yielding quantifiable and verifiable reductions or removals. • Additional or Surplus: an emission reduction cannot be required by a law, rule, or other requirement. • Quantifiable: reductions must be quantifiable through tools or tests that are reliable, based on applicable methodologies, and recorded with adequate documentation. • Verifiable: The action taken to produce credits can be audited and there is sufficient evidence to show that the reduction occurred and was quantified correctly. • Enforceable: An enforcement mechanism must exist to ensure that the reduction project is implemented correctly. • Permanent: Emission reductions or removals must continue to occur for the expected life of the reduction requirement. **PLAN REQUIREMENTS**: The GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by the Permittee, must be supported by a demonstration to P&D that the GHG reduction is real, additional, quantifiable, permanent, verifiable, and enforceable.

Table ES.2
Proposed Project CLASS II Impacts
Impacts That Can Be Mitigated to Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Sections 15091 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
			TIMING: The GHG Reduction and Reporting Plan shall be reviewed and approved by P&D, in consultation with the SBCAPCD, prior to issuance of the Zoning Clearance. The necessary annual quantity of verified credits under this plan shall be surrendered prior to April 15 of each calendar year following the year of initiating construction. **MONITORING**: P&D, in consultation with the SBCAPCD, will review and approve the GHG Reduction and Reporting Plan and any proposed GHG reduction credits prior to their use as mitigation. Subsequent annual reporting of GHG emissions and reduction/offset measures implemented will be reviewed and approved by P&D in consultation with the SBCAPCD.
TRAFFIC AND CIRCULATION (Section 4.5)			
TR.2	Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.	Operations	**TR-1-PM Peak Hour Trip Restriction.** The Project Owner/Operator shall restrict truck trips during the PM peak hours (3 PM to 6 PM) that pass through the impacted intersection of U.S Highway 101 Southbound Ramp/Betteravia Road. Truck trips shall not pass through this intersection during the PM peak hours. Upon completion of the planned U.S. Highway 101 Southbound Ramps/Betteravia Road improvements this measure will expire. **PLAN REQUIREMENTS and TIMING:** Prior to issuance of the Zoning Clearance, the Owner/ Operator shall provide an operational plan defining, at a minimum, the schedule for truck loading that avoids truck trips to the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection during the PM peak hours (3 PM to 6 PM). **MONITORING:** P&D will work with the Owner/Operator to ensure the terms of this measure are met. P&D and Public Works will participate in the review and approval and of the operational plan.
TR.3	Project related trucks could create a traffic safety hazard.	Operations	**TR-2-Calle Real Time of Day Restrictions**. Crude oil trucks shall not be allowed on Calle Real between the Refugio/U.S. Highway 101 interchange and the LFC facility during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed. **PLAN REQUIREMENTS and TIMING:** Prior to issuance of the Zoning Clearance, the Owner/ Operator shall provide an operational plan defining, at a minimum, the schedule for truck loading that avoids truck trips on Calle Real during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed .

Table ES.2
Proposed Project CLASS II Impacts
Impacts That Can Be Mitigated to Less Than Significant Levels

(Impacts that must be addressed in Findings that the mitigation measures would reduce the level of impact to insignificant in accordance with Sections 15091 of the State CEQA Guidelines)

Impact #	Description of Impact	Phase	Mitigation Measure
			MONITORING: P&D will work with the Owner/Operator to ensure the terms of this measure are met. P&D and Public Works will participate in the review and approval and of the operational plan.

Table ES-3
Proposed Project CLASS III Impacts
Adverse but Not Significant Impacts

Impact #	Description of Impact	Phase	Mitigation Measures
AIR QUALITY AND GREENHOUSE GASES (Section 4.1)			
AQ.1	Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Construction	None Required **NOTE:** Standard fugitive dust control measures be implemented for construction as required the SBCAPCD.
AQ.2	Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Operation	None Required **NOTE:** Mitigation measure AQ-1 for Impact AQ.3 would further reduce the overall operational emissions for trucks going to the Plains Pentland Terminal.
AQ.4	Proposed Project activities could create objectionable odors affecting a substantial number of people.	Operation	None Required
AQ.5	Toxic air emissions from stationary equipment loading operations and truck transportation of crude oil may expose nearby residents to toxic air contaminants.	Operation	None Required
CLIMATE CHANGE AND GREENHOUSE GASES (Section 4.2)			
GHG.2	Project GHG emissions conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	Construction and Operations	None Required
EC.1	Project energy use would result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources.	Construction and Operations	None Required **NOTE:** Implementation of some of the items in mitigation measure RISK-2 for Impact RISK.3 would serve to further reduce fuel use by the trucks by about 15%.
HAZARDOUS MATERIALS AND RISK OF UPSET (Section 4.3)			
RISK.1	The proposed Project could generate risks to public safety by exposing the public to hazards from truck transport of crude oil.	Accidental Spills	None Required **NOTE:** Implementation of mitigation measure RISK-2 for Impact RISK.3 would further reduce the probability of a truck accident by about 29%.
RISK.2	The proposed Project could generate risks to public safety by exposing the public to hazards from the truck loading operations at LFC.	Accidental Spills	None Required

Table ES-3
Proposed Project CLASS III Impacts
Adverse but Not Significant Impacts

Impact #	Description of Impact	Phase	Mitigation Measures
FIRE.1	New Development in an Area without Adequate Fire Fighting Capabilities or Adequate Access for Fire Fighting	Operation	None Required
LAND USE AND POLICY CONSISTENCY (Section 4.4)			
LU.1	The proposed Project could physically divide a community.	Construction and Operations	None Required
LU.2	The proposed Project may conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Construction and Operations	None Required **NOTE:** Due to the subjectivity of policy interpretation, it is the responsibility of the County decision makers to make the final determination regarding consistency issues as it relates to applicable County policies.
LU.3	Conflict with any applicable habitat conservation plan or natural community conservation plan.	Construction and Operations	None Required
TRAFFIC AND CIRCULATION (Section 4.5)			
TR.1	Construction traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments.	Construction	None Required
TR.4	Project related trucks could degrade public roadway conditions.	Operations	None Required **NOTE:** County Public Works will require a Haul Permit for the proposed Project that addresses local road damage.

Table ES-4 Summary of Cumulative Impacts of Proposed Project

Air Quality (Section 4.1)
Many of the cumulative projects would generate mobile source emissions along the same routes as the proposed Project. In particular the proposed ERG, Aera and PetroRock Cat Canyon oil development project would generate traffic on some of the same roadway from construction, drilling, and operational activities. Implementation of mitigation measure AQ-1 would assure that the proposed Projects contribution to cumulative air emissions would be less than significant with mitigation. The SYU Phased Restart and Operations would be ongoing at the same time the proposed Project is operational. Emissions from the existing equipment at the SYU that would be used to produce and process the crude oil and gas (the Platforms and the LFC equipment) would also generate emissions during the proposed Project operational phase. Based on an analysis of potential emissions from the LFC facility and the SYU facilities as a whole, operating at a production level of 11,200 bpd crude with trucking would be less than the baseline emissions.
Climate Change/Greenhouse Gas Emissions (Section 4.2)
As discussed in Sections 4.2.3 and 4.2.4, the geographic extent and context of climate change is global, and the impacts caused by GHG emissions are, by their nature, cumulative. Emissions of carbon dioxide (CO2) and methane (CH4) are long-lived and contribute to the total amount of GHG in the atmosphere, and the effects of GHG emissions are not limited to the localities where they are generated. The impact of the cumulative projects would add to the impact of global GHG emissions. The cumulative projects would add to the baseline GHG inventory of approximately 1.5 MMTCO2e in the unincorporated areas of Santa Barbara County, based on data published in the ECAP for 2007 showing 1,192,970 MTCO2e under County jurisdiction and 315,890 MTCO2e from stationary sources under APCD jurisdiction. All the cumulative projects would be required to comply with existing plans and, for non-residential and non-commercial projects, would be subject to the County thresholds described in this section. Implementation of mitigation measures GHG-1 for the proposed Project would assure that the proposed Project's contribution to cumulative GHG emission was less than significant with mitigation.
Hazardous Materials and Risk of Upset (Section 4.3)
The cumulative risk of upset impacts is related to cumulative oil trucking from other oil development projects in the Santa Maria area. As discussed in Section 3.2.2, other cumulative crude oil trucking projects, there are several oil development projects in Northern Santa Barbara County that would involve the trucking of crude oil and/or light oil for blending. The cumulative oil trucking projects would result in several overlapping truck route segments. Along certain portions of the proposed truck routes, there could be as many as 141 trucks per day carrying crude oil, blended crude or light crude during the peak year overlap with the proposed Project. Of these, most of the proposed trucks would be associated with the ExxonMobil's proposed Project (50%) and the Aera East Cat Canyon Redevelopment Plan Project (38%). These cumulative trucks could result in a safety hazard to the public from exposure for fire for flammable vapors. A detailed transportation quantitative risk assessment (TQRA) was conducted for the cumulative scenario (see Section 4.3.5). The TQRA found that the cumulative risk of trucking was less than significant for the various road segments where there would be overlap in the cumulative trucking routes. Hazards associated with the operation of existing LFC facilities would remain as evaluation under prior environmental analysis. New hazards associated with the trucking facilities would be added to the existing LFC facility hazards under cumulative. Since none of the truck loading hazards would extend to offsite areas, the proposed Project's contribution to cumulative risk at the LFC facilities would be less than significant. In the event of an accidental oil spill resulting from a truck accident, the potential to impact sensitive biological, cultural and water resources exist. The volume, location and timing (seasonal) of any potential spill could influence the severity of impacts to these sensitive resources. Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources. All these cumulative oil trucking projects would be required to have emergency response and restoration plans that cover spills that have the potential to result from trucking operations. Mitigation measure RISK-1 would require the Applicant to update their oil spill and restoration plans to cover the proposed trucking operations. However, even with these plans in place, the potential for a full tanker oil spill and the associated environmental effects of the spill and its clean-up still exists.

Table ES-4 Summary of Cumulative Impacts of Proposed Project

Even with mitigation, in the event of an accidental spill associated with the trucking operations, the cumulative impacts to biological, cultural and water resources could be significant and unavoidable depending upon the location of the spill and weather conditions at the time of the spill. Under the cumulative development for the LFC facilities the spill risk for the existing permitted operations would remain the same. The trucking operations would add an additional spill risk to the LFC facility . Spills from the truck loading operations would be limited to a maximum of about 160 barrels or approximately 6,720 gallons. Truck loading spills would be contained within the existing emergency containment basin. Therefore, the proposed Project's contribution to cumulative oil spill impacts at the LFC facilities would be less than significant.
Transportation and Circulation (Section 4.5)
In the area of the LFC facility Calle Real is a rural collector road by the County. The road primarily serves the LFC facility, local residences, and recreational users accessing the Refugio State Beach facility. The additional cumulative truck traffic using Calle Real would represent an average of an additional eight truck per hour. Since this rural road is not used extensively for farm equipment, livestock, or horseback riding, the cumulative traffic would not be considered incompatible due to potential safety issues. However, this segment of Calle Real is used daily by school busses. While this increased truck traffic could represent an incompatibility due to safety concerns the implementation While this increased truck traffic could represent an incompatibility due to safety concerns the implementation of mitigation measure TR-2 would restrict crude oil trucks from using Calle Real during the school busing hours. The cumulative traffic on Calle Real would not result in an exceedance of the roadway capacity as designated by the County. The most intense future traffic generating developments in the study area are located in and around the City of Santa Maria. The City of Santa Maria's Traffic Model was used to develop cumulative traffic forecasts reflecting all approved and pending projects in the area. Under the cumulative development, the U.S. Highway 101/Betteravia Road interchange would operate D and F during the A.M and P.M. peak hours respectively. The proposed Project's contribution to cumulative traffic at that intersection would be well less than 1.0 percent. The proposed Project would increase the V/C ratio by less than 0.01, and would be under the County's cumulative impact threshold for intersections that are forecast at LOS F. The analysis shows that the proposed Project's contribution to cumulative traffic impacts at the U.S. Highway 101 Southbound on-ramp/Betteravia Road intersection would be less than significant. Caltrans in cooperation with the City of Santa Maria is implementing an improvement project to the U.S. Highway 101/Betteravia Road interchange. These improvement are expected to be complete by the end of 2019. With these improvements the intersection would operate under the cumulative scenario at LOS B during the A.M and P.M peak hours. The approved and pending cumulative projects are expected to have a minimal effect on traffic volumes at the U.S. Highway 101/State Route 166 interchange and along State Route 166. The proposed Project's contribution to cumulative traffic would be well less than 1.0 percent at the U.S. Highway 101/State Route 166 interchange. The proposed Project would increase the V/C ratio by less than 0.03 and would be below the County's cumulative impact threshold for intersections that are forecast at LOS D with cumulative traffic. The proposed Project's contribution to cumulative traffic impacts along State Route 166 and at the U.S. Highway 101/State Route 166 interchange would be less than significant. These additional cumulative traffic volumes along U.S. Highway 101 would not change the overall LOS. Therefore, the proposed Project's contribution to cumulative traffic impacts on U.S. Highway 101 would be less than significant.

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1.0 Introduction

This Supplemental Environmental Impact Report (SEIR) has been prepared to address the environmental impacts associated with the proposed Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project. The proposed trucking project would allow for the phased restart of the SYU facilities.

ExxonMobil Production Company, a division of Exxon Mobil Corporation ("the Applicant") is proposing the Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project to take a phased approach to restarting offshore oil production at the SYU by initiating interim trucking of limited crude oil production until a pipeline alternative becomes available to transport crude oil to a refinery destination. Trucking of crude oil would cease once a pipeline became available or after seven years, whichever is shorter, unless extended by County decision makers.

The Applicant is asking Santa Barbara County for a revision to Development Plan 87-DP-32cz, which covers operations of the existing SYU facilities (County Case No. 17RVP-00000-00081). This section is organized as follows:

1.1 Overview of the Proposed Project
1.2 Objectives of the Proposed Project
1.3 Agency Use of the SEIR
1.4 SEIR Process and Scope
1.5 SEIR Contents

1.1 Overview of Proposed Project

1.1.1 Location

Figure 2-1 provides a vicinity map that shows the location of the LFC facilities. The Project would require minor modifications to the Applicant's existing, onshore LFC facility, approximately twelve (12) miles west of the City of Goleta and one (1) mile north of Highway 101. The LFC facility is located on a 550-acre parcel zoned M-CR (Coastal Related Industry) APN 081-220-014, at 12000 Calle Real in the Goleta Area. Surrounding properties are zoned AG-II-100, AG-II-320 and REC and land uses include agriculture, commercial agriculture and recreation/open space, respectively.

The Project site currently supports a variety of oil and gas processing facilities including, but not limited to, oil and gas treating, a gas plant, cogeneration facilities, crude storage tanks, a transportation terminal which connects to the Plains All American Pipeline Line 901 system (currently shut down), an electric substation and power cables connecting to the offshore platforms, office buildings (including operations and control rooms), and the onshore portions of oil and gas pipelines that link to three platforms: Hondo, Harmony and Heritage.

1.1.2 Proposed Project

The Applicant is proposing this Interim Trucking Project to resume partial offshore oil and gas production from the SYU facilities until a pipeline alternative becomes available to transport crude oil to a refinery destination. The project would involve up to 70 trucks per day moving about 11,200 barrels of crude oil from the LFC facility to either the Santa Maria Pump Station, which is owned by Phillips 66, and is located just outside the City of Santa Maria, or to the Plains Pentland Terminal in Kern County. The location of both receiving terminals is shown in Figure 1-1. The trucking will occur seven days per week, 24-hours per day, with no more than 70 trucks leaving the facility within a 24-hours period.

Figure 1-1 Project Location

Source: Google, Google Earth data © Google 2018.

The project will include minor modifications to the LFC facilities including the installation of four Lease Automatic Custody Transfer (LACT) Units, associated piping, electrical and communication connections, pipe and equipment supports, truck loading racks, operator shelter, paving of selected areas, and minor containment and drainage grading.

1.2 Objectives of the Proposed Project

Pursuant to Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines, the description of the proposed Project is to contain "a clearly written statement of objectives" that would aid the lead agency in developing a reasonable range of alternatives to evaluate in the SEIR and would aid decision makers in preparing findings and, if necessary, a statement of overriding considerations. The proposed Project objectives are summarized as follows:

- Temporarily transport limited SYU crude oil production while a pipeline transport option is unavailable, enhancing the Applicant's positive community impact in the region, e.g., increasing production-related tax revenue and bringing back local jobs.
- Restore a portion of SYU wells and equipment to a desired state of operation to best maintain facility integrity during an unknown pipeline restoration period.
- Re-establish SYU production in a safe and environmentally responsible manner. Apply experiences from past SYU operations and previous, successful de-inventory trucking project. Leverage experiences gained from the phased restart program to facilitate a smooth full production restart when a pipeline transport option becomes available.
- Increase energy supply via restart of a local petroleum resource which would serve to reduce demand for imported oil and reduced risk of marine tanker spills.

1.3 Agency Use of the SEIR

Santa Barbara County, as lead agency under the California Environmental Quality Act (CEQA), determined than an SEIR would be required as part of the permitting process for the proposed Project. Section 15124(d) of the CEQA Guidelines requires that an SEIR contain a statement briefly describing the intended uses of the SEIR. The CEQA Guidelines indicate that the SEIR should identify the ways in which the lead agency and any responsible agencies would use this document in their approval or permitting processes. Table 1-1 provides a list of agencies that would need to issue permits for the proposed Project. The County is the Lead Agency under CEQA, and the other agencies listed in Table 1-1 would serve as responsible agencies.

Table 1-1 Permits or Other Actions Required for Implementation of the Proposed Project

Permitting Agencies	Jurisdiction	Permit/Action
Santa Barbara County	CEQA Lead Agency, Land Use authority, County Code Chapter 35 –County Land Use and Development Code	Certification of the SEIR Issue of modifications to SYU Development Plan Compliance Review and Construction Permits Operations Compliance
Santa Barbara County Air Pollution Control District	Federal Clean Air Act State Clean Air APCD Rules	Authority to Construct Permit to Operate

This SEIR is consistent with Section 15120-15132 of the CEQA Guidelines which sets forth requirements for contents of SEIRs. Based upon the environmental impact analysis of the proposed Project, several measures have been developed to mitigate the identified impacts associated with the Project. The County may incorporate the mitigation measures identified in the SEIR, where applicable, as conditions of approval in Project entitlements which may be granted for the proposed Project. The environmental impact analysis will be used by the public and decision makers to help understand the scope of the proposed Project and the associated environmental effects.

The County, as the CEQA lead agency, will act first on the Project before any of the responsible agencies act on the Project. Santa Barbara County decision-makers (Planning Commission and Board of Supervisors) will use the SEIR for decision-making regarding the proposed Project. If the proposed Project is approved by all required permitting agencies, the County would be responsible for reviewing and approving all pre-construction compliance plans and ensuring that the proposed Project modifications and operations are conducted in accordance the Development Plan conditions.

1.4 SEIR Process and Scope

The County as lead agency under CEQA determined that the proposed Project required the preparation of a Supplemental EIR since:

(1) The proposed Interim Trucking Project represents a substantial change to the previously approved SYU Project which will require major revisions to the previous certified CEQA documents due to the involvement of potentially new significant environmental effects, or a substantial increase in the severity of previously identified significant effects.

(2) The addition of interim crude oil trucking to the SYU project would only require minor additions and changes to make the previously certified CEQA documents for the SYU Project adequate.

In June 1984 a joint Final EIS/EIR (83-EIR-22) was released that analyzed the anticipated environmental impacts associated with the development of oil and gas resources for the SYU facilities. This EIS/EIR addressed both offshore and onshore development options.

In February 1986, ExxonMobil submitted to the County a revised project description and impact analysis for the onshore SYU Development Option that eliminated one of the offshore platforms, relocated another platform, and had several changes to the onshore facilities proposed at LFC. The proposed Project changes were considered substantial enough to warrant a Supplemental Environmental Impact Report (SEIR)(83-EIR-22) pursuant to CEQA. That SEIR was released in August 1986. In September 1986, the County Board of Supervisors approved the Project, known as ExxonMobil's current SYU Project, which included the current development in LFC. The original EIS/EIR and subsequent SEIR did not include analysis of environmental impacts from trucking of crude oil from the LFC facility.

CEQA Guidelines § 15163(b) state that the Supplemental EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. However, an SEIR must meet all of the standards for adequacy of an EIR. 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 purpose of an SEIR is to identify the significant effects on the environment of the proposed 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]). The SEIR is 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 proposed projects and solicited comments through distribution of the NOP. The NOP was issued for a 30-day comment period, which began on June 15, 2018 and ended on July 16, 2018. On July 11, 2018, the County held a Scoping Meeting at the Planning Commission Hearing Room, Engineering Building, 123 E. Anapamu Street, Santa Barbara, CA. 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 SEIR. A Scoping Report is included as Appendix A of the SEIR that contains a summary of the scoping comments, a copy of the NOP, and all the written comments received on the NOP.

1.5 SEIR Contents

The SEIR is divided into two volumes. Volume I is the SEIR and Volume II is the SEIR Technical Appendices. Volumes II is available only in electronic form and is included on the CDs. The SEIR (Volume I) contains the following major sections:

Executive Summary – Provides an overview of the proposed Project, and a summary of the significant impacts and associated mitigation measures identified for the Project. A summary of the alternatives and environmentally superior alternative is also provided. Within the Executive Summary, Impact Summary Tables are provided that summarize the identified impacts by significance class for the proposed Project. The tables also provide a summary of proposed and/or recommended mitigation measures for the impacts.

Section 1. Introduction – Provides an overview of the proposed Project evaluated in the SEIR, a summary of the project objectives, a discussion of agency use of the document, the SEIR process and scope, and a summary of the contents of the SEIR.

Section 2. Proposed Project Description and Alternatives – Provides the background of the Project, including a history of the SYU Project and a detailed description of the proposed Interim Trucking Project including construction and operation. This section also provides a description of the alternatives that were identified for the proposed Project. The Chapter also presents an alternatives screening analysis that was used to identify which of the identified alternatives were feasible, met the basic objectives of the Project, and that could would lessen the potentially significant impacts of the proposed Project or substantially reduce other environmental impacts of the proposed Project. The alternatives that made it through the screening analysis are evaluated in detail in Chapter 5.

Section 3. Cumulative Scenario – 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.

Section 4. Environmental Analysis of The Proposed Project – Describes the existing conditions found at the Project Site and along the proposed trucking routes and assesses the potential environmental impacts

that could occur if the proposed Project is implemented. These potential impacts are compared to various "Thresholds of Significance" (or significance criteria) to determine the severity of the impacts. Impacts have been evaluated for both the truck loading facility construction and operation at the SYU facility as well as for transportation along the proposed truck routes. Mitigation measures intended to reduce significant impacts are identified where feasible. This section also discusses cumulative impacts.

Section 5. Environmental Analysis and Comparison of Alternatives – The first part of this section presents the environmental analysis of the alternatives selected for further study in Section 2. The second part provides a summary of the environmental advantages and disadvantages associated with the Interim Trucking Project and the alternatives. The last section is a discussion of the environmentally superior alternative.

Section 6. Other CEQA Related Requirements – Discusses the significant irreversible environmental changes that could occur if the proposed Project is implemented, and the spatial, economic, and/or population growth inducing impacts that may result from the proposed Project. The Chapter also provides a discussion of the issue areas that were found to have less than significant impacts as part of the scoping process

Section 7. Mitigation Monitoring and Reporting Program – Contains a listing of all identified mitigation measures that should be included in any permit issued for the Interim Trucking Project, their implementation requirements, verification schedule, and parties responsible for their implementation and verification.

Section 8. List of Prepares and Contacts – Contains information on the professionals responsible for prepared the SEIR and agency staff contacted during the preparation of the document.

2.0 Proposed Project Description and Alternatives

This section provides an overview of the proposed Project, a discussion on the Project location, background and historical information on the Santa Ynez (SYU) Project, and details about the proposed Project. The last part of this section provides a description of the alternatives to the proposed Project.

2.1 Project Overview

ExxonMobil Production Company, a division of Exxon Mobil Corporation ("the Applicant") is proposing the Interim Trucking for SYU Phased Restart Project to take a phased approach to restarting offshore oil production at the SYU by initiating interim trucking of limited crude oil production until a pipeline becomes available to transport crude oil to a refinery destination. Trucking of crude oil would cease once a pipeline became available or after seven years, whichever is shorter, unless extended by County decision makers.

the Applicant is asking Santa Barbara County for a revision to Development Plan 87-DP-32cz, which covers operations of the existing SYU facilities. Trucking would occur seven days per week, 24-hours per day, with no more than 70 trucks leaving the Las Flores Canyon (LFC) facility within a 24-hours period to one or both of the identified receiver sites located in Santa Maria and Maricopa. The Project would include minor modifications to the LFC facilities including the installation of four Lease Automatic Custody Transfer (LACT) Units, associated piping, electrical and communication connections, pipe and equipment supports, truck loading racks, operator shelter, paving of selected areas, and minor containment and drainage grading.

2.2 Project Location

Figure 2-1 provides a vicinity map that shows the location of the LFC facilities which are located approximately twelve (12) miles west of the City of Goleta and one (1) mile north of Highway 101. The LFC facility is located on a 550-acre parcel zoned M-CR (Coastal Dependent Industry) APN 081-220-014, at 12000 Calle Real in the Goleta Area. Surrounding properties are zoned AG-II-100, AG-II-320 and REC and land uses include agriculture, commercial agriculture and recreation/open space, respectively.

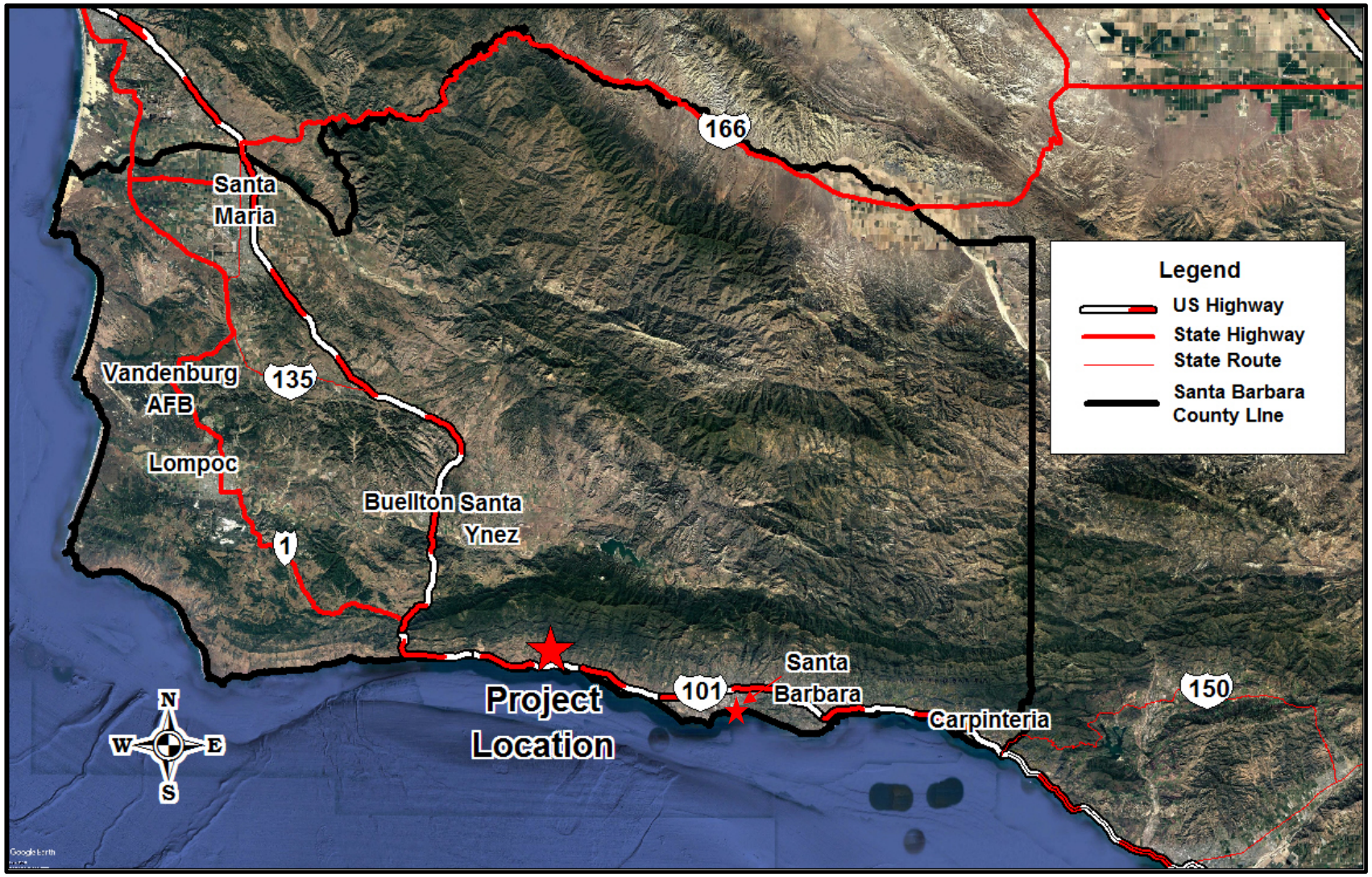
2.3 Background and Historic Operations

2.3.1 Historic Operations

In 1976, one platform (Hondo) was constructed along with an Offshore Storage and Treatment (OS&T) vessel, where produced crude oil was loaded on to marine tankers. Hondo and the OS&T began operations in 1981.

In April 1983 Exxon submitted an application to the Minerals Management Service (MMS) and the County of Santa Barbra for the construction and operation of up to three additional offshore platforms and either an offshore OS&T or an onshore processing facility in LFC and an associated marine terminal. Both options were evaluated in a combined Environmental Impact Statement/Report (EIS/EIR). In June 1984 a joint Final EIS/EIR (83-EIR-22) was released that analyzed the anticipated environmental impacts associated with the development of oil and gas resources within the project area for the offshore option, with the onshore option being addressed as an alternative.

Figure 2-1 Vicinity Map



Source: Google, Google Earth data © Google 2018.

A variation of the proposed onshore project was approved by the Santa Barbara County Board of Supervisors in August 1984 but included a denial of the marine terminal portion of the Project.

In February 1985, the Santa Barbara Planning Commission approved an offshore marine terminal, that would have been part of the Gaviota Terminal, which was just south of Highway 101 across from the Point Arguello Gaviota Oil and Gas Processing Facility; this decision was appealed to the Board of Supervisors by several parties. In July 1985, the County gave final approval for a marine terminal at Gaviota. The oil industry proposed an alternate project to the County, which included an interim marine terminal at Gaviota and, if needed, a permanent consolidated marine terminal at Las Flores Canyon. In March 1985, Exxon submitted a revised plan for the marine terminal offshore LFC and a supplemental EIR (SEIR) was initiated; the revised plan was approved by the Santa Barbara County Board of Supervisors in October 1985. The condition allowing for the construction of the LFC offshore marine terminal was written to expire in 1994 if no such facilities had begun construction by that date. No such facilities were constructed, thus the approval to construct the marine terminal expired.

In February 1986, Exxon submitted to the County a revised project description and impact analysis for the SYU Development Project that eliminated one of the offshore platforms, relocated another platform, and had several changes to the onshore facilities proposed at LFC. The proposed Project changes were considered substantial enough to warrant another SEIR pursuant to the California Environmental Quality Act (CEQA). This second SEIR was released in August 1986. In September 1986, the County Board of Supervisors approved the onshore project, known as ExxonMobil's current LFC facility. This adjustment to the operations resulted an agreement between the relevant stakeholders to remove the OS&T.

Construction of the onshore LFC components began in April 1988 and finished in May 1993, with production from platforms Harmony and Heritage starting later that year. Once the onshore facilities started up, the OS&T vessel was decommissioned and removed. Since then, oil production from all three platforms has been processed at the LFC facilities. The Line 901 and 903 pipeline system, now owned and operated by Plains, has been the only means of transporting crude oil from LFC to the various refinery destinations.

2.3.2 2015 to Present

On May 19, 2015, Line 901 had a release of oil, which resulted in a shutdown of both Lines 901 and 903. The pipeline system has remained out of service since that date, thereby eliminating the only transportation option that SYU had to transport crude oil to refinery destinations.

Full production from offshore was maintained (raising inventory in the LFC onsite crude oil storage tanks) for two days until May 21, 2015 at which point production was curtailed to 10,000 barrels per day to manage storage tank levels. On May 25, 2015 production was further curtailed to 9,000 barrels per day with a goal of remaining online through the end of June. At the time of the shutdown of Line 901 the oil production from SYU was about 27,500 barrels of oil per day.

On June 4, 2015 ExxonMobil applied for an emergency permit with the request to continue full SYU operations and transport produced oil via tanker trucks. The County denied the emergency permit five day later on June 9, 2015. Production from two platforms, Harmony and Heritage, continued until June 17, 2015, at which point all wells were shut-in.

In late June, ExxonMobil began developing and implementing short-term and long-term preservation plans for the wells and all major equipment at the onshore and offshore facilities. Offshore wells were shut-in and isolated. Processing equipment on the offshore platforms was drained, cleaned and purged of hydrocarbons and filled with nitrogen. Emulsion pipelines between the platforms and from the

platforms to the LFC facility were pigged to remove hydrocarbons and filled with seawater and preservation agents. This fluid is tested monthly and lines are re-preserved and inspected on a two-year frequency. Gas pipelines have been purged with nitrogen.

To ensure the integrity of offshore well isolation, ongoing pressure monitoring remains in place and equipment has remained under nitrogen blanket to prevent any air ingress into equipment. All utility systems and the firewater system remain in service.

Onshore facilities have similarly been preserved. All tanks and equipment with hydrocarbons have been purged and filled with nitrogen. Utilities and limited water treating equipment have remained in service to support preservation and monitoring/surveillance activities. Safety and firewater systems remain in service.

During this preserved state, ExxonMobil continues to conduct a significant number of operational activities to maintain facility integrity. These activities include continuation of preventative maintenance, corrective maintenance, and inspection programs designed to maintain the facility and platform integrity as well as new surveillance programs to monitor the effectiveness of the equipment preservation.

In February 2016, ExxonMobil submitted an emergency permit application to de-inventory approximately 400,000 barrels of crude oil contained in the two onsite crude oil storage tanks via temporary trucking activities. Santa Barbara County approved the emergency permit shortly thereafter and trucking operations were safely completed without incident in September 2016. This activity took place via approximately 2,500 tanker truck loads. The onsite storage tanks were purged and the LFC facilities, including the pipelines, were completely hydrocarbon free in February 2017.

In August 2017, Plains submitted an application to Santa Barbara County for the replacement of the Line 901 and 903 pipeline system. The application is currently being processed by the County and is subject to environmental review under both CEQA and the National Environmental Policy Act (NEPA).

2.4 Project Objectives

Pursuant to Section 15124(b) of the CEQA Guidelines, the description of the proposed Project is to contain "a clearly written statement of objectives" that would aid the lead agency in developing a reasonable range of alternatives to evaluate in the SEIR and would aid decision makers in preparing findings and, if necessary, a statement of overriding considerations. The County is the lead CEQA agency responsible for preparing the SEIR. The County decision-makers will consider the SEIR for certification and the proposed Project for approval.

The proposed Project objectives are summarized as follows:

- Temporarily transport limited SYU crude oil production while a pipeline transport option is unavailable, enhancing ExxonMobil's positive community impact in the region, e.g., increasing production-related tax revenue and bringing back local jobs.
- Restore a portion of SYU wells and equipment to a desired state of operation to best maintain facility integrity during an unknown pipeline restoration period.
- Re-establish SYU production in a safe and environmentally responsible manner. Apply experiences from past SYU operations and previous, successful de-inventory trucking project. Leverage experiences gained from the phased restart program to facilitate a smooth full production restart when a pipeline transport option becomes available.

- Increase energy supply via restart of a local petroleum resource which would serve to reduce demand for imported oil and reduced risk of marine tanker spills.

2.5 Project Components

This section provides a summary of the key project components and covers construction and operation.

2.5.1 Truck Loading Facility Construction

All truck loading improvements would be located within the confines of the LFC facility. The location of the proposed truck loading facilities is shown in Figure 2-2. The truck loading facilities would be located in the Truck Loading Area (TLA), which is within an existing developed portion of the LFC facilities, north of the Transportation Terminal (TT). The site for the TLA is approximately 2.91 acres and the loading rack and associated lanes are anticipated to occupy 0.12-acre of that area. Modifications to the LFC facilities would include the following:

- A new truck loading rack with four loading bays to be built at an existing previously disturbed pad at the LFC facility, just north of the existing Transportation Terminal (TT).
- New piping to transport crude oil to the truck loading rack and to transport truck vapors back into the LFC vapor recovery system for processing and use as plant fuel.
- Four Lease Automatic Custody Transfer (LACT) Units installed at the TLA for royalty determination purposes as required by Bureau of Safety and Environmental Enforcement (BSEE).
- Associated electrical and communication connections, pipe and equipment supports, operator shelter, paving of selected areas, and minor containment and drainage grading.

The new piping would be routed along pipe supports through an existing containment area. To manage vapors displaced from the trucks during the loading operations, vapor recovery piping would be connected into the existing LFC vapor recovery system at the TT Vapor Recovery Compressors. Vapors from the TT Vapor Recovery Compressors would be routed to the Oil Treatment Plant (OTP) Vapor Recovery Compressors for processing at the stripping gas treatment plant before being subsequently utilized as fuel gas within the facility.

The truck rack would be constructed over loading lanes within the TLA, similar to a bridge. The loading racks would be equipped with crude loading and vapor recovery hoses that would be connected to the trucks. The truck rack would be capable of loading up to four trucks at a time. Figure 2-3 shows the proposed layout of the truck loading facilities.

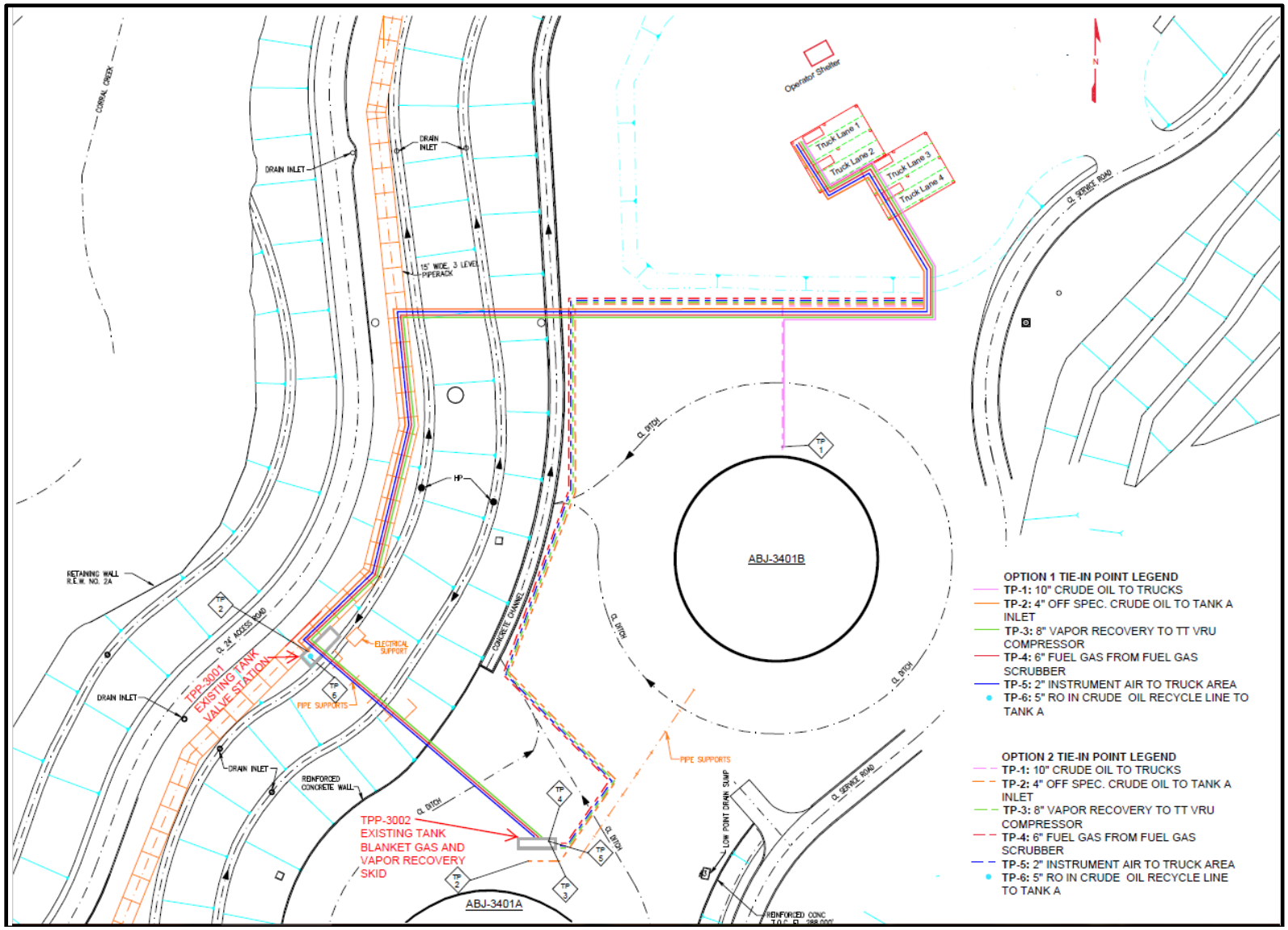
No additional processing facilities would be required for the proposed Project. The proposed Project would not require removal of existing habitat or vegetation and no significant topographic alteration would be needed. Site grading would consist of only the minimum amount of soil work needed to construct pipe supports and containment or firewater alterations. It is estimated that up to 500 cubic yards of grading would be needed, and approximately 0.41 acres of the pad would be paved.

Lights would be attached to the rack and powered from LFC's electrical system. A small, temporary operator shelter would be installed at the TLA site as well.

Figure 2-2 Las Flores Canyon Site Map

Source: ExxonMobil, Application-Appendix B, December 2017

Figure 2-3 Proposed Truck Loading Facility Layout



Source: Adapted from ExxonMobil, Application-Industrial Risk Analysis, December 2017, and updated from information provided by ExxonMobil, October 2018

The loading rack would be equipped with low leak transfer hose connections and valves, and use welded connections were feasible. Vapors from the truck loading operations would be collected and routed to the existing Transportation Terminal vapor recovery compressors and then routed to the existing Oil Treatment Plant vapor recovery system. All the new fugitive components associated with the truck loading facility would be added to the existing LFC leak detection and repair program.

Construction of the truck loading facilities would take between four and six months to complete. The work would include site preparation, installation of pipe racks and associated piping, installation of the truck loading rack and operator shelter, and electrical/instrumentation installation. A fire protection system using fire monitors would also be installed. The fire monitors would be connected to the existing LFC facility fire protection system.

2.5.2 Receiving Facilities and Truck Routes

the Applicant is proposing to transport crude via truck to two receiving destinations. Each of these is discussed below.

Santa Maria Pump Station - The Phillips 66 Santa Maria Pump Station (SMPS), is located at 1580 East Battles Road, east of the City of Santa Maria in Northern Santa Barbara County. The SMPS receives crude via truck and pipeline and then transfers the crude via pipeline to the Phillip 66 Santa Maria Refinery, located in Southern San Luis Obispo County. The SMPS operates 24 hours/day, 7 days/week, including holidays and weekends. Peak hours at the station are from 7 AM to 4 PM daily and there is lighting for truck unloading at night. The single storage tank is limited to 21,859 barrels/day of oil throughput by the Santa Barbara County Air Pollution District (SBCAPCD) permit to operate. If all the trucked oil is unloaded to the tank, then the trucking unloading limit of the facility is approximately 145 trucks per day. However, the facility has the ability to off load trucks directly to the pipeline system, which can increase the truck unloading capacity of the facility. The facility is equipped with five truck unloading racks. The capacity of the five unloading racks is be approximately 170 trucks per day.

Plains Pentland Terminal - The Plains Pentland Terminal is located at 2311 Basic School Road in Maricopa in Kern County. This terminal has access to the crude oil pipeline network in the San Joaquin Valley which can be used to move crude north to the Bay Area or south to the Los Angeles Basin. The Plains Pentland Terminal operates 24 hours/day, 7 days/week, including holidays and weekends. Peak hours at the station are from 7 AM to 4 PM daily and there is lighting for truck unloading at night. The facility currently handles approximately 100 trucks/day and is permitted to handle up to 210 trucks/day.

The amount of crude that could go to each of these receiving stations is unknown and would likely vary over time based upon available capacity and market conditions. For the purposes of the SEIR analysis the impacts of 70 truck trips per day has been evaluated to the SMPS and 68 truck trips per day to the Pentland Station.

Figure 2-4 shows the proposed truck routes to the two receiving facilities. All trucks entering and leaving the LFC facility would use the Refugio Road on and off-ramps at U.S. Highway 101 from Calle Real. Trucks would be prohibited from using their jake brakes (i.e., compression release engine brakes on most trucks), while traveling on Calle Real. Trucks traveling to the SMPS would exit U.S. Highway 101 at the Betteravia Road Interchange in Santa Maria, and then use Betteravia Road, Rosemary Road, and Battles Road. Trucks traveling to the Plains Pentland Terminal exit U.S. Highway 101 at the State Route 166 Interchange and use State Route 166 to Basic School Road.

Figure 2-4 Proposed Truck Routes to Receiving Facilities

Source: : ExxonMobil, Application-Appendix B, December 2017

After unloading at one of the two designated receiving facilities, the trucks would normally return directly back to the LFC facility to reload unless they need to undergo maintenance or driver changes. The trucks used for carrying the crude oil would be 2017 or newer diesel driven DOT 407 tankers.

Each truck would transport approximately 160 barrels of crude oil (equivalent to 6,720 gallons). Truck transportation would occur seven days per week, 24-hours per day, with no more than 70 trucks loads leaving the LFC facility within a 24-hours period. Production from the SYU facilities during trucking would be about 11,200 barrels per day of oil.

2.5.3 Truck Loading Operations

Truck loading at the LFC facility would occur within the TLA as described in Section 2.5.1, within a previously disturbed area immediately north of the crude oil storage tanks. Each loading station would include a LACT Unit for custody transfer. Loading connections would be of the dry-lock type to eliminate potential leaks and emission points. Each LACT unit would incorporate grounding and overfill protection to stop the loading process in the case of an electrical faults or high levels in the tanker trucks that are being loaded. During loading, the TLA would have the following safety measures in place to reduce or eliminate the potential for spills and fires:

- The TLA would be graded to drain into the already existing containment channel for the Crude Oil Storage Tanks that connects to the Emergency Containment Basin (ECB);
- Additional berms and containment barriers would be installed around the loading location as needed;
- Spill containment and absorption materials would be stored onsite;
- Containment container would be placed under truck product hose connections to capture any leakage when hoses are connected and disconnected;
- Firefighting equipment including a fire monitor (converted from a hydrant) would be installed and operational at the TLA;
- Verify that the residuals in the truck from the prior load are compatible with crude oil and or have the dedicated trucks (49 CFR 173.33);
- An Applicant operator would be present during truck loading;
- Pre-set the fill volume with automatic shut-in when reaching the fill volume;
- Truck overfill protection, instrumented communication from truck level to LACT unit to stop filling if tank levels exceed the predetermined fill volumes;
- Ground protection on truck with continued monitoring from LACT skid unit;
- Truck driver would also be present during truck loading;
- Truck drivers and loading operators would be trained on the specific loading procedures; and
- An Applicant operator would have access to the valve shut off for the loading line.

Trucks would follow the main plant road from the LFC facility front gate on Calle Real to access the TLA. Trucks traveling to and from the TLA would follow one of two options. Option 1: trucks would enter the TLA to the left-hand side and after loading, leave the TLA and continue on the same road to the north, which loops back around to the main plant road. Option 2: trucks would enter the TLA on the right-hand side and once finished loading leave the TLA and continue on the same road to the south, which loops

back around to the main plant road. Figures 2-5 and 2-6 show the proposed truck routes within the LFC facility.

Empty trucks would arrive at LFC and proceed to one of the four loading stations via the routes discussed above. Once the trucks are at the proper loading location, the truck wheels would be chocked and grounded. The truck would be inspected for safety by the Applicant's operator prior to loading.

Once the loading hose and vapor recovery hose are connected to the truck, the operator would open the vapor recovery system (VRS) valve, activate the LACT units, and then open the oil line valve to begin loading the crude into the truck. Existing onsite pumps would be utilized for loading the trucks. Truck trailers and connections would be inspected prior to, during, and after each loading to verify proper operation.

Vapors displaced during truck loading operations would be contained and routed to the TT Vapor Recovery Compressors and then into the OTP Vapor Recovery Compressors. During loading both the operator and the truck driver would be in attendance at all times and the product level in the truck would be continuously monitored via gauge. Once the truck has been determined to be fully loaded, the oil and vapor recovery line valves would be closed, the hoses would be disconnected, and the truck would depart from the TLA and leave the LFC facility to proceed to one of the identified receiver sites. Information on the product truck loading and transportation is summarized in Table 2-1 below.

Table 2-1 Truck Loading and Transportation Summary

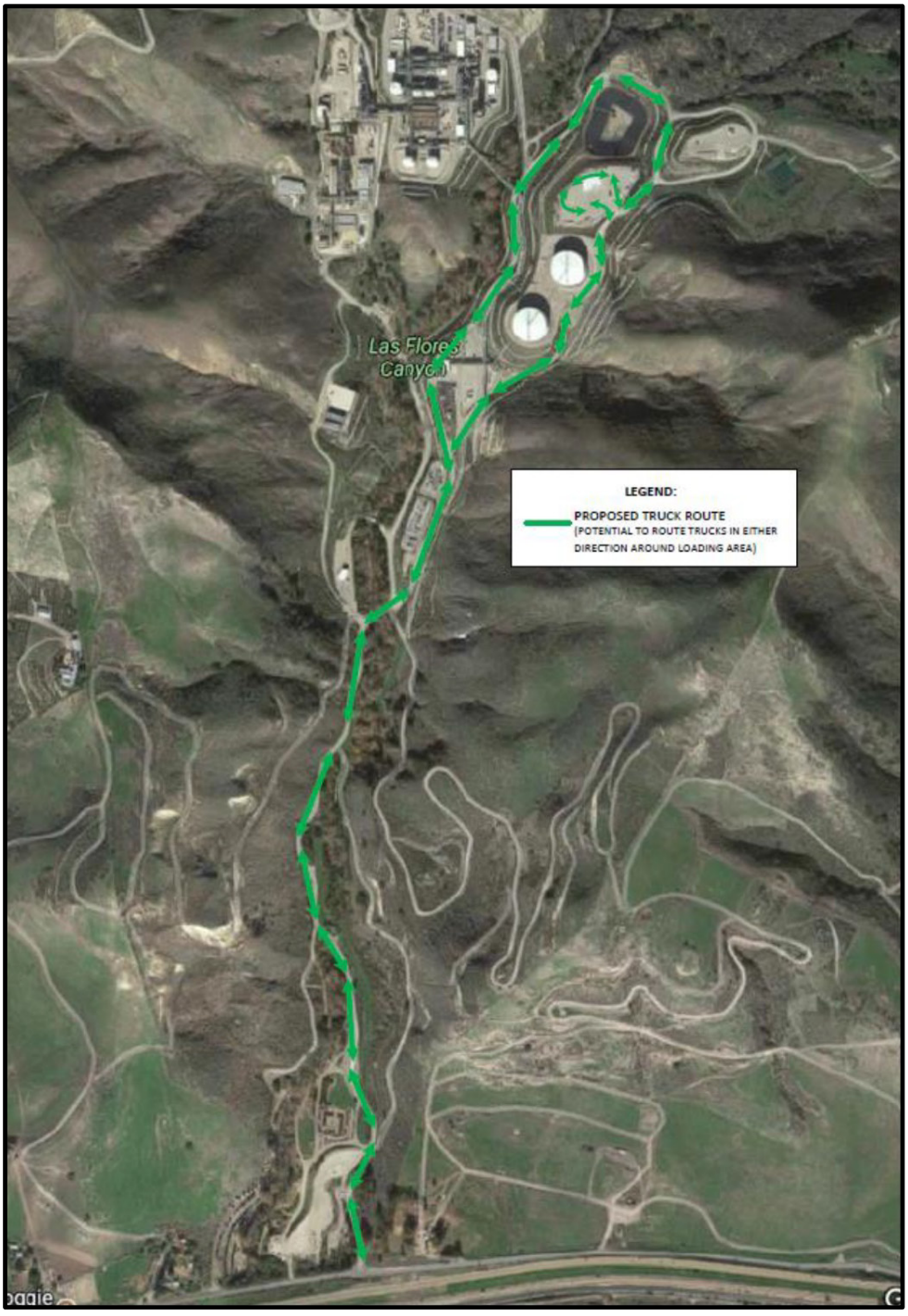
Parameter	Value
Tanker Truck Type	DOT 407
Maximum number of trucks loads	70 trucks loads per day
Maximum volume of product per truck load	160 barrels (bbls)
Maximum annual number of truck round trips	70 x 365 = 25,550
Duration of interim trucking operations	From the approval of the interim trucking permit until a pipeline alternative becomes available or seven years, whichever is shorter. Seven-year period could be extended by Santa Barbara County decision makers.
Annual volume of oil transported	Approximately 4 million barrels (MM BBL)
Round-trip distance to Santa Maria Pump Station	108.4 miles
Round-trop distance to Maricopa Pump Station	280 miles
Duration from truck arrival at loading rack to truck departure	Approximately one-hour
Truck loading duration	Approximately 45 mins

Source: Adapted from ExxonMobil, Application-Attachment D, July 2018

2.5.4 Personnel

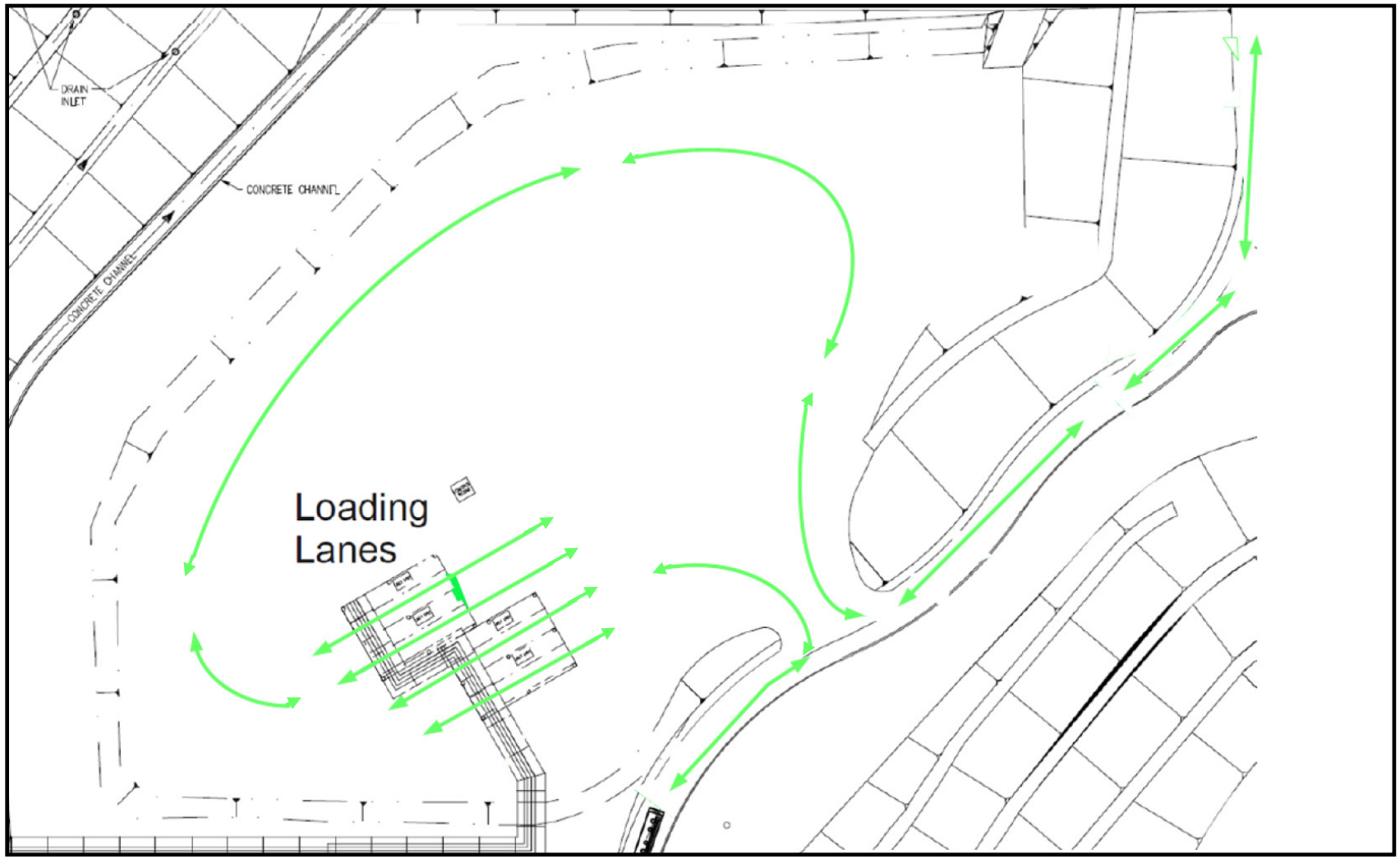
Construction of the truck loading facilities would require a peak work force of about 30 workers. Depending upon the phase of construction, the workforce would vary from 8 to 30. The peak work force would be at the LFC site for approximately two weeks. Operation of the truck loading facilities would require two employees at a given time, staffed via the existing base of SYU staff. No new employees would be need for operating the truck loading rack.

Figure 2-5 Truck Route within Las Flores Canyon Facility



Source: ExxonMobil, Application-Industrial Risk Analysis, December 2017

Figure 2-6 Truck Route to the Loading Racks in Las Flores Canyon



Source: Adapted from ExxonMobil, Application-Industrial Risk Analysis, December 2017; Revised October 2018 to reflect the possibility of traffic in either direction.

The historical work force at the LFC facility during normal operations has been a base of approximately 100 workers, with a total onshore and offshore of between 200 and 300 workers depending upon if and what types of maintenance and operational activities are occurring offshore. Historical onshore peak staffing during turnaround activities was up to 200 daily staff.

2.5.5 Abandonment

Once a pipeline alternative is available to transport product to market, interim trucking would cease and the installed piping and components at the LFC facility would be placed out of service and isolated from the crude and vapor transport lines. The facilities would remain in place and would be abandoned at the end of the life of the SYU Project.

2.6 Applicant Proposed Avoidance and Minimization Measures

The Applicant's application contained several Avoidance and Minimization Measures (AMMs) to minimize the Project's environmental impacts. The Applicant would implement these measures during the design, construction, and operation of the proposed Project in order to avoid or minimize potential environmental impacts.

The proposed AMMs, are listed in each applicable environmental issue area section in Chapter 4 at the start of the Project impact discussion. The Applicant AAMs that are considered part of the project design and that have been discussed in the project description are considered part of the proposed Project. The Applicant proposed AMMs that are not considered part of the Project design are evaluated as mitigation measures in the project impact discussion presented in Section 4. In several cases the AMMs have been expand upon to ensure that potential impacts would be reduced to less than significant levels. County approval would be based upon the Applicant adhering to the proposed Project as described in this document, including this project description and the AMMs, as well as any adopted mitigation measures identified in this SEIR.

2.7 Alternatives

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 proposed Project, including the "No Project Alternative."

State CEQA Guidelines Section 15126.6 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". Alternatives carried forward for analysis "...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project" and would attain the basic project objectives. The EIR must explain the rationale for selecting the alternatives to be discussed, identify those that were not carried forward because they were infeasible, and briefly explain why these were not carried forward. The "environmentally superior" alternative to the Project must be identified and discussed (see Section 5, Environmental Analysis and Comparison of Alternatives). If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional "environmentally superior" choice among the other project alternatives.

2.7.1 Description of Alternatives and Screening Analysis

An alternative screening analysis was used to select the alternatives that were carried forward and evaluated in further detail in the EIR. In defining feasibility of alternatives, and pursuant to the State 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)]. Alternatives that were found to be technically infeasible or those did not attain "*most of the basic objectives of the project* ..." pursuant to CEQA Guidelines Section 15126.6(a)) were removed from further consideration.

As presented below, a variety of alternatives to the proposed Project were considered to determine potential alternatives which might produce fewer significant impacts or reduce the severity of those significant impacts than the proposed Project, including the No Project Alternative. Possible alternatives were assessed as to whether they would satisfy the following:

- The alternative is feasible (capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA Guidelines §15364);
- The alternative would avoid or substantially lessen any of the potentially significant impacts of the proposed Project; and
- The alternative would attain most of the basic objectives of the project.

Alternatives considered included the No Project Alternative, reduced trucking, alternative trucking locations, alternative truck routes, alternative modes of transportation, and alternative energy sources. As listed below, alternatives considered but not carried forward for further analysis are presented in Section 2.7.2. Alternatives carried forward for evaluation in Chapter 5 (Environmental Analysis and Comparison of Alternatives) are presented in Section 2.7.3.

- **Section 2.7.2 – Alternatives Considered but Not Carried Forward**
  - Trucking to the Santa Maria Refinery Only
  - Alternative Truck Routes to Plains Pentland Terminal
  - Alternative Modes of Transportation (pipeline, rail, marine barge)
  - Renewable Energy Sources
  - New Northbound On-Ramp to U.S. Highway 101 at the Mouth of Las Flores Canyon
- **Section 2.7.3 – Alternatives Carried Forward**
  - No Project Alternative
  - Reduced Trucking
  - No Trucking During Rainy Periods
  - Trucking to the SMPS Only

2.7.2 Alternatives Considered but Not Carried Forward

2.7.2.1 Trucking to Phillips 66 Santa Maria Refinery Only

This alternative would involve trucking all the crude oil directly to the Phillips 66 Santa Maria Refinery (SMR), which is located on State Route 1 on the Nipomo Mesa in Southern San Luis Obispo County. With

this alternative all the crude would be trucked to the SMR and none would go to the SMPS or the Plains Pentland Terminal.

Trucks would exit the LFC facility and take Calle Real to the Refugio on ramp to U.S. Highway 101 north. Trucks would exit U.S. Highway 101 at the Willow Road intersection and travel west on Willow Road to State Route 1 to the SMR. Both Willow Road and Highway 1 in this area are two-lane arterial roads. The portions of this route along Willow Road and State Route 1 pass through residential areas.

The current truck unloading facilities at the SMR would not be capable of handling the full 70 trucks per day. The refinery currently has limited truck unloading capabilities and can handle around 10 to 20 trucks per day. To accommodate this level of trucking, new unloading racks would need to be built at the refinery. To accommodate the requirement for additional lanes, it has been assumed that a portion of the existing contractor parking lot could be used to construct four truck unloading lanes. Pipelines would have to be built from the truck unloading area to the existing crude oil storage tanks and vapor recovery system. For the purposes of this alternative it has been assumed that the truck unloading facilities at the SMR would be similar in design to the truck loading facilities proposed for LFC.

Truck transportation would continue to occur seven days per week, 24-hours per day, with no more than 70 truck loads leaving the LFC facility within a 24-hours period. The one-way trip distance from the LFC facility to the SMR would be about 70 miles. Figure 5-1 shows the truck route that would be used for this alternative.

Construction and operation of the truck loading facilities at the LFC facilities would remain the same as for the proposed Project. Refer to Section 2.5 for a detailed discussion of the construction and operation of the truck loading facilities.

Alternative Conclusion: The truck route to the SMR would be longer than the proposed route to the SMPS but would be shorter than the proposed route to the Plains Petland Terminal. Depending upon how much of the crude is shipped to the Plains Pentland Terminal, this alternative could result in greater or less emissions that the proposed Project. If 14 or more trucks per day go to the Plains Pentland Terminal, then the emissions for this alternative would be less when compared to the proposed Project. Construction emissions would be slightly higher with this alternative since an unloading rack would need to be constructed at the SMR. Trucks traveling to the SMR would have to use Willow Road and Highway 1 in San Luis Obispo.

The likelihood of an accident and potential oil spill would be slightly higher than for the proposed route to the SMPS, but less than the proposed route to the Plans Pentland Terminal due to the variations in route distances. This alternative would use Willow Road and Highway 1, which both pass through residential areas and therefore the public risk would likely be higher than for the proposed Project. Construction of a new truck unloading rack at the SMR would require a land use permit from San Luis Obispo County. It is speculative as to whether such a permit could be obtained, based upon the recent unsuccessful attempt to permit a rail unloading facility at the SMR.

This alternative would not lessen the potentially significant impacts of the proposed Project or substantially reduce any other environmental impacts of the proposed Project. Additionally, this alternative would require permits and further analysis from the County of San Luis Obispo. This route would also pass through residential areas, which would increase the severity of some of the environmental impacts. It is also speculative to assume that a new truck loading rack could be permitted at the SMR. For these reasons, this alternative has been dropped from further consideration.

2.7.2.2 Alternative Truck Routes to Plains Pentland Terminal

Three alternative truck routes were developed for delivering crude from the LFC facility to the Plains Pentland Terminal. Figure 2-7 shows the three alternative routes. Each of the routes is discussed below.

State Route 46 Truck Route to Plains Pentland Terminal

Under this alternative, trucks traveling to the Plains Pentland Terminal in Maricopa would exit the LFC facility and take Calle Real to the Refugio on ramp to U.S. Highway 101 north. Trucks would exit U.S. Highway 101 onto State Route 46 east, to State Route 33 to Basic School Road. This alternative route would avoid the use of State Route 166 between Santa Barbara and Kern Counties. The one-way trip distance from the LFC facility to the Plains Pentland Terminal via State Route 46 would be about 220 miles. Under this alternative up to 68 trucks per day would transport crude from LFC to the Plains Petland Terminal. Figure 2-7 shows the truck route that would be used for this alternative.

The section of State Route 46 through Paso Robles is a four-lane expressway. The remainder of the route on State Route 46 is a two-lane conventional/expressway and four-lane expressway.

Truck transportation would occur seven days per week, 24-hours per day, with no more than 68 trucks loads leaving the LFC facility within a 24-hours period. Construction and operation of the truck loading facilities would remain the same as for the proposed Project. See Chapter 2.0 for a discussion of the construction and operation of the truck loading facilities.

Alternative Conclusion: This route to the Plains Pentland Terminal would be longer than the proposed route and would therefore have higher air and GHG emissions. The truck emissions would be about 60% higher for the State Route 46 route. Based upon the California Statewide Integrated Traffic Records System (SWITRS) data from the State of California, for the years 2015 through 2017 State Route 46 had a similar number of fatalities and serious injuries as State Route 166. However, the likelihood of an accident and potential oil spill would be greater for State Route 46 due to the longer travel distance.

This route would also pass through more heavily populated area such as the Cities of San Luis Obispo and Paso Robles which would increase the risk to the public when compared to the proposed truck routes along State Route 166.

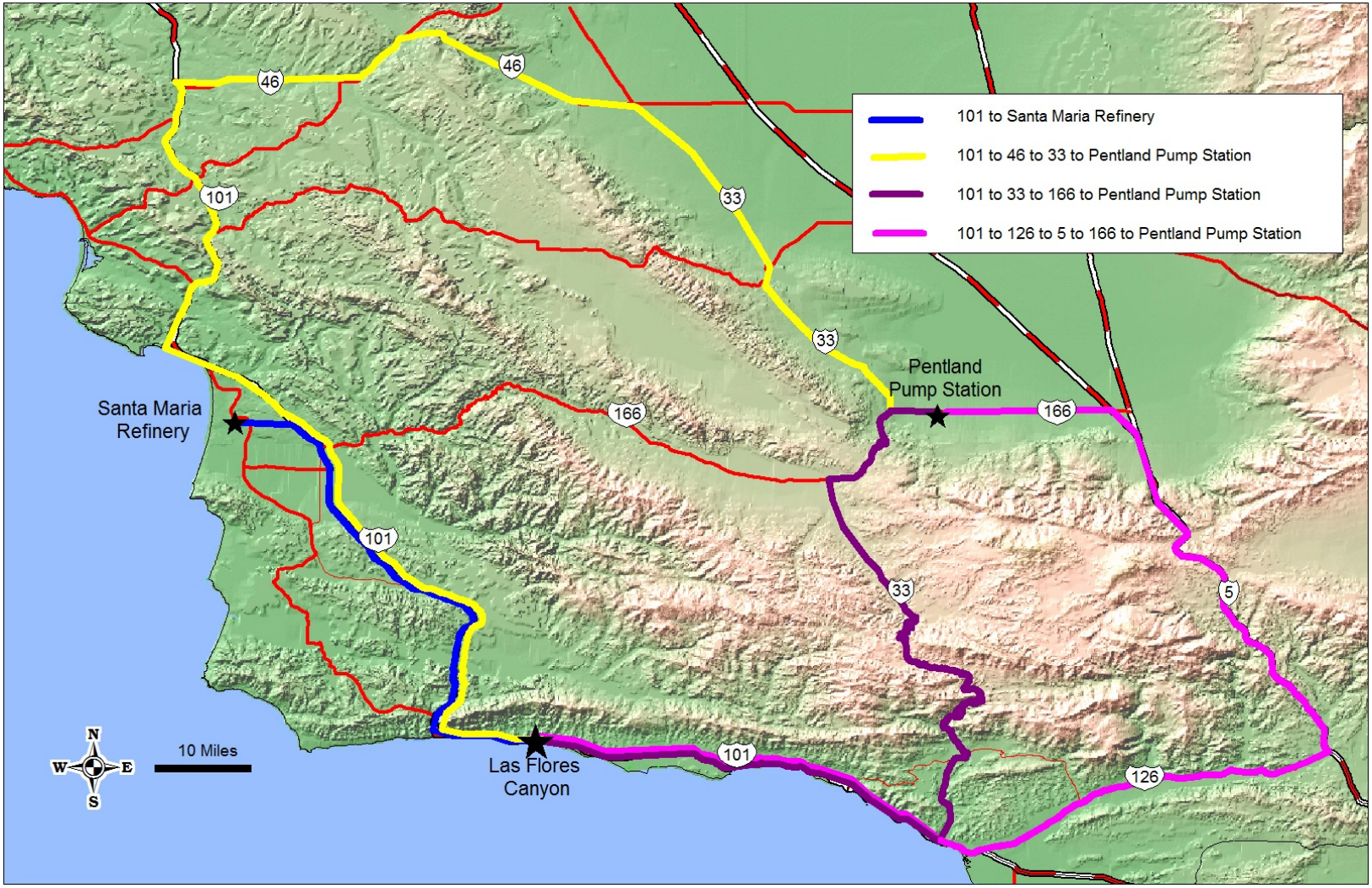
The alternative of State Route 46 would not lessen the potentially significant impacts of the proposed Project or substantially reduce any other environmental impacts of the proposed Project. In fact, it would increase several environmental impacts when compared with the proposed route along State Route 166. Therefore, this alternative has been dropped from further consideration.

State Route 126 Truck Route to Plains Pentland Terminal

With this alternative, trucks traveling to the Plains Pentland Terminal in Maricopa would exit the LFC facility and take Calle Real to the Refugio on ramp to U.S. Highway 101 south. Trucks would exit U.S. Highway 101 onto State Route 126 east, to U.S. Highway 5 north, to State Route 166 west, to Basic School Road. This alternative route would avoid the use of State Route 166 between Santa Barbara and Kern County. The one-way trip distance from LFC to the Plains Pentland Terminal via State Route 126 would be about 172 miles. Under this alternative up to 68 trucks per day would transport crude from LFC to the Plains Petland Terminal. Figure 2-7 shows the truck route that would be used for this alternative.

The section of State Route 126 through Ventura is a four-lane expressway. The remainder of the route on State Route 126 to the intersection with Highway 5 is composed of two-lane conventional/expressway and two-lane principal arterial.

Figure 2-7 Alternative Truck Routes to Plains Pentland Terminal and Truck Route to Santa Maria Refinery (SMR)



Source: Google, Google Earth data © Google 2018.

Under this alternative, truck transportation would occur seven days per week, 24-hours per day, with no more than 68 trucks loads leaving the LFC facility within a 24-hours period. Construction and operation of the truck loading facilities would remain the same as for the proposed Project. See Chapter 2.0 for a discussion of the construction and operation of the truck loading facilities.

Alternative Conclusion: This route to the Plains Pentland Terminal would be longer than the proposed route and would therefore have higher air and GHG emissions. Truck emissions would be about 22% higher for the State Route 126 route. State Route 126 has sustainably higher annual average daily traffic (AADT) than State Route 166. State Route 126 has some areas of the route that operate at a LOS of D and F, which is worse than State Route 166. Based upon the California Statewide Integrated Traffic Records System (SWITRS) data from the State of California, for the years 2015 through 2017 State Route 126 had a similar number of fatalities and serious injuries as State Route 166. However, the likelihood of an accident and potential oil spill would be greater for State Route 126 due to the longer travel distance. This route would also pass through more heavily populated area such as the Cities of Santa Barbara, Goleta, Carpinteria, Ventura, and Fillmore which would increase the risk to the public when compared to the proposed truck routes along State Route 166.

The alternative of State Route 126 would not lessen the potentially significant impacts of the proposed Project or substantially reduce any other environmental impacts of the proposed Project. In fact, it would increase several environmental impacts when compared with the proposed route along State Route 166. Therefore, this alternative has been dropped from further consideration.

State Route 33 Truck Route to Plains Pentland Terminal

With this alternative trucks traveling to the Plains Pentland Terminal in Maricopa would exit the LFC facility and take Calle Real to the Refugio on ramp to U.S. Highway 101 south. Trucks would exit U.S. Highway 101 to State Route 33 north, to Basic School Road. This alternative route would avoid the use of State Route 166 between Santa Barbara and Kern County. The one-way trip distance from LFC to the Plains Pentland Terminal via State Route 33 would be about 139 miles. Under this alternative up to 68 trucks per day would transport crude from LFC to the Plains Petland Terminal. Figure 2-7 shows the truck route that would be used for this alternative. Truck transportation would occur seven days per week, 24-hours per day, with no more than 68 trucks loads leaving the LFC facility within a 24-hours period. Construction and operation of the truck loading facilities would remain the same as for the proposed Project. See Chapter 2.0 for a discussion of the construction and operation of the truck loading facilities.

Alternative Conclusion: The portion of State Route 33 from Ojai to near Ventucopa is a yellow kingpin-to-rearmost-axle distance (KPRA) advisory route, which limits the length of trucks to no more than 30 feet. Since a typical oil tanker truck is about 42 feet long, they would not be able to use this route. For this reason, the State Route 33 alternative has been dropped from further consideration.

2.7.2.3 Alternative Modes of Transportation

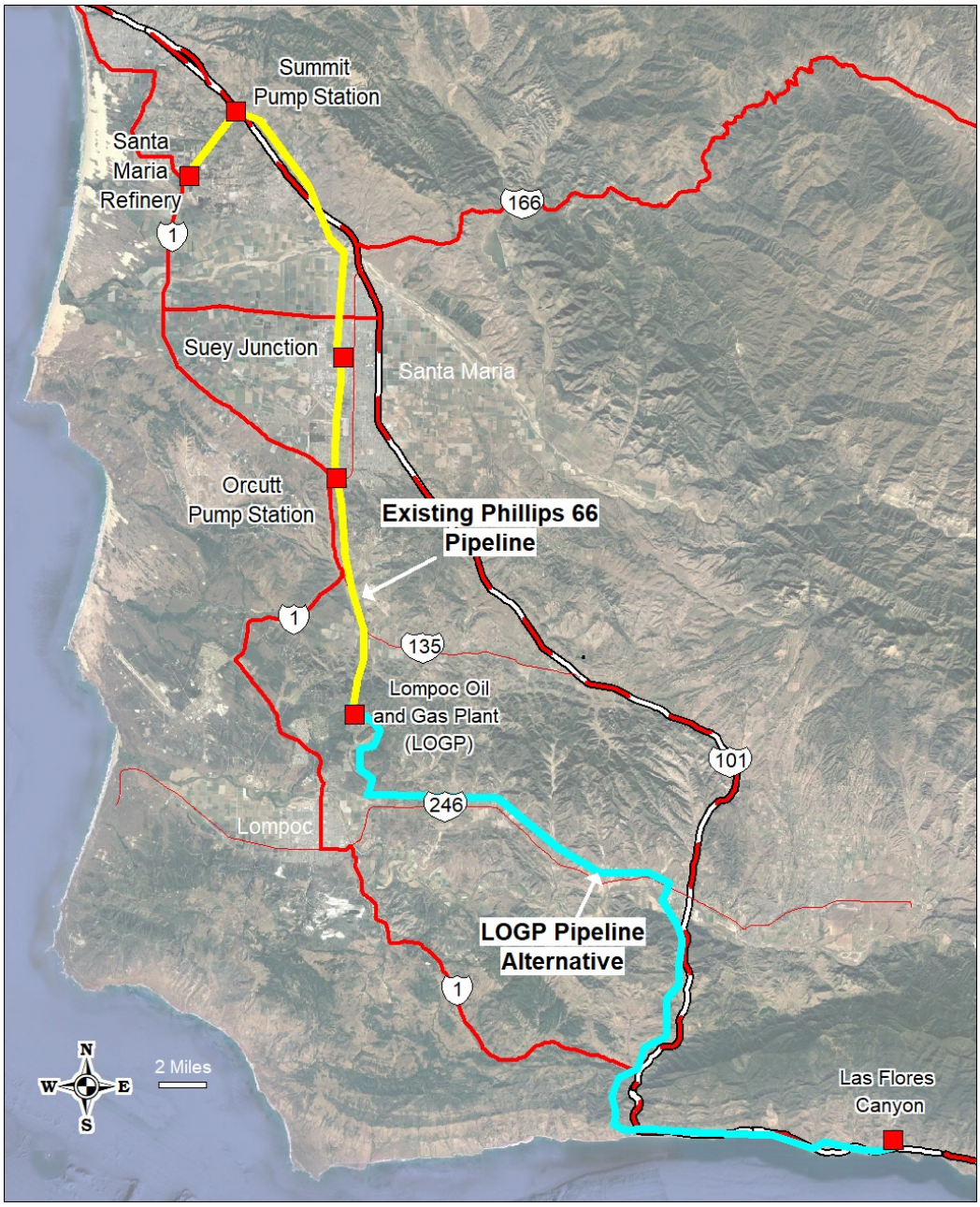
Three potential alternative modes of transporting the produced crude oil from the LFC facility were considered. Each of these is discuss below.

Pipeline from LFC to the Lompoc Oil and Gas Plant (LOGP)

This alternative would involve the construction of a new crude oil pipeline from the LFC facility to the Lompoc Oil and Gas Plant (LOGP) located in Lompoc. The LOGP is used to process oil and gas from Platform Irene. The crude oil from the LOPG is currently shipped via Philips 66's Line 300 pipeline system to the SMR in Nipomo. The pipeline system is comprised of a series of pipeline segments that range in size from

8 to 12-inches. From the LOGP the limiting section appears to be the 8-inch pipeline between the Orcutt Pump Station and Suey Junction which has a design flowrate of about 50,000 barrels per day, which would be adequate for the proposed Project. A possible route for this pipeline is shown in Figure 2-8. This route is similar to one that was permitted by Santa Barbara County back in the late 1980's for moving crude oil from the LOGP to the Gaviota Terminal.

Figure 2-8 Possible Crude Oil Pipeline Route from LFC to LOGP



Source: Google, Google Earth data © Google 2018.

The pipeline route would follow the existing Plains pipeline corridor from the LFC site to the intersection with Highway 246. The pipeline would then parallel Highway 246 on the northside until just past the intersection with Purisima Road. The pipeline would then turn north and traverse private and agricultural properties passing east of Mission Hills until it reached the Lompoc Oil Field. The pipeline would then turn west following oil field roads to the LOGP. The pipeline would likely be 8-inches in diameter and would be approximately 41.5 miles long.

Land uses along the alternative route include recreation, open space, agriculture, residential, commercial, and vineyards. In addition, the alternative would cross several creeks along the Gaviota coast, as well as the Santa Ynez River. Potential sensitive species that may be encountered along the alternative alignment include California red-legged frog, La Purisima manzanita, sand mesa manzanita, unarmored threespine stickleback, and western spadefoot.

Alternative Conclusion: Construction air and GHG emissions would be greater for the LOGP pipeline but operations emissions would be less. Construction of this pipeline would generate about 100 tons of NO_x, which would represent more than the total for four to seven years of truck operations. These NOx emissions would be generated by construction activities which are considered short-term and no significance thresholds are identified under the County's Environmental Threshold and Guidelines Manual. However, under APCD Rule 202 D.16, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct permit have the potential to exceed 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets under the provisions of Rule 804 and shall demonstrate that no ambient air quality standard will be violated. GHG emissions for pipeline construction would be about 16,000 tons CO_2e, which would be greater than the annual GHG emissions for the proposed Project and would require mitigation pursuant to the County's Environmental Guidelines and Thresholds Manual for industrial stationary sources.

There would be considerable traffic related to the construction of the pipeline, likely greater than for the proposed Project, but since the traffic would be construction related, it would be of a limited duration. Traffic from operation of the pipeline would be limited to workers accessing the pipeline route for surveillance and maintenance.

Pipelines typically have lower probabilities of spills than trucking. While the probability of an oil spill from the pipeline would likely be lower than for trucking, the maximum spill volume would be greater due to the volume contained in the pipeline. Risk to the public would be lower for the pipeline since the probability of a spill resulting in a crude oil pool fire is less for pipelines than trucks. However, the biological and water quality impacts due to a spill from the pipeline would likely be greater for the pipeline due to the larger spill volumes and the fact that the pipeline would traverse areas with sensitive habitat.

Under this alternative, the pipeline to the LOGP would likely be built to transport the full production levels of SYU if such a project was to be undertaken. This would allow for the restoration of all the SYU wells and equipment, which would not be consistent with parts of the project objectives. Also, the time to design, permit and construct a pipeline to the LOGP would likely be four to five years or more, which is longer than the anticipated time for the Plains pipeline to become available. Therefore, this alternative would not meet the basic objectives of the proposed Project. This alternative would be better suited for a long-term option.

This alternative would not lessen or reduce the severity of any of the potentially significant environmental impacts of the proposed Project. In fact, this alternative would increase several environmental impacts

when compared with the propose Project. Also, this alternative would not meet the basic objectives of the Project. Therefore, this alternative has been dropped from further consideration.

Marine Transport of Crude

This alternative would involve the construction and operation of a marine terminal offshore of LFC. The oil would be transported via marine tankers to refineries in the Ports of Los Angeles/Long Beach or San Francisco Bay areas. The major components of a marine terminal would likely include the following:

- A 12-inch diameter marine loading pipeline extending from the crude pumps in LFC to an offshore location for the barge mooring site.
- A 6-inch vapor recovery pipeline extending from the vapor recovery system in LFC to the offshore location of the barge mooring site.
- Rubber hoses extending from the end of the offshore pipelines that would be used to connect to the barge.
- An offshore irregular six-point mooring system for barge operations located offshore
- One sphere hose buoy and one hose-end marker buoy.

For this alternative it has been assumed that a barge similar to the Jovalan would be used for transporting the oil. The Jovalan was used to transport oil from the Ellwood facility for several years prior to the pipeline being built from Ellwood to LFC. The Jovalan was equipped with four diesel-fired engines to power the compressor and refrigerator systems of the onboard Vapor Recovery Unit (VRU) and to supply hydraulic power for the mooring cable winches. The Jovalan was towed by a tug and has no other means of propulsion or steerage.

The maximum capacity is 56,000 barrels of oil. Based upon an interim production rate of about 11,200 barrels per day, a barge would need to be loaded at the terminal every five days. The barge would follow prescribed transit routes for the West Coast of the United States.

Alternative Conclusion: The estimated operational NO_X emissions from barge transport of oil would be approximately 21 to 52 tons/yr. depending on the destination of the barge (Long Beach or Bay Area). This would be greater than both proposed truck routes which would generate about 8.0 and 3.2 tons/yr. of NO_X for the Plains Petland Terminal and SMPS respectively. Operational GHG emissions from barge transport would be approximately 10,000 to 20,000 tons/yr. $CO2_e$ depending on the destination of the barge (Long Beach or Bay Area). This would be greater than both proposed truck routes which would generate about 8,909 and 3,571 tons/yr. $CO2_e$ for the Plains Petland Terminal and SMPS respectively . Construction air and GHG emissions would be substantially greater for the marine terminal due to the need to construct an offshore loading system and associated pipelines.

There would be minimal traffic associated with the operation of a marine terminal. Any traffic increase would be due to additional workers need at the LFC facility. Therefore, traffic and circulation impacts would be less than for the proposed Project.

The use of a marine barge to transport crude oil would increase the likelihood of a spill impacting the marine environment. The maximum spill volume from a marine barge would be about 56,000 barrels, which would be substantially greater than the 160 barrels from a tanker truck. As such, risk of upset impacts would be substantially greater for marine transport than the proposed Project.

The marine terminal could be designed to transport limited SYU crude. However, the time to design, permit, and construct a marine terminal would likely be four to six years, which would be longer than the

estimated time for a pipeline to become available. As such, it is likely that a pipeline would become available prior to any marine terminal becoming operational. Therefore, this alternative would not meet the basic objective.

This alternative would not lessen or reduce the severity of any of the potentially significant environmental impacts of the proposed Project. This alternative would substantially reduce the traffic impacts of the proposed Project. However, this alternative would substantiality increase several environmental impacts when compared with the propose Project. Also, this alternative would not meet the basic objectives of the Project. Therefore, this alternative has been dropped from further consideration.

Rail Transport of Crude

Another alternative would be to construct and operate a rail loading facility at the Union Pacific Railroad tracks located just west of Highway 101 at the mouth of LFC. This alternative would require the construction of a rail spur to allow for loading of tank cars with crude oil. The rail corridor in this area has two tracks for north and south bound trains.

It has been assumed that a 34-car unit train would be used to transport the oil. For a 34-unit car train, the length of the rail spur would need to be approximately 5,500 feet. Installed with the rail spur would be loading racks that would allow the loading of five tanker cars at a time. These facilities would require about a 100-foot wide right of way. A train would need to be loaded every two days. The train could then deliver crude to refineries in the Los Angeles or Bay Area. Additionally, crude and vapor pipelines would need to be installed from the LFC facility to the rail loading racks.

Alternative Conclusion: There is insufficient space to construct a rail spur and loading rack in this area. The space between the existing rail line and Highway 101 is about 20 feet, and there is only about five to eight feet on the west side of the tracks to the edge of the bank that leads to the ocean. Given that the physical constrains of the area would not allow the construction of rail spur and loading rack, this alternative has been dropped from further consideration.

2.7.2.4 Renewable Energy Sources

Public comments received during scoping suggested alternative methods of energy production, such as solar or wind technologies. Produced crude oil from the SYU would be processed primarily into transportation fuels for cars, other vehicles, aircraft, and other equipment. Solar and wind energy generation creates electricity that goes into the electrical grid, which is a different form of energy. However, some of this electrical energy could be used to power electric vehicles. If the proposed Project were replaced with renewable energy facilities such as wind or solar, a substantial amount of land would be needed to produce the same amount of energy. Each barrel of oil has an energy value of about 5.8 million British thermal units (mmbtu). At the proposed production rate of about 11,200 barrels per day an equivalent solar or wind farm would need to generate about 778 megawatts (MW) per day.

Solar Energy - In 2017 the Santa Barbara County permitted First Solar's Cuyama Solar Array Project which is now operational and produces 40 megawatts (MW) on 327 acres of agricultural land. Another solar project in the region, the Topaz Solar Farm in San Luis Obispo County, produces 550-MW on a 4,700-acre site. To produce the equivalent 778 MW approximately 6,650 acres would be needed. Furthermore, the County's Land Use and Development Code (LUDC) only allows utility-scale solar photovoltaic facilities within the Cuyama Valley Rural Region where the capacity of the electrical transmission grid is limited.

Wind Energy - If the alternative energy facility considered would be wind energy, the LFC is not located within one of the four potential areas identified by the Santa Barbara Community Environmental Council

(CEC, 2007) as a promising wind resource area. The County is currently processing an application for the Strauss Wind Energy Project for 30 turbines on 2,950-acre of agriculturally zoned land. As proposed, the project would be in one of the six regions identified by the Community Environmental Council as most promising for wind energy and is expected to generate about 101 MW of energy. To generate 778 MW of electricity from wind would require a substantial amount of land.

Alternative Conclusion: Construction of a solar or wind facility would require the complete clearing and somewhat leveling of the project area, as well as additional land acquisition to accommodate such a large-scale facility. A solar facility at LFC would directly conflict with the County's LUDC and is not currently permittable. LFC is not one of the four potential areas identified by the Santa Barbara Community Environmental Council (CEC, 2007) as a promising wind resource area. Given the large amount of land needed for either a solar or wind facility use of the LFC site would not be feasible. It is also speculative as to whether the Applicant could obtain the large amount of land within the County that would be required to build this size of alternative energy facility. Lastly, a solar or wind energy facility would not meet the most basic of project objectives. Therefore, this alternative has been dropped from further consideration.

2.7.2.5 New Northbound On-Ramp to U.S. Highway 101 at the Mouth of Las Flores Canyon

This alternative was developed as part of the comments received on the NOP. With this alternative a new on-ramp to U.S. Highway 101 north would be installed across from the entrance road to the LFC facility. The new freeway entrance would be from Calle Real. This would eliminate the need for the crude oil trucks to travel on Calle Real to the Refugio Road/U.S. Highway 101 interchange when heading north on U.S. Highway 101.

This alternative would require construction an entrance ramp from Calle Real to U.S. Highway 101 north. Any new on-ramp to U.S. Highway 101 would require permitting and approval from Caltrans. The entrance ramp would need to meet the Caltrans design specification for a single lane freeway entrance, which are detailed in the Caltrans Highway Design Manual. Since the on-ramp would be primary used for trucks the width of the on-ramp would have to be between 12 and 18 feet depending upon the final design of the interchange.

Alternative Conclusion: The Caltrans Highway Design Manual, Chapter 500 covers the requirements for traffic interchanges. This document specifies that the minimum interchange spacing shall be two miles outside of urban areas. The placement of a new interchange at mouth of Las Flores Canyon would result in a spacing of less than two miles between interchanges. The distance from the southern edge of Calle Real to the northern edge of U.S. Highway 101 is about 85 feet. It is likely that the curve needed for the entrance ramp would require more than the 85 feet to meet the Caltrans design requirements. This alternative would require funding, additional permits, and environmental review which would likely take four to ten years or more, which is longer than the anticipated time for the Plains pipeline to become available. Based upon the Caltrans requirements for the installation of new interchanges to freeways, it is unlikely that a new interchange across from the entrance road to the LFC facility would be permitted by Caltrans. Also, Caltrans typically looks at the need for new interchanges based upon traffic levels at the adjacent interchanges. Both adjacent interchanges operate at acceptable levels of service. Additionally, this alternative would not lessen the potentially significant impacts of the proposed Project or substantially reduce any other environmental impacts of the proposed Project. Therefore, this alternative has been dropped from further consideration.

2.7.3 Alternatives Carried Forward

2.7.3.1 No Project Alternative

Under the No Project Alternative, the proposed Project would not proceed. If disapproval of the proposed Project would result in predictable actions by others, such as the proposal for another project, CEQA requires that the No Project consequence/s should be discussed (CEQA Guidelines Section 15126.6(e)(3)(B)). Under the No Project Alternative, the Lead Agency should analyze what would reasonably be expected to occur in the foreseeable future if a proposed Project was not approved (Guidelines Section 15126.6(e)(3)(C)).

If the proposed Project is not approved, it is likely that the SYU facilities would remain in their preserved state until such time as a pipeline becomes available. Plains Pipeline, LLC is currently in the process of permitting a replacement pipeline. Therefore, under the No Project Alternative construction and operations of the proposed interim trucking project would not occur, and the LFC and SYU facilities would not restart oil and gas production and processing operations until a pipeline becomes available to transport the crude oil.

Although the Plains pipeline system is currently shut down, once the Pipeline and Hazardous Materials Safety Administration's Corrective Action Order requirements are addressed, Plains maintains the ability to restart the existing system without County of Santa Barbara decision maker approval. However, on August 15, 2017, Plains submitted a discretionary application to Santa Barbara County Planning and Development Energy, Minerals and Compliance Division for the complete replacement of their existing Line 901 and 903 system. The Plains Replacement Pipeline Project is subject to CEQA and the Energy, Minerals and Compliance Division will be preparing a CEQA document to analysis and disclose all impacts related to the replacement of the Line 901 and 903 system. Information regarding the status of the Plains application can be found online at the Energy, Minerals and Compliance Division website.

CEQA Guidelines §15126.6(e)(1) requires that the No Project Alternative be evaluated in an SEIR. Therefore, this alternative has been carried forward for analysis.

2.7.3.2 Reduced Trucking Alternative

The Reduced Trucking Alternative was developed to reduce the risk of an oil spill impacting biological and water resources. By reducing the maximum daily number of trucks carrying crude oil, the likelihood of an oil spill would thereby be reduced as well. The reduced trucking alternative would limit the trucking of oil from the LFC facility to a maximum of 50 trucks per day. Each truck would transport approximately 160 barrels of crude oil (6,720 gallons). Truck transportation would occur seven days per week, 24-hours per day, with no more than 50 trucks loads leaving the LFC facility within a 24-hour period. Trucks could either travel to the SMPS or the Plains Pentland Terminal.

Construction of the truck loading facilities would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS and the Plains Pentland Terminal would remain the same as for the proposed Project. For a detailed discussion of the construction and operation of the truck loading facilities refer to Section 2.5.

The feasibility of limiting the proposed Project to a maximum of 50 trucks per day (8,000 barrels per day of oil) is uncertain. After the shutdown of the Plains Pipeline on May 19, 2015, the Applicant worked to reduce production from the SYU facilities to a minimum level in order to allow for continued operation in anticipation of a possible pipeline restart, with the produced oil being stored in the LFC crude oil storage tanks. On May 21, 2015 the Applicant was able to reduce production to about 10,000 barrels of oil per

day, which would be equivalent to about 63 trucks per day. The Applicant worked to determine minimum production levels that could be achieved without compromising the safe operations of the SYU facilities. On May 25, 2015 production was further curtailed to 9,000 barrels of oil per day, which would be equivalent to about 57 trucks per day. However, at these lower level of production Exxon experienced several operational issues associated with the low flow-rates of produced fluids coming from the SYU platforms.

The oil production coming from the platforms is a mixture of oil and produced water (i.e., oil emulsion). This mixture is transported via a 19-inch pipeline from Platform Harmony to the LFC facilities for processing. When emulsion flow rates dropped below about 30,000 barrels per day, the Applicant experienced operational issues associated with the cogeneration system, which provides heat for processing the emulsion, and with the leak detection system on the emulsion pipeline from Platform Harmony to the LFC facility. The produced water fraction in the emulsion pipeline over the past three year has averaged about 66%. Assuming the 66% fraction, 30,000 barrels per day of emulsion would represent about 19,800 barrels of produced water and 10,200 barrels of oil and is the basis for the analysis below.

The operational issues associated with the cogeneration system were related to steam production. To process the oil and gas at the LFC facility, heat is required. Steam is the primary heating method used for a variety purposes and is generated by the Heat Recovery Steam Generator (HRSG) which recovers waste heat from the cogeneration system gas turbine exhaust. The amount of steam used corresponds to the flow-rate of emulsion coming from the platforms. A low emulsion rate utilizes less generated steam and requires any excess steam to be condensed by steam condensers subject to their capacity limits.

Operating the cogeneration system gas turbine below approximately 31 megawatts (MW) would result in carbon monoxide emissions that exceed the SBCAPCD permitted limits. At a power production level of 31 MW, the HRSG generates about 130 thousand pounds of 700 pounds per square inch gauge saturated steam per hour (klbs/hr). Steam not used for heating purposes within the LFC facility must be removed from the system by condensing it in the Excess Steam Condenser. The Excess Steam Condenser, which has a capacity to handle 98 klbs/hr. The minimum heat load for the process equipment at the LFC facilities is the difference between the 31 MW HRSG power production level (130 klbs/hr) and the capacity of the Excess Steam Condenser (98 klbs/hr). To utilize the minimum heat load of 32 klbs/hr approximately 30,000 barrels per day of emulsion is required from the offshore platforms. Flowrates below this level would result in exceedances of the air permit for the gas turbine. However, it may be possible for The Applicant to obtain a variance from the SBCAPCD for the gas turbine which would allow for the cogeneration system to operate at a load below 31 MW.

The operational issues experienced with the leak detection system on the emulsion pipeline from Platform Harmony to the LFC facility are associated with minimum the flow rates needed to allow for effective leak detection. The emulsion pipeline that extends from Platform Harmony to the LFC facility was originally designed for a flow-rate of approximately 228,000 barrels of emulsion per day. At flow-rates below 30,000 barrels per day, the velocity of the emulsion and pressure drop in the pipeline becomes so low that the leak detection system generates false alarms indicating a potential leak, which results in unanticipated facility shut-downs and restarts.

In order to limit the transport of crude oil to 50 trucks per day (equivalent to about 8,000 barrels of crude oil), and assuming the historical produced water fraction of 66%, an emulsion rate of 23,530 barrels per day would be anticipated. The anticipated 23,530 barrels per day would be below the minimum level of 30,000 barrels per day that the Applicant has determined is required to safely operate its facilities.

The potential for modifications to the leak detection system to allow for operation at production levels below 30,000 barrels of emulsion per day may be possible, however has yet to be completely analyzed. These modifications may involve equipment changes or modifications, use of only higher water-cut wells or instrumentation or software modifications. Even with changes that would address the aforementioned issues operation below 50 trucks per day is considered technically infeasible without major modifications to the overall design of the SYU facilities.

2.7.3.3 No Trucking During Rainy Periods Alternative

This alternative was developed to reduce the likelihood of an oil spill impacting biological and water resources by prohibiting trucking operations during periods of heavy rain. In the event of an oil spill from a tanker truck, the potential impacts to biological and water resources would be greater during periods of rain events since the oil could be transported more easily into waterways by the rain runoff along drainage areas and stormwater management systems. Table 2-2 provides an analysis of rain days for various stations in the area of the proposed truck routes covering the years 1974 through 2018.

Table 2-2 Rain Days at Various County Sites Along Proposed Truck Route (1974-2018)

Location	Rain Days at 1-inch and Above			Rain Days at 1/2-inch and Above		
	Total # of Days[1]	Maximum # of Days per Year	Average # Days per Year	Total # of Days[1]	Maximum # of Days per Year	Average # Days per Year
Gaviota	296	17	7	541	27	12
Buellton	228	12	5	497	26	11
Los Alamos	186	12	4	484	24	11
Santa Maria	152	8	3	417	20	9
New Cuyama	34	4	1	192	11	4
Max for all Sites	***296***	***17***	***7***	***541***	***27***	***12***
Average for All Sites	***179***	***11***	***4***	***426***	***22***	***9***

1. Total # of days covers the years 1974 through 2018. Rain day is rain received over a 24-hour period.
Source: Santa Barbara Public Works Department, Water Resources.

For this alternative, ½-inch per day of rain was chosen as the rain level that could result in high enough flows to produce more wide spread dispersal of spilled oil. Based upon the historical rain data it is likely that trucking would likely not occur for an average of 9 days per year with a maximum of about 27 days per year. For days when the National Weather Service predicts a 50% chance of receiving ½-inch of rain or more in a 24-hr period in the areas along the truck routes, no trucking shall occur unless the rain event does not materialize. When ½-inch of rain is forecasted and trucking cannot occur, the produced crude oil would be stored in the existing onsite crude oil storage tanks at the LFC facility. If the onsite storage tanks were maintained at half capacity, they would have capacity for more than 20 days of storage at the proposed Project production levels.

To make up for the days when trucking is not allowed due to projected rain levels, the limit on the peak truck trips per day leaving the LFC facility would be increased to 78 trucks. However, the annual number of trucks leaving the LFC facility would continue to be limited to 25,550, which is an average of 70 trucks per day, the same as the proposed Project. Trucks could go to either the SMPS or the Plains Pentland Terminal.

Construction of the truck loading facilities would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS and the Plains Pentland Terminal would remain the same as for the proposed Project. For a detailed discussion of the construction and operation of the truck loading facilities refer to Section 2.5.

2.7.3.4 Trucking to the Santa Maria Pump Station Only Alternative

This alternative was developed to limit the need to transport crude to the Plains Pentland Terminal. This would eliminate the impacts associated with trucking the crude between Santa Maria and the Plains Petland Terminal, which primarily uses State Route 166, except in the case of an extended shutdown of the SMPS.

Under this alternative the crude oil would be trucked to the SMPS only unless the truck loading facilities at the SMPS or the Santa Maria Refinery (SMR) are down for an extended period of time (10 days or more). Under normal operations, 70 trucks per day would travel from the LFC facility to the SMPS.

In the event of an extended shutdown at the SMPS or Santa Maria Refinery (SMR), the Applicant would be allowed to transport crude oil to the Plains Pentland Terminal with a maximum of 34 trucks per day throughout the duration of the disruption. At this rate of trucking the SYU facilities could continue at the production rate of the proposed Project for approximately 40 conservative days assuming the LFC crude oil storage tanks were half full at the time the extended SMPS shutdown began. If the extended shutdown lasted more the about 40 days, the SYU facilities would likely need to be shut-in.

Once the SMPS or SMR is back online, in order to make up for the reduced trucking and to transport the excess crude that has been stored in the crude tanks, under this alternative, the peak truck trips would be increased up to 78 trucks per day to the SMPS. However, the annual number of trucks leaving the LFC facility would be limited to 25,550, which is the same as the proposed Project.

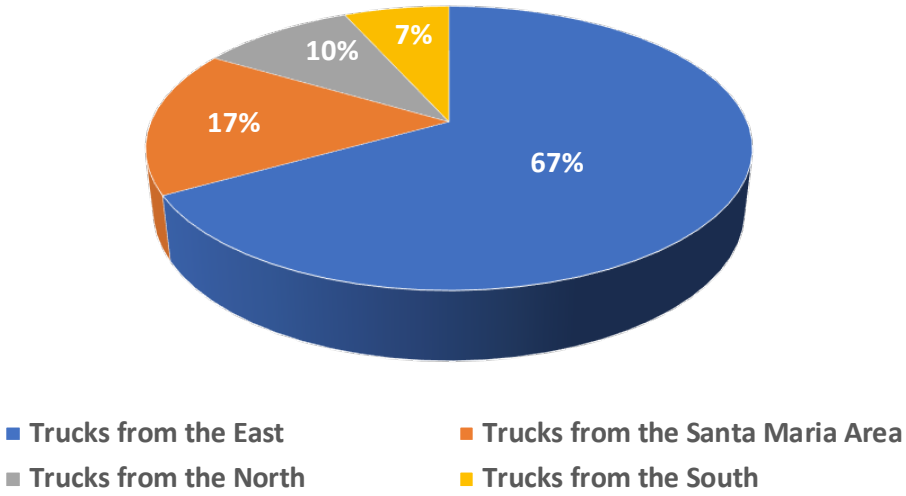
Construction and operation of the tuck loading facilities at LFC would remain the same as the proposed Project. The truck routes to the SMPS and Plains Pentland Terminal would be the same as the proposed Project.

The SMPS currently has five operating truck unloading lanes that can unload a total of about 170 trucks per day. Between January 2018 and June 2018, the average number of truck unloaded at the SMPS was approximately 135 trucks per day. Crude oil trucks offloading at the SMPS come from various areas throughout the State. Figure 2-9 provides the breakdown of the truck deliveries to the SMPS by geographical area.

Trucks coming from the east are likely delivering crude from the San Joaquin Valley. Trucks from the north are likely delivering crude from oil fields in San Luis Obispo and/or Monterey Counties. Trucks from the south are likely delivering crude from oil fields in Ventura and/or Los Angeles Counties. As Figure 2-9 shows the majority of the of the trucks delivering crude to the SMPS are coming from the east and are likely using State Route 166 as a travel route. Some of these trucks could also be using State Route 46.

At the aforementioned volume of truck deliveries, the SMPS would be able to handle an additional 32 trucks per day from the proposed Project before they reached their estimated capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude from the east due to the longer trucking distance. Longer travel distance for the trucks increases the transportation cost of delivering the crude to the SMPS. There would be an economic incentive for Phillips 66, to displace trucks from the east (San Joaquin Valley crude oil) with crude from the proposed Project due to the lower transportation costs. However, it is not certain that these trucks would be displaced. The proposed Project would need to displace about 38 trucks per day if all 70 trucks would be routed to the SMPS.

Figure 2-9 Source of Trucks Traveling to SMPS by Geographical Area



Source: Phillips 66 (2018).

In order to increase the likelihood that all the proposed Project trucks can go to the SMPS, under this alternative, a new truck loading lane would be built at the SMPS. With the addition of a sixth truck loading lane, all the crude trucked from the LFC facility could be handled by the SMPS, without the need to displace other trucks.

The sixth truck lane at the SMPS would provide a temporary unloading point for trucks to offload crude oil at the station while the Plains Pipeline is out of service. The addition of the sixth truck unloading lane would also help ease the crude truck congestion during peak hours, increase traffic flow efficiency, and optimize operations at the SMPS. The location of the sixth truck unloading lane is shown in Figure 2-10. The new lane would be adjacent to the existing lanes 4 and 5. Access to lane 6 would be identical to existing access to lanes 4 and 5. Truck access to and from the SMPS is currently provided via six driveways as shown on Figure 2-10.

A concrete slab with the dimensions of 60'X20' by 6" deep would need to be constructed. Additionally, new light standards would be installed with four LED flood lights per pole for safety of the trucks coming to lanes 4/5/6. A new 4" hose would be installed coming off the tee that currently serves lane 5 for offloading the crude from the new lane 6. Construction of the new lane 6 truck unloading facilities would take about 3 to 4 weeks to complete.

Operation of the new truck loading lane would be the same as operation of the other five truck unloading lanes. Trucks using lane 6 would enter the SMPS through the easterly most entrance and be weighted on the existing entrance truck scale. The trucks would then travel to Lane 6 for unloading or to the existing onsite queuing area. Once a truck was in the unloading lane, the hoses would be connected, and the oil would be pumped from the truck either into the existing storage tank, or directly into the pipeline system.

Figure 2-10 SMPS Site Plan with New Truck Unloading Rack

Source: Aerial Google Earth 2018.

When unloading was complete the hoses would be disconnected, and the truck would move to the existing exit truck scale, be weighed, and then leave the facility. The time to set and unload a truck would be about 35 to 40 minutes assuming there is no queuing time.

Most of the truck queuing currently occurs on the site with queuing space for about 15 trucks located just to the east and south of the truck scales. During peak periods of truck deliveries, queuing occurs along the westbound shoulder of E. Battles Road, which is privately owned. Given that the roadway volume is very low, and the roadway is primarily used by traffic to and from the station, no conflicts have occurred on E. Battles Road associated with queued trucks on the westbound shoulder.

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3.0 Cumulative Scenario

This section of the SEIR provides a summary of the methodology used to analyze cumulative impacts and a list of the projects included in the cumulative analysis.

3.1 Cumulative Methodology

Section 15130 of the California Environmental Quality Act (CEQA) Guidelines requires that a Supplemental Environmental Impact Report (SEIR) discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Section 15355 of the 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 (CEQA Guidelines, Section 15355[a]).
- 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 (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(h)(4):

> 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.

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a level of detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact (CEQA Guidelines Section 15130(b)).

The goal of the cumulative project analysis is to identify those reasonably foreseeable projects that could have spatial and temporal overlaps with the proposed Project. Projects with temporal overlaps include those that are planned to occur during the same timeframe as the proposed Project. Projects with spatial overlaps are those that would have impacts in the same area or on the same resources as those of the proposed Project (e.g., traffic that could affect the same roadways).

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 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 several 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 proposed Project's schedule.

One of the main goals of the cumulative analysis was 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, then the project could not contribute to any existing adverse commutative impact that might exist. 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 4.5 of this SEIR.

3.2 Cumulative Projects

In most cases, the SEIR uses a list-based approach for assessing the potential for significant cumulative impacts. Table 3-1 provides a list of the cumulative projects. Figures 3-1 shows the location of the cumulative projects. Table 3-1 and Figure 3-1 are located at the end of this chapter. Each of the cumulative project categories are summarized below.

3.2.1 SYU Operations

The construction and operation of the SYU and LFC facilities were analyzed under a joint CEQA and NEPA document. The SYU facilities operate under an existing Final Development Plan Permit (87-DP-32) issued by Santa Barbara County. This permit allows for the operation of all the SYU facilities including the three offshore platforms, and all the facilities in LFC. These are existing, permitted operations that would occur at the same time as the proposed Project, as such, have been addressed as part of the cumulative analysis.

SYU Phased Restart Preparations

Prior to the start of trucking operations, some of the SYU facilities would undergo preparation for restart. This work would include conducting equipment and system inspections, equipment maintenance, equipment testing, developing restart procedures, and conducting a comprehensive safety review of the restart operations with the Santa Barbara County System Safety and Reliability Review Committee (SSRRC). The restart preparations would occur at the same time as the construction of the truck loading facilities. During this phase staffing levels would return to the pre-shutdown levels for both the LFC and the offshore platforms, which is approximately 100 employees or contractors at the LFC and 100 to 150 employees or contractors for the offshore operations.

SYU Phased Restart and Operations

This phase would include the restart and ongoing operations of the SYU facilities. During trucking production from the SYU facilities would be limited to about 11,200 barrels per day. At an oil production rate of approximately 11,200 barrels per day, it is possible that the POPCO gas plant would not be needed since the volume of gas produced could be handled by the stripping gas treatment plant and used as fuel gas within the facility. The restart operations are allowed under the existing SYU Final Development Plan

Permit (87-DP-32) and would be similar to what occurred for the initial startup of the SYU facilities. The restart operations would include opening select wells on the platforms and allowing produced oil and gas to begin flowing into the pipelines and onshore processing equipment. During the startup phase of the operations and during continued operations, equipment would continue to be inspected to assure that it is operating properly and within its design parameters.

The flow of produced oil and gas would be ramped up slowly over time until the production of oil reaches the approximately 11,200 barrels per day. The ramp up of oil and gas production would be controlled by the number of wells that are re-opened on the offshore platforms.

Once the initial startup phase of the SYU facilities is complete, the SYU operations would be similar to the pre-shutdown operations (pre-May 2015) but at a lower production level. This normal operating mode would continue for the duration of the trucking project.

Staffing levels for the phased restart and operations would be the same as the pre-shutdown levels for both the LFC and offshore platforms.

SYU Full Restart Preparations

At some point during the trucking operations, work would begin on preparations for the full restart of the SYU facilities. This would be done in anticipation of a pipeline becoming available for crude oil transport. The full restart preparation would cover any equipment not restarted as part of the phased restart discussed above. This work would include conducting equipment and system inspections, equipment maintenance, equipment testing, developing full restart procedures, and conducting a comprehensive safety review of the full restart operations with the Santa Barbara County System Safety and Reliability Review Committee (SSRRC). This work would start about two to three years prior to the anticipated startup of the crude oil pipeline. Under this activity, staffing levels at the LFC would increase to a total of about 115 during the full restart preparations (an additional 15 employees). Offshore staffing levels would remain the same as for the phased operations.

3.2.2 Other Major Cat Canyon Crude Oil Projects

There are several proposed crude oil development projects in Northern Santa Barbara County that would involve the use of trucks from construction, drilling, operations, and for the movement of various types of crude oil. While the exact timing of when these projects could occur is uncertain, it is likely they would have some overlap with the proposed Project. The proposed Project is for trucking of crude oil until such time as a pipeline becomes available or a maximum of seven years, unless an extension is granted by Santa Barbara County decision-makers. Table 3-2 provides an estimate of the cumulative trucks by year of the proposed Project and includes construction, drilling, and operational trucks. The data in Table 3-2 assumes that neither ERG or PetroRock use the Foxen Petroleum Pipeline (FPP) for transporting their bended crude. Table 3-3 provides the estimated trucks by year assuming the FPP becomes available starting in year 3 of the proposed Project and that both ERG and PetroRock use the pipeline. Aera's project does not currently propose the use of a pipeline for transportation of bended crude oil.

The FPP was approved by the County Planning Commission on March 11, 2015 and on February 6, 2018, the County Board of Supervisors adopted an ordinance granting the Public Pipeline Franchise to ERG for the FPP. In the cumulative analysis it has been assumed that blended oil from the ERG and PetroRock projects would be trucked to the Santa Maria Pump Station (SMPS) until the FPP is operational or if the pipeline is down for maintenance.

Table 3-2 Estimated Number of Daily Trucks by Year (no Foxen Canyon Pipeline)

Year	ExxonMobil SYU Interim Trucking	ERG West Cat Canyon Revitalization Project	Aera East Cat Canyon Oil Field Redevelopment Plan	PetroRock UCCB Production Plan	Total One-Way Truck Trips
1	70	43	7	3	123
2	70	53	7	26	156
3	70	65	35	35	205
4	70	78	45	38	231
5	70	90	50	21	231
6	70	103	51	21	245
7	70	75	53	22	220
8 and Greater	0	78	103	39	220

1. Truck numbers include construction, drilling, and operations.
2. ERG truck trips based upon 40 trips per day for construction/drilling (years 1-6) from Final EIR traffic section. Oil trucks prorated based upon estimated well development schedule.
3. Aera construction truck trips from Table 4.10-8 of DEIR. Aera operational truck trips from Revised Table 3 of Appendix N-Traffic Study of DEIR. Assumes no drilling in years 6 based upon Table 2-4 of the DEIR. Oil trucks by year from AQIA.
4. PetroRock UCCB development truck numbers for Application Traffic Study UCCB Trip Generation Table. Oil trucks prorated based upon estimated well development schedule.
5. Year 8 and greater assume peak number of oil trucks for ERG, Aera, and PetroRock.
6. These are daily trucks. Each truck would make one round trip.

Table 3-3 Estimated Number of Daily Trucks by Year (Foxen Canyon Pipeline Operational Starting Year 3)

Year	ExxonMobil SYU Interim Trucking	ERG West Cat Canyon Revitalization Project	Aera East Cat Canyon Oil Field Redevelopment Plan	PetroRock UCCB Production Plan	Total One-Way Truck Trips
1	70	43	7	3	123
2	70	53	7	26	156
3	70	45	35	28	178
4	70	48	45	28	191
5	70	50	50	8	178
6	70	53	51	9	183
7	70	15	53	9	147
8 and Greater	0	15	103	9	127

1. Truck numbers include construction, drilling, and operations.
2. ERG truck trips based upon 40 trips per day for construction/drilling (years 1-6) from Final EIR traffic section. Oil trucks prorated based upon estimated well development schedule.
3. Aera construction truck trips from Table 4.10-8 of DEIR. Aera operational truck trips from Revised Table 3 of Appendix N-Traffic Study of DEIR. Assumes no drilling in years 6 based upon Table 2-4 of the DEIR. Oil trucks by year from AQIA.
4. PetroRock UCCB development truck numbers for Application Traffic Study UCCB Trip Generation Table. Oil trucks prorated based upon estimated well development schedule.
5. Year 8 and greater assume peak number of oil trucks for ERG, Aera, and PetroRock. With FPP operational the peak number of oil trucks for ERG and PetroRock are for light crude trucked in for blending.
6. These are daily trucks. Each truck would make one round trip.

Blended crude oil trucking from the ERG and PetroRock Projects would use the same portions of Rosemary Road and Battles Road as the proposed Project for truck trips going to the SMPS. Light oil for ERG and PetroRock would be trucked to their sites from possibly Kern County. Light oil trucking would be most likely via State Route 166, U.S. Highway 101 and Clark Road, which means trucks from these projects could overlap with the proposed Project along portions of U.S. Highway 101 and State Route 166.

The Aera East Cat Canyon Project would truck light oil and bended oil to and from their Cat Canyon site to the Aera facility in Belridge, which is in Kern County. Trucking for the Aera Project would be via Clark Road to U.S. Highway 101 to State Route 46. The only overlap with the proposed Project would be U.S. Highway 101 between Clark Avenue and Betteravia Road for trucks going to the Santa Maria Pump Station and U.S. Highway 101 between Clark Avenue and State Route 166 for trucks going to the Plains Pentland Station.

3.2.3 Other Projects

The other cumulative projects included oil and gas development in the Santa Maria/Orcutt area, and residential/commercial developments that could have overlaying impacts with the Proposed Project, primarily around traffic. The cumulative list includes two large residential and commercial development projects in the City of Santa Maria that are just west of the Betteravia Road and U.S. Highway 101 interchange.

Table 3-1 List of Cumulative Projects

Map Key #	Project Name	County Area	Description	Permit Status (as of Oct. 2018)
Cumulative SYU Projects				
1	ExxonMobil SYU Phased Restart Preparations	Gaviota Coast	▪ Equipment and facility preparations for the phased restart of selected SYU facilities including offshore platforms, oil and gas pipelines for moving production from the offshore platforms to the FLC facilities, oil and gas processing equipment, cogeneration facilities, and crude oil and NGL storage tanks.	Approved Development Plan
1	ExxonMobil SYU Phased Restart Operations	Gaviota Coast	▪ Startup and operation of selected SYU facilities including offshore platforms, oil and gas pipelines for moving production from the offshore platforms to the FLC facilities, oil and gas processing equipment, cogeneration facilities, and crude oil and NGL storage tanks. ▪ Operation at a reduced capacity of about 11,000 barrels per day of oil.	Approved Development Plan
1	ExxonMobil SYU Full Restart Preparations	Gaviota Coast	▪ Equipment and facility preparations for the full restart of the SYU facilities. ▪ This project would cover all SYU equipment not covered as part of the Phased Restart.	Approved Development Plan
Cumulative Crude Oil Trucking Projects				
2	ERG West Cat Canyon Revitalization Plan Project	Santa Maria	▪ 233 enhanced development oil wells. ▪ 4 steam generators. ▪ 3.5-mile natural gas pipeline. ▪ Trucking of light oil from Kern County and possible trucing of blended crude to Santa Maria Pump Station.	In process Production Plan
3	Aera East Cat Canyon Oil Field Redevelopment Plan Project	Santa Maria	▪ 296 oil, injection and water wells. ▪ 6 steam generators ▪ Oil and gas processing facilities. ▪ 14-mile natural gas pipeline. ▪ 0.3-mile 115 kV power line. ▪ Trucking of light oil and crude blend to Belridge.	In process Production Plan
4	PetroRock UCCB Production Plan	Santa Maria	▪ 231 oil, injection and water wells. ▪ 5 steam generators ▪ Oil and gas processing facilities. ▪ 2.7-mile dry natural gas line.	In process Production Plan

Table 3-1 List of Cumulative Projects

Map Key #	Project Name	County Area	Description	Permit Status (as of Oct. 2018)
			▪ Trucking of light oil from Kern County and possible trucing of blended crude to Santa Maria Pump Station.	
Other Cumulative Projects				
5	ERG Foxen Petroleum Pipeline	Santa Maria	▪ 2.9-mile oil pipeline.	Approved Development Plan
6	Cimarex Oil Production Plan	Santa Maria	▪ 2 exploratory wells.	Approved Production Plan
7	PetroRock Energy Oil & Gas Production Plan	Santa Maria	▪ Oil wells and associated facilities.	Constructed Production Plan
8	PetroRock North Garey ODPP	Santa Maria	▪ 56 wells.	Under construction Production Plan
9	Breitburn Production Plan	Santa Maria	▪ 96 wells.	Constructed Production Plan
10	Amrich Energy - Tognazzini-Adams Lease	Santa Maria	▪ 12 oil wells, 2 produced water disposal wells.	Approved Land Use Permit
11	Amrich Energy – Bognuda Lease	Santa Maria	▪ 9 wells ▪ 1 steam generator.	Approved Lan Use Permit
12	E&B Natural Resources Mgmt Production Plan	Cuyama Valley	▪ 2 oil wells.	Under construction Production Plan
13	PetroRock Energy Oil & Gas Production Plan	Santa Maria Valley	▪ Operate Tunnell Facility as the primary facility for storage, separation, processing, transportation ▪ Other incidental operations for oil produced from wells associated with the proposed North Garey Oil Drilling and Production Plan.	Constructed Amendment
14	PetroRock LLC	Santa Maria Valley	▪ Allows for the replacement of up to 19 of the existing production wells.	Constructed Amendment
15	PetroRock LLC	Santa Maria Valley	▪ Allows for the replacement of up to 56 of the existing production wells.	In process Amendment
16	Santa Maria Energy ODPP	Santa Maria/Orcutt	▪ 136 oil wells. ▪ 2 steam generators. ▪ Oil and gas processing facilities. ▪ 3-mile oil pipeline. ▪ 8-mile recycled water pipeline.	Approved, not yet constructed Production Plan (wells) Development Plan (oil pipeline)
17	Plains Pipeline L.P., Lines 901 and 903 Replacement Project	Offshore fields inland through Santa Barbara County to the Pentland	▪ Replace the existing, inactive, Lines 901 and 903 crude oil pipelines. ~124 miles long,12 to 14-16 inches diameter, 40,000 bpd throughput.	In Process Development Plan

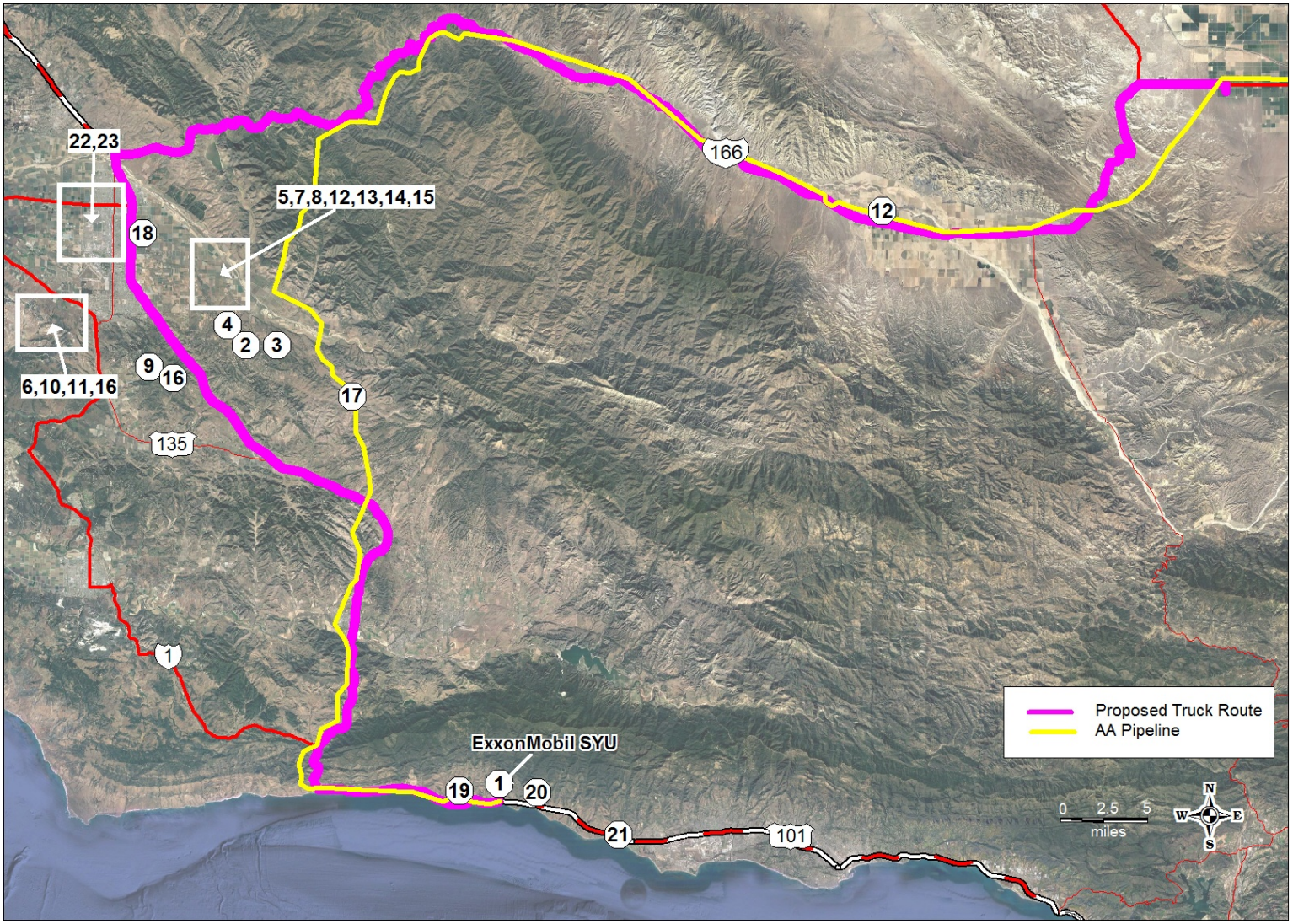
Table 3-1 List of Cumulative Projects

Map Key #	Project Name	County Area	Description	Permit Status (as of Oct. 2018)
		Delivery Point in Kern County. Proposed to follow existing pipeline corridor except a reroute around Buellton.	▪ Installation of a new 120,000 barrel holding tank at Sisquoc Pump Station. ▪ New pump station in Russell Ranch.	
19	Rancho de Tajiguas/MAZ Properties	Gaviota Coast	▪ 6 lots for residential home sites. ▪ 1 lot for agricultural structures/infrastructure. ▪ Merger of 17 lots to create area for watershed/habitat restoration and continued agriculture. ▪ Incorporation of Conservation Easement for entire Ranch for long-term continuation of agricultural production including livestock and cultivation and habitat protection/restoration, and dedication of a portion of the CA Coastal Trail on adjacent ranch property. ▪ MAZ advanced wastewater treatment system to replace septic system.	In process Land Use Permit
20	Tomate Canyon Ranch Project	Gaviota Coast	▪ Merge 25 existing lots into 6 residential lots for development. ▪ Offer-to-dedicate for a public trail through property located south of UPRR tracks. ▪ 49.7 acre agricultural/open space easement.	In Process Coastal Development Permit
21	8501 Hollister/McCaw Development	Gaviota Coast	▪ The project covers two legal lots, one south of the UPRR tracks “coastal lot” and one north of the UPRR tracks “inland lot.” ▪ An 8,515 single family dwelling with attached guesthouse is proposed to be constructed on the coastal lot. ▪ 12 public parking spaces and a public trail on the coastal lot. The trail would run the full length of the property and would include public access to the sandy beach. ▪ An offer-to-dedicate (OTD) to allow public access over Eagle Creek via a future pedestrian bridge. ▪ The entirety of the 21.63-acre inland lot would be located within an open space easement.	In Process Coastal Development Permit
22	Enos Ranch Specific Plan	City of Santa Maria	▪ Area 1/2-regional retail/office buildings/warehouse retail (49.3 acres).	Approved

Table 3-1 List of Cumulative Projects

Map Key #	Project Name	County Area	Description	Permit Status (as of Oct. 2018)
			▪ Area 3 – Enos Ranchos Mercado (commercial development). ▪ Area 4 – Auto Sales(24.8 acres). ▪ Area 5 – Community Facilities (elementary school, 10.3 acres). ▪ Areas 6 – High Density Residential (up to 22 dwelling units per acre, 14.1 acres). ▪ Open Space/Park (6.2 acres).	Various phases constructed and others under construction
23	Betteravia Plaza	City of Santa Maria	▪ Up to 285,400 square feet of neighborhood-scale retail commercial use on approximately 27.7 acres. ▪ Up to 64,400 square feet of professional office use on 5.6 acres. ▪ Up to 272 high-density residential units at a density of 17 dwelling units per acre on approximately 15.98 acres.	Approved Not yet constructed

Figure 3-1 Location of Cumulative Projects



Source: MRS Environmental

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4.0 Environmental Analysis of The Proposed Project

This section presents an analysis of the environmental impacts associated with the ExxonMobil Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project ("proposed Project"). As described in Section 2.0 of this SEIR, the proposed Project would involve the construction and operation of a crude oil truck loading rack at the LFC facility. Up to 70 trucks per day would transport crude from the LFC facility to either the Santa Maria Pump Station in Santa Maria, or to the Plains Pentland Terminal in Kern County. Implementation of the proposed Project would allow for the phased restart of the SYU facilities at a reduced production rate of about 11,200 barrels per day of oil.

The proposed Project is analyzed by issue area in this section. Upon issuance of the Notice of Preparation for the Project's SEIR, a public scoping meeting was conducted, and public comments were gathered. The Scoping Report, which summarizes comments from this meeting, and includes all the comment letters received as part of the scoping process is included as Appendix A. As part of the County scoping process five issue areas were identified where the project might result in significant impacts.

This SEIR analyzes these five issue areas where potentially significant impacts could occur. For each of these five issue areas, the impact evaluations are presented in the following sections:

- Environmental Setting
- Regulatory Setting
- Significance Thresholds (Environmental Significance Criteria)
- Project Impacts and Mitigation Measures
- Cumulative Effects
- Mitigation Monitoring Program
- References

Within each issue area, the environmental setting describes the existing or baseline conditions within the study area. The proposed Project is analyzed against these baseline conditions and the changes represent the environmental impacts associated with the proposed Project.

Santa Barbara County has developed their own Environmental Thresholds and Guidelines Manual which is used to assist in the County's determination of whether a project may have a significant impact on the environmental. These thresholds are presented in each issue area. These criteria define the threshold or limit against which a potential environmental impact is considered. The term "significance" is used throughout the SEIR to characterize the magnitude of the projected impact. For the purposes of this SEIR, a significant impact is a substantial or potentially substantial change to resources in comparison to the thresholds of significance established for the resource or issue area. Within each issue area an analysis of potential impacts compared to the appropriate significance criteria is presented.

Each section also includes detailed mitigation measures that have been developed specifically for the proposed Project to reduce the severity of any identified significant impacts. Based on the application of available mitigation measure(s) to an identified impact, the residual impact is then described. All impacts identified in this SEIR have been classified according to the following criteria:

- **Class I –** Significant unavoidable adverse impacts for which the decisionmaker must adopt a statement of Overriding Consideration: these are significant adverse impacts that cannot be effectively avoided or mitigated. No measures could be feasibly taken to avoid or reduce these adverse effects to insignificant or negligible levels. Even after application of feasible mitigation measures, the residual impact would be significant.
- **Class II –** Significant environmental impacts that can be feasibly mitigated or avoided for which the decisionmaker must adopt Findings and recommended mitigation measures: these impacts are potentially similar in significance to those of Class I but can be reduced or avoided by the implementation of feasible mitigation measures. After application of feasible mitigation measures, the residual impact would not be significant.
- **Class III –** Adverse impacts found not to be significant for which the decisionmaker does not have to adopt Findings under CEQA: these impacts do not meet or exceed the identified thresholds for significance. Mitigation measures are not required for such impacts for purposes of compliance with CEQA.
- **Class IV –** Impacts beneficial to the environment.

Mitigation measures developed for each issue area are collectively presented in Section 7.0 of the SEIR, Mitigation Monitoring and Reporting Program. This tabular presentation of each mitigation measure includes the mitigation measure number, monitoring/reporting action, method and timing of verification, agency or County responsibilities, and applicant responsibilities. The impact analysis for the selected alternatives is presented in Section 5.0.

Establishment of Baseline Conditions.

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 Pubic Resources Code § 21002.l(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.)

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 proposed 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 determines 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 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 SYU facilities operate under a County issued Development Plan 87-DP-32cz that allow for the production of a maximum of 140,000 barrels of oil per day. The SYU Project has under gone several CEQA and NEPA reviews, including a 1984 EIR/EIS and a 1986 SEIR. Both of these environmental documents addressed the impact of construction and operation of the SYU offshore and onshore facilities. Under the County permit, ExxonMobil maintains the ability to restart the SYU facilities at any time without discretionary approval by a County decision maker. The County Development Plan 87-DP-32cz, was issued in September of 1986. Production started in 1993, and the facilities were in operations until shortly after the release and subsequent shutdown of Plains Lines 901 and 903 in May of 2015. After the shutdown of the Plains pipelines, the SYU facilities continued to operate for approximately two weeks, once it was established that the restart of the pipeline was indefinite, all the facilities were shut-in and placed in a preserved state pending the restart of the Plains pipelines or approval of another mode of crude oil transportation. The historical crude oil production rate for the SYU facilities over the past 19 years is provided in Table 4-1. These numbers represent the crude oil that was produced from the offshore platforms and sent ashore to the LFC facility.

Table 4-1 Average Daily Oil Production for SYU Platforms by Year

Year	Oil Production (bbls/day)
1996	94,968
1997	85,274
1998	67,531
1999	58,110
2000	55,596
2001	51,462
2002	48,807
2003	45,943
2004	43,587
2005	40,803
2006	40,599
2007	38,162
2008	37,030
2009	33,548
2010	33,606
2011	30,127
2012	25,582
2013	30,141
2014	29,572

Source: Bureau of Safety and Environmental Enforcement, Data Center, Pacific Production [online]: https://www.data.bsee.gov/Main/PacificProduction.aspx

To allow for a straightforward assessment of the proposed crude oil trucking impact, and to avoid confusing the impacts of the proposed Project with the permitted operations of the existing SYU facilities, the baseline for purposes of environmental review was considered to be the physical environmental conditions as of 2018, with an operational baseline of the average of the last full three years of facility operations prior to the shutdown (2012-2014) was used. The average crude oil production rate for these three years was about 28,400 barrels per day, which is less than this historical average production rate for the past 19 years (48,866 barrels per day). More information on the history of the SYU project is provided in Section 2.3.

Adjustment of the baseline to account for the operations of the SYU facilities is appropriate since these facilities have undergone extensive CEQA review and are fully permitted to operate and have all the necessary entitlements for operation, up to a throughput of 140,000 barrels per day of crude oil.

4.1 Air Quality

This section describes the existing environmental and regulatory settings related to air quality (i.e., criteria and toxic pollutants) in the Project area; identifies air quality impacts of the proposed Project and cumulative impacts from this and other projects in the region; and recommends mitigation measures to reduce those impacts. Settings and impacts associated with Greenhouse Gas (GHG) emissions are discussed in Section 4.2.

The emission calculations as prepared by the Applicant were reviewed and modified by the County's consultant and reviewed by the Santa Barbara County Air Pollution Control District (SBCAPCD). Emission factors were prescribed by the Santa Barbara Air Pollution Control District (SBCAPCD) and the emission calculations are included in the Air Quality Analysis (Appendix B). This EIR analysis is intended to provide a reasonable worst-case scenario of potential air emissions resulting from the proposed activities and recommends mitigation to reduce any potentially significant impacts to less than significant levels.

For a list of references used in the preparation of this section, please refer to Section 4.1.6, References.

4.1.1 Environmental Setting

For the proposed Project, the environmental setting and baseline conditions reflect the emissions associated with a three year operational average (2013-2015) of the SYU facilities, including Las Flores Canyon, prior to the pipeline incident in May 2015 and subsequent facility shut-down. Stationary source emissions from the proposed Project include emissions from equipment and operations that would be added to the baseline operational activities at the SYU, including piping components, truck loading operations, transfer of truck vapors to the facility's vapor recovery system, and fugitive emissions from the Lease Automatic Custody Transfer (LACT) units. Mobile emissions from the proposed Project include emissions from construction equipment, on-site personnel and crude oil tanker trucks. During the operational phase of the proposed Project, the SYU facilities would operate at a reduced load to process the crude oil and gas before crude oil transportation by truck. The emissions associated with these SYU operations are accounted for in the baseline operational emissions from the three-year operational period and would not constitute an increase in emissions over baseline associated with the proposed Project. Baseline emissions are presented in Section 4.1.1.3.

4.1.1.1 Regional Overview

The proposed Project area is located within the South-Central Coast Air Basin in Santa Barbara County west of Goleta. The region has a Mediterranean climate characterized by mild winters, and warm, dry summers. The influence of the Pacific Ocean causes mild temperatures year-round along the coast, while inland areas experience a wider range of temperatures. Annual average temperatures for Santa Barbara is 69.9 ^{0}F high, 53.5 ^{0}F low, and 61.7 ^{0}F average (US Climatedata 2018).

Precipitation is confined primarily to the winter months with occasional tropical air masses resulting in rainfall during summer months. Annual precipitation in the region varies widely over relatively short distances, primarily due to topographical effects. The long-term annual total precipitation along the coast is approximately 12 to 16 inches, but on mountaintops, totals can reach 30 inches.

The regional climate is dominated by a strong and persistent high-pressure system, which frequently lies off the Pacific Coast (generally referred to as the East Pacific Subtropical High-Pressure Zone or Pacific High). The Pacific High shifts northward or southward in response to seasonal changes or the presence of cyclonic storms. In its usual position, the Pacific High produces an elevated temperature inversion in the

Project area. An inversion is characterized by a layer of warmer air aloft and cooler air near the ground surface. The inversion acts like a lid on the cooler air mass near the ground, preventing pollutants in the lower air mass from dispersing upward beyond the inversion "lid." This phenomenon results in higher concentrations of pollutants trapped below the inversion. Inversions commonly form in the Project area during the months of May to October. During spring and summer, marine inversions occur when cool air from over the ocean intrudes under the warmer air that lies over the land. During the summer, the Pacific High can also cause the air mass to sink, creating a subsidence inversion. In winter, weak surface inversions occur, caused by radiative cooling of air in contact with the cold surface of the earth.

Atmospheric stability is a primary factor affecting air quality in the study region. Atmospheric stability is determined by the amount of air exchange (referred to as turbulent mixing) both horizontally and vertically. High atmospheric stability, meaning low amounts of air exchange or mixing, and low wind speeds are generally associated with higher pollutant concentrations. These conditions are typically related to temperature inversions that cap the pollutants emitted below or within them.

Similarly, airflow also plays an important role in the movement of pollutants. Regional winds are normally controlled by the location of the Pacific High and range from light winds to stronger winds in the Gaviota area approximately 10 miles west of the Project area and west to Pt. Conception. During summer months, northwesterly winds are stronger and persist later into the night. When the Pacific High weakens, a Santa Ana condition can develop, with air traveling westward into the County of Santa Barbara from the east. Stagnant air often occurs at the end of a Santa Ana condition, causing a buildup of pollutants offshore. The lack of airflow and wind can contribute to higher levels of pollution since low wind speeds minimize dispersion of pollutants.

Topography also plays a significant role in affecting the direction and speed of winds. Year round, light onshore winds hamper the dispersion of primary pollutants, and the orientation of the inland mountain ranges interrupts air circulation patterns. Pollutants become trapped, creating ideal conditions to produce secondary pollutants.

4.1.1.2 Air Quality Monitoring

Air quality is determined by measuring ambient concentrations of air pollutants, which are known to have adverse health effects. For regulatory purposes, state and national standards have been set for some of these air pollutants, which are referred to as "criteria pollutants." For most criteria pollutants, regulations and standards have been in effect, in varying degrees, for more than 25 years. The degree of air quality degradation for criteria pollutants is determined by comparing the ambient pollutant concentrations to health-based standards developed by government agencies. The current National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" are listed in Table 4.1-1. Ambient air quality monitoring for criteria pollutants is conducted at numerous sites throughout California.

Another class of air pollutants subject to regulatory requirements is called hazardous air pollutants (HAPs), or air toxics. Air toxics are considered substances that are especially harmful to health, such as those identified within the U.S. Environmental Protection Agency (U.S. EPA) hazardous air pollutant program or California's AB 1807 and/or AB 2588 "Hot Spots" air toxics programs. The AB 2588 program requires stationary sources to report emission data of certain substances to determine facilities with potential localized impacts, to ascertain health risks, and to notify nearby residents of significant risks. There are 187 Federal hazardous air pollutants. There are generally no County-specific monitoring data for the majority of the air toxics or Federal HAPs. Regulatory air quality standards are based on scientific and medical research and establish minimum concentrations of an air pollutant in the ambient air that could

result in adverse health effects. For air toxics emissions, however, the regulatory process usually assesses the potential impacts to public health in terms of "risk," such as the Air Toxics "Hot Spots" Program in California, or the emissions may be controlled by prescribed technologies, as in the Federal Clean Air Act approach for controlling hazardous air pollutants .

Table 4.1-2 presents relevant data from the Las Flores Canyon monitoring station located in the Project area. A summary of the attainment status for Santa Barbara County is provided in Table 4.1-3. Ambient air quality in the County is generally good (i.e., within applicable ambient air quality standards), with the exception of particulate matter with an aerodynamic diameter of ten microns or less (PM_{10}) and ozone (O_3).

Criteria pollutants are also categorized as inert or photochemically reactive, depending on their subsequent behavior in the atmosphere. By definition, inert pollutants are relatively stable, and their chemical composition remains stable as they move and diffuse through the atmosphere. The photochemical pollutants may react to form secondary pollutants. For these pollutants, adverse health effects may be caused directly by the emitted pollutant or by the secondary pollutants.

Inert Criteria Pollutants

Criteria pollutants that are considered to be inert include the following:

- Carbon monoxide (CO) is formed primarily by the incomplete combustion of organic fuels. High values are generally measured during winter, when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon.
- Nitric oxide (NO) is a colorless gas formed during combustion processes that rapidly oxidizes to form nitrogen dioxide (NO_2), a brownish gas. The highest nitrogen dioxide values are generally measured in urbanized areas with heavy traffic.
- Sulfur dioxide (SO_2) is a gas produced primarily from combustion of sulfurous fuels by stationary and mobile sources. However, SO_2 can react in the atmosphere to produce acids or particulate sulfates, which can also cause impacts.
- PM_{10} and $PM_{2.5}$ consist of extremely small suspended particles or droplets that are 10 and 2.5 micrometers or smaller respectively in diameter that can lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, demolition operations, and windstorms. They also are formed in the atmosphere from NO_2 and SO_2 reactions with ammonia. PM_{10} and $PM_{2.5}$ scatter light and significantly reduce visibility. PM_{10} and $PM_{2.5}$ pose a serious health hazard, whether alone or in combination with other pollutants. More than half of the smallest particles inhaled would be deposited in the lungs and can cause permanent lung damage. Fine particulates also can have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance. Santa Barbara County is in exceedance of the State annual arithmetic mean and 24-hour PM_{10} standards and Unclassified for the recently added State $PM_{2.5}$ Standard. Also, nitrogen oxides (NO_x) and sulfur oxides (SO_x) are precursors in the formation of secondary PM_{10}.

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Table 4.1-1 State and National Criteria Air Pollutant Standards, Effects, and Sources

Air Pollutant	State Standard (concentration, averaging time)	Federal Primary Standard (concentration, averaging time)	Most Relevant Effects
Ozone (O_3)	0.09 ppm, 1-hour average 0.070 ppm, 8-hour	0.070 ppm, 8-hour average*	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals and (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.
Carbon Monoxide (CO)	9.0 ppm, 8-hour average 20 ppm, 1-hour average	9 ppm, 8-hour average 35 ppm, 1-hour average	(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 (NO_2)	0.18 ppm, 1-hour average, 0.03 ppm, annual average	0.053 ppm annual 0.10 ppm 1 hour 98th percentile, 3-year average	(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 (SO_2)	0.04 ppm, 24-hour average 0.25 ppm, 1-hour average	0.075 ppm, 1-hour, 99th percentile 3-year average	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended 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	(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.
Suspended 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	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease, elderly, and children.
Sulfates	25 µg/m^3, 24-hour average	No Federal standard	(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.
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	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction.

Table 4.1-1 State and National Criteria Air Pollutant Standards, Effects, and Sources

Air Pollutant	State Standard (concentration, averaging time)	Federal Primary Standard (concentration, averaging time)	Most Relevant Effects
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	Reduction of visibility, aesthetic impact and impacts due to particulates (see above).
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hour average	No Federal standard	Odor annoyance.
Vinyl Chloride	0.01 ppm, 24-hour average	No Federal standard	Known carcinogen.

Ppm = Parts per million
Note: µg/m3 = micrograms per cubic meter.
* Effective May 27, 2008. Was 0.08 ppm prior
Source: CARB 2018

- Lead is a heavy metal that in ambient air occurs as a lead oxide aerosol or dust. Since lead is no longer added to gasoline or to paint products, lead emissions have been reduced significantly in recent years.
- Sulfates are aerosols (i.e., wet particulates) which are formed by sulfur oxides in moist environments. They exist in the atmosphere as sulfuric acid and sulfate salts. The primary source of sulfate is from the combustion of sulfurous fuels.

Table 4.1-2 Monitoring Results at the Las Flores Canyon Monitoring Station

Pollutant	Standard	2014	2015	2016	2017
Ozone (O_3)					
Maximum 1-hour concentration (ppb)		99	80	78	91
Number days exceeded: State	> 0.09 ppm/1-hour	1	0	0	0
Maximum 8-hour concentration (ppb)		87	71	75	76
Number days exceeded: State	> 0.07 ppm/8-hour	4	2	1	1
Number days exceeded: Federal	> 0.07 ppm/8-hour	3	1	1	1
Particulates (PM_{10})					
Maximum 24-hour concentration (µg/m3)		47	41	436	122
Number days exceeded: State	> 50 µg/m3/24-hour	0	0	18	12
Number days exceeded: Federal	> 150 µg/m3/24-hour	0	0	5	0
Annual Arithmetic Mean (µg/m3)		19	18	23	19
Number days exceeded: State	> 20 µg/m3/24-hour	0	0	-	0
Particulates ($PM_{2.5}$)					
Maximum 24-hour concentration (µg/m3) (Goleta)		24	23	-	10
Number days exceeded: Federal	35 µg/m^3	0	0	26	130
Annual Arithmetic Mean (µg/m3) (Goleta)		8	8	-	9
Number days exceeded: State	12 µg/m^3	0	0	0	0
Number days exceeded: Federal	12 µg/m^3	0	0	0	0
Nitrogen Dioxide (NO_2)					
Hourly NO_2 (ppm)		0.013	0.011	0.015	0.012
Number days exceeded: State	> 0.18 ppm /1-hour	0	0	0	0
Number days exceeded: Federal	> 0.10 ppm/1-hour	0	0	0	0
Sulfur Dioxide (SO_2)					
Maximum 1-hour concentration (ppm)		0.111	0.025	0.012	-
Number days exceeded: State	> 0.25 ppm/1-hour	0	0	0	-
Number days exceeded: Federal	> 0.075 ppm/1-hour	1	0	0	-

Source: SBCAPCD website Air Quality Data accessed August 2018, SBCAPCD Annual reports for 2014, 2015, 2016, 2017, CARB 2018 website for 2017 Air Quality Data Statistics for Las Flores Canyon #1. Particulates in 2016 showed high levels due to the Sherpa fire.

Table 4.1-3 Attainment Status of Criteria Pollutants in the South-Central Coast Air Basin

Pollutant	State	Federal
O_3 – 1-hour	Non-attainment Transitional	Revoked
O_3 – 8-hour	Non-attainment Transitional	Unclassified/Attainment
PM_{10}	Non-attainment	Attainment
$PM_{2.5}$	Unclassified	Unclassified/Attainment
CO	Attainment	Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	-
Lead	Attainment	Attainment/Unclassified
All others	Attainment	Attainment/Unclassified

Source: SBCAPCD Website accessed August 2018

Photochemical Criteria Pollutants

Ozone is formed in the atmosphere through a series of complex photochemical reactions involving nitrogen oxides (NO_x), reactive organic compounds (ROC), and sunlight, occurring over a period of several hours. Since ozone is not emitted directly into the atmosphere, but is formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. Because these ozone-forming reactions take time, peak ozone levels are often found downwind of major source areas.

Santa Barbara County is not in attainment for the State 1-hour and State 8-hour ozone standard. Santa Barbara County is designated unclassified/attainment for the Federal 8-hour ozone standard.

Hazardous Air Pollutants (HAPs)

HAPs are materials that are known or suspected to cause cancer, genetic mutations, birth defects, acute or chronic effects, or other serious illnesses in humans. HAPs may be emitted from three main source categories: (1) industrial facilities; (2) internal combustion engines (stationary and mobile); and (3) small "area sources" (such as solvent use). The California Air Resources Board (CARB) publishes lists of Volatile Organic Compound (VOC) Species Profiles for many industrial applications and substances, some of which are classified as HAPs, and some of which are not.

Generally, HAPs behave in the atmosphere in the same general way as inert criteria pollutants. The concentrations of toxic pollutants are therefore determined by the quantity and concentration emitted at the source and the meteorological conditions encountered as the pollutants are transported away from the source. Thus, impacts from toxic pollutant emissions tend to be site-specific, and their intensity is subject to constantly changing meteorological conditions.

Odorous Compounds

Several compounds associated with the oil and gas industry can produce odors that can be determined to be nuisances. Sulfur compounds, found in oil and gas, have very low odor threshold levels. For instance, H_2S 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. These levels are lower than concentrations that could acutely affect human health (inhalation of 2 ppm [2,000 ppb] can cause headaches and increased airway resistance in asthmatics; inhalation of more than 600 ppm can be

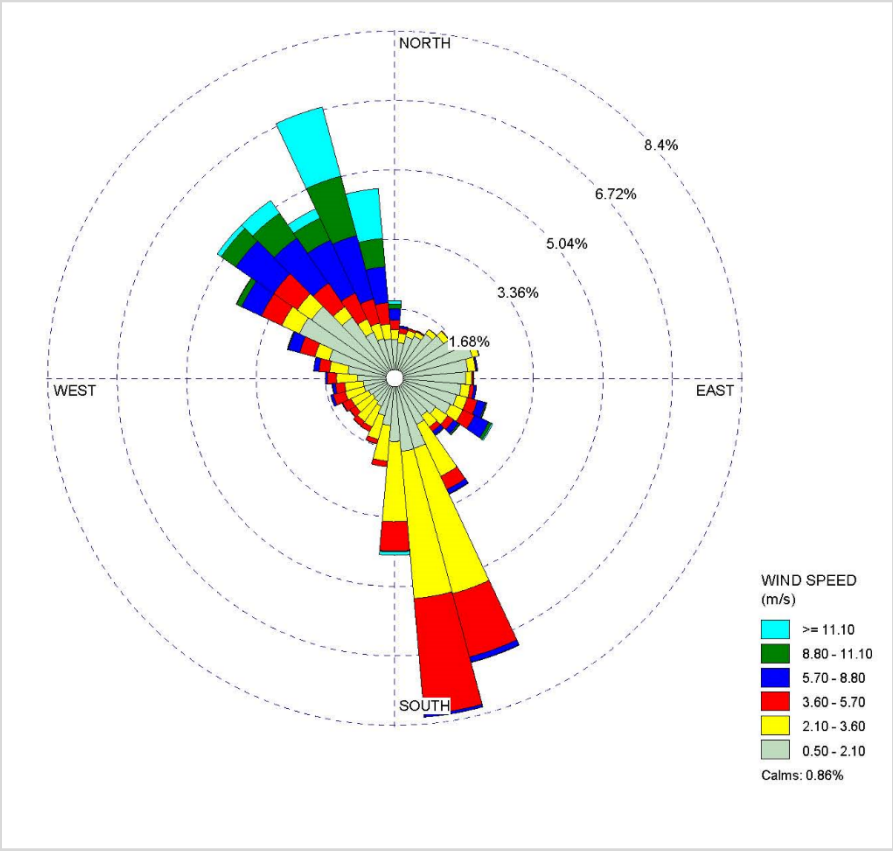
instantly lethal; and inhalation of over 100 ppm can be lethal if exposed to for more than 60 minutes [ERPG-3]) (AIHA 1989).

Many volatile compounds found in oil and gas (ethane and longer chain hydrocarbons) typically have petroleum or gasoline odor with various odor thresholds.

Meteorology

The Las Flores Canyon monitoring station, located in Las Flores Canyon adjacent to the oil and gas plant, is the closest air quality monitoring station to the Project location that has detailed wind direction and speed as well as pollutant information. The SBCAPCD's meteorological data for the Las Flores Canyon Station from 2012 to 2016 was plotted into a wind rose (Figure 4.1-1) to demonstrate the predominant wind direction and speeds at the Project Site. Figure 4.1-1 shows the two predominant wind directions are south and southeast at approximately 31% of the time and west and northwest at approximately 22% of the time. Wind speeds averaged approximately 3.3 miles per hour, with periods of stronger winds above 20 miles per hour occurring less than eight percent of the time.

Figure 4.1-1 Las Flores Canyon Meteorological Station Wind Rose, 2012-2016



Source: Note: Wind rose shows the direction from which the wind is coming.
Source: SBCAPCD meteorological data, Las Flores Canyon Station, 2012-2016

Countywide Criteria Pollutant Emission Inventory

Table 4.1-4 provides the emissions inventory for Santa Barbara County based on the CARB State Implementation Plan (SIP) inventory for 2016. The highest level of NO_x emissions occur due to mobile sources (e.g., on-road vehicles) and other fuel combustion sources. The highest contributors to the ROC emissions are solvent and surface coatings, followed by on-road vehicles and other mobile sources. Particulate emissions sources are generated primarily from on-road dust and dust caused by agricultural and construction activities and by various mineral processing activities.

Table 4.1-4 Emission Inventory for Santa Barbara County – Tons per Year (TPY)

Emission Sources	NO_x (TPY)	ROC (TPY)	CO (TPY)	SO_x (TPY)	PM_{10} (TPY)
Fuel combustion	1,898	354	2,847	161	120
Waste disposal	0	29	18	0	4
Cleaning and surface coatings	0	2,029	0	0	0
Petroleum production and marketing	33	1,405	124	106	11
Industrial processes	47	73	95	117	230
Solvent evaporation	0	3,146	0	0	0
Miscellaneous processes	336	679	2,602	11	3,767
On-road motor vehicles	3,814	1,909	15,231	15	259
Other mobile sources	20,352	1,778	15,250	4,037	913
Total	26,481	11,403	36,168	4,446	5,303

Sources: CARB SIP Inventory 2016 data (CARB 2016)

Countywide Air Toxics Emissions

The concentrations of air toxics pollutants are determined by the quantity and concentration emitted at the source and the meteorological conditions encountered as the pollutants are transported away from the source. Thus, impacts from toxic pollutant emissions tend to be site-specific.

4.1.1.3 Baseline Operations Criteria Pollutant Emissions

Baseline Stationary Sources

Baseline operations associated with the SYU operations include the production and processing of oil and gas, storage of crude oil, fugitive emissions from valves, connections, and tanks, and offsite mobile sources. The SYU facilities are composed of five stationary source facilities by the SBAPCD as follows:

- Las Flores Canyon Oil and Gas Plant (SBCAPCD Facility ID 14820);
- POPCO Gas Plant (SBCAPCD Facility ID 3170);
- Platform Hondo (SBCAPCD Facility ID 8009);
- Platform Heritage (SBCAPCD Facility ID 8019); and,
- Platform Harmony (SBCAPCD Facility ID8018).

Baseline emissions data reflect the operational average of the SYU facilities prior to the shutdown in May 2015. The emissions data below is based on actual emissions data obtained from SBCAPCD for the years 2012, 2013, and 2014 as the last three complete years of operation. Baseline emissions are tabulated in Table 4.1-5 and Table 4.1-6 in tons per year and pounds per day, respectively. The platform emissions include their respective supply and crew boat emissions.

Table 4.1-5 Baseline Emissions SYU Project – Tons per Year (TPY)

Facility Name	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
2012						
Las Flores Canyon	41.0	50.3	23.2	6.7	33.7	33.3
POPCO	7.2	51.0	9.3	4.9	1.3	1.3
Platform Hondo	24.3	55.4	11.8	18.2	3.7	3.5
Platform Harmony	25.5	40.9	11.6	7.2	3.2	3.1
Platform Heritage	30.1	7.3	18.2	8.3	7.1	6.7
2012 Totals	**128.1**	**204.9**	**74.1**	**45.3**	**49.1**	**47.8**
2013						
Las Flores Canyon	45.8	35.8	34.1	13.9	36.8	36.7
POPCO	6.4	50.4	9.4	6.4	1.2	1.2
Platform Hondo	24.2	56.7	12.4	16.0	3.7	3.5
Platform Harmony	27.2	41.6	14.4	10.9	3.8	3.6
Platform Heritage	28.5	28.1	18.4	16.0	7.5	7.1
2013 Totals	**132.1**	**212.6**	**88.5**	**63.2**	**53.0**	**52.0**
2014						
Las Flores Canyon	45.5	55.6	35.5	11.7	39.0	38.9
POPCO	4.6	51.9	8.4	6.7	1.0	1.0
Platform Hondo	25.6	58.1	12.5	13.0	4.1	3.8
Platform Harmony	37.2	44.6	22.7	9.3	4.8	4.5
Platform Heritage	23.3	30.6	12.9	9.0	6.1	5.7
2014 Totals	**136.3**	**240.9**	**92.1**	**49.7**	**55.1**	**54.0**
3 Year Average	**132.2**	**219.5**	**84.9**	**52.7**	**52.4**	**51.3**

Source: SBCAPCD, SYU Project Emissions Data, all equipment (exempt and non-exempt)

Table 4.1-6 Baseline Emissions SYU Project – Pounds Per Day (lbs/day)

Facility Name	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
2012						
Las Flores Canyon	225	276	127	37	185	183
POPCO	39	279	51	27	7	7
Platform Hondo	133	304	65	100	20	19
Platform Harmony	140	224	63	40	18	17
Platform Heritage	165	40	100	46	39	37
2012 Totals	**702**	**1,123**	**406**	**248**	**269**	**262**
2013						
Las Flores Canyon	251	196	187	76	202	201
POPCO	35	276	51	35	6	6
Platform Hondo	133	311	68	88	21	19
Platform Harmony	149	228	79	60	21	20
Platform Heritage	156	154	101	88	41	39
2013 Totals	**724**	**1,165**	**485**	**346**	**291**	**285**

Table 4.1-6 Baseline Emissions SYU Project – Pounds Per Day (lbs/day)

2014						
Las Flores Canyon	249	305	195	64	214	213
POPCO	25	284	46	37	6	6
Platform Hondo	141	318	69	71	23	21
Platform Harmony	204	245	124	51	26	25
Platform Heritage	128	168	71	49	34	31
2014 Totals	**747**	**1,320**	**505**	**272**	**302**	**296**
3 Year Average	**724**	**1,203**	**465**	**289**	**287**	**281**

Source: SBCAPCD, SYU Project Emissions Data, [(tons per year*2000)/365], all equipment (exempt and non-exempt)

Baseline Onshore Mobile Sources

Emissions for baseline onshore mobile sources are based on production reports submitted to the County, estimates of employee and delivery truck trips, an aggregate average trip distance, and CARB EMFAC Mobile Source Emissions Inventory emission factors. The onshore mobile emissions estimate includes three groups of vehicles; employee gasoline fueled cars, medium size diesel powered delivery trucks, and diesel-powered tractor trailer rigs that are used for transporting propane, butane and sulfur out of Las Flores Canyon. Average trip distance assumed all vehicles traveled to and from the Santa Maria area. Mobile source emission calculation input variables are listed in Table 4.1-7 below and include the vehicle type as well as input parameters, such as the travel distance and emission factors, and the source of the information.

Table 4.1-7 Baseline Mobile Source Emission Estimate Variables

Vehicle Type and Input Parameter	Value	Units	Information Source
Tractor Trailer Truck Trips	4.25	Average Daily	2014 Production Reports for Propane, Butane and Sulfur
Tractor Trailer Truck Trips	6.0	Maximum Daily	2014 Production Reports for Propane, Butane and Sulfur
Employee Trips	100	Daily	Estimate for Staff and Contractors
Delivery Truck Trips	3	Daily	Estimated for general deliveries
Trip Distance	108	Miles	Roundtrip to Santa Maria Area distance
Emission Factors	---	Pounds/mile	CARB EMFAC17 for 2015 Vehicle Year

Source: MRS Environmental, 2018.

Baseline mobile emissions for the existing SYU facilities are tabulated in Table 4.1-8 for tons per year and pounds per day, respectively.

Table 4.1-8 Baseline Mobile Emissions for the Existing SYU Facilities

Item	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Tons per Year	2.36	0.29	7.83	0.02	0.06	0.05
Pounds per Day	16.55	1.76	43.56	0.09	0.41	0.39

Source: MRS Environmental, ExxonMobil 2014 Production Data, CARB EMFAC 2017 Mobile Emission Factor data base. Calculations for peak day.

4.1.1.4 Baseline Operations Toxic Emissions

Toxic emissions emitted from oil and gas processing facilities are due to fugitive emissions of hydrocarbons from components and tanks and from combustion of oil field and natural gas. Impacts from toxic emissions and the potential for those toxic pollutants to impact human health can be evaluated with a Health Risk Assessment (HRA). Assembly Bill (AB) 2588, the Air Toxics "Hot Spots" Information and

Assessment Act, requires certain facilities to complete an HRA and submit a report to the local air district. The most recent HRA completed for the SYU onshore Facility was completed in 1995. Results of the HRA included values for cancer risk, chronic risk and acute risk to the community which were compared against standards established by CARB. Results of the 1995 HRA, along with the applicable standards, are presented in Table 4.1-9 below.

Table 4.1-9 SYU Onshore 1995 HRA Results

Risk Type	1995 HRA Result	Significance Threshold*
Cancer Risk	6.0	10
Chronic Risk	0.1	1.0
Acute Risk	0.3	1.0

Source: SBCAPCD, SYU Project Health Risk Assessment, 1995.
*Health risk impacts are based on a cancer risk of 10 in a million, and acute or chronic impacts exceeding a 1.0 Hazard Index.

4.1.1.5 Baseline Operations Odor Emissions

Odors could emanate from facility operations due to the fugitive emissions of hydrocarbons containing H_2S. Fugitive emissions of hydrocarbons are produced from crude oil storage tanks, other process vessels, and from components such as valves and flanges. Upset conditions could occur, such as spills or tank releases of vapors, which could cause odors at nearby receptors. Data from the SBCAPCD lists eight odor complaints regarding the SYU facilities over the last 10 years (2008 to August 2018). The source of the odor for several complaints was determined to be related to an inoperable aerator system on the waste water treatment system.

4.1.2 Regulatory Setting

Federal, State, and local agencies have established standards and regulations that govern the proposed Project. A summary of the regulatory setting for air quality is provided below.

4.1.2.1 Federal Regulations

The Federal Clean Air Act of 1970 directs the attainment and maintenance of the NAAQS. The 1990 Amendments to this Act included new provisions that address air pollutant emissions that affect local, regional, and global air quality. The main elements of the 1990 Clean Air Act Amendments are summarized below:

- Title I, Attainment and maintenance of NAAQS;
- Title II, Motor vehicles and fuel reformulation;
- Title III, Hazardous air pollutants;
- Title IV, Acid deposition;
- Title V, Facility operating permits (describes requirements for Part 70 permits);
- Title VI, Stratospheric ozone protection; and
- Title VII, Enforcement.

The U.S. EPA is responsible for implementing the Federal Clean Air Act and establishing the NAAQS for criteria pollutants. In 1997, the EPA adopted revisions to the Ozone and Particulate Matter Standards contained in the Clean Air Act. These revisions included a new 8-hour ozone standard and a new

particulate matter standard for particles below 2.5 microns in diameter ($PM_{2.5}$). These standards were suspended, however, when in May 1999, the U.S. Court of Appeals for the District of Columbia remanded the new ozone standard. In January 2001, the EPA issued a Proposed Response to Remand, in which it stated that the revised ozone standard should remain at 0.08 ppm. In February 2001, the U.S. Supreme Court upheld the constitutionality of the Clean Air Act as the EPA had interpreted it in setting health-protective air quality standards for ground-level ozone and particulate matter. In April 2004, the EPA issued their Final Non-Attainment Area Designations for 8-Hour Ozone Standard.

Federal New Source Performance Standards (NSPS) under CAA Section 111

The U.S. EPA establishes and maintains emission standards of performance for new stationary sources under Federal CAA Section 111(b), known as the New Source Performance Standards (NSPS). Categories of existing stationary sources can also be retroactively controlled under Federal CAA Section 111(d). Categories of sources that cause HAP emissions are controlled through separate standards under CAA Section 112, National Emission Standards for Hazardous Air Pollutants (NESHAP). These standards are specifically designed to reduce the potency, persistence, or potential for bioaccumulation of toxic air pollutants. The emission standards for HAPs under Federal CAA Section 112 prevent adverse health risks and carcinogenic effects from targeted types of facilities.

NESHAP (40 CFR 63), Subpart HH: Oil and Natural Gas Production. [Final Rule: August 16, 2012.]

This rule requires control of HAPs and toxic air contaminants from certain natural gas processing units, such as dehydration facilities, and storage vessels. Recordkeeping and reporting provisions apply to facilities that exceed the federal threshold for major sources of hazardous air pollutants, either 10 tons per year of a single HAP or 25 tons per year of any combination of HAPs. Based on the SYU HRA conducted in 1995, the facilities exceed the HAPs emission threshold, primarily due to ammonia emissions and are therefore regulated under this rule.

4.1.2.2 State Regulations

California Air Resources Board (CARB)

The CARB established the California Ambient Air Quality Standards (CAAQS). Comparison of the criteria pollutant concentrations in ambient air to the CAAQS determines State attainment status for criteria pollutants in a given region. CARB has jurisdiction over all air pollutant sources in the State; it has delegated to local air districts the responsibility for stationary sources and has retained authority over emissions from mobile sources. CARB, in partnership with the local air quality management districts within California, has developed a pollutant monitoring network to aid attainment of CAAQS. The network consists of numerous monitoring stations located throughout California that monitor and report various pollutants' concentrations in ambient air.

California Clean Air Act (CCAA) (California Health and Safety Code, Division 26)

This act went into effect on January 1, 1989 and was amended in 1992. The CCAA requires regions to develop and implement strategies to attain California's Ambient Air Quality Standards (CAAQS). For some pollutants, the California standards are more stringent than the national standards. California also has separate standards for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The CCAA mandates achieving the health-based CAAQS at the earliest practical date.

Air Toxics "Hot Spots" Information and Assessment Act of 1987 – AB2588 (California Health & Safety Code, Division 26, Part 6)

The Hot Spots Act 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 Sections 25531–25543, The Calderon Bill (SB 1889)

These sections set forth changes in the following four areas: (1) provide guidelines to identify a more realistic health risk; (2) require high-risk facilities to submit an air toxic emission reduction plan; (3) hold air pollution control districts accountable for ensuring that the plans would achieve their objectives; and (4) require high-risk facilities to achieve their planned emission reductions.

California Diesel Fuel 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.

California Carbon Monoxide (CO) Hot Spots Regulation (CFR 93.116, 93.123)

This regulation requires an analysis for all projects in CO non-attainment or maintenance areas to demonstrate the project will not cause or exacerbate a federal, state, or local CO standard. The Santa Barbara County Environmental Thresholds and Guidelines Manual provides a screening threshold for CO of 800 peak hour vehicle trips. The vehicle trips for the proposed Project is estimated well below the County threshold (see Section 4.5 Traffic and Circulation) and the County designation for CO is attainment.

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation (13 CCR 2025)

This program is informally known as the 'Truck and Bus Regulation' and requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. The purpose of the program is to reduce emissions from the in-use (existing) on-road fleet of heavy-duty diesel fueled vehicles statewide, and the reporting and emissions control requirements generally apply to any owner or operator of on-highway heavy-duty diesel vehicles or vehicle fleets in California. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

CARB Off-Road Mobile Sources Emission Reduction Programs

The CCAA mandates CARB to achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the State ambient air quality standards. Off-road mobile sources include heavy construction equipment, including drilling rigs, workover rigs, and pump engines. Tier 1, Tier 2, and Tier 3 standards for large compression-ignition engines used in off-road mobile sources went into effect in California for most engine classes in 1996, 2001, and 2006, respectively. Tier 4 or Tier 4 Interim (4i) standards apply to all off-road diesel engines model year 2012 or newer. In addition, equipment can be retrofitted to achieve lower emissions using the ARB-verified retrofit technologies. Engine standards and a separate program for in-use off-road equipment fleets jointly address the products of diesel combustion, including NO_x emissions and toxic diesel particulate matter (DPM). The California Emission Standards for Off-Road Compression-Ignition Engines are as specified in 13 CCR 2423. As of January 1, 2018, CARB's

regulation to reduce NO_x and DPM from in use (existing) off-road heavy-duty diesel vehicles prohibits owners of larger fleets from adding any Tier 2 or lower tiered equipment to their fleets (13 CCR 2449).

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 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.

CARB Airborne Toxic Control Measures (ATCM) 13 CCR 2485

Diesel engines on portable equipment and vehicles are subject to various ATCM that dictate how diesel sources must be controlled statewide. For example, the ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling generally limits idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour (13 CCR 2485). Diesel engines used in portable equipment fleets are subject to stringent DPM emissions standards, generally requiring use of only newer engines or verified add-on particulate filters (17 CCR Section 93116). Certain stationary compression-ignition engines

4.1.2.3 Local Regulations

Local air pollution control districts in California have jurisdiction over stationary sources in their respective areas, as delegated by CARB through the CCAA and must adopt plans and regulations necessary to demonstrate attainment of Federal and State air quality standards. As directed by the Federal and State Clean Air Acts, local air districts are required to prepare plans with strategies for attaining and maintaining State and Federal ozone standards. In the Project area, air quality rules and regulations are promulgated by the SBCAPCD. To ultimately achieve the air quality standards, the rules and regulations limit emissions and permissible impacts from a variety of sources, including the proposed Project. Some rules also specify emission controls and control technologies for each type of emitting source. SBCAPCD regulations also include requirements for obtaining an Authority To Construct (ATC) permit and a Permit to Operate (PTO).

Santa Barbara County Air Pollution Control District

The SBCAPCD has jurisdiction over air quality attainment in the Santa Barbara County portion of the South-Central Coast Air Basin (SCCAB). Many aspects of the proposed Project and Alternatives occurring in Santa Barbara County must obtain a SBCAPCD permit, if applicable. The SBCAPCD also has jurisdiction over Outer Continental Shelf (OCS) sources located within 25 miles (40 km) of the seaward boundaries of the State of California (Rule 903). Increases in emissions of any non-attainment pollutant or its pre-cursor from a new or modified project that exceed the thresholds which have been identified in the SBCAPCD Regulation VIII, are required to be mitigated. Other applicable rules are summarized below.

- Rule 201 Permits Required – Specifies the permits required for construction or operation of equipment that emits air contaminants.
- Rule 202, Exemptions to Rule 201 – Lists equipment categories that are exempt from the requirements to obtain an SBCAPCD permit (exempt from Rule 201).
- Rule 210, Fees – Lists fees required to obtain permits.
- Rule 302, Visible Emissions.
- Rule 303, Nuisance.

- Rule 305, Particulate Matter (PM) – Southern Zone.
- Rule 307, Particulate Matter Emission Weight Rate – Southern Zone.
- Rule 309, Specific Contaminants.
- Rule 310, Odorous Organic Sulfides.
- Rule 311, Sulfur Content of Gaseous Fuels.
- Rule 316, Storage and Transfer of Gasoline.
- Rule 317, Organic Solvents.
- Rule 318, Vacuum Producing Devices – Southern Zone.
- Rule 323, Architectural Coatings.
- Rule 325, Crude Oil Production and Separation.
- Rule 326, Storage of Reactive Organic Compounds.
- Rule 331, Fugitive Emissions Inspection and Maintenance.
- Rule 342, Control of NO_x from Boilers, Steam Generators and Process Heaters.
- Rule 343, Petroleum Storage Tank Degassing.
- Rule 344, Petroleum Sumps, Pits and Well Cellars.
- Rule 345, Control of Fugitive Dust from Construction and Demolition Activities.
- Rule 359, Flares and Thermal Oxidizers.

The facility is currently under the Title V (Part 70) permit program as required in Rule 1301(C); therefore, the Project would also be required to comply with Title V permit requirements and is subject to Regulation XIII.

The 2013 Clean Air Plan was adopted by the SBCAPCD Board on March 19, 2015, and the 2016 Ozone Plan was adopted by the SBCAPCD Board on October 20, 2016. These air quality management plans include forecasts of economic activity as a means of predicting future year emissions for horizon years 2030 and 2035, respectively. In adopting these plans, the (future) growth factors for emissions from oil and gas-related activity County-wide were set by the SBCAPCD to unchanged, due to growth uncertainty in that sector over the long-term (SBCAPCD 2015; SBCAPCD 2016). While assuming a long-term steady level of overall oil and gas activity emissions, the 2016 Ozone Plan notes that ozone precursor emissions from these activities do not necessarily trend at a direct ratio with oil production in the County (SBCAPCD, 2016; p. 3-4).

Santa Barbara County Association of Governments

The Santa Barbara County Association of Governments (SBCAG) is the regional planning agency comprised of Santa Barbara County and all eight incorporated cities within the County (Buellton, Carpinteria, Goleta, Guadalupe, Lompoc, Santa Barbara, Santa Maria and Solvang). SBCAG addresses regional issues relating to transportation, housing, air quality and growth. SBCAG is a federally designated metropolitan planning organization (MPO). As the designated MPO for the County, SBCAG is mandated by the Federal government to develop and implement regional plans that address transportation, growth management, hazardous waste management and air quality issues. With respect to air quality planning, SBCAG has prepared the Regional Transportation Plan (RTP) for the SBCAG region, which includes activity forecasts

that form the basis for the land use and transportation components of the 2013 Clean Air Plan (CAP) and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the 2013 CAP. SBCAG adopted the 2040 Regional Transportation Plan and Sustainable Community Strategies in August 2013.

County of Santa Barbara

The County regulates air pollution related to development through its policies and decision-making authority. The County maintains a Comprehensive Plan that includes an Air Quality Supplement in its Land Use Element that was adopted in 1981 and revised in May 2009. The Comprehensive Plan is a long-term general plan that outlines physical development for the County. The Land Use Element designates the general location and types of housing, business, industry, agriculture, open space, recreation, and public and educational facilities in the unincorporated County. The Air Quality Supplement includes strategies and measures that incorporate air quality planning techniques into the County's land use planning program. It includes background studies and policy options that are used to promote high standards for air quality when developing land use policy. These policies include: direct new urban development to areas within existing urbanized areas without endangering environmentally sensitive areas or open space resources; promote the conservation and rehabilitation of existing urban development; increase the attractiveness of bicycling, walking, transit and ridesharing; restrict the development of auto-dependent facilities and improve the integration of long-range planning and project approval procedures with air quality planning requirements.

The Air Quality Supplement acknowledges that numerous efforts are underway at the regional, county and city levels to address clean air concerns and that coordination of these various efforts and the involvement of the area's residents are crucial to the achievement of State and Federal air quality standards. The Air Quality Element also acknowledges the interrelatedness between transportation and land use planning in meeting the County's mobility and clean air goals. The County has published guidelines on the implementation of California Environmental Quality Act (CEQA) and environmental thresholds. The County's environmental thresholds for air quality are included in the Environmental Thresholds and Guidelines Manual last published in October 2008.

Dust Control

SB County requires the implementation of standard dust control measures as detailed in the SBCAPCD Air Quality Attainment Plan and the County Environmental Thresholds and Guidelines Manual (SBC 2018) for all construction projects. In addition, dust control measures are also required under the County's Grading Ordinance for most projects and because the County is a non-attainment area for PM_{10}, standard fugitive dust reduction measures are required by the SBCAPCD for all earth-moving projects. These requirements to reduce dust emissions from construction are summarized below.

Best Available Control Measures (BACMs) shall be implemented to control PM_{10} generation during construction of the Project, as per SBCAPCD requirements, including the following:

a. During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60 minute period. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required when sustained wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

b. Onsite vehicle speeds shall be no greater than 15 miles per hour when traveling on unpaved surfaces.

c. Install and operate a track-out prevention device where vehicles enter and exit unpaved roads onto paved streets. The track out prevention device can include any device or combination of devices that are effective at preventing track out of dirt such as gravel pads, pipe-grid track-out control devices, rumble strips, or wheel-washing systems.

d. If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

e. Minimize the amount of disturbed area. After clearing, grading, earthmoving, or excavation is completed, treat the disturbed area by watering, OR using roll-compaction, OR revegetating, OR by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. All roadways, driveways, sidewalks etc. to be paved should be completed as soon as possible.

f. Schedule clearing, grading, earthmoving, and excavation activities during periods of low wind speed to the extent feasible. During periods of high winds (>25 mph) clearing, grading, earthmoving, and excavation operations shall be minimized to prevent fugitive dust created by onsite operations from becoming a nuisance or hazard.

g. The contractor or builder shall designate a person or persons to monitor and document the dust control program requirements to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

h. Prior to any P&D land clearance, the Applicant shall include, as a note on a separate informational sheet to be recorded using a map, these dust control requirements. All requirements shall be shown on grading and building plans and/or as a separate information sheet listing the conditions of approval to be recorded with the map.

i. Timing: Requirements shall be shown on plans prior to grading/building permit issuance and/or recorded with the map during map recordation. Conditions shall be adhered to throughout all grading and construction periods.

j. The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.

4.1.3 Significance Thresholds

Air quality significance thresholds are defined for operations and construction. Each is discussed below.

4.1.3.1 Operational Thresholds for Criteria Pollutants

The thresholds used to determine significance are based on the Santa Barbara County Environmental Thresholds and Guidelines Manual (SBC 2018). A project would not have a significant air quality effect on the environment, if operation of the project would:

- Emit (from all project sources, mobile and stationary) less than the daily trigger for offsets set in the SBCAPCD New Source Review Rule (55 lbs/day for ROC, NO_x, and SO_x and 80 lbs/day for PM) for any pollutant;
- Emit less than 25 pounds per day of NO_x or ROC from motor vehicle trips only;
- Not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- Not allow land uses that create objectionable odors or does not expose sensitive receptors to objectionable odors;
- Not exceed the SBCAPCD health risk public notification thresholds adopted by the SBCAPCD Board for air toxics; and
- Be consistent with the adopted Federal and State Air Quality Plans.

The CEQA Guidelines §15355 defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impact." The individual effects may be changes resulting from a single project and more than one projects (CEQA Guidelines §15355(a).) Cumulative impacts may result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines §15355(b)).

4.1.3.2 Construction Thresholds

Emissions from construction activities are usually short-term. Currently, neither the County nor the SBCAPCD have daily or quarterly quantifiable emission thresholds established for short-term construction emissions. PM_{10} impacts from dust emissions are discussed and standard mitigation measures implemented (e.g., watering, as required in the Scope and Content of Air Quality Sections in Environmental Documents (SBCAPCD 2017)) and the County Environmental Thresholds and Guidelines Manual (SBC 2018). The SBCAPCD requires construction projects that would emit more than 25 tons per year to obtain emission offsets under Rule 804 and would consider these emissions to be significant under CEQA. SBCAPCD Rule 202 (related to permits and offset requirements and exemptions), Section D.16, requires that:

> *Notwithstanding any exemption in these rules and regulations (Rule 202), if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct have a projected actual in excess of 25 tons of any pollutant, except carbon monoxide, in a 12-month period, the owner of the stationary source shall provide offsets.*

4.1.4 Project Impacts and Mitigation Measures

The primary emissions associated with the proposed Project would be emitted by mobile sources associated with the trucking activities. In addition, the Project would involve the following modifications to the LFC facilities that would generate air emissions from construction and/or operations:

- A new truck loading rack installation with four loading bays to be built at an existing previously disturbed pad at the Las Flores Canyon facility, just north of the existing Transportation Terminal (TT);
- New piping installation to transport crude oil to the truck loading rack and to transport truck vapors back into the LFC vapor recovery system for processing and use as plant fuel;
- Four Lease Automatic Custody Transfer (LACT) Units installed for royalty determination purposes as required by Bureau of Safety and Environmental Enforcement (BSEE); and
- Associated electrical and communication connections, pipe and equipment supports, operator shelter, paving of selected areas, and minor containment and drainage grading.

The Applicant has incorporated several applicant-proposed avoidance and minimization measures (AMMs), into the project for air quality. Table 4.1-10 provides a list of the air quality AMM.

Table 4.1-10 Applicant Proposed Avoidance and Minimization Measures Related to Air Quality

AMM #	Measure
AMM-AQ-01	The use of 2017 or newer model year trucks for hauling the crude oil; and
AMM-AQ-02	Use of low leak transfer hose connections;
AMM-AQ-03	Injection of plant fuel gas to the loading vapor recovery system to reduce oxygen content to safe levels;
AMM-AQ-04	Use of low leak valves and welded piping connections where feasible;
AMM-AQ-05	Connection of tanker trucks to the existing Transportation Terminal (TT) vapor recovery compressor system;
AMM-AQ--06	Connection of crude storage tank to existing Oil Treatment Plant (OTP) vapor recovery system;
AMM-AQ--07	Inclusion of tanker truck piping, valves, and components into the existing facility Leak Detection and Repair (LDAR) program; and,

The measures listed above are all project design features and are part of the Applicant's project description and therefore are a part of the project and have been included in the air emissions estimates summarized below.

Emissions from the existing equipment at the SYU that would be used to produce and process the crude oil and gas (the Platforms and the LFC equipment), of which the crude oil would be loaded and transported by the proposed Project, would also generate emissions during the proposed Project operational phase. These emissions are discussed in the cumulative section below.

Impact #	Impact Description	Phase	Impact Classification
AQ.1	Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Construction	Class III

Air quality emission estimates were prepared for the construction activities and the calculations were reviewed by the County EIR preparer. Emission estimates were calculated for the following construction activities:

- Road / Parking Lot Preparation;
- Install Pipe Rack Foundations;
- Install LACT / Control Room Foundations;
- LACT Unit Installation;
- Control Room Installation;
- Pipe Rack Installation;
- Tie-in Preparation;
- Pre-Fab Pipe Installed;
- Installing Cable Trays;
- Install Grounding Equipment / Pipe Racks;
- Install Wiring;
- Install Instrumentation / Tie-ins to DCS;
- Install Fire System; and,
- Install Secondary Containment.

The construction emissions below were based on an estimated schedule, with project construction expected to take between 3 and 6 months and the highest emissions construction period of 4.5 months. The estimated construction schedule is provided in Appendix B as part of the construction emission calculations. Tasks occurring simultaneously were grouped into the aforementioned activities which were assumed to occur within the same year. Construction emissions, along with applicable County CEQA thresholds, are presented in Table 4.1-11 below. Detailed construction emissions are included in Appendix B.

Table 4.1-11 Estimated Construction Emissions

Construction Source Activity		Total Emissions Tons					
		NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Road/Parking Lot Preparation	Off-road Equipment	0.015	0.002	0.014	0.000	0.001	0.001
	On-road Motor Vehicles	0.016	0.002	0.076	0.000	0.286	0.043
50 Pipe Rack Foundations	Off-road Equipment	0.023	0.002	0.024	0.000	0.001	0.001
	On-road Motor Vehicles	0.025	0.005	0.252	0.001	0.944	0.142
LACT / Control Room Foundations	Off-road Equipment	0.012	0.001	0.012	0.000	0.001	0.001
	On-road Motor Vehicles	0.009	0.002	0.071	0.000	0.269	0.041
LACT Unit Installation	Off-road Equipment	0.014	0.001	0.012	0.000	0.001	0.001
	On-road Motor Vehicles	0.008	0.002	0.071	0.000	0.269	0.041

Table 4.1-11 Estimated Construction Emissions

Construction Source Activity		Total Emissions Tons					
		NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Control Room Installation	Off-road Equipment	0.009	0.001	0.005	0.000	0.000	0.000
	On-road Motor Vehicles	0.018	0.004	0.189	0.001	0.708	0.106
Pipe Rack Installation	Off-road Equipment	0.059	0.007	0.033	0.000	0.003	0.003
	On-road Motor Vehicles	0.025	0.005	0.241	0.001	0.908	0.137
Tie-ins Prepared	Off-road Equipment	0.056	0.007	0.042	0.000	0.003	0.003
	On-road Motor Vehicles	0.017	0.004	0.177	0.001	0.671	0.101
Pre-Fab Pipe Installed	Off-road Equipment	0.048	0.004	0.022	0.000	0.002	0.002
	On-road Motor Vehicles	0.012	0.002	0.080	0.000	0.311	0.047
Installing Cable Trays	Off-road Equipment	0.043	0.004	0.019	0.000	0.002	0.002
	On-road Motor Vehicles	0.011	0.002	0.099	0.000	0.378	0.057
Grounding Equipment / Pipe Racks	Off-road Equipment	0.009	0.001	0.009	0.000	0.001	0.001
	On-road Motor Vehicles	0.002	0.000	0.018	0.000	0.073	0.011
Installing CLX Wiring	Off-road Equipment	0.002	0.000	0.001	0.000	0.000	0.000
	On-road Motor Vehicles	0.004	0.001	0.027	0.000	0.109	0.016
Instrumentation / Tie-ins to DCS	Off-road Equipment	0.002	0.000	0.001	0.000	0.000	0.000
	On-road Motor Vehicles	0.004	0.001	0.027	0.000	0.109	0.016
Fire System	Off-road Equipment	0.018	0.002	0.019	0.000	0.001	0.001
	On-road Motor Vehicles	0.036	0.008	0.393	0.001	1.466	0.220
Containment	Off-road Equipment	0.019	0.002	0.018	0.000	0.001	0.001
	On-road Motor Vehicles	0.011	0.002	0.097	0.000	0.364	0.055
Fugitive PM from Material Movement		-	-	-	-	0.099	0.054
Asphalt Paving Offgassing		-	0.001	-	-	-	-
Architectural Coating Offgassing		-	0.015	-	-	-	-
Total Emissions		0.529	0.087	2.052	0.006	6.982	1.103
SBCAPCD CEQA Threshold (Tons/Year)		25	25	--	25	25	--
Threshold Exceeded?		***No***	***No***	*--*	***No***	***No***	*--*

Source: ExxonMobil Air Quality Assessment (2018) with EIR preparer modifications.
Notes: The emissions from Project construction activities are based on Project specific estimates. Per the "Santa Barbara County Environmental Thresholds and Guidelines Manual", the emissions from PERP equipment is not included in the Project emissions when comparing to the CEQA thresholds. As the breakdown of PERP equipment is unknown at this time (some of the equipment above might or might not be PERPed) the above emissions include all construction equipment including any PERP equipment.

Under SBCAPCD's Rule 202, if emissions from construction equipment exceed 25 tons per year and are associated with a stationary source that operates under an Authority to Construct permit, emission offsets are required under the provisions of Rule 804. Construction emissions would not exceed 25 tons per year.

SB County requires the implementation of the standard dust control measures detailed in the Air Quality Attainment Plan and the County Environmental Thresholds and Guidelines Manual (SBC 2018) for all construction projects. In addition, dust control measures are also required under the County's Grading Ordinance for most projects and because the County is a non-attainment area for PM_{10}, standard fugitive dust reduction measures are required by the SBCAPCD for all earth-moving projects. These requirements are listed in Section 4.1.2.3 above.

With the required dust control measures, construction air impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Phase	Impact Classification
AQ.2	Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Operations	Class III

Operational emissions would occur from the operations of the existing, baseline equipment as well as from the new equipment and operations associated with the proposed Project. As discussed above, the emissions from the existing equipment are discussed in the cumulative section below. Emissions tabulated in this section are increases over the baseline emissions.

The new equipment installed as part of the proposed Project would generate emissions levels that are not included in the baseline emissions levels and are therefore calculated and presented below as increases over the baseline. Proposed Project operational emissions would be associated with the loading rack operations, trucking activities and from fugitive emissions associated with loading and piping components. Potential operational emission sources include the components necessary to transfer the product to the truck loading rack (i.e., piping, hoses), emissions occurring during loading operations, emissions from the transfer of truck vapors to the facility's vapor recovery system, and components associated with the Lease Automatic Custody Transfer (LACT) units. The applicant has proposed measures listed above consistent with the SBCAPD New Source Review requirements regarding the use of Best Available Control Technology (BACT) to reduce or eliminate the potential for fugitive emissions leaks to the environment.

Estimates for fugitive emissions for the loading rack operations, components, and piping are included in Table 4.1-12 below. Only ROC emissions are associated with stationary source fugitive emissions sources.

Table 4.1-12 Operational Emissions Increases Over Baseline, lbs/day

Source	NO_x	ROC	CO	SO_x	PM_{10}	$PM_{2.5}$
Phillips 66 Santa Maria Pump Station						
Loading Rack Activities and Fugitive Hydrocarbon Components	0.0	28.08	0.0	0.0	0.0	0.0
Mobile Sources	20.5	0.47	5.57	0.20	13.88	2.24
Total Emissions,	20.5	28.55	5.57	0.20	13.88	2.24
Significance Threshold	55	55	-	-	80	80
Threshold Exceeded?	No	No	-	-	No	No
Plains Pentland Terminal						
Loading Rack Activities and Fugitive Hydrocarbon Components	0.0	28.08	0.0	0.0	0.0	0.0
Mobile Sources	48.95	0.97	10.89	0.49	46.22	7.34
Total Emissions,	48.95	29.05	10.89	0.49	46.22	7.34
Significance Threshold	55	55	-	-	80	80
Threshold Exceeded?	No	No	-	-	No	No

Source: ExxonMobil Air Quality Assessment (2018) with adjustments by EIR preparer.
Notes: Estimated emissions for both loading rack activities and fugitive hydrocarbon components.

Emissions from trucking assumes the use of 2017 model year diesel trucks operating at the peak activity levels, utilizing EMFAC2017 on-road emission model and emission factors. Emissions associated with both the deliveries to the Phillips 66 Santa Maria Pump Station (SMPS) and the Plains Pentland Terminal are also shown in Table 4.1-12. Operational proposed Project-related emissions are below the applicable threshold and therefore impacts would be **less than significant (Class III).**

Impact #	Impact Description	Phase	Impact Classification
AQ.3	Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Operations	Class II

The significance thresholds consider operational emissions for both stationary and mobile sources, as well as for mobile sources only. Impact AQ.2 addresses emissions from stationary and mobile sources combined. This impact addresses emissions from only the mobile sources.

Trucking activities would result in mobile emissions for the exhaust gases from the operation of the tanker truck engines. The Applicant has proposed the use of 2017 or newer model year engines for all tanker trucks to be used for the Project to reduce mobile source emissions. Table 4.1-13 below presents the estimated mobile emissions associated with the Santa Maria Pump Station Route along with the Santa Barbara County significance thresholds for motor vehicle trips/mobile sources. All emissions from the Santa Maria Pump Station route would occur within Santa Barbara County.

Table 4.1-14 presents the mobile emissions associated with the Plains Pentland Terminal Route and includes both total emissions for the entire route as well as emissions by County. The emissions associated with the total Pentland Station Route are compared with each County's respective significance thresholds and standards as applicable. Detailed emissions calculations are included in Appendix B.

Table 4.1-13 Mobile Source Emissions – Santa Maria Pump Station Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Santa Barbara County	20.50	0.47	5.57	0.20	13.88	2.24
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	No	No	---	---	---	---

Source: ExxonMobil Air Quality Assessment (2018) with adjustments by EIR preparer.
Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.

Table 4.1-14 Mobile Source Emissions – Plains Pentland Terminal Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
All - Total Route	48.95	0.97	10.89	0.49	46.22	7.34
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	**Yes**	No	---	---	---	---
Santa Barbara County	30.95	0.60	6.70	0.31	25.76	4.12
Significance Threshold[2] (lbs)	25	25	---	---	---	---
Threshold Exceeded?	**Yes**	No	---	---	---	---
San Luis Obispo County[(3)]	12.67	0.19	1.93	0.13	14.70/0.14	2.32
Significance Threshold[3] (lbs)	25	25	550	---	25/1.25	---
Threshold Exceeded?	No	No	No	---	No	---

Table 4.1-14 Mobile Source Emissions – Plains Pentland Terminal Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Kern County	5.34	0.17	2.26	0.05	5.75	0.90
Significance Threshold[4] (tons)	25	25	---	---	25	---
Threshold Exceeded?	No	No	---	---	No	---

Source: ExxonMobil Air Quality Assessment (2018) with adjustments by EIR preparer.
Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.
3. PM_{10}/Diesel Particulate Matter (DPM) San Luis Obispo County significance thresholds for PM_{10} 25 lbs/day, DPM 1.25 lbs/day.
4. Kern County significance thresholds in tons per year for ROC, NO_x, and PM.

Mobile source emissions for the Plains Pentland Terminal truck route would exceed SB County's criteria pollutant significance thresholds for NO_X, for the portion within SB County as well as the entire route; therefore, the impact would be potentially significant. The emissions in San Luis Obispo County and Kern County for the Plains Pentland Terminal route would be below the significance thresholds for these agencies.

Potential measures could be implemented to reduce these emissions, including the use of compressed natural gas (CNG) engines, limits on destinations (as only full use of the Pentland destination exceeds the thresholds) or the use of NO_x offsets. The use of CNG engines for tanker trucks with Ultra Low NO_X emission engines, as certified by CARB, has the potential to significantly reduce NO_X emissions and has been proposed for the Aera East Cat Canyon Oil Field Redevelopment Plan Project. The NOx emission factor for NO_X for a Cummings model year 2017 CNG engine is 0.15 grams/mile. A 2017 model year diesel engine tanker trucks has an emission factor for NO_X of 1.05 grams/mile (per EMFAC 2017). The use of CNG powered tanker trucks could provide about an 85 percent reduction in NO_X emissions. With the use of CNG trucks, emissions from truck trips to the Pentland Station which would be under the applicable threshold. See Table 4.1-15.

In addition, a mix of truck types as well as destinations could also keep NO_x emissions under the threshold. For example, if half the proposed trucks go to the Pentland Terminal and 40 percent of those trucks are CNG, the NO_X emissions would remain below the threshold. Alternatively, a mix of truck trips to both Pentland and Santa Maria would also allow for the NO_x emissions to remain under the threshold. If the number of truck trips to Pentland remains below 25 percent and the remaining trucks go to the SMPS, then the emissions would be below SB County's threshold for mobile sources. With the mitigation measures identified below, the air quality impacts from mobile sources would be to **less than significance with mitigation (Class II)**.

Mitigation Measures

AQ-1 **Trucking Emissions Management Plan**. The Applicant shall provide a Trucking Emissions Management Plan to ensure that emissions of NO_x do not exceed the daily thresholds during trucking operations to the Pentland Station. The Plan shall provide the following performance standards and criteria: a) fleet specifications, b) operational requirements, c) reporting requirements and d) the air quality emission calculations to document that tanker truck emissions shall meet the 25 pounds per day threshold for NO_x for the entire route. The Plan shall include one of the following specific performance criteria: 1) the use of only trucks to haul crude oil powered by CNG engines with a certified NO_x emission factor at least 50 percent less than the 2017 diesel model year trucks; 2) a prescribed mix of crude oil truck deliveries utilizing

2017 model year trucks ensuring that no more than 25 percent of truck trips travel to Pentland; 3) Surrender emission offsets to the SBCAPCD in an amount equal to that needed to ensure that total emissions are below the thresholds; 4) Provide a specific mix of CNG vehicles and 2017 model year truck trips destinations to meet the thresholds; or 5) Other County and SBCAPCD approved equivalent technologies or measures. The Plan shall include engine exhaust performance standards data to support the air quality calculations and shall include the requirement for monthly activity logs to the County.

PLAN REQUIREMENTS: The Applicant shall provide the required plans, offsets and/or certifications to P&D and the SBCAPCD.

TIMING: The Applicant shall provide P&D with the Plan for review and approval prior to issuance of the Zoning Clearance.

MONITORING: P&D compliance monitoring staff will maintain the approved plan on file, review the activity logs and monitor for compliance during operational activities in consultation with the SBCAPCD.

Impacts of Mitigation Measures

The use of all CNG trucks would increase CO emissions, but as there are no CO thresholds and the area is in compliance for CO ambient air quality, there would be no impact. Emissions associated with AQ.1 are also tabulated in Table 4.1-15 and the use of all CNG trucks would not change the impact classification of AQ.1. Other issue area impacts would not be affected by the proposed air quality mitigation measures.

Table 4.1-15 Proposed Project Emissions – Plains Pentland Terminal Route – Mitigated CNG Trucks

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Only - Total Route	6.89	3.56	4,736	0.59	48.77	9.91
Significance Threshold	25	25	---	---	---	---
Threshold Exceeded? (lbs)	No	No	---	---	---	---
Stationary plus Mobile Combined	10.01	31.64	4736	0.59	48.77	9.91
Significance Threshold	55	55	-	-	80	80
Threshold Exceeded? (lbs)	No	No	-	-	No	No

Source: ExxonMobil Air Quality Assessment (2018) with adjustments by EIR preparer.
Notes: Assumes Cummins CNG trucks, MY2017, 400hp.

Potential Impact to Current Trucking to SMPS

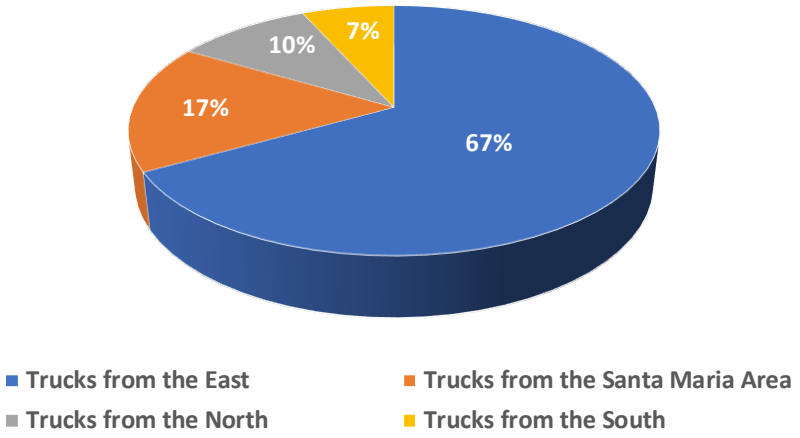
The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed in Section 4.4, Transportation and Circulation, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 138 trucks per day. Figure 4.1-3 shows the breakdown of the source of the truck deliveries to the SMPS by geographical area.

Trucks coming from the east are delivering crude from the San Joaquin Valley. Trucks from the north are likely delivering crude from oil fields in San Luis Obispo and/or Monterey Counties. Trucks from the South are likely delivering crude from oil fields in Ventura and/or Los Angeles Counties. As Figure 4.1-2 shows

the majority of the of the trucks delivering crude to the SMPS are coming from the San Joaquin Valley and are likely using State Route 166 as a travel route. Some of these trucks could also be using State Route 46.

The average round trip travel distance for trucks from each geographical region is provided in Table 4.1-16. This table shows that the trucks coming from the East (San Joaquin Valley) have the longest travel distance and is over twice the distance for the proposed Project to the SMPS.

Figure 4.1-2 Source of Trucks Traveling to SMPS by Geographical Area



Source: Phillips 66 (2018).

Table 4.1-16 Travel Distance for Truck Gong to the SMPS by Geographical Region

Source of Trucks	Round Trip Distance (miles)
Truck from the East	255
Truck from the North	170
Trucks from the Santa Maria Area	25
Truck from the South	226
Proposed Project Trucks from LFC	108.4

Source: Phillips 66 (2108) for all but the proposed Project.

At this current volume of truck deliveries, the SMPS would be able to handle about 32 trucks per day from the proposed Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude coming from the east due to the higher transportation costs. The proposed Project would need to displace about 38 truck per day from the east for all 70 trucks per day to go to the SMPS.

This longer travel distance for the trucks from the east increases the transportation cost of delivering the crude to the SMPS. There may be an economic incentive for Phillip 66 to displace trucks from the east (San Joaquin Valley crude oil) with crude from the proposed Project due to the potentially lower transportation costs. If crude from the east was displaced, there would be a net reduction in some truck air emissions as shown in Table 4.1-17.

Table 4.1-17 Potential Emission Reductions from Displacement of Crude Coming from the East to the SMPS

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Trucks from the East[2]	26.18	0.60	7.11	0.26	17.72	2.86
Proposed Project Trucks[3]	20.5	0.47	5.57	0.2	13.88	2.24
Change in Emissions	(5.68)	(0.13)	(1.54)	(0.06)	(3.84)	(0.62)

Notes:
[1] Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
[2] San Joaquin Valley truck emissions based upon displacement of 38 trucks per day traveling a round trip distance of 255 miles. Assumes use of 2017 or newer trucks, which provides for a low-end estimate of emissions.
[3] Project emissions are for 70 trucks per day to the SMPS.

While is likely that crude oil from the proposed Project would displace crude oil coming from the east, there is no guarantee that this would happen. Therefore, no reduction in the project impacts has been considered for this potential displacement.

Impact #	Impact Description	Phase	Impact Classification
AQ.4	Proposed Project activities could create objectionable odors affecting a substantial number of people.	Operations	Class III

Odor events could occur from loading rack operations, the LACT units or from leaks associated with loading and piping components. 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 and the release of substances that contain even small amounts of sulfur compounds (H2S) or hydrocarbons can be noticed. As noted above, any odor complaints regarding the SYU facilities are logged by the SBCAPCD. The additional infrastructure associated with the proposed Project would increase the number of loading and piping components, and therefore leak paths with the potential to create odors. Fugitive emissions associated with the proposed Project are expected to increase LFC facility emissions by about five percent. With the use of the BACT control measures and the distance from the loading rack area to LFC facility property boundaries, as well as the lack of historical odor events at the facility associated with fugitive emissions, the additional components associated with the proposed Project would not be expected to create objectionable odors affecting a substantial number of people. Therefore, odor impacts would be **less than significant (Class III).**

Impact #	Impact Description	Phase	Impact Classification
AQ.5	Toxic air emissions from stationary equipment loading operations and truck transportation of crude oil may expose nearby residents to toxic air contaminants.	Operations	Class III

Hazardous toxic air pollutants and emissions, known as HAPs, are associated with petroleum hydrocarbons and are a component of ROC emissions. As discussed above, the fugitive emissions associated with the loading rack piping and components, loading operations and operations of diesel trucks would increase the amount of ROC emissions. Table 4.1-18 compares the ROC emissions for baseline LFC facilities and for the LFC facilities with the proposed Project. The proposed Project would increase the total potential ROC emissions for LFC by 5.2%. A 5.2% increase in ROC emissions would

correspondingly increase the health risk values by approximately an equal amount, which is a conservative estimate.

Table 4.1-18 Air Toxic Emissions and Health Risk

Source	Baseline, 3 Year Average*	Baseline with Proposed Project**
ROC Emissions (tons per year)	98.4	103.5
Risk		
Cancer, per million	6.00	6.31
Chronic, HI	0.10	0.11
Acute, HI	0.30	0.32

*Source: SBCAPCD 1995.
**Source: MRS Environmental. Baseline emissions is for the onshore (LFC and POPCO) facilities only. Project emissions are for the loading rack fugitive emissions and the emissions associated with crude loading.

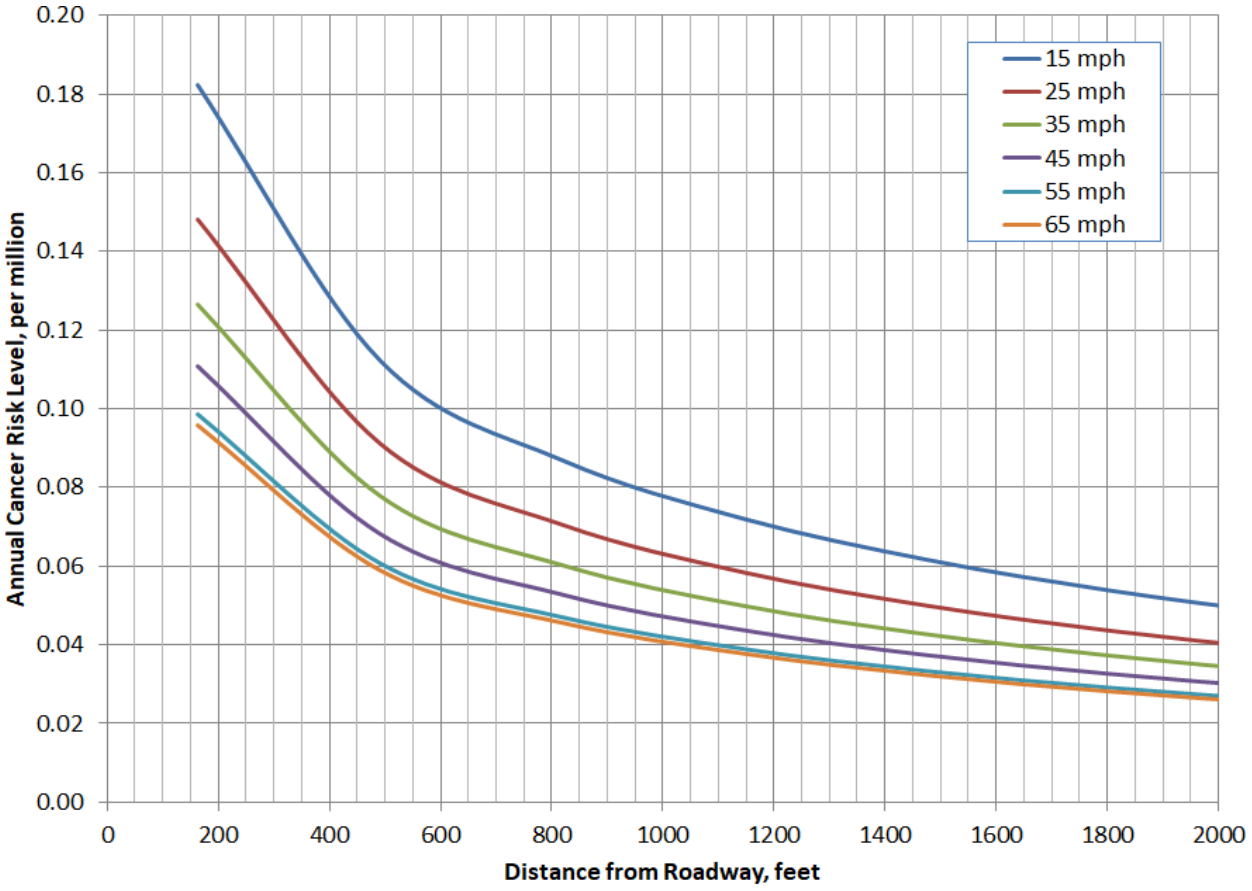
As discussed above, the baseline LFC operations are below the applicable HRA significance threshold for cancer risk, chronic risk and acute risk established by the County. Based on the estimated 5.3% increase in ROC emissions, the proposed Project has the potential to increase the cancer risk from the current estimated value of 6 to 6.3 which would remain below the threshold for cancer risk of 10. A 5.3% increase to the current HRA values for chronic (0.1) and acute (0.3) also would remain below the 1.0 hazard index threshold. The proposed Project would not exceed the thresholds adopted by the County for air toxics therefore, the impacts associated with the potential increase in air toxic emissions at the LFC facilities would be less than significant.

The operation of diesel trucks along area roadways would generate emissions of diesel particulate matter (DPM) that could increase cancer risks at areas near roadways. In order to examine this potential impact, modeling was conducted associated with the operation of 70 trucks per day and the use of model year 2017 diesel-powered trucks. Using EPA Guidance on modeling of emissions from roadways (EPA 2015) the air dispersion model, AERMOD, was run to simulate emissions from on-road vehicles at different speeds. The EMFAC model which assesses emissions from on-road vehicles, was used to quantify emissions rates of the tanker trucks at different speeds. Figure 4.1-2 depicts the cancer risk associated with DPM generated from the diesel trucks at various speeds and distances from the roadway. Cancer risks from DPM are well below the significance thresholds of 10 in a million at all speeds. This is primarily due primarily to the use of newer model year diesel trucks as required by CARB and current legislation detailed in Section 4.1.2.2.

Cancer risks close to the LFC facility would be a combination of the cancer risks associated with the LFC facility and those associated with diesel truck activity within about a 1,000 feet of the LFC facility. These values combined would total 6.51 cancer cases per million (6.31 plus 0.20) based on the estimated cancer risk from the LFC with the proposed Project plus the maximum diesel risk from diesel trucks at 15 mph shown in Figure 4.1-3.

Therefore, the potential increase in air toxic emissions associated with the use of diesel trucks and the LFC proposed Project operations would not expose sensitive receptors to pollutant concentrations exceeding the health risk thresholds and therefore, the health risk impacts would be **less than significant (Class III).**

Figure 4.1-3 Project Diesel Truck On-Road Cancer Risks



4.1.5 Cumulative Effects

Cumulative impacts are discussed below for the SYU projects, the other cumulative projects listed in Section 3 and compliance with the local plans.

4.1.5.1 SYU Cumulative Activities

The cumulative projects listed in Section 3 include the activities associated with the SYU Phased Restart Preparations, the SYU Phased Restart and Operations and the SYU Full Restart Preparations. The SYU Phased Restart Preparations would occur at the same time as the truck loading rack construction and could therefore overlap with the proposed Project construction. However, emissions from the SYU Phased Restart Preparations are accounted for in the baseline emissions as these activities would be similar to those associated with the normal, annual facility maintenance turn-arounds and would therefore not contribute to cumulative construction emissions. The SYU Phased Restart Preparations would occur prior to the proposed Project operations and would therefore not contribute to cumulative emissions for operations.

The SYU Full Restart Preparations would also be similar to the baseline facility annual maintenance activities and would also therefore not contribute to cumulative emissions.

The SYU Phased Restart and Operations would be ongoing at the same time the proposed Project is operational. Emissions from the existing equipment at the SYU that would be used to produce and process the crude oil and gas (the Platforms and the LFC equipment) would also generate emissions during the proposed Project operational phase. Based on an analysis of potential emissions from the LFC facility and the SYU facilities as a whole, operating at a production level of 11,200 bpd crude with trucking would be less than the baseline emissions. This analysis assumes the following operational emissions characteristics during the proposed Project operations:

- Crew and supply boats would be baseline operations, which represents a worst-case assumption;
- Emissions associated with thermal oxidizers, solvent use, internal combustion engines (fire-water pumps, etc.) and fugitive emissions (emissions from components and sumps, but not the tanks) would be similar to the baseline emissions;
- Emissions from the cogeneration unit, sulfur plant, and fugitive emissions from tanks would be scaled based on crude oil throughput from the baseline operations.
- Emissions from the platforms that would the same as the baseline operations which represents a worst-case assumption.
- The POPCO plant would not be operational.

Table 4.1-19 shows the emissions from the existing SYU facilities under the 11,200 bpd operations that would occur under the proposed Project. Emissions in combination with the proposed Project would be below the baseline emissions, as shown in Table 4.1-20, which is the average of the full three-years prior to shutdown of SYU facilities.

Table 4.1-19 SYU Cumulative Phased Restart Operations Emissions (lbs/day)

Facility Name	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Las Flores Canyon	119	193	90	42	83	83
POPCO	0	0	0	0	0	0
Platform Hondo	135	311	67	86	21	20
Platform Harmony	164	232	89	50	22	20
Platform Heritage	150	121	90	61	38	36
Total SYU Emissions Phased Restart	568	856	336	239	164	159

See Appendix B for cumulative calculations.

Table 4.1-20 SYU Emissions with Project and Baseline (lbs/day)

Facility Name	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Total SYU Emissions Phased Restart	568	856	336	239	164	159
Proposed Project	49	29	11	0	46	7
SYU Phased Restart plus Project	617	885	347	240	210	166
Baseline SYU Emissions	724	1,203	465	289	287	281
Change from baseline	-107	-317	-118	-49	-77	-115

See Appendix B for cumulative calculations.

4.1.5.2 Compliance with Plans

All air pollutant emission impacts, in effect, are cumulative to the air basin in which the emissions occur. For this project, the cumulative area is under the jurisdiction of the Santa Barbara Air Pollution Control District, which is located in the South-Central Air Basin. If a project's emissions were to occur in an air basin that has no other pollutant sources, hypothetically, then even a large project would most likely not exceed the ambient air quality standards. Air districts have developed pollutant emission thresholds to ensure that new projects will not exacerbate compliance with existing air quality standards.

If a project stays below these thresholds, either by being a smaller project, incorporating control technologies or utilizing offsets/emission reduction credits, then it is assumed that the air quality standards will not be exceeded.

As part of the planning process, the districts also make assumptions about future growth. Projects also need to have been considered in the Ozone Plan growth projections for cumulative impacts to be considered insignificant.

Consistency with the Ozone Plan, for the projects subject to these guidelines, means that stationary source and vehicle emissions associated with the project are accounted for in the Ozone Plan's emissions growth assumptions. The 2016 SBCAPCD Ozone Plan (SBCAPCD 2016) set growth factors associated with emissions from oil and gas activities to no-growth because:

- In the past the oil production has gone both up and down;
- Ozone precursor emissions do not trend 1:1 with oil production in the County;
- Requirements for Best Available Control Technology (BACT) are typically required for large projects and therefore drive down a project's emissions; and,
- Large projects may utilize Emission Reduction Credits (ERCs) which are accounted for forecasted growth in Clean Air Plans.

Therefore, with the implementation of controls and compliance with the APCD control measures, the proposed Project alone would not be significant. But, if emissions from the oil and gas sector grow to exceed the 2016 Ozone plan estimates, then cumulative impacts associated with future projects could be potentially significant. Cumulative emissions associated with construction, operations and mobile sources are each discussed below.

4.1.5.3 Other Cumulative Projects Construction Emissions

The proposed Project construction emissions are below the County thresholds (Table 4.1-12) and the SB County required dust control measures would further reduce PM_{10} emissions. Two residential projects, Rancho de Tajiguas/MAZ Properties and Tomate Canyon Ranch Project are proposed along the Gaviota Coast but concurrent construction of these two potential projects along with the proposed Project is not likely. In addition, construction activities for the proposed Project would occur near the north end of the Las Flores Canyon facilities more than a mile from the coastline and several miles from the two proposed residential projects. Other cumulative projects would occur a substantial distance away from the Project location and would therefore not have overlapping, localized impacts. As the duration of the Project is also relatively short and near-term, the emissions would not overlap with many of the cumulative projects. Therefore, the proposed Project's contribution to cumulative emissions associated with construction activities would be less than significant.

4.1.5.4 Other Cumulative Projects Operational Emissions- Stationary

As noted above, the most recent SBCAPCD Ozone Plan notes most new oil and gas projects would utilize BACT to control emissions and ERCs to meet significant thresholds and SBCAPCD permit requirements. The proposed Project includes BACT for the construction and operation of the loading rack and operational stationary source emissions are below applicable standards and less than significant. Therefore, because the loading rack activity emissions are below the significance thresholds and constitute a small increase from baseline operations, the stationary source operational activities would comply with the Ozone Plan. Restart of the SYU facilities would generate air emissions, however, these air emissions are fully permitted and offset. The air emissions from the restart would be less than the pre-shutdown emissions due to the lower oil production rates. Given that the proposed Project operation at LFC would comply with the Ozone Plan, it's contribution to cumulative operational air quality impacts would be less than significant.

4.1.5.5 Other Cumulative Projects Operational Emissions – Mobile

Section 3.0, Cumulative Scenario, lists three proposed crude oil development projects in Northern Santa Barbara County that could involve the trucking of crude oil in addition to the proposed Project:

- ERG West Cat Canyon Revitalization Project;
- Aera East Cat Canyon Oil Field Redevelopment Plan; and,
- PetroRock UCCB Production Plan.

Section 3.0 provides the estimated trucks per day for these three projects plus the proposed Project at 245. This included construction, drilling and crude oil trucks during the peak year of overlap with the proposed Project. This number assumes that the Foxen Canyon Pipeline is not operational. With the Foxen Canyon Pipeline operational, the total truck trip per day would drop to 191. In order to be approved by the County it is likely that each of the projects noted above would mitigation measures to meet the 25 pounds per day significance thresholds for mobile source emissions such as mitigation measure AQ-1.

The Ozone Plan includes assumptions about traffic growth along transportation corridors, which would account for other cumulative projects. The increase in truck trips along Highway 101, for example, would total 2.7 percent of trucks on Highway 101 in Santa Maria. Population projections in the 2016 Ozone Plan indicate a growth in population and employment of as much as 11 percent to 2025. While there is growth projected, emissions of NO_x are projected to decline substantially primarily due to the incorporation of technologies associated with on-road regulations. As some of the oil and gas projects listed above may also be utilizing pipelines, in place of trucks, and the trucking growth is within established population growth projections, as well as the Project being relatively short-term (4 to 7 years) in duration relative to the long-term planning documents, the proposed Project's contribution to cumulative mobile source emissions would be less than significant.

4.1.6 Mitigation Monitoring Program

Table 4.1-21 Mitigation Monitoring Program

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
AQ-1	Trucking Emissions Management Plan.	Include trucking performance specifications and truck fleet criteria with contractor contracts. Review monthly reports on truck fleet characteristics.	Applicant submits contracts including engine exhaust specifications and records and submits reports of fleet activity	County inspects truck fleet for performance and fleet characteristics compliance and reviews reports on fleet activity. County consults with APCD on changes.	Implement tank fleet activity limits and truck engine criteria, submits reports to County.

4.1.7 References

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4.2 Climate Change/Greenhouse Gas Emissions

This section describes environmental and regulatory settings related to climate change/greenhouse gases (GHG); identifies GHG impacts of the proposed Project, identifies cumulative impacts from this and other projects in the region; and recommends mitigation measures to reduce those impacts to less than significant.

The Air Quality Analysis was reviewed by the County's consultant and portions were reviewed by the Santa Barbara County Air Pollution Control District (SBCAPCD). Emission factors used in the analysis were prescribed by the SBCAPCD, the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA). Information and data from the Air Quality Analysis and emission calculations are included in Appendix B. This analysis is intended to provide a reasonable worst-case scenario of potential GHG emissions resulting from the proposed activities.

This section discusses the setting and impacts associated with greenhouse gas emissions. Section 4.1, Air Quality discusses the setting and impacts associated with criteria and toxic pollutants.

4.2.1 Environmental Setting

Greenhouse gases (GHGs) are defined as any gas that absorbs infrared radiation in the atmosphere, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6) and fluorocarbons. These 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. Without natural GHGs, the earth's surface would be cooler (NASA 2018, LACIS 2010). Emissions from human activities (anthropogenic emissions), such as vehicles and generation of electricity, has led to elevated concentrations of these gases in the atmosphere (IPCC 2015).

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 (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as the "CO_2 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 CO_2 is defined as one, whereas the GWP of CH_4, for example, is 25, meaning that CH_4 absorbs 25 times as much heat, and therefore has 25 times greater impact on global warming per pound of emissions, as CO_2.

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 CO_2 include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO_2 include burning of fuels, such as coal, oil, natural gas, and wood. Atmospheric global average CO_2 concentrations are currently approximately 407 ppm, with levels increasing from 401 ppm in 2015 and 369 ppm in 2000 with a growth rate of between 2-3 ppm per year since 2012 (NOAA 2018).

Methane (CH_4) gas is the primary component of natural gas used in homes and as discussed above, it has a GWP of approximately 25. Natural sources of CH_4 arise from the decay of organic matter and from

geological deposits known as natural gas fields, from which CH_4 is extracted for fuel. Sources of decaying organic material include landfills and manure.

Nitrous oxide (N_2O)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 N_2O. 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 NO_2) is produced as a criteria pollutant (see above) and is not the same as N_2O. Very small quantities of N_2O 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 CH_4 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; 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 (SF_6) 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 (O_3) is a greenhouse gas; however, unlike the other greenhouse gases, O_3 in the troposphere is relatively short-lived and therefore is not global in nature. According to CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_x and volatile organic compounds [VOCs]) to global warming (CARB 2006).

Table 4.2-1 shows a range of gasses that contribute to GHG warming with their associated global warming potential. The table also shows their estimated lifetime in the atmosphere and the range in global warming potential over 100 years.

Table 4.2-1 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_2O)	120	298
HFCs	1.5-264	12-14,800
Sulfur Hexafluoride (SF_6)	3,200	22,800

Note: GWP = global warming potential
Source: EPA 40 CFR Part 98, Subpart A, Table A-1, dated Nov 29, 2013

4.2.1.1 Physical Setting

Fossil fuel combustion is responsible for the vast majority of the United States GHG emissions, and CO_2 is the primary GHG. In 2016, U.S. GHG emissions totaled 6,511 million $MTCO_2e$. This 2016 total represents a 2.4 percent increase since 1990. GHG emissions peaked at 7,351 million $MTCO_2e$ in 2007. In 2016,

approximately 28 percent of GHG emissions were associated with transportation, approximately 28 percent were associated with electricity generation, and 22 percent were associated with industrial processes (EPA 2018).

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 coal and oil's higher carbon content. 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 manufacture of the wind generators, the mining and enrichment of uranium or the displacement of forest areas for reservoirs, these emissions have not been included in the lifecycle analysis as they are assumed to be relatively small compared to the electricity generated. Estimates of nuclear power GHG emissions associated with uranium mining and enrichment range up to approximately 60 lbs/MWh, or approximately five percent of natural gas turbine GHG emissions (Canada 1998).

Detailed information on the power generation plants, their contribution to area electricity resource mix and their associated emissions have been developed by the U.S. Environmental Protection Agency (EPA) in a database called the *Emissions & Generation Resource Integrated Database* (eGRID). eGRID is a comprehensive inventory of environmental attributes of electric power systems and is developed from a variety of data collected by the U.S. EPA, Energy Information Administration (EIA), and Federal Energy Regulatory Commission (FERC). The most recent version was released in 2018 contains information as recent as 2016.

About half of the electricity in the United States is generated from coal, producing a U.S. GHG emissions level of about 1,222 pounds per mega-watt hour (lbs/MWh). The GHG emissions rate is lower for western states, primarily due to the increased use of hydroelectric and natural gas. The State of California has a GHG emission rate of approximately 661 lbs/MWh due to the contribution of hydroelectric, nuclear and renewable sources.

Southern California Edison's (SCE) GHG emission rate is lower than the California average due to its increase in the use of renewable energy sources. In 2017, 46% of electricity that SCE delivered to customers came from carbon-free resources, including biomass, geothermal, hydroelectric, solar and wind. In 2017 SCE's GHG emission rate was about 551 lbs /MWhr (Edison International 2017).

The GHG emission rate for electricity obtained from SCE is approximately 50 percent less than the rate associated with direct natural gas combustion due to the electricity resource mix, which includes non-GHG emission creating resources (hydroelectric and renewables).

Calculation of Greenhouse Gas Emissions

The quantification of GHG emissions associated with a project can be complex and relies upon several assumptions. GHG emissions are global because they contribute to the total amount of GHG in the atmosphere, and the effects of GHG emissions are not limited to the localities where they are generated. Therefore, offsite impacts, such as vehicle emissions and other associated transportation emissions, are included.

Emissions are generally classified as either direct or indirect. Direct emissions are associated with the production of GHG emissions at the project site. These include the combustion of natural gas in heaters or stoves, the combustion of fuel in engines and construction vehicles, and fugitive emissions from valves and connections, which include CH_4 as a component. Indirect emissions include the emissions from

vehicles (both gasoline and diesel) delivering materials and equipment to the Project Site and the use of electricity, water and the processing of wastes.

The Air Quality Analysis utilizes the CARB Mandatory Reporting of Greenhouse Gas Emissions, which references the Federal EPA Mandatory Reporting Rule methodologies to guide the calculation of GHG emissions. GHG emissions associated with diesel trucks that would visit and service the Project Site, including those used for construction as well as trucks used for the transport of crude oil, are quantified in this section. These emissions are inclusive of indirect GHG emissions associated with trash hauling and other services for which travel to and from the Project location would potentially be required.

Statewide Greenhouse Gas Emissions

With a population of 39.5 million (2017), California is the most populous state in the United States. In 2016, the State produced 429 $MMTCO_2e$ of GHG emissions (CARB 2018). Table 4.2-2 delineates State GHG emissions for the years 2010 through 2016.

Table 4.2-2 California GHG Emissions Inventory (million metric tons per year, $MMTCO_2e$)

Source Category	2010	2011	2012	2013	2014	2015	2016
Transportation	165.07	161.51	161.22	160.90	162.28	166.14	169.38
Industrial	91.05	9.94	91.07	93.73	93.96	91.58	89.61
Electric Power	90.34	88.06	95.09	89.65	88.24	83.67	68.58
Commercial and Residential	45.05	45.50	42.89	43.54	37.37	37.94	39.36
Agriculture	34.27	34.89	36.08	34.61	35.95	34.41	33.84
High Global Warming Potential	13.52	14.54	15.54	16.65	17.70	18.93	19.78
Recycling and Waste	8.37	8.47	8.49	8.52	8.59	8.73	8.81
Total Emissions	**448.1**	**443.9**	**450.4**	**447.6**	**444.1**	**441.4**	**429.4**

[1] Includes equipment used in construction, mining, oil drilling, industrial and airport ground operations.
[2] Reflects emissions from combustion of natural gas, diesel, and lease fuel plus fugitive emissions.
[3] These categories are listed in the Industrial sector of CARB's GHG Emission Inventory sectors.
[4] This category is listed in the Electric Power sector of CARB's GHG Emission Inventory sectors.
[5] The exceptional Aliso Canyon natural gas leak event released 1.96 $MMTCO_2e$ of unanticipated emissions in calendar year 2015 and an additional 0.53 $MMTCO_2e$ in 2016.
Source: CARB 2018 Emission Inventory Data accessed August 2018.

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. Some data indicate that the current temperature record differs from previous climate changes in both rate and magnitude (IPCC 2014). These climate changes could lead to alterations in weather phenomena and melting of land ice resulting in an increase of sea levels leading to coastal flooding. It is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations (IPCC 2014). 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 (CARB 2008) notes that a warming California climate would generate more smoggy days and a greater susceptibility to large brush and forest fires. With exposure to warm temperatures and sunlight anthropogenic ozone reacts more readily with ozone forming pollutants, NO_X and VOCs, therefore an increase in the amount of warmer days and average temperatures result in higher levels of ozone. The risk of wildfire is dependent of a variety of factors, including presence and flammability of vegetation, soil

moisture content as well as temperature, all of which are directly or indirectly tied to climate variability, i.e., warmer days means 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 greenhouse gas emissions at business-as-usual rates would result, by late in the century, in California losing 90 percent of the Sierra snowpack, sea level rising by more than 20 inches, and a three to four times increase in heat wave days.

In the Findings and Declarations for AB 32, the 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 2014). The linear warming trend over the years from 1951 to 2012 (0.12 degrees Celsius per decade) is nearly twice that for the 100 years from 1906 to 2005. Over the period 1901 to 2010, global mean sea level rose by 8 inches (IPCC 2014).

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 CO_2 concentrations at less than 450 ppm would limit temperature rise to less than 3.6 degrees Fahrenheit by the year 2100 and would require global anthropogenic CO_2 emissions to drop below year 1990 levels within a few decades (by 2020). If GHG emissions, and atmospheric CO_2 levels, were to be kept to this "low" or "Category I" 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 CO_2 could cause a reduction in global GDP of more than 5 percent, with substantially higher regional losses. Scenarios that are likely to maintain warming at below 3.6 degrees Fahrenheit are characterized by a 40 percent 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.

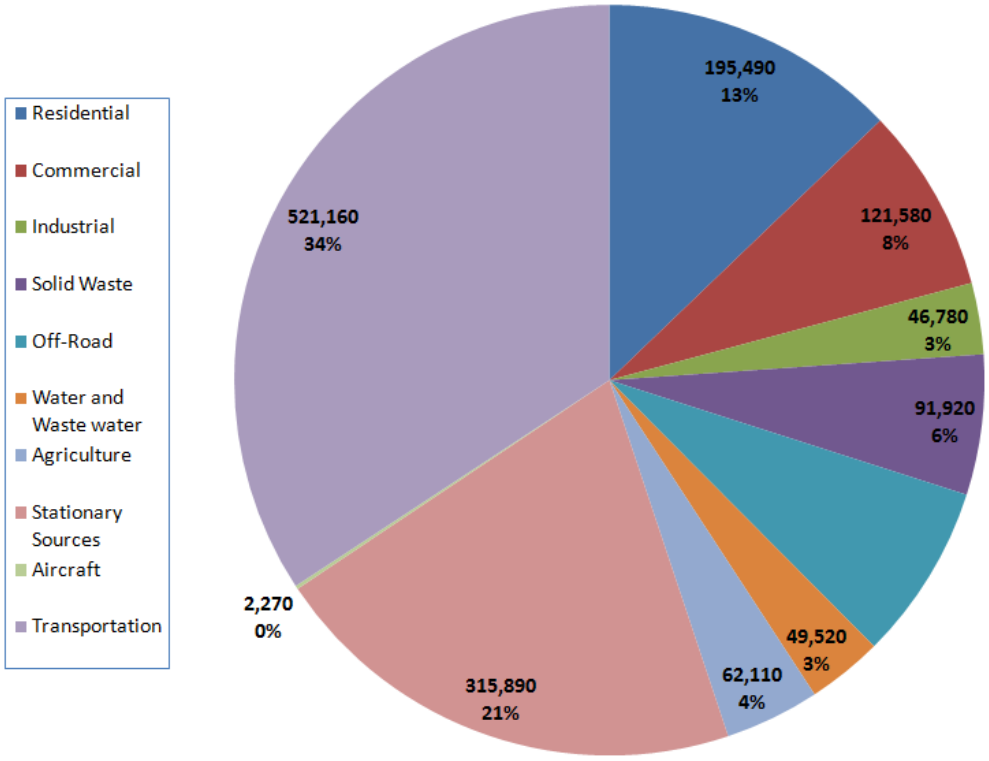
Therefore, stabilizing GHG emissions levels at 1990 levels over the next two decades and reducing GHG emissions by between 50 and 85 percent by the year 2050, would reduce the impacts of climate change to "Category 1" levels that would produce nominal changes in global average GDP and would be less than significant.

Countywide Greenhouse Gas Emissions

The Santa Barbara County Climate Action Study was released in September 2011 and addresses municipal operations, countywide operations and implementation. Total GHG emissions were estimated at approximately 1.5 million tons in 2007 (SBC 2013). See Figure 4.2-1 for a categorization of the County emissions. The proposed Project would be considered an industrial source which would be responsible for mitigating its own GHG emissions on a 1 to 1 basis and does not rely on the ECAP for GHG mitigation. The categories included in the emission inventory are as follows 9SBC 2013):

- Energy – Residential, commercial, and industrial electricity and natural gas consumed in the unincorporated county in 2007;

Figure 4.2-1 Santa Barbara County GHG Emissions – Year 2007 revised



Note: Total emissions equal 1,522,420 tones of CO_2e. Figure evaluates emissions for the unincorporated County only. It does not include emissions from other sources in the County, such as city, State and Federal lands; Native American reservations; University of California, Santa Barbara (UCSB); and offshore seeps.
Source: SBC 2013

- Transportation – Vehicle miles traveled (VMT) to, from, or within the unincorporated county in 2007;
- Waste – Methane emissions from waste sent to landfills from the community in 2007;
- Stationary Sources – Direct emissions from industrial, commercial, and office processes in the county that are permitted by the County of Santa Barbara;
- Off-road – Emissions from agricultural, construction, lawn and garden, and other industrial equipment/vehicles;
- Agriculture – Emissions from livestock and from fertilizer application;
- Aircraft – Emissions from operations at the Santa Ynez Airport in unincorporated Santa Barbara County; and
- Water and Wastewater – The energy required to extract, filter, move, and treat the water consumed and/or treated in the county in 2007.

Area that are not included in the County inventory are areas where the County lacks jurisdiction control or permitting authority or there is limited ability to influence the control of the GHG emissions, and includes the following areas:

- Vandenberg Air Force Base;
- The University of California, Santa Barbara;
- Incorporated areas (Cities of Santa Maria, Santa Barbara, etc.);
- Activities in the Santa Barbara Channel (marine shipping);
- Large stationary facilities that are permitted by the APCD;
- State and federal regulatory agencies;
- Vehicle and rail travel that does not stop in the County, but uses fuel and generates GHG emissions while in the county; and
- Biogenic sources including naturally occurring oil and gas seeps or waste decomposition.

GHG emissions from sources that are not included in the inventory and that have been estimated in SBC 2013 total an additional 3.2 million MTCO2e annually.

4.2.1.2 Baseline Operations Stationary Sources

Baseline operations associated with the SYU operations include the gathering, storage and transportation of crude oil, fugitive emissions from valves and connections, and tanks and offsite mobile sources. The LFC facilities are composed of five stationary sources as compiled by the SBAPCD as follows:

- Las Flores Canyon Oil and Gas Plant (SBCAPCD Facility ID 14820);
- POPCO Gas Plant (SBCAPCD Facility ID 3170);
- Platform Hondo (SBCAPCD Facility ID 8009);
- Platform Heritage (SBCAPCD Facility ID 8019); and,
- Platform Harmony (SBCAPCD Facility ID8018).

Baseline GHG emissions data reflect the operation of the SYU facilities prior to the shutdown in May 2015. The emissions data below is based on total emissions (combustion, process, vented, and vendor supplier) from the CARB Mandatory GHG Emissions Program excluding mobile emissions. The CARB data only covers the onshore facilities. Baseline GHG emissions are tabulated in Table 4.2-3 for metric tons per year for the last three years of facility operations from 2012, 2013 and 2014.

Baseline Mobile Sources

Emissions for baseline mobile sources shown in Table 4.2-3 are based on production reports submitted to the County, estimates of employee and delivery truck trips, an aggregate average trip distance, and CARB EMFAC Mobile Source Emissions Inventory emission factors. The mobile emissions estimate includes three groups of vehicles; employee gas fueled cars, medium size diesel powered delivery trucks, and diesel-powered tractor trailer rigs that are used for transporting propane, butane and sulfur out of Las Flores Canyon. Average trip distance assumed all vehicles traveled to and from the Santa Maria area. Mobile source emission calculation input variables are listed in Table 4.1-8 in Section 4.1, Air Quality and are tabulated in detail in Appendix B.

Table 4.2-3 Baseline GHG Emissions SYU Project – Metric Tons per Year CO_2e

Source Description[1]	GHGs metric tons CO_2e		
	2012	2013	2014
SYU Offshore Platforms	18,742	19,898	20,019
LFC Facility (CARB ID 104460)	247,453	280,337	301,111
POPCO Facility (CARB ID 104459)	36,689	44,663	41,546
Stationary Source Total	284,142	325,000	342,657
Estimated Mobile Source Emissions	1,547	1,547	1,547
Annual Total	285,689	326,547	344,204
Average Annual Total	**318,813**		

Source: POPCO and LFC Facilities – CARB 2014 CARB Mandatory GHG Emissions Program Data Base, 2012 to 2014 reporting years.
Mobile source emissions- MRS Environmental, based on ExxonMobil 2014 Production Data and CARB EMFAC 2014 Mobile Emission Factor data base.
Offshore Platforms - ExxonMobil.
Notes:
CARB data reported for ExxonMobil SYU Project in 2012 as a combination of LFC and POPCO. Data was reported separately for LFC and POPCO facilities in 2013 and 2014. 2012 data broken out with the same ratio as 2013 and 2014 as an estimate.

4.2.2 Regulatory Setting

4.2.2.1 International

Kyoto Protocol

The Kyoto Protocol is a treaty made under the United Nations Framework Convention on Climate Change, which was signed on March 21, 1994. The Convention 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 5 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.

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.

4.2.2.2 Federal Regulations

Clean Air Act

In the past, the U.S. EPA has not regulated GHG under the Clean Air Act. However, in 2007 the U.S. Supreme Court held that the 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 EPA to regulate GHG as a pollutant pursuant to the Clean Air Act (U.S. Supreme Court No. 05-1120; 127 S.Ct. 1438 (2007)). The Court ruled that GHG fit within the Clean Air Act's definition of a pollutant and that the EPA's reason for not regulating GHG was insufficiently grounded.

40 CFR Section 98 specifies mandatory reporting requirements for a number of industries including certain downstream facilities that emit GHG and to certain upstream suppliers of fossil fuels and industrial GHG. 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).

U.S. EPA Methane Challenge Program

The U.S. EPA sponsors the Natural Gas STAR Methane Challenge Program, a voluntary program that encourages oil and natural gas companies to commit to and adopt cost-effective technologies and practices to improve operational efficiency and prevent emissions of CH_4. The program defines protocols for CH_4 control by oil and natural gas production companies that may operate many different facilities. Examples of cost-effective controls include, recovering for beneficial use all associated gas produced from oil reservoirs and avoiding flaring when gas recovery is feasible.

Federal New Source Performance Standards (NSPS) under CAA Section 111

NSPS (40 CFR 60), Subpart OOOOa: Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources. U.S. EPA released emission standards in NSPS Subpart OOOOa for controlling emissions from new oil well completions with hydraulic fracturing, and to expand the oil and gas equipment standards to reduce greenhouse gases (GHG), specifically CH_4. [Final Rule: June 3, 2016.] The proposed Project does not involve hydraulic fracturing, but certain oil and gas equipment including pumps and compressors may be subject to the NSPS for regulation of volatile organic compounds (VOC) and GHG.

4.2.2.3 State Regulations

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 are outlined in a March 2006 report (CalEPA 2006). The Climate Action Team also provided strategies and input to the CARB 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 greenhouse gas 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 greenhouse gas 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.

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."

Assembly Bill 1493

In 2002, the 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 the CARB to develop and adopt the nation's first GHG emission standards for automobiles. The CARB responded by adopting CO_2-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 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 EPA to weaken automobile fuel economy standards, adopted amendments to sections 1961.2 and 1961.3, Title 13 California Code of Regulations to ensure continued implementation of the more stringent automobile standards through the year 2025.

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 the 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, the CARB published Proposed Early Actions to Mitigate Climate Change in California. This publication indicated that the issue of GHG emissions in 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 Intergovernmental Panel on Climate Change (IPCC 2007, 2014) that examined a range of scenarios estimating an increase in globally averaged surface temperature and ocean rise by 2100 due to human causes.

SB-32

Senate bill 32 requires that there be a reduction in GHG emissions to 40% 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 greenhouse gas emissions to 1990 levels by 2020 and 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-3-05.

California Air Resources Board: 2008 Scoping Plan

On December 11, 2008, the 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 system, car standards, low carbon fuel standards, 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 underwent an extensive and rigorous process in developing and approving the Scoping Plan. Among other things, CARB considered several alternatives to achieve the mandated maximum technologically feasible and cost-effective reductions in GHGs and submitted its analyses and recommendations for peer review and public comment on many occasions.

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:

Scoping Plan 2011 Re-Approved Document

In August 2011, the initial Scoping Plan was re-approved by the ARB, and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. In the 2011 re-approved Scoping Plan, ARB updated the projected business as usual (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 $MMTCO_2e$. ARB 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 year 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 I automobile standards and the Renewables Portfolio Standard, neither of which were assumed in the 2008 Scoping Plan.

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 revision to the GWP for gasses (to a 20 year instead of the 100-year timeframe), the establishment of a mid-term 2030 goal (of between 33-40% 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-3-05. 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.

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 reduction of a 40% 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 AB398 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 emission and improve air quality.

California Senate Bill 1368

In 2006, the California legislature passed 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 PUC 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 is established at 1,100 lbs/MWh of CO_2. 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 greenhouse gas emissions under the CEQA framework by developing guidelines on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas 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 the 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 California Code of Regulations. The Amendments became effective on March 18, 2010.

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 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 GHG 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.

The guidelines developed by OPR provide the lead agency with discretion in determining what methodology is used in assessing the impacts of greenhouse gas 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.

California Air Resource Board Cap-and-Trade Regulation

The California Air Resource Board 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 would employ to reduce GHG emissions that cause climate change. Under cap-and-trade, an overall limit on GHG emissions from capped sectors would be established by the Cap-and-Trade program, and facilities subject to the cap would be able to trade permits (allowances) to emit GHGs. The program started on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions for GHG emissions from stationary sources. The petroleum and natural gas systems sector is covered starting in 2013 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 are 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 Cap-and-Trade was prominently noted by the Court of Appeals' opinion upholding the ARB Scoping Plan as follows:

The final scoping plan explains the Board'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 pre-defined "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 three 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 as well as 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 as per a "cap adjustment factor". The cap adjustment factor would be approximately 2 to 3 percent annually through 2020. 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 through 2020. Current prices for carbon are about $15 per ton in 2018.

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 Rule.

As only a limited number of allowances are issued, based on the original emissions estimates prepared by the CARB, and these allowances are reduced each year by a given percentage to achieve the year 2020 goals, any operator who commences operations after the Cap-and-Trade program is in effect would be 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 would serve 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 CO_2 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), and therefore GHG emissions reduced in another County, for example, could be used to offset the GHG emissions occurring at a project site.

SB 375 Sustainable Communities and Climate Protection Act of 2008

SB 375 supports the State's climate action goals to reduce greenhouse gas (GHG) emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, ARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, ARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPO). ARB 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 the APS. Developers can get relief from certain environmental review requirements under the California Environmental Quality Act (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 Santa Barbara County Association of Governments (SBCAG) released their Final Sustainable Communities Strategy in August 2017 as part of their Regional Transportation Plan (RTP) and as an update to the 2013 plan. ARB provided approval of the 2013 Plan in November 2013, concluding that SBCAG's adopted SCS demonstrates that, if implemented, the region will achieve a 10.5 percent per capita vehicle greenhouse gas reduction in 2020 (passenger cars and trucks), and a 15.4 percent reduction in 2035, exceeding the established targets.

California Climate Action Registry General Reporting Protocol

The California Climate Action Registry is a program of the Climate Action Reserve and serves as a voluntary GHG registry. The Climate Action Reserve is a carbon offset registry for North America and establishes standards for carbon offset projects, including protocols and credits for CEQA compliance. The California Climate Action Registry was formed in 2001 when a group of chief executive officers, who were investing in energy efficiency projects that reduced their organizations' GHG emissions, asked the State to create a place to accurately report their emissions history. The California Climate Action Registry publishes a General Reporting Protocol, which provides the principles, approach, methodology, and procedures to estimate such emissions.

California Air Resource Board Mandatory Reporting Regulation

The Air Resources Board approved a mandatory reporting regulation in December 2007, which became effective January 2009 (which appears at sections 95100-95133 of Title 17, California Code of Regulations), which requires the mandatory reporting of GHG emissions for specific industries emitting more than 10,000 - 25,000 $MTCO_2e$ depending on the process source type.

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 2017, the State achieved reductions of 46 million $MTCO_2e$ (MMT) in 2015, with the primary contributors listed below;

- The Transportation Sector achieved reduction of 14.3 MMT of reductions in 2015 with a goal of about 49 MMT of reductions by 2020, primarily through the Pavley, low carbon fuel standard, tire pressure programs and ship electrification programs;
- Energy efficiency programs have produced reductions of 7.2 MMT in 2015;
- Appliance efficiency standards have achieved reductions of 4.7 MMT in 2015;
- The Renewable Portfolio Standard program for power generation achieved a reduction of 6.9 MMT in 2015.

The Cap-and-Trade program was started in 2013 has a goal of post-2020 delivering 236 MMTCO2e cumulative GHG emissions reductions from 2021 through 2030.

Senate Bill 350

With the Clean Energy and Pollution Reduction Act of 2015 (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 Renewable Portfolio Standard (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.

California Air Resources Board Regulation for Emissions Standards for Crude Oil and Natural Gas Facilities

The ARB approved regulations, effective October 1, 2017 (17 CCR 95665-95677) to reduce CH_4 emissions from oil and gas production, processing, storage, and transmission compressor stations by requiring regulated entities to take actions to limit intentional (vented) and unintentional (leaked or fugitive) emissions from active and idle equipment and operations (ARB, 2016d). These types of controls would also have the effect of reducing emissions of ozone-precursor VOCs. The regulation helps to implement the AB 32 Scoping Plan and the statewide strategy for short-lived climate pollutants (ARB, 2016a) through the following requirements:

- Vapor collection on uncontrolled oil and water separators and storage tanks with emissions above a set CH_4 standard;
- Vapor collection on all uncontrolled well stimulation circulation tanks;
- Leak Detection and Repair (LDAR) on components, such as valves, flanges, and connectors, currently not covered by local air district rules, as well as from soil at underground natural gas storage well sites;
- Vapor collection of large reciprocating compressors' vent gas, or require repair of the compressor when it is leaking above a set emission flow rate;
- Vapor collection of centrifugal compressor vent gas, or replacement of higher emitting "wet seals" with lower emitting "dry seals";
- "No bleed" pneumatic devices and pumps; and
- More frequent CH_4 monitoring at underground natural gas storage facilities.

AB-398 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.

SB-100 California Renewables Portfolio Standard Program

SB-100, introduced in January 2017, would revise the California Renewables Portfolio Standard Program to state that the goal of the program is to achieve that 50% renewable resources target by December 31, 2026, and to achieve a 60% 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% of retail sales of electricity to serve California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045. The bill was signed by the Governor in September 2018.

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 greenhouse gas emissions.

4.2.2.4 Local Regulations

County Energy and Climate Action Plan (ECAP)

In March 2009, the County Board of Supervisors directed County staff "to take immediate, cost-effective and coordinated steps to reduce the County's collective greenhouse gas (GHG) emissions." In response to this direction, the County's Climate Action Strategy (CAS) was developed, which includes a two-phase strategy to reduce GHG emissions comprising (1) the Climate Action Study (2011), including a countywide GHG inventory, forecast, and evaluation of potential emission reduction measures, and (2) an Energy and Climate Action Plan – ECAP (2015), which seeks to reduce the GHG emissions through implementation of specific selected measures with the goal of achieving a GHG reduction target of 15 percent below 2007 baseline levels by 2020.

The ECAP adopted by the Board of Supervisors in May 2015 identifies strategies, or emission reduction measures, that the County can implement. The largest of these, which produce the greatest GHG reductions, include numerous measures such as community choice aggregation, sustainable community strategies, residential energy efficiency measures, waste reduction and recycling, utility-scale renewable energy projects and the use of alternative-fueled vehicles.

Industrial stationary sources and certain commercial or residential projects are outside the scope of the ECAP, although they may be subject to GHG thresholds and/or project-specific analysis through the CEQA process.

4.2.3 Significance Thresholds

County of Santa Barbara

In July 2015 Santa Barbara County adopted a numeric bright-line threshold of 1,000 $MTCO_2e$/yr. that governs the determination of CEQA significance for industrial stationary source projects subject to discretionary approval, such as the proposed Project. The threshold applies to both direct and indirect

emissions of greenhouse gases associated with stationary source projects, where protocols to support calculation of such emissions are available.

Direct emissions encompass the project's complete operations, including greenhouse gases emitted from a location within California from all stationary and mobile sources, involved in the operation, including off-road equipment, as well as removal of trees and other vegetation.

Indirect emissions encompass greenhouse gases that are emitted:

- To provide the project with electricity, including generation and transmission;
- To supply the project with water, including water treatment; and
- To transport and treat solid and liquid waste produced from the project's operations and water to the project's operations and the emissions to transport and process solid.

Construction-related emissions are to be accounted for in the year that they occur.

The threshold does not apply to greenhouse gases that are emitted throughout the life cycle of products that a project may produce or consume, except as identified above as a project's indirect emissions.

The threshold does not apply to residential or commercial development.

All industrial stationary-source projects shall be subject to a numeric, bright-line threshold of 1,000 $MTCO_2e$/year to determine if greenhouse gas emissions constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated. For the purpose of addressing the potential for unmitigated incremental growth, the combined GHG emissions from one or more previous discretionary permit project approvals after adoption of this threshold will be considered in the environmental review of all subsequent discretionary permit applications that, as determined by the County, constitute separate parts or phases of the previously approved projects, including but not limited to:

- Any series of oil and gas production projects under common ownership or control, including related processing and transport operations that are located within the same State-designated oil field, or represent an expansion of any State-designated oil field; and
- Any series of surface mining projects under common ownership or control, including related processing and transport operations, that are located within the same individually designated Surface Mining and Reclamation Act (SMARA) operation, or represent an expansion of any individually designated SMARA operation.

This threshold represents one of several cohesive efforts undertaken by Santa Barbara County to reduce GHG emissions. Those efforts include the ECAP, which seeks to reduce countywide emissions by 15 percent below the 2007 baseline emissions inventory by the year 2020. The ECAP constitutes a local GHG reduction plan that, pursuant to CEQA Guidelines §15183.5(b), allows a CEQA lead agency to determine whether a future project's incremental contribution to the cumulative effect of climate is significant or not, based upon compliance with requirements of the reduction plan. This threshold and the ECAP are intended to complement one another during implementation. Permit approval of future industrial stationary source projects, including the mobile sources associated with an industrial stationary source, would need to demonstrate compliance with the reduction measures of the ECAP that may be applicable to the project, as well as mitigation measures to achieve reductions of emissions to a level below the

recommended threshold of significance where feasible. Quantifiable measures to reduce a project's GHG emissions in compliance with the ECAP may also count towards GHG reductions under this threshold.

4.2.4 Project Impacts and Mitigation Measures

The primary GHG emissions associated with the proposed Project would be the mobile source emissions from the trucking activities. In addition, the Project would involve modifications to the LFC facilities that could generate air emissions which may include GHG components (i.e. CH_4) associated with fugitive component leaks.

All the applicant-proposed avoidance and minimization measures (AMMs) for air quality would also serve to reduce GHG emissions. These AMMs are listed in Table 4.1-10 and cover the use of 2017 or newer model year trucks for hauling the crude oil, which have better fuel efficiency and therefore lower GHG emissions; and various measures to reduce fugitive leaks (see section 4.1, Air Quality for a more detailed discussion of these AMMs). The measures have been included in the GHG emission estimates discussed below.

GHG emissions from the existing equipment at the SYU that would be used to produce and process the crude oil and gas (the Platforms and the LFC equipment), of which the crude oil would be loaded and transported by the proposed Project, would also generate GHG emissions during the proposed Project operational phase. These emissions are discussed in the cumulative section below.

GHG emissions tabulated below are based on the GHG emissions increases associated with the proposed Project.

Impact #	Impact Description	Phase	Impact Classification
GHG.1	Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.	Construction Operations	Class II

Direct Project Sources of GHG

As discussed in Section 4.1, Air Quality, the primary GHG emissions associated with the proposed Project would be emitted by mobile sources associated with the trucking activities. Additionally, the Project would also involve the following modifications to the LFC facilities that would generate air emissions, including GHGs:

- A new truck loading rack with four loading bays to be built at an existing previously disturbed pad at the Las Flores Canyon facility, just north of the existing Transportation Terminal (TT);
- New piping to transport crude oil to the truck loading rack and to transport truck vapors back into the LFC vapor recovery system for processing and use as plant fuel;
- Four Lease Automatic Custody Transfer (LACT) Units installed at the TLA for royalty determination purposes as required by Bureau of Safety and Environmental Enforcement (BSEE); and,
- Associated electrical and communication connections, pipe and equipment supports, operator shelter, paving of selected areas, and minor containment and drainage grading.

As detailed in SB County's Environmental Thresholds and Guidelines Manual, construction related emissions are accounted for in the year which they occur. Non-construction stationary source operational GHG emissions would result from fugitive emissions that contain CH_4 from loading rack operations and

from loading and piping components that could leak. Mobile source GHG emissions would be from the operation of the tanker trucks.

Indirect Sources of GHG

Electricity. The proposed Project would require electricity to power the crude oil pumps, operate communication and metering systems, and for area lighting. Electricity would be provided by the existing Cogen units at the SYU facilities. Emissions for the Cogen units were previously analyzed, permitted and offset and are accounted for in the SYU facility SBCAPCD permits. Therefore, they are not included in this analysis.

Land Use Change and Vegetation Removal. The proposed Project does not involve any land use change or vegetation removal as the loading rack would be located on the existing Truck Loading Area (TLA). No additional processing facilities would be required, and only minor grading would be necessary (up to 500 cubic yards) to prepare the project site.

Increased Production of Crude Oil Supply. The proposed Project would allow the SYU facilities to resume oil production of up to 11,200 barrels per day. The three-year average crude oil production prior to the shutdown of Line 901 the oil production from SYU was 28,400 barrels per day. Therefore, the proposed Project would resume oil production at 37% of the previous production levels. The CARB provides calculations for the carbon intensity of crude oils (Calculation of 2017 Crude Average Carbon Intensity Value, July 2018) and lists an average crude carbon intensity value of 11.93 gCO_2e/MJ (grams CO_2e per energy unit) for average California crude (year 2017) and 5.54 gCO_2e/MJ for Hondo crude oil (year 2012).

The regulatory requirements for GHG emissions in California ensure that operators of oil and gas production have a Cap-and-Trade compliance obligation for their GHG emissions. In addition, any incremental change in life cycle GHG emissions of the overall California crude supply would be subject to the Low Carbon Fuel Standard (LCFS) which provides overall progress towards reducing the full fuel cycle carbon intensity of fuels statewide. SB County's Environmental Thresholds and Guidelines Manual indicates that "The [GHG] threshold does not apply to greenhouse gases that are emitted throughout the life cycle of products that a project may produce or consume, except as identified above as a project's indirect emissions [which include electricity, water and transportation of related substances]." Therefore, estimates of the life cycle GHG emissions are not included in in the estimate of project related GHG emissions.

Project GHG Emissions

Annual GHG emissions in metric tons per year of CO_2e for the proposed Project are listed in Table 4.2-4. Both construction GHG emissions, stationary and mobile source GHG emissions for either proposed route (SMPS and Plains Pentland Terminal) would exceed the Santa Barbara County threshold of 1,000 metric tons per year for CO_2e. Table 4.2-4 includes total GHG emissions for the initial year of operations which includes the emissions associated with the construction of the loading rack facilities, operational stationary source emissions and operational mobile source emissions for each trucking route scenario. The table also includes the GHG emissions for subsequent operational years which includes the stationary and mobile source emissions for each of the two potential trucking routes. Detailed emissions calculations are provided in Appendix B.

Table 4.2-4 GHG Emissions Increases

Emission Source	Annual GHG Tons/Year ($MTCO_2e$)
Construction[1]	540
Operational Stationary Source[2]	34
Operational Mobile Source – Santa Maria Pump Station Route	3,537
Operational Mobile Source – Pentland Station Route	8,875
Project Totals by Year and Trucking Route[3]	
Total Year One Construction with Santa Maria Pump Station Route	4,111
Total Year One Construction with Plains Pentland Terminal Route	9,449
Subsequent Years Total with Santa Maria Pump Station Route	3,571
Subsequent Years Total with Plains Pentland Terminal Route	8,909
SB County CEQA Threshold (Tons/Year)	1,000
Threshold Exceeded? (Pentland/Santa Maria Routes)	**Yes/Yes**

Source: ExxonMobil Air Assessment (2018) with modifications by EIR preparer.
Notes:
1. The emissions from Project construction activities are based on Project specific estimates and include off-road diesel equipment and on-road motor vehicles.
2. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
3. Year one for each route includes construction, stationary and mobile sources, subsequent years include stationary and mobile sources.

Mitigation of the GHG emissions can be achieved through reductions in GHG emissions by obtaining offsets or allowances. With implementation of the mitigation measure GHG-1, GHG emission impacts would be **less than significant with mitigation (Class II)**.

Mitigation Measures

GHG-1 **GHG Emissions Reductions**. The Permittee shall reduce or offset annual incremental greenhouse gas (GHG) emissions from project-related sources. The incremental GHG emissions are those GHG emissions resulting from project construction, operations and related sources. These incremental emissions are estimated to be less than or equal to 9,449 $MTCO_2e$ for the first year and 8,909 $MTCO_2e$ for subsequent years, assuming worst-case simultaneous construction and operation activities, minus the County's threshold of 1,000 $MTCO_2e$ for each applicable year.

The Permittee shall prepare and implement a GHG Reduction and Reporting Plan that describes how annual GHG emissions could be reduced or offset. The Plan shall include provisions for and outline of an annual report to the County that summarizes the emission reduction measures implemented, quantifies the Project-related estimated GHG emissions for the year, and demonstrates the quantity of credits surrendered. Each annual report shall reconcile the actual emissions of the previous year with the mitigation quantity, in terms of $MTCO_2e$. The standard of performance for this mitigation is a reduction or offset of greenhouse gas emissions from Project-related sources at a one-to-one (1:1) ratio.

Onsite GHG reductions should be exhausted to the extent feasible prior to surrendering credits or offsets from offsite projects. If credits are derived from offsite mitigation, preference should be given to those generated in Santa Barbara County. Implementing the required amount of any of the following types of emission reductions shall be an acceptable means of mitigation:

- GHG reductions generated within the County by implementing a GHG reduction project consistent with any methodology approved by either the Santa Barbara County Board of

Supervisors or the Santa Barbara County Air Pollution Control District for the purpose of providing CEQA mitigation.

- GHG reductions represented by registry offset credits listed with and verified by an ARB approved Offset Project Registry pursuant to Section 95980.1 of Title 17, Public Health Code (17 CCR 95980.1).
- GHG reductions represented by registry offset credits listed with and verified by: American Carbon Registry (ACR); Climate Action Reserve (CAR); or Verified Carbon Standard (VCS).
- GHG reductions created as a result of complying with Cap-and-Trade Program requirements related to stationary source emissions, as evidenced by the Permittee making auction purchases of State-owned Cap and-Trade Program Allowances or ARB offset credits issued pursuant to Section 95981.1 of Title 17, Public Health Code (17 CCR 95981.1). Note that reductions to any onsite GHG reductions (such as reduced use of combustion equipment) will go towards reducing the stationary source's Cap and Trade obligation, and therefore are not applicable to mobile source GHG reduction credit.

Freely allocated allowances held by the Applicant and allowances purchased by the Applicant from entities other than the State of California shall not be used as mitigation under this measure because they are tradable compliance instruments for the Cap-and-Trade Program.

If the Permittee has made auction purchases of State-owned Cap-and-Trade Program allowances to comply with Cap-and-Trade Program requirements and it has transferred funds to the State (e.g., for deposit into the Greenhouse Gas Reduction Fund (GGRF) for statewide GHG reductions), the levels of GHG offsets needed for mitigation under this measure may be reduced by the quantity of previously State-owned allowances purchased by the Permittee. The Permittee's demonstration of making auction purchases to fund acceptable mitigation shall occur in the GHG Reduction and Reporting Plan annual report after the applicable Cap-and-Trade compliance period, and the demonstration may rely on publicly available reports.

General criteria for acceptable credits include:

- Real: emission reduction must have actually occurred, as the result of a project yielding quantifiable and verifiable reductions or removals.
- Additional or Surplus: an emission reduction cannot be required by a law, rule, or other requirement.
- Quantifiable: reductions must be quantifiable through tools or tests that are reliable, based on applicable methodologies, and recorded with adequate documentation.
- Verifiable: The action taken to produce credits can be audited and there is sufficient evidence to show that the reduction occurred and was quantified correctly.
- Enforceable: An enforcement mechanism must exist to ensure that the reduction project is implemented correctly.
- Permanent: Emission reductions or removals must continue to occur for the expected life of the reduction requirement.

PLAN REQUIREMENTS: The GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by the Permittee, must be supported by a demonstration to P&D that the GHG reduction is real, additional, quantifiable, permanent, verifiable, and enforceable.

TIMING: The GHG Reduction and Reporting Plan shall be reviewed and approved by P&D, in consultation with the SBCAPCD, prior to issuance of the Zoning Clearance. The necessary annual quantity of verified credits under this plan shall be surrendered prior to April 15 of each calendar year following the year of initiating construction.

MONITORING: P&D, in consultation with the SBCAPCD, will review and approve the GHG Reduction and Reporting Plan and any proposed GHG reduction credits prior to their use as mitigation. Subsequent annual reporting of GHG emissions and reduction/offset measures implemented will be reviewed and approved by P&D in consultation with the SBCAPCD.

Impacts of Mitigation Measures

The GHG-1 mitigation measure would involve obtaining offsets from other locations and would therefore not impact issues areas associated with the proposed Project. An option associated with mitigation measure AQ.1 is the use of CNG trucks, which, as per information from EMFAC2017 for recent model year diesel trucks and the Cummins CNG engines, may increase GHG emissions associated with trucking by about 14 percent. As these emissions would need to be offset as per GHG.1, this would not affect the level of impacts.

Potential Impact to Current Trucking to SMPS

The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed in Section 4.4, Transportation and Circulation, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 138 trucks per day. About 67% of these truck come from the east, which are delivering crude from the San Juaquin Valley and are likely using State Route 166 as a travel route. Some of these trucks could also be using State Route 46. The average round trip travel distance for trucks coming from the East (San Joaquin Valley) is about 255 miles compared with 108.4 miles for the proposed Project.

At this current volume of truck deliveries, the SMPS would be able to handle about 32 trucks per day from the proposed Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude coming from the east due to the higher transportation costs. The proposed Project would need to displace about 38 truck per day from the east for all 70 trucks per day to go to the SMPS.

This longer travel distance for the trucks from the east increases the transportation cost of delivering the crude to the SMPS. There would be an economic incentive for Phillip 66, to displace trucks from the east (San Joaquin Valley crude oil) with crude from the proposed Project due to the lower transportation costs. Displacing 38 trucks per day coming from the east with 70 trucks per day from the proposed Project would reduce GHG emissions by about 22 percent or 424 $MTCO_2e$ per year.

While is likely that crude oil from the proposed Project would displace crude oil coming from the east, there is no guarantee that this would happen. Therefore, no reduction in the project GHG impacts has been considered for this potential displacement.

Impact #	Impact Description	Phase	Impact Classification
GHG.2	Project GHG emissions conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	Construction Operations	Class III

California's regulatory setting for GHG emissions ensures that most of the existing and foreseeable GHG sources in the business of oil and gas production are subject to one or more programs aimed at reducing GHG emission levels. There are numerous regulatory requirements and programs in California which cover many aspects of the permitted facility operations, some of which are applicable to the proposed Project. The primary requirements for the proposed Project would include the CARB GHG Emission Standards for Crude Oil and Natural Gas Facilities (leak detection and repair), which would be implemented and enforced by the SBAPCD, and the CARB Mandatory Reporting Rule; low carbon fuel standards, and the Cap-and-Trade Program.

The Low Carbon Fuel Standard (LCFS) is applicable to the permitted SYU operations as it affects the carbon intensity of the diesel fuels used in the trucks used to transport crude oil. The requirements within the LCFS require fuel suppliers to reduce the full fuel-cycle, carbon intensity of transportation fuels with a lowering of a fuels "carbon-intensity" over time. The LCFS applies to all providers of transportation fuels (diesel and gasoline) in California.

Although end-users of oil and gas resources, such as gasoline and diesel fuel users, do not directly bear a compliance obligation under Cap-and-Trade, all fuel suppliers must cover the end-user's GHG emissions with appropriate compliance "offsets" as a part of the Cap-and-Trade program. Therefore, all gasoline and diesel fuel sold in California is currently addressed by both the LCFS and the Cap-and-Trade program.

Similarly, electricity in California is subject to the Renewable Portfolio Standard (as the RPS is codified pursuant to SB 350 & SB 100). California's GHG reduction strategies are on target to achieve GHG reductions by 2020, and ARB has adopted the plan to maintain and continue reductions from all sectors of the economy beyond 2020 to 2030.

County policies do not address GHGs from industrial stationary sources such as those making up the majority of the proposed Project-related GHG emissions, as these are outside the scope of the County's Energy and Climate Action Plan. The County of Santa Barbara Long Range Planning Division ECAP scope is limited and does not include portions of the unincorporated county that are within state and federal lands and waters or incorporated areas within Santa Barbara County, such as the City of Santa Barbara, or many stationary source projects, including the proposed Project. The ECAP specifically states that "*Certain projects, such as stationary industrial sources, are not covered under the ECAP and would be subject to CEQA thresholds and/or project-specific analysis*." In addition, the GHG inventory indicates the following: "*The County's authority to influence or regulate some of these larger facilities may be limited since many are regulated by federal and state agencies or the Santa Barbara County Air Pollution Control District. Therefore, these emissions are not included in the County's GHG reduction target-setting considerations*." Also, as the ECAP has programmatic measures to be applied to ECAP-covered projects, the County's interim GHG thresholds no longer apply to projects covered by the ECAP. As the ECAP states, "*Certain projects, such as industrial stationary sources and certain commercial or residential projects outside the scope of this ECAP, will continue to be subject to GHG thresholds and/or project-specific analysis*." Therefore, the ECAP measures and compliance with the ECAP are not applicable to the proposed Project and the source-specific GHG thresholds, and other State-wide plans as discussed above, are applicable instead.

Given the oversight of project-related sources and progress of California's ongoing efforts to implement policies and a regulatory setting for reducing GHG emissions, the proposed Project is not likely to conflict

with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and would comply with the policies by utilizing diesel fuel and gasoline that is covered by the existing programs (LCFS and Cap-and-Trade). In addition, with the implementation of mitigation measure GHG-1, the proposed Project total emissions would be below the County's threshold and the GHG emissions associated with the proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, therefore, impact GHG-2 would be a **less than significant impact (Class III).**

Impact #	Impact Description	Phase	Impact Classification
EC.1	Project energy use would result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources.	Construction Operations	Class III

In order to ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a 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)). As stated in Appendix F of the State CEQA Guidelines, "Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project."

California production of crude oil per year has been in decline since 1986, when production peaked at slightly over 400 million barrels. The decline has averaged about 1.7% per year since 1995. More recently, the decline has averaged over 3% annually since the year 2000. The combination of declining California and Alaska North Slope production along with a relatively constant, flat demand for crude oil in California has resulted in an increase in foreign crude oil imports. Between 2000 and 2017 the foreign crude supply to California refineries has increased from 25.7% to 56.6% (CEC 2018).

The supply of crude oil in California is driven by the demand for refined products (gasoline, diesel and jet fuel). Currently, the demand for refined products is met through supply by way of California refineries of crude oil from California domestic production, foreign imports of crude oil, imports of crude oil from Alaska, crude oil brought to California by truck or rail, and imports of refined products. There are currently no crude oil pipelines which bring crude oil into California. The only sources of crude oil to meet refinery crude oil demand are from California production, Alaska production, other North American production that is delivered by truck or rail, or from foreign sources brought into ports by tanker ships.

The proposed Project would allow the SYU facilities to restart, which would result in a return of local crude oil supplies to California. The proposed Project would allow for the production of 11,200 barrels per day of crude oil that would be supplied to local California refineries. This would increase local and regional supplies of crude oil and would likely displace some foreign imported oil. The amount of foreign imports that might be displaced is unknown due to the elasticity of crude supply and demand.

Construction of the truck loading facilities would involve mainly the use of diesel driven construction equipment would take approximately four to six months. The estimated fuel use for the construction equipment would be about 8,800 gallons of diesel fuel. All major pieces of construction equipment would be registered under the State Portable Equipment Registration Program (PERP).

Under the proposed Project, the largest energy consumer would be the trucks transport the crude oil. The Applicant has proposed to use trucks that would be 2017 or newer, which would meet the more stringent truck fuel standard. For these trucks the estimated average fuel consumption would be around 7.1 miles

per gallon. The daily fuel consumption if all 70 truck went to the SMPS would be approximately 1,100 gallons per day. If all 68 trucks went to the Plains Petland Terminal, the daily fuel consumption would be approximately 2,700 gallons.

Implementation of mitigation measure RISK-2 would serve to reduce fuel use by the trucks. The use of speed limiters, driver training and GPS systems could reduce fuel use by about 15% from the number presented above (University of Michigan, 2016).

Electrical power need for operating the truck loading facilities would come from the LFC cogeneration system so no additional demand would be placed on the local electrical grid.

The proposed Project would consume fossil fuels but would not be expected to exceed the State's capacity to meet the demand for diesel fuel. In 2018, the refineries in the State produced about 3.8 billion gallons of CARB diesel fuel (CEC 2019). For the proposed Project the peak fuel demand would represent less than 0.03% of the diesel supply generated by the State's refineries in 2018. In addition, the use of 2017 or newer model tanker trucks would meet the more stringent truck fuel standard, and all diesel fuel used by the proposed Project would have to meet the California diesel fuel standard. The California diesel fuel program set stringent standards for California diesel that produced emission reductions from diesel-powered vehicles. The diesel fuel program set specifications for aromatic hydrocarbons and sulfur and a lubricity standard (CARB 2019).

Based upon the discussion above, energy use by the proposed Project would not result in any significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. Therefore, the impacts on energy conservation would be **less than significant (Class III)**.

4.2.5 Cumulative Effects

As per SB County's Thresholds and Guidelines Manual, "Climate change under CEQA differs from most other types of impacts in that, by definition, it is only examined as a cumulative impact". Impacts from GHGs are not limited to the areas where they are generated.

4.2.5.1 Other Cumulative Projects Construction

The proposed Project construction emissions exceed SB County's thresholds for Greenhouse Gases (Table 4.2-4) but with Mitigation Measure GHG-1, emissions would be reduced to below the threshold. Cumulative projects listed in Chapter 3 would all be required to comply with existing plans and programs, such as Cap-and-Trade either directly or indirectly and, for non-residential and non-commercial projects, would be subject to the thresholds described in this section. By complying with these existing plans, programs and thresholds, by definition, there would be no cumulative impacts. Therefore, the proposed Project's contribution to cumulative GHG emissions associated with construction activities would be less than significant.

4.2.5.2 Other Cumulative Projects Operations

The proposed Project stationary source and mobile source operational emissions would exceed the thresholds but would be mitigated through Mitigation Measure GHG-1. Chapter 3.0, Cumulative Scenario, lists a number of projects, including the three proposed crude oil development projects in Northern Santa Barbara County, that would also produce GHG emissions. The major proposed oil development projects in Cat Canyon (ERG, Aera, and PetroRock) would add about 704,417 $MTCO_2e$ during the peak year of operation (SBC 2018). This number reflects the most conservative scenarios by adding together the peak

emission years for operations. The actual operational emissions are expected to be much lower on an annual basis. The proposed Project's peak GHG emissions would be about 8,900 $MTCO_2e$ associated with the trucking and crude loading operations during a normal trucking year.

For comparison with past emissions, these cumulative projects would add to the baseline GHG inventory of approximately 1.5 $MMTCO_2e$ in the unincorporated areas of Santa Barbara County, based on data published in the ECAP for 2007 showing 1,192,970 $MTCO_2e$ under County jurisdiction and 315,890 $MTCO_2e$ from stationary sources under APCD jurisdiction. All the cumulative projects would be required to comply with existing plans and, for non-residential and non-commercial projects, would be subject to the County thresholds described in this section.

4.2.5.3 SYU Cumulative Activities

Restart of the SYU facilities would generate GHG emissions. However, these emissions associated with the restart would be about 40-50% of the pre-shutdown emissions due to the lower oil production rates. With the restart and operation of the SYU facilities at 11,200 bpd of crude combined with the trucking GHG emissions, the total SYU project GHG emissions would be less than the baseline. GHG emissions from the LFC facilities have been permitted and are covered under the State cap-and-trade program.

Prior to the shutdown of the LFC facilities the oil produced from the SYU was transported via pipeline to various refinery destination in California where it was refined into transportation fuels like gasoline, diesel, or jet fuel, and other petroleum-based end use products like lubricants, asphalt, or synthetic materials. With the shut-in of the LFC facilities and the SYU in 2015, other sources of crude, likely from foreign sources, replaced this supply in the California market. Figure 4.2-2 shows the crude supply sources to California Refineries between 2000 and 2017. As this figure shows, the swing crude for California is foreign crude, which has increased from 25.7% to 57.5% of total supply to California refinery between 2000 and 2018 (CEC 2019).

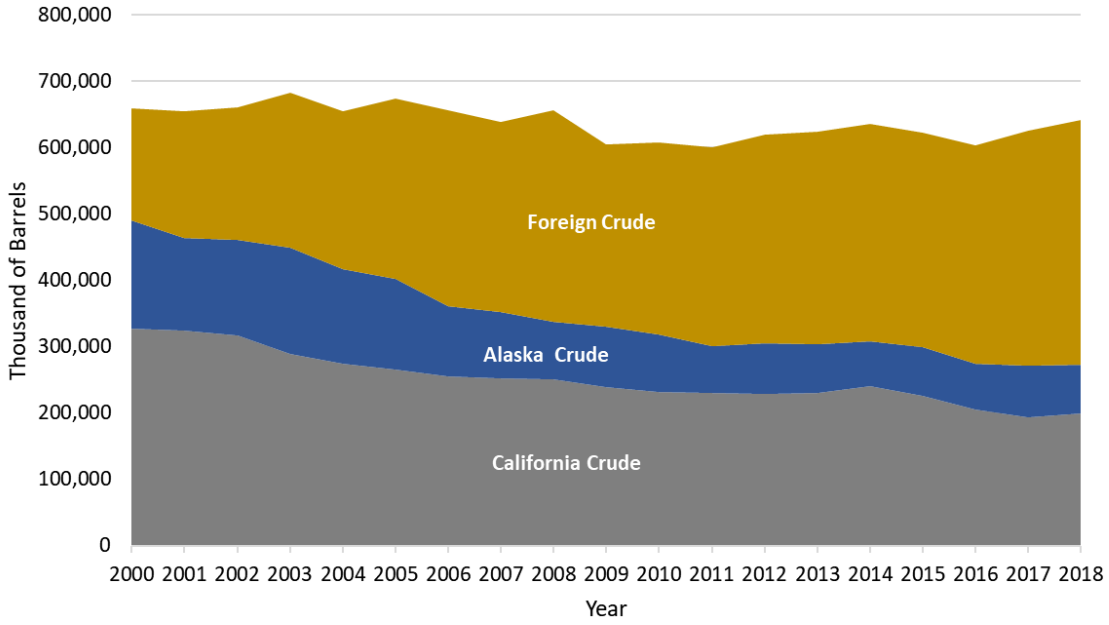
The proposed Project would allow for the restart of the LFC facilities and production at the SYU, which would return some of this local crude oil production to the California refinery market. It is likely that the return of SYU crude to the California market would displace some imported foreign crude, thereby reducing GHG emissions from tankering. However, the amount of GHG emission reduction is speculative since it is unknow what foreign supply source would be displaced, the size of the tankers that could be affected or exactly how much foreign crude would be displaced due to the elasticity of crude supply and demand.

Through the implementation of Mitigation Measure GHG-1 the proposed Project's contribution to cumulative GHG emissions associated with operational activities would not be cumulatively significant.

4.2.5.4 End Use GHG Emissions

The SYU crude oil would serve a large and existing demand for petroleum products in California, and the market demand would continue to be served through California's existing pipeline, refining, and distribution infrastructure. The restart of oil production at the SYU would not require or create any new markets or use of new or different refineries or refining methods from those that exist today to serve California's end use demand for transportation fuels. The overall consumption of fuels and other petroleum products by end-users would likely not change as a result of the restart of the SYU facilities since the production would represent less than 0.65 percent of the daily 2018 supply.

Figure 4.2-2 Crude Supply Sources to California Refineries



Source: California Energy Commission 2019.

4.2.6 Mitigation Monitoring Program

Table 4.2-5 Mitigation Monitoring Program

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
GHG-1	GHG Reduction Plan	Obtain documentation of GHG reductions or surrendered GHG offset credits	Applicant submits evidence of GHG reductions or surrendered GHG offset credits	County reviews Applicant evidence of reducing GHG or surrendering GHG offset credits	Reduce GHG or obtain and surrender GHG offset credits

4.2.7 References

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4.3 Hazardous Materials and Risk of Upset

This section describes environmental and regulatory settings related to hazardous material and risk of upset; identifies hazardous material and risk of upset impacts of the proposed Project and cumulative impacts from this and other projects in the region; and provides mitigation measures to reduce those impacts.

The proposed Project, which involves the trucking of crude oil from the Las Flores Canyon (LFC) facility to receiving terminals in Santa Maria and/or Maricopa, would not involve the use of any hazardous materials other than the crude oil. The risk of upset analysis addresses potential failure and accidents associated with the crude oil loading operations in LFC as well as trucking accidents along the proposed truck routes. The analysis addresses the impacts associated with oil spills, fires and flammable vapors. Impacts to biological, water and cultural resources are discussed in this section as it relates to oil spills.

The impacts from fires and flammable vapors that could result from a truck accident are based upon a Transportation Quantitative Risk Assessment (TQRA) prepared by the Applicant. Technical documents related to risk of upset are provided in Appendix C. This analysis is intended to provide a reasonable worst-case scenario of potential risk of upset impacts resulting from the proposed activities and recommends mitigation to reduce any significant impacts to less than significant levels.

For a list of references used in the preparation of this section, please refer to Section 4.3.6, References.

4.3.1 Environmental Setting

This section discusses the environmental setting for the SYU project and the proposed truck routes. Section 4.5.1 provides the environmental setting for traffic along the proposed truck routes.

4.3.1.1 Hazardous Materials from LFC Operations

Various hazardous materials are used as part of the operations of the LFC facilities. The Applicant is required to prepare a Hazardous Material Business Plan that provides an inventory of the hazardous materials. This plan is submitted to the Santa Barbara County Fire Department. The hazardous materials stored onsite in large quantities include, crude oil, propane, ammonia, hydrochloric acid, sulfur, and sodium hydroxide.

4.3.1.2 Risk of Upset from SYU Operations

The major risk of upset events associated with the SYU operations are crude oil spills and releases of produced gas. These risk of upset events were evaluated in the previous environmental impact reports prepared for the SYU project (Environmental Impact Statement/Report (EIS/EIR) Sant Ynez Unit/Las Flores Canyon Development and Production Plan [June 1984] and Supplemental Environmental Impact Report (SEIR) Exxon Santa Ynez Unit Project [August 1986]).

Offshore Platforms

Between May 2010 and May 2015 there were a total of 10 reportable spills from the offshore portion of the SYU project. These are listed in Table 4.3-1. The total volume of oil spilled from these reportable releases was approximately 0.0015 barrels (0.063 gallons). One of the releases was a chemical spill with an approximate volume of 0.0001 barrels (0.0042 gallons).

Table 4.3-1 Reportable Offshore Spills from SYU Operations (May 2010 through May 2015)

Date Occurred - Incident	Release Type	Primary Medium	Chemical Spill Vol. Released, bbls	Oil Spill Vol. Released, bbls	Executive Summary
6/21/2010	Oil	Surface Water-Offshore	0	0.0002	A fusible loop inadvertently parted, activating the platform deluge system. The water from the deluge swept residual light hydrocarbon through a deck penetration.
7/7/2010	Oil	Surface Water-Offshore	0	0.0001	Pin-hole leak at deck penetration on low pressure drain header upstream of low pressure sump vessel.
7/11/2010	Oil	Surface Water-Offshore	0	0.0004	Condensed water from air conditioning unit leaked on decking and picked up a small amount of oil and then leaked into water.
10/20/2011	Oil	Surface Water-Offshore	0	0.0002	A contract ROV lost power under the facility and light oil droplets appeared on the surface causing a very light sheen.
10/24/2011	Oil	Surface Water-Offshore	0	0.0001	While making repairs to an ROV aboard the dive boat, a small amount of hydraulic fluid leaked onto deck of the vessel and was washed overboard by passing crew boats.
12/17/2011	Oil	Surface Water-Offshore	0	0.0002	The diesel tank on an engine driven fire water pump was being filled. The sight glass was restricted and diesel overflowed out of the atmospheric vent into the water.
4/22/2012	Chemical	Surface Water-Offshore	0.0001	0	Pin hole leak at deck penetration on vent line coming off glycol sump vessel.
1/26/2013	Oil	Surface Water-Onshore	0	0.0001	Small amount of diesel from generator line rupture.
2/13/2013	Oil	Surface Water-Offshore	0	0.0001	While depressuring accumulator bottle, small amount of hydraulic fluid blew into the ocean.
4/22/2013	Oil	Surface Water-Offshore	0	0.0001	Droplets of lubricant expelled from wireline lubricator and fell into water.

Source: ExxonMobil 2018.

The 1984 EIR identified a number of risk of upset events for the offshore SYU operations. Table 4.3-2 provides a list of the potential major risk of upset events identified for the offshore SYU operations. Most of these are related to oil spills that could occur from well blowouts or equipment failures. The largest identified potential risk of upset oil spill was 1,000,000 barrels, which was associated with a subsea blowout.

Table 4.3-2 Baseline Risk of Upset Events for Offshore SYU Operations

Event	Worst Case Consequence	Likelihood Range (frequency per year)
Ship Hits Platform (major)	500,000 bbls Oil Spilled	10^{-4} to 10^{-6}
Ship Hits Platform (minor)	15,000 bbls Oil Spilled	10^{-2} t0 10^{-4}
Blowout on Platform (major)	500,000 bbls Oil Spilled Possible H_2S Release	10^{-4} to 10^{-6}
Blowout on Platform (minor)	15,000 bbls Oil Spilled Possible H_2S Release	10^{-2} t0 10^{-4}
Subsea Blowout (major)	1,000,000 bbls Oil Spilled	10^{-4} to 10^{-6}
Subsea Blowout (minor)	3,000 bbls Oil Spilled	10^{-2} t0 10^{-4}
Emulsion Pipeline/Riser Rupture	15,000 bbls Oil Spilled	10^{-2} t0 10^{-4}
Gas Pipeline/Riser Rupture	60 tons Flammable/ Toxic Gas Release	10^{-2} t0 10^{-4}

Source: Science Application, Inc. 1984

Table 4.3.3 provides data on oil spill rates for all Outer Continental Shelf (OCS) platforms over a 41-year period. The spill rates are within the frequency ranges used in the 1984 EIR for spills 15,000 barrels or smaller. Between 1964 and 2015, OCS operations in the Pacific and Gulf of Mexico have produced just under 20.7 billion barrels of oil. This activity has taken place on over 4,000 platforms operating for a combined total of 151,000 operating years (ABS Consulting 2016).

Table 4.3-3 OCS Platform and Pipeline Spill Rates (1974-2015)

Spill Size	Oil Handled (Billion bbls)	Platform Spills		Pipeline Spills	
		# Spills	Spills/billion barrels handled	# Spills	Spills/billion barrels handled
≥1,000 bbls	17.9	2	0.11	10	0.56
≥10,000 bbls	17.9	1	0.06	3	0.17

Excludes hurricane spills
Source: ABS Consulting 2016

Las Flores Canyon (LFC)

Between May 2010 and May 2015 there were no reportable spills at LFC. The 1984 EIR and 1986 SEIR identified a number of risk of upset events for the LFC operations. Table 4.3-4 provides a list of the potential major risk of upset events identified for the LFC operations.

Table 4.3-4 Baseline Risk of Upset Events for Las Flores Canyon Operations

Event	Worst Case Consequence	Likelihood Range (frequency per year)
Oil Tank Spill (major)	250,000 bbls Oil Spilled	10^{-4} to 10^{-6}
Oil Tank Spill (minor)	44,000 bbls Oil Spilled	10^{-2} t0 10^{-4}
NGL Tank Rupture	2,000 bbls NGL Spilled	10^{-4} to 10^{-6}
NGL Tank Leak	1,000 bbls NGL Spilled	10^{-2} t0 10^{-4}
NGL Truck Spill (major)	Full Volume of Truck	10^{-4} to 10^{-6}
NGL Truck Spill (minor)	Minimal NGL Spill	10^{-2} t0 10^{-4}
Ammonia Release[1]	Full Tank Release	10^{-4} to 10^{-6}

Source: Science Application, Inc. 1984 and ADL 1986.
1. Likelihood range is an MRS Environmental estimate. Not estimated in previous EIR or SEIR.

The potential major risk of upset events are related to spills of oil, natural gas liquids (NGL) releases, and ammonia releases. The largest identified risk of upset oil spill was 250,000 barrels from a crude oil tank spill.

Portions of the LFC facility are subject to the California Accidental Release Prevention Program (CalARP). In Santa Barbara County this program is administered by the County Department of Environmental Health. CalARP is the Federal Risk Management Plan Program with additional state requirements. The major risk of upset hazards identified in the most recent SYU CalARP documents were a release of ammonia from the storage tank, and a release of flammable gas from the crude oil treating plant. For the Pacific Offshore Pipeline Company (POPCO) gas plant, the release scenarios identified in the most recent CalARP document were a release of natural gas liquids from the processing facility.

4.3.1.3 Fire Protection

LFC is within a high fire hazard area (see Figure 8, p. 23, 2017 SBCFD Unit Strategic Fire Plan). High fire hazard areas are those regions of the County which are exposed to significant fuel loads, such as large areas of undisturbed native or naturalized vegetation or areas which, due to location, have less than optimal fire response times.

LFC falls within the jurisdiction of the Santa Barbara County Fire Department and is served by County Fire Station 18, which is located at 17200 Mariposa Reina Gaviota. Station 18 is about 12 miles, or approximately 20 minutes, from the LFC facilities. The two other closest County Fire Stations are Station 11 at 6901 Frey Way Goleta, and Station 14 at 320 Los Carneros Goleta. Both station are about 14 miles from the LFC facilities and have similar travel times as Station 18.

The LFC facilities have an Integrated Fire Protection Plan that is reviewed and approved by Santa Barbara County on a regular basis. The facilities are equipped with a fire protection water system that includes water storage tanks, fire pumps, fire service water mains and fire hydrants. The facility has several fixed fire protection systems including automatic fire sprinklers, deluge systems, foam systems, and gaseous extinguishing systems. The facility is also equipped with various manual firefighting equipment. The LFC facilities are also equipped with a hazards monitoring system, that includes fire, combustible gas and toxic gas alarms. Three types of fire detectors are used. These are ultraviolet (UV), thermal, and smoke (ionization).

The LFC facilities maintain a Wildland Fire Protection Plan. The natural vegetation in the area of the LFC facilities is dominated by chaparral, coastal sage scrub, riparian woodland, and grasslands. This represents a high fire hazard during the normal seasonal dry weather cycles experienced on the south coast. The Wildland Fire Protection Plan requires that the Applicant maintains native plant communities within the LFC facilities. Fires in the developed areas could spread to the brush and threaten the nearby watershed. Flammable vegetation along the facility perimeter and access roads are mowed to approximately 6 inches in height and 10 feet away from the roads to minimize the potential spread of fires within the facilities to the undeveloped portion of the property.

Wildland fires could originate outside the developed areas of the LFC area which may threaten the process equipment, structures and other developed features. A Vegetation Management Plan is used to reduce the potential exposure of the developed site from wildland fires threatening the facilities. Additionally, there are various measures that are employed to protect the LFC facilities from wildland fires.

These measures include but are not limited to:

- Posting of fire watches,
- Extinguishing embers,
- Activating fire monitors to create water curtains,
- Using water spray and deluge system to keep facilities cool and having site personnel wet down critical areas.

4.3.1.4 Biological Resources Along Trucking Routes

The proposed primary trucking route will utilize existing roads and highways from the Las Flores Canyon facility south to Highway 101, turns west onto Highway 101 following the coastline to Gaviota where it turns north to Santa Maria and the P66 Santa Maria Truck Rack facility. The proposed secondary trucking route would follow the same roadways but then continues north along Highway 101 and turns onto Route 166 east to the to the Plains All American Pentland Pump Station in Maricopa (see Figure 2-4 in Section 2.0 Project Description).

A variety of sensitive biological resources that have the potential to occur along the transportation route were identified by using the following sources:

- The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation online system for project planning was queried to identify federal-listed species, including species included under the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA), and designated critical habitat managed by the USFWS (USFWS 2018).
- The National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) National Marine Fisheries Service (NMFS) website was queried to identify federal-listed species, essential fish habitat, and designated critical habitat managed by NMFS (NMFS 2018).
- The California Natural Diversity Database (CNDDB) was queried to identify all sensitive biological resources that have been recorded within 500 feet on each side of the transportation routes, including species managed by the California Department of Fish and Wildlife (CDFW) (CDFW 2018a).
- The Santa Barbara County Gaviota Coast Plan (SBC 2016) was reviewed to identify ESHAs that may be affected within Santa Barbara County, the southern portion of the route.
- The California Essential Habitat Connectivity Project (CEHC), , which provides the best available data describing important areas for maintaining connectivity between large blocks of land for wildlife corridor purposes (CDFW 2018b; Spenser e al 2010) .

Because the analysis of impacts to these resources is limited to available data, the documented occurrences are only intended to serve as an estimate for the baseline for describing the potential impact to resources that could occur under an upset scenario, including fire or oil spill. In addition to these resources, it is reasonable to assume that there are additional sensitive biological resources that are not currently mapped along the entire route for various reasons such as private property constraints. In addition, a variety of habitats are likely present along the transportation routes that may not be identified as a unique or special status habitat but serve as suitable habitat to a wide range of wildlife species for the purposes of foraging and breeding.

Special Status Plant Species

Based on the database query along the transportation routes, there are currently a minimum of 26 sensitive plant species occurrences documented within 500 feet of the routes, which are listed in Table 4.3-5 below. Figure 4.3-1 depicts the CNDDB Botanical Occurrences that have been reported as occurring along the transportation route.

Table 4.3-5 Special Status Plant Species Potentially Present along the Trucking Route

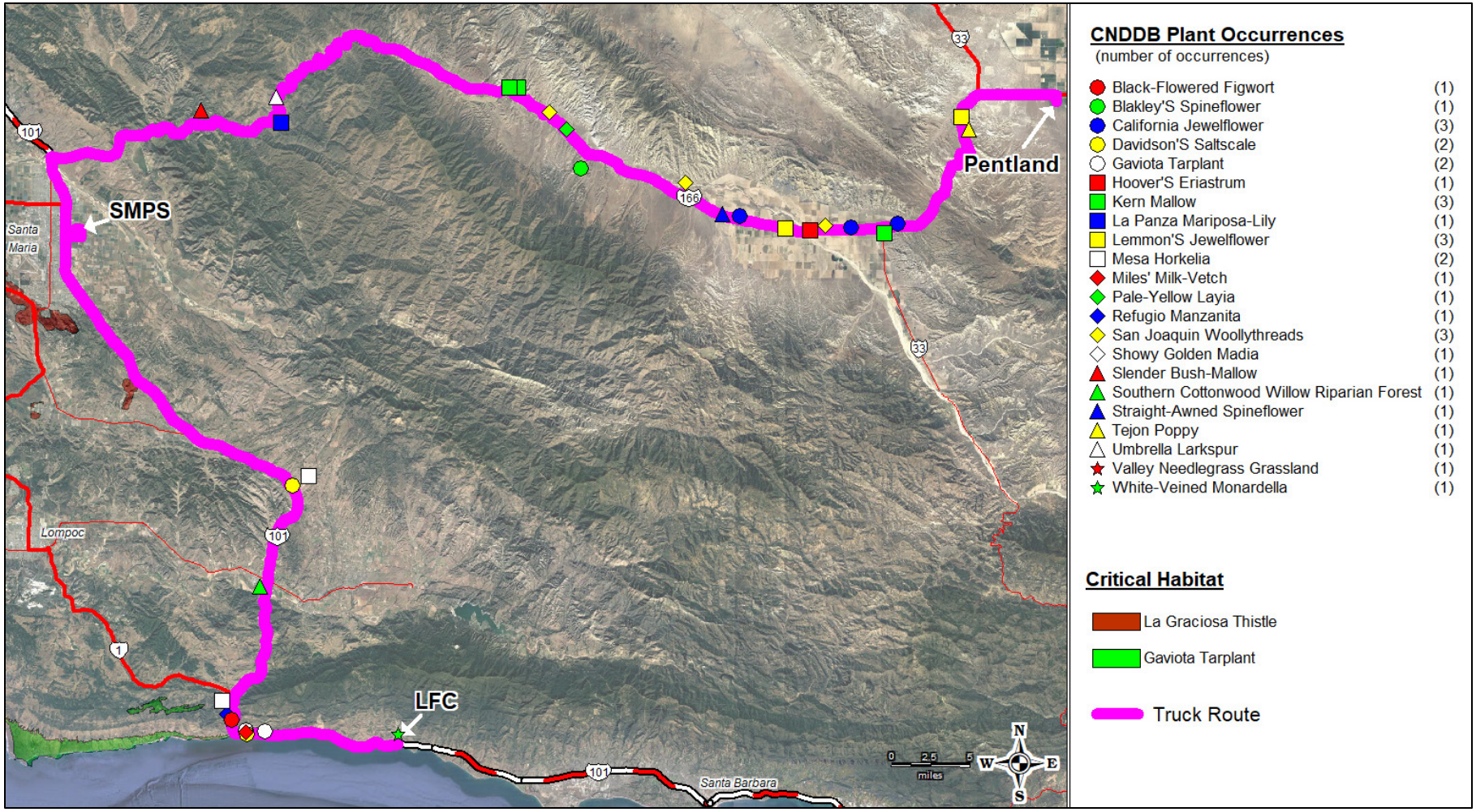
Species Name	Common Name	Status Fed/State/CRPR
Arctostaphylos refugioensis	Refugio manzanita	-/-/1B.2
Arenaria paludicola	marsh sandwort	FE/-/1B.1
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	-/-/1B.2
Atriplex serenana var. davidsonii	Davidson's saltscale	-/-/1B.2
Calochortus simulans	La Panza mariposa-lily	-/-/1B.3
Caulanthus californicus	California jewelflower	FT (CH)/SE/1B.1
Caulanthus lemmonii	Lemmon's jewelflower	-/-/1B.2
Chorizanthe blakleyi	Blakley's spineflower	-/-/1B.2
Chorizanthe rectispina	straight-awned spineflower	-/-/1B.3
Cirsium scariosum var. loncholepis	La Graciosa thistle	FE (CH) /ST/1B.1
Cordylanthus maritimus ssp. maritimus	Salt marsh bird's-beak	-/SE/1B.1
Deinandra increscens	Gaviota tarplant	FE (CH) /SE/1B.1
Delphinium umbraculorum	umbrella larkspur	-/-/1B.3
Eremalche psrryi ssp. kernensis	Kern mallow	FE/-/1B.2
Eriastrum hooveri	Hoover's eriastrum	-/-/4.2
Eriodictyon capitatum	Lompoc yerba santa	FE (CH) /CR/1B.2
Eschscholzia lemmonii ssp. kernensis	Tejon poppy	-/-/1B.1
Horkelia cuneata var. puberula	mesa horkelia	-/-/1B.1
Layia heterotricha	pale-yellow layia	-/-/1B.1
Madia radiata	showy golden madia	-/-/1B.1
Malacothamnus gracilis	slender bush-mallow	-/-/1B.1
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	-/-/1B.3
Monolopia (=Lembertia) congdonii	San Joaquin woollythreads	FE/-/1B.2
Nasturtium (=Rorippa) gambelii	Gambel's watercress	FE/ST/1B.1
Navarretia fossalis	Spreading navarretia	FT/-/1B.1
Scrophularia atrata	black-flowered figwort	-/-/1B.2

Notes:
Federal Rankings (USFWS): FE = Federally Listed as Endangered; FT = Federally Listed as Threatened.
State Rankings (CDFW): SE = State Listed as Endangered; ST = State Listed as Threatened; SR = State Listed as Rare.
California Rare Plant Rank (CRPR: CDFW, CNPS): 1B = Rare or endangered in California and elsewhere, 2B = Rare or endangered in California more common elsewhere, 4= Limited Distribution (a watch list); Sub-categories: .1 = Seriously endangered in California (over 80 percent of occurrences threatened / high degree and immediacy of threat), .2 = Fairly endangered in California (20 to 80 percent occurrences threatened), .3 = Not very endangered in California (less than 20 percent of occurrences threatened or no current threats known).

For the purposes of this section, sensitive plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5).

Figure 4.3-1 CNDDB Botanical Occurrences along the Trucking Routes



Aerial Source: Google Earth Aerial Data CSUMB SFML, CA OPC, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Image c2018 DigitialGlobe.
CNDDB and Critical Habitat Overlay Sources (accessed July 2018): CDFW (CNDDB): https://map.dfg.ca.gov/rarefind/view/RareFind.aspx; NOAA Fisheries/NMFS: http://www.nmfs.noaa.gov /pr/species/criticalhabitat.htm; USFWS: https://ecos.fws.gov/ecp/report/table/critical-habitat.html

- Plants that meet the definitions of rare or endangered species under the California Environmental Quality Act (CEQA) (State CEQA Guidelines, §15380).
- Plants included on the California Rare Plant Rank (CRPR) List (California Department of Fish and Wildlife [CDFW], 2018, and California Native Plant Society [CNPS], 2018).

Special Status Animals Species

For the purposes of this section, special-status animal species are defined as the following:

- Animals listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that meet the definitions of rare or endangered species under the CEQA (State CEQA Guidelines, §15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Animal species that are fully protected in California (California Fish and Game Code, §3511 [birds], §4700 [mammals], and §5050 [reptiles and amphibians]).
- Animal species of special concern to the CDFW (CDFW 2018).

Special status animal species include aquatic, semi-aquatic, and terrestrial animal species. Based on the database query for the transportation routes 45 special status animal species occurrences have been documented within 500 feet of the transportation routes (Table 4.3-6). Figure 4.3-2 depicts the locations of special status animal species that have been reported as occurring along the transportation routes.

Table 4.3-6 Special Status Wildlife Species Potentially Present along the Trucking Route

Species Name	Common Name	Status Fed/State/Other
Insects		
Bombus crotchii	Crotch bumblebee	-/-/SA
Danaus plexippus pop. 1	monarch – CA overwintering population	-/-/SA
Euphilotes battoides allyni	El Segundo blue butterfly	FT(PCH)/-/-
Euproserpinus euterpe	Kern primrose sphinx moth	FT(PCH)/-/-
Crustaceans		
Branchinecta lynchi	Vernal pool fairy shrimp	FT(CH) /-/-
Fish		
Acipenser medirostris	Green sturgeon	FT/-/-
Eucyclogobius newberryi	Tidewater goby	FE(CH)/-/SSC
Gasterosteus aculeatus	Unarmored threespine stickleback	FE/SE/FP
Hypomesus transpacificus	Delta smelt	FT(CH) /-/-
Oncorhynchus mykiss	SC Steelhead DPS	FE(CH) /-/-
Oncorhynchus mykiss	SCCC Steelhead DPS	FT(CH) /-/-
Amphibians		
Ambystoma californiense	California tiger salamander	FT(CH)/ST/-
Anaxyrus californicus	Arroyo (= arroyo southwestern) toad	FE (CH)/-/-
Emys marmorata	western pond turtle	-/-/SSC
Rana draytonii	California red-legged frog	FT(CH)/-/SSC
Spea hammondii	western spadefoot	-*/-/SSC
Reptiles		
Anniella grinnelli	Bakersfield legless lizard	-/-/SSC
Anniella pulchra	northern California legless lizard	-/-/SSC

Table 4.3-6 Special Status Wildlife Species Potentially Present along the Trucking Route

Species Name	Common Name	Status Fed/State/Other
Arizona elegans occidentalis	California glossy snake	-/-/SSC
Gambella silus	Blunt nosed leopard lizard	FE/SE/FP
Masticophis flagellum ruddocki	San Joaquin coachwhip	-/-/SSC
Thamnophis gigas	Giant garter snake	FT/-/-
Thamnophis hammondii	two-striped gartersnake	-/-/SSC
Birds		
Agelaius tricolor	Tricolored blackbird	-/SE/-
Brachyamphus marmoratus)	marbeled murrelet	FT(CH)/-/-
Athene cunicularia	burrowing owl	-/-/SSC
Buteo regalis	ferruginous hawk	-/-/WL
Buteo swainsoni	Swainson's hawk	-/ST/-
Charadrius alexandrinus nivosus	Western snowy plover	FT(CH)/-/-
Falco mexicanus	prairie falcon	-/-/WL
Gymnogyps californianus	California condor	FE (CH)/-/-
Empidonax traillii extimus	Southwestern willow flycatcher	FE(CH)/SE/-
Pelecanus occidentalis californicus	California brown pelican	Delisted/-/FP
Rallus longirostris obsoletus	California clapper rail	FE/-/-
Sterna antillarum browni	California least tern	FE/-/-
Toxostoma lecontei	Le Conte's thrasher	-/-/SSC
Vireo bellis pussilus	least Bell's vireo	FE(CH)/SE/-
Multiple species	Other nesting birds	MBTA/BGEPA
Mammals		
Ammospermophilus nelsoni	Nelson's antelope squirrel	-/T/-
Dipodomys ingens	Giant kangaroo rat	FE/SE/-
Dipodomys nitratoitdes nitratoides	Tipton kangaroo rat	FE/SE/-
Enhydra lutris nereis	Southern sea otter	FT/-/-
Neotoma lepida intermedia	San Diego desert woodrat	-/-/SSC
Onychomys torridus tularensis	Tulare grasshopper mouse	-/-/SSC
Sorex ornatus relictus	Buena vista ornate shrew	FE(CH)/-/-
Taxidea taxus	American badger	-/-/SSC
Vulpes macrotis mutica	San Joaquin kit fox	FE/ST/-

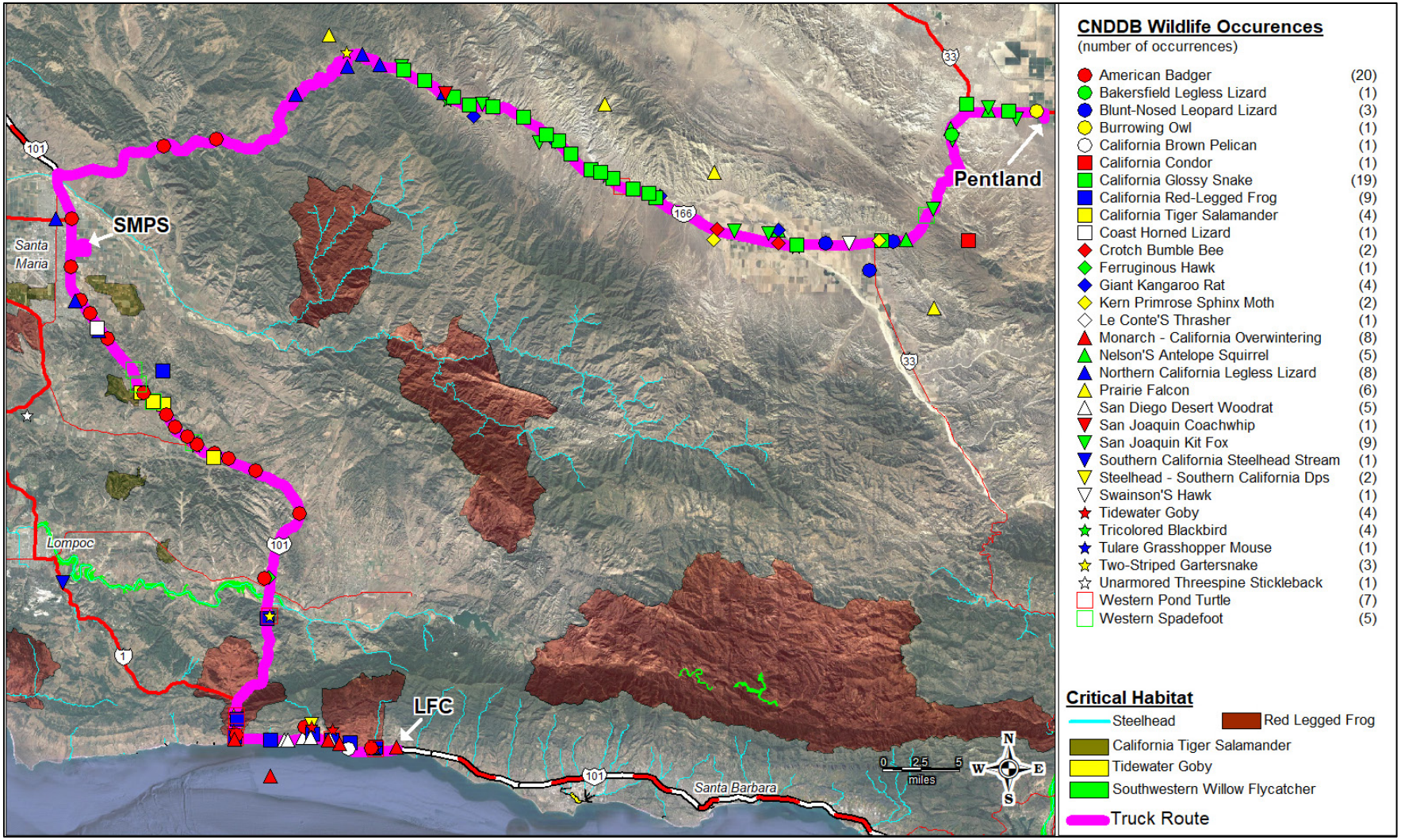
Notes:
Federal Rankings (USFWS, NMFS): FE = Federally Listed as Endangered, FT = Federally Listed as Threatened; CH = Critical Habitat has been designated for this species; PCH = Critical Habitat has been proposed for this species (no location information available); MBTA = Protected under the Migratory Bird Treaty Act; BAGEA – Protected under the Bald and Golden Eagle Act.
*The Listing status for western spadefoot toad is under review by the USFWS (https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=D02Z).
State Rankings (CDFW): SE = State Listed as Endangered, ST = State Listed as Threatened; SCE = State Candidate for Listing as Endangered; FP = Fully Protected; SSC = Species of Special Concern; WL = Watch List, SA = Included on the CDFW Special Animal List.

Critical Habitat and Natural Communities of Concern

Federally-designated Critical Habitat overlaps portions of the transportation route for the following species (see Figures 4.3-1 and 4.3-2):

- La Graciosa thistle (Cirsium scariosum var. loncholepis),
- Gaviota tarplant (Deinandra increscens ssp. villosa),

Figure 4.3-2 CNDDB Wildlife Occurrences along the Trucking Routes



Aerial Source: Google Earth Aerial Data CSUMB SFML, CA OPC, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Image c2018 DigitialGlobe.
CNDDB and Critical Habitat Overlay Sources (accessed July 2018): CDFW (CNDDB): https://map.dfg.ca.gov/rarefind/view/RareFind.aspx; NOAA Fisheries/NMFS: http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm; USFWS: https://ecos.fws.gov/ecp/report/table/critical-habitat.html

- Southern California Coast (SCC) and South Central California Coast (SCCC) steelhead (Oncorhynchus mykiss) Distinct Population Segments (DPS),
- Tidewater goby (Eucyclogobius newberryi),
- California red-legged frog (Rana draytonii),
- California tiger salamander (Ambystoma californiense), and
- Southwestern willow flycatcher (Empidonax traillii extimus).

In addition, several plant communities identified as Natural Communities of Concern by the CDFW are present along the route. Most of these are riparian habitats associated with streams and other wetland or riverine habitats crossed by or adjacent to the proposed trucking route. Natural Communities of Concern identified along the route include Southern coast live oak riparian forest, southern cottonwood willow riparian forest, South Coast riparian scrub, Southern vernal pools, valley needlegrass grassland, and valley saltbush scrub (CDFW 2018).

Environmentally Sensitive Habitat Areas

The portion of the proposed truck route would pass through the Gaviota area, which has several areas that are classified as environmentally sensitive habitat areas (ESHA). In the Gaviota areas, the transportation route crosses 10 features labeled as ESHA, the majority of which are drainages within the Coastal Zone. Included within these features are also monarch butterfly overwintering habitat and riparian areas (SBC 2016). According to the Santa Barbara County Gaviota Coast Plan, the ESHA includes rare and endangered species habitats, wetlands, streams, near shore reefs, tide pools, offshore rocks, native plant communities, dunes, kelp beds, harbor seal rookeries and hauling out grounds, and seabird roosting and nesting areas.

Streams, Rivers, Wetlands and Other Waterbodies

Based on the database query, a minimum of 28 major streams and rivers, 75 unnamed streams, and one lake (Twitchell Reservoir) are crossed by or located within 500 feet of the transportation route. The larger rivers, streams, and Twitchell Reservoir support aquatic habitat capable of supporting both common and special status plant and wildlife species, including populations and Critical Habitat of species such as steelhead DPS, California red-legged frog, and arroyo toad.

Wildlife Movement Corridors

The natural habitats of Santa Barbara, San Luis Obispo, and Kern Counties provide a mosaic of habitats that support resident and migratory species. Based on the database query of the California Essential Habitat Connectivity Project, Essential Connectivity Areas (ECAs) have been identified along the transportation routes. The ECAs help to establish the reported movement corridors for mammal species and assessed corridor quality at a landscape level. The location of these ECAs is intended to only be a broad scale representation of areas that provide essential connectivity. It is expected that additional linkages will be identified as new data become available for various species (CDFW 2018b; Spencer et al 2010). For the purposes of this analysis, it is reasonable to assume that the various streams and drainages that are crossed by the transportation routes may be used by wildlife as movement corridors on a smaller scale.

4.3.1.5 Water Resources along Trucking Routes

As summarized in Table 4.3-7 and illustrated in Figure 4.3-3, the transportation route from the LFC facility to the Phillips 66 Santa Maria Pump Station (SMPS) in Santa Maria, Santa Barbara County, and to the Plains All American Pentland Pump Station in Maricopa, Kern County, would traverse numerous creeks, rivers, and other surface water features.

Table 4.3-7 Perennial Streams, Major Drainages, and Other Water Bodies Along Proposed Trucking Route from SYU to the Pentland Pump Station

Water Body	Number on Figure 1	Flows Into
Santa Ynez Unit to Santa Maria Pump Station, Santa Barbara County		
Refugio Creek	1	Pacific Ocean
Tajiguas Creek	2	Pacific Ocean
Molino Creek	3	Pacific Ocean
Gaviota Creek	4	Pacific Ocean
Las Canovas Creek	5	Gaviota Creek
Nojoqui Creek	6	Pacific Ocean
Santa Ynez River	7	Pacific Ocean
Zaca Creek	8	Santa Ynez River
Dry Creek	9	Zaca Creek
San Antonio Creek	10	Pacific Ocean
Orcutt Creek	11	Santa Maria River
Santa Maria to the Pentland Pump Station, Santa Barbara, San Luis Obispo, and Kern Counties		
Santa Maria River	12	Pacific Ocean
Suey Creek	13	Santa Maria River
Twitchell Reservoir	14	Cuyama River
Huasna River	15	Twitchell Reservoir/Cuyama River
Alamo Creek	16	Twitchell Reservoir/Cuyama River
Cuyama River	17	Santa Maria River
Aliso Creek	18	Cuyama River
Clear Creek	19	Cuyama River
Powell Canyon	20	Cuyama River
Sycamore Creek	21	Cuyama River
Wells Creek	22	Cuyama River
Bitter Creek	23	Stream terminates
Branch Canyon Wash	24	Cuyama River
Salisbury Canyon Wash	25	Branch Canyon Wash
The Wash	26	New River
Cienega Creek	27	Stream terminates
Bitter Creek	28	Stream terminates

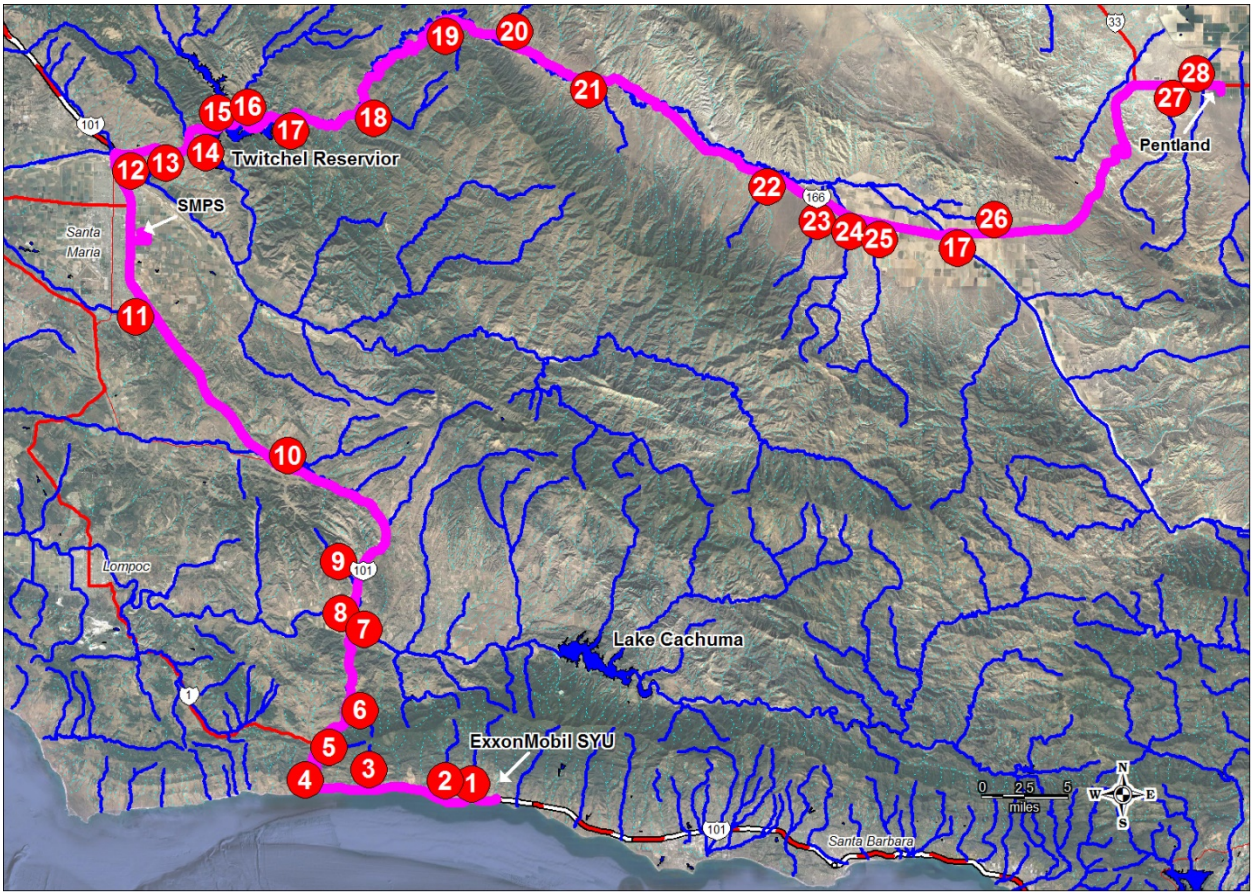
Source: United States Geological Survey (USGS). 2014

The figures and summary tables do not include ephemeral creeks, of which there are many along the transportation route. In general, based on a review of the USGS National Hydrographic Dataset results (USGS 2014), the proposed trucking route from the LFC to the Santa Maria Pump Station crosses 11 major streams and 27 unnamed streams, and from Santa Maria to the Pentland Pump Station crosses 17 major streams, including tributaries that flow into Twitchell Reservoir, and 47 unnamed streams.

The southernmost portion of the truck route is in Santa Barbara County and from the LFC to the Gaviota Tunnel, where Highway 101 abruptly turns north and no longer follows the coast, the route runs parallel to the coastline adjacent to biologically sensitive marine resources and sloughs and crosses several intermittent drainages that empty directly into the Pacific Ocean. At Gaviota, the route runs parallel to

Gaviota Creek, which flows through Gaviota State Park and is home to the Kashtayit State Marine Conservation Area. From Gaviota north to the SMPS, the route crosses several major streams as well as the Santa Ynez River, one of the largest rivers on the Central Coast of California.

Figure 4.3-3 Perennial Streams, Major Drainages, and Other Water Bodies Along Proposed Trucking Route from LFC to the Pentland Pump Station



Source: United States Geological Survey (USGS). 2014

North of the SMPS, the route crosses the Santa Maria River, then turns off Highway 101 to Route 166 east, which parallels the northern boundary of Santa Barbara County and southern boundary of San Luis Obispo County. About 7 miles east of the Highway 101/ Route 166 interchange, the route crosses the Huasna River and Alamo Creek that flow into Twitchell Reservoir, which lies within Cuyama Creek. There is no public access to Twitchell Reservoir and its primary use is to store water then release it to recharge groundwater. After Twitchell Reservoir, the route continues east adjacent to Cuyama Creek, crossing the creek and its tributaries multiple times, to the towns of New Cuyama and Cuyama. From there, the route continues east to the Kern County line where it turns northeast toward Maricopa, then east to the Pentland Pump Station.

4.3.1.6 Marine Resources Along Trucking Routes

Marine biological resources can be described in terms of three major habitat areas within the Santa Barbara Channel: open ocean, seafloor, and shoreline. There is the potential for oil spills along the trucking route in the Gaviota coast area to impact the marine environment in the event of a spill that

enters a waterway that drains to the ocean. Given the limited spill volumes of a truck, the impact would most likely be limited to the shoreline areas.

Within the Santa Barbara Channel, each of these three biological habitats (open ocean, seafloor and shoreline) is exceptionally diverse and productive. The warm and cool currents that combine within the Channel, bring seasonally migrant marine species from disparate zoogeographic provinces to augment year-round resident populations. Many of the over-600 fish species reported along the Pacific OCS region occur within the Channel. Productive shellfish and squid fisheries have also developed in the region. Table 4.3-8 provides a list of special-status marine species within the Santa Barbara Channel.

Table 4.3-8 Special Status Marine Species of the Santa Barbara Channel

Species Name	Common Name	Status
Haliotis sorenseni	White abalone	FE
Haliotis cracherodii	Black abalone	FE
Oncorhynchus mykiss	Southern steelhead	FE
Acipenser medirostris	Green sturgeon	FT
Caretta caretta	Loggerhead sea turtle	FT
Lepidochelys olivacea	Pacific Ridley sea turtle	FT
Dermochelys coriacea	Leatherback sea turtle	FE
Brachyramphus marmoratus	Marbled murrelet	FT;SE
Synthliboramphus hypoleucus	Xantus' murrelet	ST
Arctocephalus townsendi	Guadalupe fur seal	FT
Eumetopias jubatus	Stellar sea lion	FT
Enhydra lutris nereis	Southern sea otter	FT
Balaenoptera musculus	Blue whale	FE
Balaenoptera borealis	Sei whale	FE
Balaenoptera physalus	Finback whale	FE
Megaptera novaeangliae	Humpback whale	FE
Balaena glacialis	Northern right whale	FE
Physeter catadon (=macrocephalus)	Sperm whale	FE

FE-Federally Endangered (USFWS)
FT – Federally Threatened (USFWS)
SE – State Endangered (CDFW)

Seventy-five percent of the kelp ecosystems of the Southern California Bight exist within the nearshore waters of the Channel Islands. Eelgrass (Zostera spp.) beds, considered to be one of the most productive habitat types found on soft-bottom substrate, occur along the protected shoreline of the Channel.

Every year over 27 species of whales and dolphins visit or inhabit the Santa Barbara Channel region, including blue whales (Balaenoptera musculus), humpback whales (Megaptera novaeangliae), and sei whales (Balaenoptera borealis). Several other species of marine mammals use the shores of the Santa Barbara Channel, particularly the Channel Islands and rocky outcroppings, as haul-outs and rookeries. Finally, the seabird diversity within the Channel is dependent on the many important breeding grounds and colonies that are located there.

Pelagic fish, plankton, marine mammals, and marine birds all inhabit the open ocean habitat of the Santa Barbara Channel. Additionally, most commercial and recreational fisheries occur within the open-ocean habitat.

The shoreline along the Gaviota coast supports a variety of coastal habitats, including sand beaches, rocky intertidal substrate, and kelp beds. These habitats harbor several threatened and endangered marine and shorebird species. Sandy beaches are generally inhabited by an abundant invertebrate macrofaunal

community, which serves as an important food source for vertebrate predators, such as shorebirds, seabirds, marine mammals, and fishes.

Rocky intertidal areas along the Santa Barbara Channel coastline contain diverse assemblages of algae, invertebrates, and fish. The diversity of algae and invertebrate species tends to increase from high to low elevations. Kelp beds form an important and distinct marine habitat along the rocky coastal reaches of the Santa Barbara Channel providing habitat for many types of adult and juvenile fish, marine mammals, and marine invertebrates.

4.3.1.7 Cultural Resources Along Trucking Routes

Santa Barbara County was home to the Barbareno Chumash for over 9,000 years. Archaeologists have established a detailed cultural chronology based upon excavations and site surveys across the County.

Numerous known and unknown cultural site would likely exist near the proposed truck transportation routes. For example, at least 425 cultural resource investigations have been completed in the Gaviota Coast Community Plan Area. Investigations range from small, simple surveys to identify archaeological resources to large, complex endeavors associated with undertakings such as utility installations. Those efforts have identified more than 260 archaeological sites, 7 historical resources, and 425 isolated artifacts in the Gaviota Coast Plan Area (SBC 2015).

Recorded archaeological sites include those encompassing both the pre-contact and post-contact eras. Pre-contact archaeological sites range from dense shell middens reflecting the remains of intense occupations of substantial duration—such as found at a village—to a few pieces of chipping debris that reflect a single episode of tool resharpening.

The Santa Barbara Channel contains a variety of underwater cultural resources ranging from prehistoric artifacts to historic era shipwrecks. An overview of underwater archaeological discoveries along the channel includes numerous examples of Chumash cultural materials (Hudson, 1977).

4.3.2 Regulatory Setting

This section presents the regulatory setting as it relates to the proposed Project and the existing SYU facilities.

4.3.2.1 Federal Regulations

Federal laws that address oil transportation facilities are listed below and discussed in the following paragraphs.

- 40 Code of Federal Regulations Parts 109, 110, 112, 113, and 114 promulgated in response to the Oil Pollution Act of 1990 and pertain to the need for a Spill Prevention Control & Countermeasures Plan;
- The U.S. Environmental Protection Agency (EPA) implements the Resource Conservation and Recovery Act and Associated Hazardous and Solid Waste Amendments (40 Code of Federal Regulations 260) which regulate the generation, transportation, treatment, storage, and disposal of hazardous waste.
- The EPA enforces standards for hazardous pollutants under the National Emissions Standards for Hazardous Air Pollutants, 40 Code of Federal Regulations 61) and the requirements of the Emergency Planning and Community Right-to-Know Act which requires industry to report on the storage, use and releases of hazardous substances to federal, state, and local governments. The

Santa Barbara County Air Pollution Control District is delegated authority from the EPA to implement and enforce these applicable regulations.

- Under the Occupational Safety and Health Act, the U.S. Department of Labor implements worker health and safety requirements, including those established in the Worker Health and Safety (29 Code of Federal Regulations et seq.) and Hazard Communication (29 Code of Federal Regulations 1910.1200).

Spill Prevention, Control and Countermeasures (SPCC)

Overview of 40 CFR Parts 109, 110, 112, 113, and 114

The requirements identified 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."
- Part 112 deals with oil spill prevention and preparation of Spill Prevention, Control, and Countermeasure (SPCC) 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 (OPA) of 1990.
- Part 114 provides civil penalties for violations of the oil spill regulations.

United States Environmental Protection Agency (EPA)

The EPA is responsible for the National Contingency Plan and acts as the lead agency in response to an onshore oil spill. EPA also serves as co-chair of the Regional Response Team, which is a team of agencies established to provide assistance and guidance to the on-scene coordinator (OSC) during the response to a spill. The EPA also regulates disposal of recovered oil and is responsible for developing regulations for Spill Prevention, Control, and Countermeasures (SPCC) Plans. SPCC Plans are required for non-transportation related onshore and offshore facilities that have the potential to spill oil into waters of the United States or adjoining shorelines (see above). Other EPA regulations and described below.

Emergency Planning and Community Right-to-Know Act (EPCRA). Under the Emergency Planning and Community Right-to-Know Act (EPCRA), or Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), the 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), 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 onsite 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.

Hazardous Materials Management Planning Section 112(r) of the Clean Air Act Amendments of 1990, 40 CFR 68. The EPA requires facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances. Stationary sources with more than a threshold quantity of a regulated substance are to be evaluated to determine the potential for, and impacts of, accidental releases from that process. Under certain conditions, the owner or operator of a stationary source may be required to develop and submit an 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. RMPs for existing facilities were required to be submitted in 1999 and must be updated every five years.

Hazardous Materials Transportation

Hazardous Materials Transportation Act (HMTA), 49 CFR 171, Subchapter C. The DOT, Federal Highway Administration, and the Federal Railroad Administration regulate transportation of hazardous materials at the federal level. The HMTA requires that carriers report accidental releases of hazardous materials to DOT at the earliest practical moment. Other incidents that must be reported include deaths, injuries requiring hospitalization, and property damage exceeding $50,000.

Occupational Safety and Health Administration

Process Safety Management (PSM), 29 CFR 1910.119. Under this section, facilities which 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 prevention program;
- Provide hazardous substance exposure warnings;
- Prepare an emergency response plan; and
- Prepare a fire prevention plan.

In addition, 29 CFR 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, 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. OSHA PSM regulation CFR 1910.119(a)(2)(ii) applies to oil and gas extraction operations.

Worker Health and Safety, 29 CFR 1910. OSHA implements regulations under this part to ensure employers provide a healthy and safe work environment which included informing employees of workplace hazards (Hazard Communication, 29 Code of Federal Regulations 1910.1200). The goal is to make sure employers provide their workers a place of employment free from recognized hazards to safety

and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions (along with CalOSHA in California). OSHA 1910 contains several standards that describe requirements for the safe management of hazards associated with processes using, storing, manufacturing, handling, or moving highly hazardous chemicals onsite. It emphasizes the management of hazards through an established comprehensive program that integrates technologies, procedures, and management practices, including communication.

- 1910.119 (Subpart H) - Process Safety Management of Highly Hazardous Chemicals
- 1910.120 (Subpart H) - Hazardous Waste Operations and Emergency Response.
- 1910 Subpart N - Materials Handling and Storage

4.3.2.2 State Regulations

State laws address gas and liquid pipelines, oil and gas facilities, and hazardous materials and waste. Each of these is discussed below.

California Health and Safety Code

- Division 20, Chapter 6.5, §25100-25249, Hazardous Waste Control;
- Division 20, Chapter 6.95, §25500, et seq. Hazardous Materials Management Plan and Community Right-to-Know and Hazardous Materials Release Response Plans and Inventory (Business Plan Program);
- Proposition 65 Compliance, H&SC §25249.5 et seq;
- H&SC §§25340-25392, Carpenter-Presley-Tanner Hazardous Substance Account Act; and
- H&SC §§25531-25541, Risk Management and Prevention Program.

California Code of Regulations (CCR)

- Title 8, §1529, Asbestos Construction Standard;
- Title 8, §1532.1, Lead Construction Standard;
- Title 8, §5189, Process Safety Management of Acutely Hazardous Materials;
- Title 8, §5192, Hazardous Waste Operations and Emergency Response;
- Title 14, Division 2, Department of Conservation;
- Title 19, §2729, Employee Training Program;
- Title 22, Division 4, Chapter 30, Hazardous Wastes;
- Title 22, Division 4.5, §§66260-67786, Hazardous Waste Requirements; and
- Title 22, §66265.50-.56, Contingency/Emergency Response Plan.

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 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 Materials Worker Safety

California Occupational Safety and Health (CALOSHA) Act requires that employers have an effective Injury and Illness Prevention Program (IIPP) which includes training and instruction on safe work practices. Additionally, the program should include a system for the employer to communicate with the employee with the aim of recognizing and reporting health and safety hazards.

California Accidental Release Prevention (CalARP) Program

The CalARP program mirrors the federal Risk Management Program (RMP), except that it adds external events and seismic analysis to the requirements and includes facilities with lower inventories of materials. A CalARP or Risk Management Plan (RMP, federal requirements) is a document prepared by the owner or operator of a stationary source containing detailed information including:

- Regulated substances held onsite at the stationary source;
- Offsite 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.

4.3.2.3 Local Regulations

The System Safety and Reliability Review Committee (SSRRC) is responsible for identifying and requiring correction of possible design and operational hazards for oil and gas projects prior to construction, during project operations, and for project modifications. The goal of SSRRC review is to substantially reduce the risks of project-related hazards that may result in loss of life and injury and/or damage to property and the natural environment. This process occurs through the review and approval of project design, operation and maintenance plants, and facility inspections. The SSRRC consists of representatives from Planning and Development Department (Energy & Minerals and Building & Safety Divisions), County Fire Department, Environmental Health Services Hazardous Materials Unit (CUPA), Air Pollution Control District and County Executive Office (Office of Emergency Management). Other County departments participate for specific issues as needed. The SSRRC may employ a third-party technical review to help identify and correct possible design and construction hazards and to ensure mitigation of potential public risk prior to construction and for subsequent design modifications. The SSRRC also oversees the

development and implementation of a Safety Inspection, Maintenance, and Quality Assurance Program (SIMQAP). The SIMQAP is a guidance document that identifies a facility's safety, devices, equipment preventive maintenance, and operation processes and procedures. SSRRC oversight and preparation of a SIMQAP may be required for specific projects as conditions of approval by the County decision-makers.

4.3.2.4 Fire Risk, Prevention and Protection

For unincorporated areas of the County, as well as smaller cities with cooperative agreements with the County, fires in the County are generally the responsibility of the Santa Barbara County Fire Department (SBCFD).

California Fire Code (CFC) Section 5706.3 of Chapter 57, Flammable and Combustible Liquids, contains specific requirements for the drilling, operation and maintenance of oil and natural gas wells. This section specifically addresses well and equipment locations, clearances, sumps, storage tanks, signs, and other related provisions. There are no requirements for local hydrants or wharf type connections for fire protection at well site locations.

Principal fire protection requirements for the proposed well pad sites include the following, based upon CFC and SBCFD fire prevention standards:

- Road access, design and maintenance, including Knox box provisions, to comply with SBCFD Development Standards. New and existing emergency access roads must meet SBCFD requirements,
- Brush and vegetation clearance must be maintained in accordance SBCFD Standard 6

4.3.3 Significance Thresholds

4.3.3.1 California Environmental Quality Act

Impacts resulting from a risk of upset are evaluated pursuant to the California Environmental Quality Act Appendix G. As defined therein, a significant safety effect is one in which the project "create[s] a potential health hazard or involve[s] the use, production or disposal of materials which pose a hazard to people, animal or plant populations in the area affected". The Project will result in a significant impact related to hazardous materials if it:

Creates a significant hazard to workers, the public, or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials, or involve the use, production, or disposal of materials that pose a hazard to people in the area affected; or

Has environmental effects that cause substantial adverse effects to human beings, either directly or indirectly (e.g., creates the risk of accidental explosion or accidental release of hazardous materials).

4.3.3.2 County Public Safety and Risk of Upset Thresholds

Santa Barbara County adopted Public Safety Thresholds in August 1999. The County incorporated these thresholds into its Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2015). The thresholds provide three zones — green, amber, and red — for guiding a determination of significance or insignificance of project specific impacts, based on the estimated frequency and consequences of an accident that would cause fatalities or serious injuries to the public (see Figure 4.3-4). In addition, a Safety Element Supplement was adopted in February 2000 covering hazardous materials (Santa Barbara County, 2000). The Safety Element defines unacceptable risk in a manner that guides consistent and sound land-

use decisions involving hazardous facilities. The Safety Element also defines criteria applicable to new development as well as to modifications to existing development if those modifications increase risk. The public safety thresholds do not address risk of environmental damage. The threshold applied in previous EIRs for risk of significant environmental impact due to accidental spills is as follows: an impact of spills would be significant if operations would increase the probability or volume of oil spills into the environment.

The County requires a Quantitative Risk Analysis (QRA) to be conducted on the potential for public exposure from projects that involve the storage or transport of hazardous materials. In order to determine the potential level of public safety impacts from risk of upset events, the Project is evaluated against Table 4.3-9 (see below), the Santa Barbara County's Potential Significance Classes for Risk and Figure 4.3-4 (see below), Santa Barbara County Fatality and Injury Risk Thresholds.

The injury and fatality risk profiles of a project are generated from the modeling completed as part of the QRA and are depicted as F/N (Frequency/Number) curves plotted on the societal risk graphs and which fall in the green, amber, or red zone (see Figure 4.3-4).

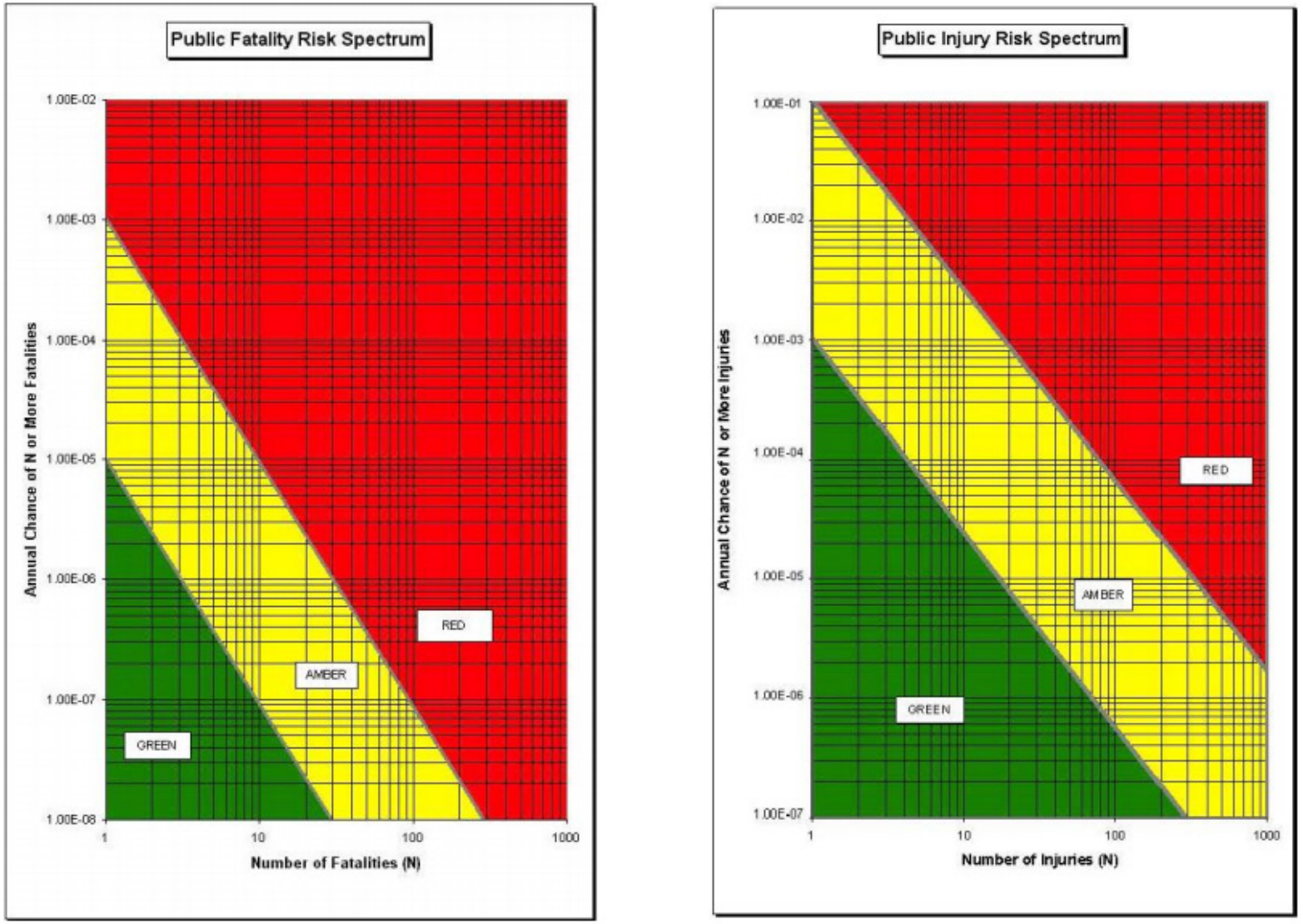
Table 4.3-9 County of Santa Barbara Potential Significance Classes for Project Specific Risk

Impact Classification	Description
Class I Impacts	Class I applies to adverse impacts that the County considers unavoidable and significant (i.e., cannot be mitigated to insignificance via feasible measures). The County considers a societal risk spectrum that falls in the red or amber zones after application of all feasible mitigation to be an unavoidable. Unreasonable risk shall be determined for each project individually, based on policies provided in the Safety Element and other relevant policies and codes. Lacking any such determination, project approval requires a statement of overriding considerations by the applicable authority, showing that the benefits of the proposed development exceed its adverse impacts to public safety.
Class II Impacts	Class II applies to adverse impacts that the County considers significant but avoidable through application of feasible mitigation (i.e., mitigation can render the impact to be insignificant). The County considers a societal risk spectrum that falls in either the red or amber zones to be a significant impact. Such risk is considered a Class II impact if application of feasible mitigation is sufficient to lower the risk spectrum so that it falls fully within the green zone.
Class III Impacts	Class III applies to adverse impacts that the County considers to be insignificant for purposes of complying with CEQA. The County considers a societal risk spectrum that falls completely in the green zone to be a Class III, insignificant impact to public safety and no mitigation is required for purposes of compliance with CEQA.

Source: Santa Barbra Environmental Threshold and Guidelines Manual, Revised 2018

The County's F/N curves were originally developed based upon the United Kingdom and the Netherlands research and guidance on societal risk associated with facilities handling hazardous materials. The societal risk criteria developed by the United Kingdom Health and Safety Executive (UKHSE) for facilities handling hazardous materials is discussed in a guidance document titled *Reducing Risks, Protecting People* (UKHSE 2001). The UKHSE Hazardous Installation Directorate (HID) also developed an annex to this document titled *Societal Risk and Societal Concern* that specifically addresses societal concerns and societal risk and defines a set of acceptable and unacceptable societal risk areas for specific projects. The determinations of acceptable and unacceptable social risk outlined in the aforementioned document emulate the green, amber, and red zones that are currently used by Santa Barbara County.

Figure 4.3-4 Santa Barbara County Project Specific Fatality and Injury Risk Thresholds



Source: Santa Barbra Environmental Threshold and Guidelines Manual, Revised 2018

The UKHSE HID's annex document *Societal Risk and Societal Concern,* includes guidance on acceptable and unacceptable levels of risk for multiple projects (i.e., cumulative projects). The UKHSE HID's annex document asserts that when multiple sites contribute to societal risk the unacceptable region of risk will be taken an order of magnitude higher than the corresponding line for project specific societal risk (UKHSE 2001).

At this time, Santa Barbara County does not currently have formally adopted significance criteria and thresholds for assessing cumulative risk. Therefore, in order to assess cumulative risk of upset impacts, the County will utilize the guidance provided by the UKHSE. that the green, amber and red areas of the FN curves shown in Figure 4.3-4 are shifted up one order of magnitude for cumulative risk. In assessing the significance of cumulative risk of upset impact the classifications in Table 4.3-9 would apply.

Occupational safety or risk is governed by State and Federal Occupational Safety and Health Administration (OSHA) standards, is considered to be 'voluntary' risk. Voluntary risk addresses exposure to potential hazards associated with an activity, such as driving a car, work activities and others, that is consciously undertaken by an individual and is evaluated according to different standards than those applied in assessing involuntary exposure. The public safety thresholds addressed under this EIR do not apply to occupational safety.

4.3.3.3 County Fire Development Standards

The following County Fire Department standards are applied in evaluating impacts associated with the proposed Project:

- The emergency response thresholds include Fire Department staff standards of one on-duty firefighter per 4,000 persons (generally 1 engine company per 12,000 people, assuming three firefighters per station). The emergency response time standard is approximately 5 to 6 minutes.
- The ability of the County's engine companies to extinguish fires (based on maximum flow rates through hand-held line) meets state and national standards assuming a 5,000- square foot structure. Therefore, in any portion of the Fire Department's response area, all structures over 5,000 square feet are an unprotected risk (a significant impact) and therefore should have internal fire sprinklers.
- Access road standards include a minimum width (depending on number of units served and whether parking would be allowed on either side of the road), with some narrowing allowed for driveways. Cul-de-sac diameters, turning radii and road grade must meet minimum Fire Department standards based on project type.
- Two means of egress may be needed, and access must not be impeded by fire, flood, or earthquake. A potentially significant impact could occur in the event any of these standards is not adequately met

4.3.4 Project Impacts and Mitigation Measures

The primary risk of upset events associated with the proposed Project would be spills of oil associated with truck loading and transportation. These spills if ignited could lead to pool fires and potential thermal radiation hazards. Spills of oil could impact the public in the vicinity of the roadways as well as biological and water resources. Other than crude oil, no other hazardous materials would be used as part of the proposed Project.

The applicant-proposed avoidance and minimization measure (AMM) for hazards and risk of upset is the following:

- **AMM-RISK-01 -** A Crude Oil Transportation Risk Management and Prevention Program (CO-TRMPP)

A copy of this draft plan is provided in Appendix C.3. The CO-TRMPP would apply to all highway shipments of crude oil from the LFC facility to the receiving locations. Some of the key aspects of the CO-TRMPP include the following:

- Truck carriers would be required to complete a Crude Oil - Motor Carrier Safety Survey prior to starting shipments from LFC to assure proper contractor selection.
- All drivers would be required to have proper training for transporting hazardous materials
- LFC operations personnel would verify that each carrier meets or exceeds the required safety standards. LFC operations personnel would conduct a safety and operability inspection of each truck prior to loading and prior to departing from LFC.
- Any truck that receives an unsatisfactory inspection would no longer be permitted to transport crude until the issue has been corrected.
- Trucks would be equipped with speed monitoring systems.

This AMM have not been included in the analysis of impacts since they are not considered part of the project description. The impact assessment has evaluated the impacts of the project with and without the applicant-proposed AMMs.

Impact #	Impact Description	Phase	Impact Classification
RISK.1	The proposed Project could generate risks to public safety by exposing the public to hazards from truck transport of crude oil.	Accidental Spill	Class III

The proposed Project is to truck SYU crude oil from the LFC facility to either the SMPS located just outside of the City of Santa Maria, and/or the Plains Pentland Terminal located in Maricopa CA. Trucking would be limited to a maximum of 70 trips per day to the SMPS or 68 trips per day to the Plains Pentland Terminal.

A Transportation Crude Oil Risk Analysis (TQRA 2018) was performed to evaluate the risk to the public from exposure to hazardous materials under upset conditions during transport. The following impact analysis discussion addresses the public risk impact due to truck transport of the SYU crude oil, and resultant pool fires and vapor fire risks in the event of an accident.

Transportation risks were calculated each of the proposed truck routes. All trucks entering and leaving the LFC facility would use the Refugio Road on and off-ramps at US 101. Trucks traveling to the SMPS would exit US 101 at the Betteravia Road Interchange in Santa Maria, and then use Betteravia Road, Rosemary Road, and Battles Road. Trucks traveling to the Plains Pentland Terminal would exit US 101 at the SR 166 Interchange and use SR 166 to Basic School Road. The location of these routes is shown in Figure 2-4.

The TQRA used route specific accident data from the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) to develop the likelihood of a truck accident rate along each of the

proposed transportation routes. Table 4.3-10 provides a summary of the accident rates for each of the routes.

Table 4.3-10 Average Tanker Truck Accident Rates for Proposed Routes

Scenario	Description	Vehicle Accident Rate per 10^6 miles	HM Class 3 Truck Accident Rate per 10^6 miles	HM Class 3 Truck Accident Rate per laden trip
1	LFC to Phillips 66 Santa Maria Pump Station via US 101	0.80	0.32	1.8×10^{-5}
2	LFC to PAAPL Pentland Pump Station via US 101 and SR 166	0.95	0.38	5.4×10^{-5}

Source: ExxonMobil TQRA 2018

The accident rates were developed by an analysis of five years of data, for years 2012 to 2016. The accident data was categorized by road segment for the proposed truck routes. Local influences on accident data associated with road access, road gradients, visibility and weather are inherently included within these route specific accident rates.

The length of the route to the SMPS and the Plains Pentland Terminal would be 54.2 and 140 miles respectively. The annual number of truck trips to the SMPS and the Plains Pentland Terminal would be a maximum of 25,550 and 24,820 respectively.

The properties of the SYU crude oil used in the TQRA is provide in Table 4.3-11.

Table 4.3-11 Crude Oil Properties

Property	Light Crude Oil
Average properties:	
LFL % mol	1.4
UFL % mol	7.8
TVP @ 100°F	1.65 psia
Specific Gravity 60/60	0.940
API Gravity	19
Transportation Temperature	100°F

Source: ExxonMobil TQRA 2018

In the event of a truck accident that results in the release of crude oil there is the potential for the crude to ignite, which would result in a pool fire. If the spill does not ignite then a flammable vapor cloud would form that if ignited by a remote source such as an automobile would result in a flash fire. Each of these potential hazards are discussed below.

Truck Pool Fire Risk

In the event of a truck accident that results in a spill of oil and subsequent pool fire, the heat (i.e., thermal radiation) from the fire could result in a serious injury for fatality. Table 4.3-12 provides an estimate of the likelihood of a large and small pool fire using the accident data presented above along with the probability of a pool fire given an accident.

In the unlikely event of a large pool fire, there is the potential for serious injury or fatality to those involved in the accident or the public on the roadway or adjacent properties if they are unable to escape quickly. The large pool fire hazard areas that could lead to injury or fatality are provided in Table 4.3-13.

Table 4.3-12 Frequency of Crude Oil Fires Due to Laden Truck Accident

Item	Truck Route to SMPS	Truck Route to Plains Pentland Terminal
Route Length (miles)	54.3	140
Average Accident Rate per million miles	0.32	0.38
Truck Accident Rate per Trip	1.72E-05	5.26E-05
Number of Daily Laden Trips	70	68
Number of Annual Laden Trips	25,550	24,820
Truck Incidents per Year (collision and non-collision)	0.54	1.6
Probability of Large Fire Given an Accident	0.0043	0.0043
Frequency of Large Fire per year	2.31E-03 (equivalent to once in 433 years)	6.88E-03 (equivalent to once in 145 years)
Probability of Small Fire Given an Accident	0.00064	0.00064
Frequency of Small Fire per year	3.43E-04 (equivalent to once in 2,912 years)	1.02E-03 (equivalent to once in 977 years)

Source: ExxonMobil TQRA 2018

Table 4.3-13 Hazard Area for Spill of 160 Barrels of Crude to Pavement

Hazard Type	Meteorological Conditions Stability Class /Wind Speed (m/s)	Hazard Area (sq. ft.)		
		Pool Fire	Thermal Radiation Fatality	Thermal Radiation Injury
Large Pool Fire	F/1.5	11,000	38,000	80,000
	D/4	11,000	100,000	180,000

Hazard Type	Meteorological Conditions Stability Class /Wind Speed (m/s)	Hazard Area (sq. ft.)	
		LFL	½ LFL
Flammable Vapor Fire	F/1.5	5,900	12,000
	D/4	1,100	2,800

D Stability – Neutral air stability with minimal mixing.
F Stability – Stable air with windspeeds less than 3 m/s.
LFL – Lower Flammability Limit.
½ LFL – ½ the Lower Flammability Limit.
Source: ExxonMobil TQRA 2018

Flammable Vapor Fire

In the unlikely event of an accident resulting in a spill of oil, a flammable vapor cloud could form that if ignited would result in a flash fire. Ignition of a flammable vapor cloud could be caused by other vehicles on the road or an ignition source adjacent to the road. A flash fire could result in injury or fatality to people in the vicinity of the vapor cloud if they are not able to evacuate the area before the vapor cloud ignites. Table 4.3-13 also provides the flammable vapor cloud hazard areas that could lead to serious injury or fatality.

The pool fire hazard areas are larger than the vapor cloud hazards and would be a greater threat to nearby populations. Energy from a pool fire radiates in 360 degrees and has the potential to impact a larger area, whereas the flammable vapor cloud dimensions are generally narrower and only occur in the direction of the wind. Also due to the low gravity of the crude (19 API), and the fact that the crude does not contain substantial amounts of volatile material, the flammable vapor hazards are smaller.

Societal Risk Profiles

Santa Barbara County has established risk threshold that use societal risk profiles (known as FN curves) to determine the significance of hazardous material releases (see Section 4.3.3.3). These FN curves address both injury and fatality. The Santa Barbara County's adopted thresholds are generally applicable to fixed facilities when the hazard potential and public exposure are present 24 hours 7 days a week and the extent of the population is limited to that within the impact range of the facility.

When considering vehicle hazardous material transportation exposed population is constantly changing as the trucks move along the transportation route. The risk to the public only exists when the vehicle transporting the hazard is present at a given segment of the route. When the vehicle is not present there is no risk to the public in that area. Also, the population at risk is more geographically spread out and variable. To deal with these variables, the TQRA utilized an alternate methodology with follows approaches used in the United Kingdom and Netherland's for assessing transportation risk. It is also similar to the approach used by the California Department of Education for assessing the risk of pipelines to schools. The risk of serious injury and fatality has been calculated for on and off-road populations, then combined to calculate the risk per one-kilometer segment lengths along the entire transportation route. The highest one-kilometer segment risk for each of the truck routes was selected for developing the societal risk profiles. Figures 4.3-5 provides the injury and fatality risk profiles (FN curves) for the proposed truck route to the SMPS. Figure 4.3-6 provides the injury and fatality risk profiles (FN curves) for the proposed truck route to the Plains Pentland Terminal.

The applicant proposed avoidance and minimization measure (AMM-RISK-01) would serve to reduce the risk associated with the proposed truck transportation of crude oil. Table 4.3-14 presents a summary of the key risk reduction measures from AMM-RISK-01.

Table 4.3-14 Transportation Risk Avoidance and Minimization Measures

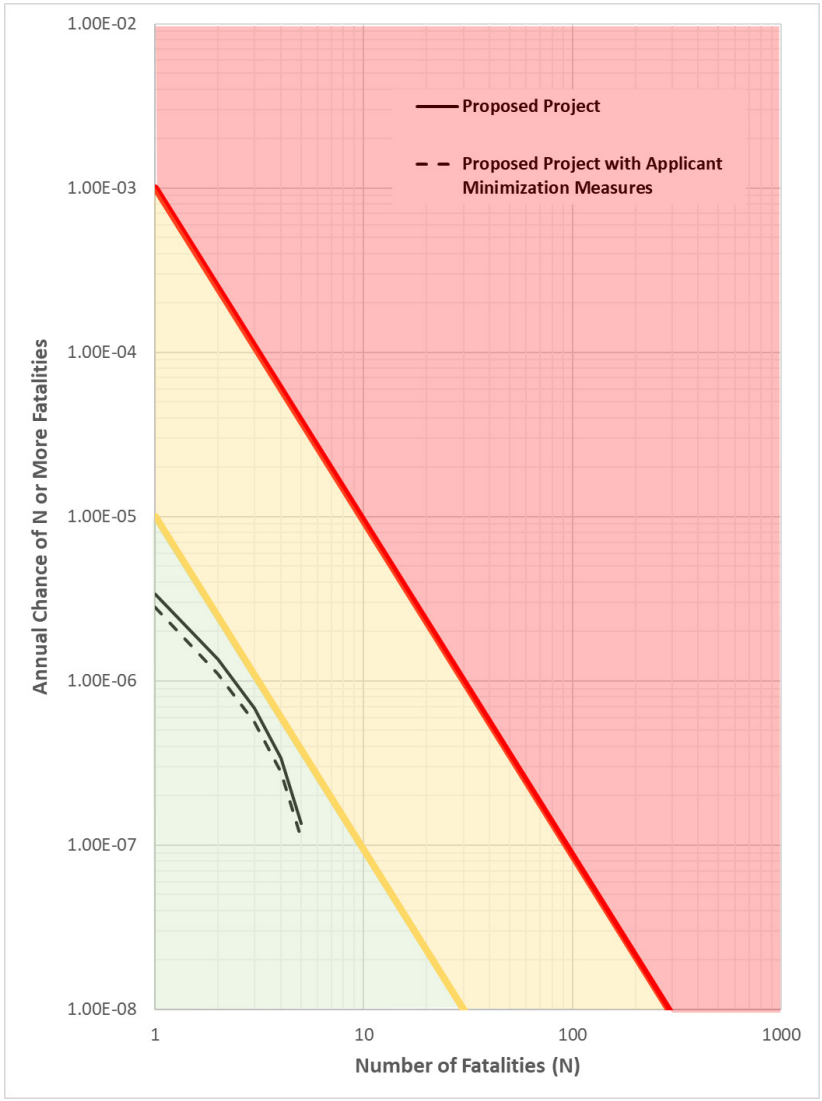
Mitigation Measure	Collision Risk Reduction (%)	Non-Collision Risk Reduction (%)
Contractor Selection and Driver Training	10%	--
Truck Speed Limiters	2%	--
Loading / Unloading Procedures and Overfill Protection	--	25%
Modern truck fleet with LFC Operations personnel inspection prior to and after loading	--	25%
Total	12%	50%

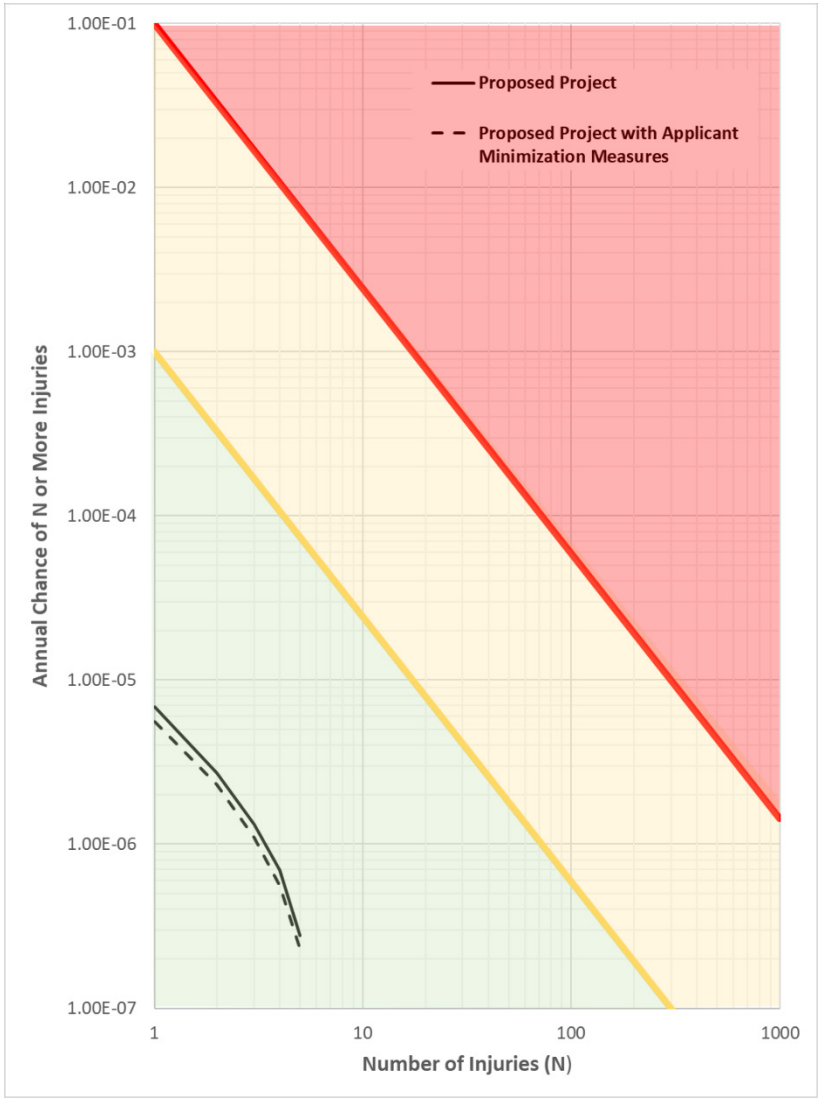
Source: ExxonMobil TQRA 2018

These avoidance and minimization measures would serve to reduce the likelihood of both collision and non-collision incidents. Figures 4.3-5 and 4.3-6 shows the risk profiles for both injury and fatality for each of the proposed truck delivery destinations with and without the applicant-proposed AMMs. Based on the risk profiles, the public safety risk of transporting crude oil from the LFC facility to each of the two receiving terminals would be **less than significant (Class III).**

Implementation of mitigation measure RISK-02, discussed below under impact RISK.3 would serve to reduce the likelihood of an accident further. Implementation of this mitigation measure would reduce the likelihood of an accident by about 29% (Santa Barbara County 2018a). None of the other mitigation measures identified in the SEIR would have an impact of the risk of upset due to crude oil trucking.

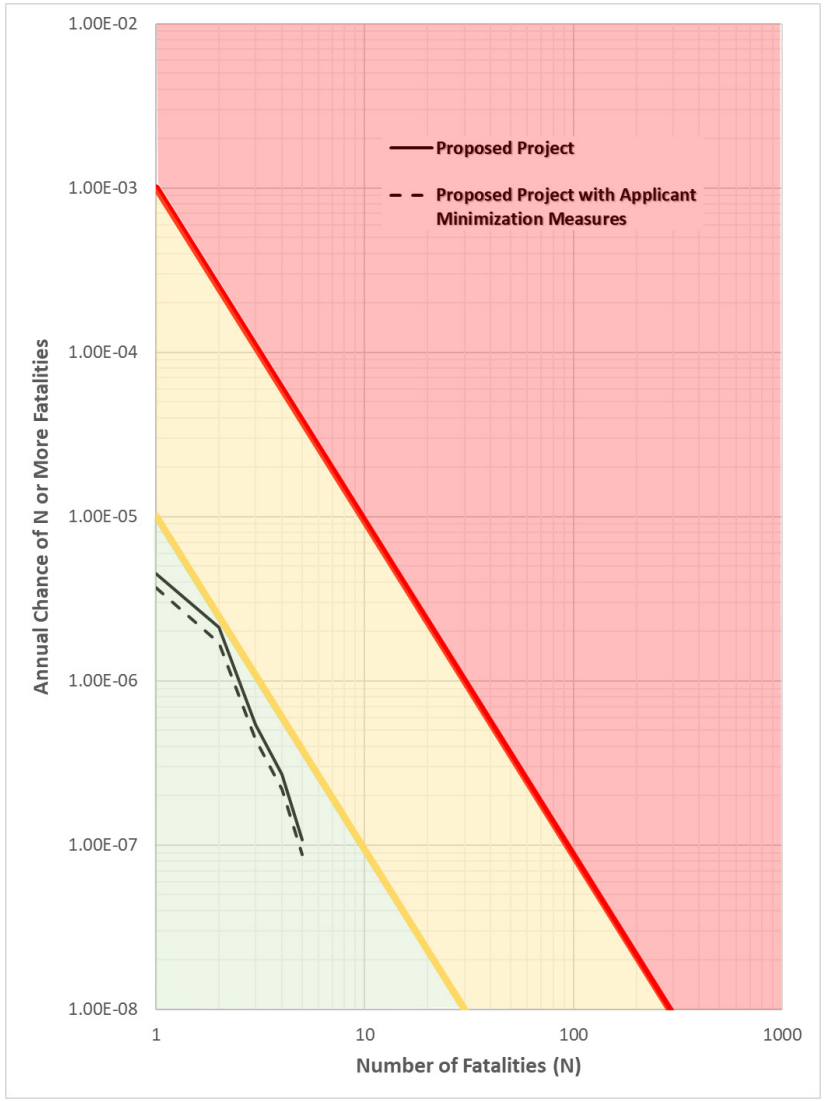
Figure 4.3-5 Risk Profiles for Crude Oil Transportation from LFC to the SMPS

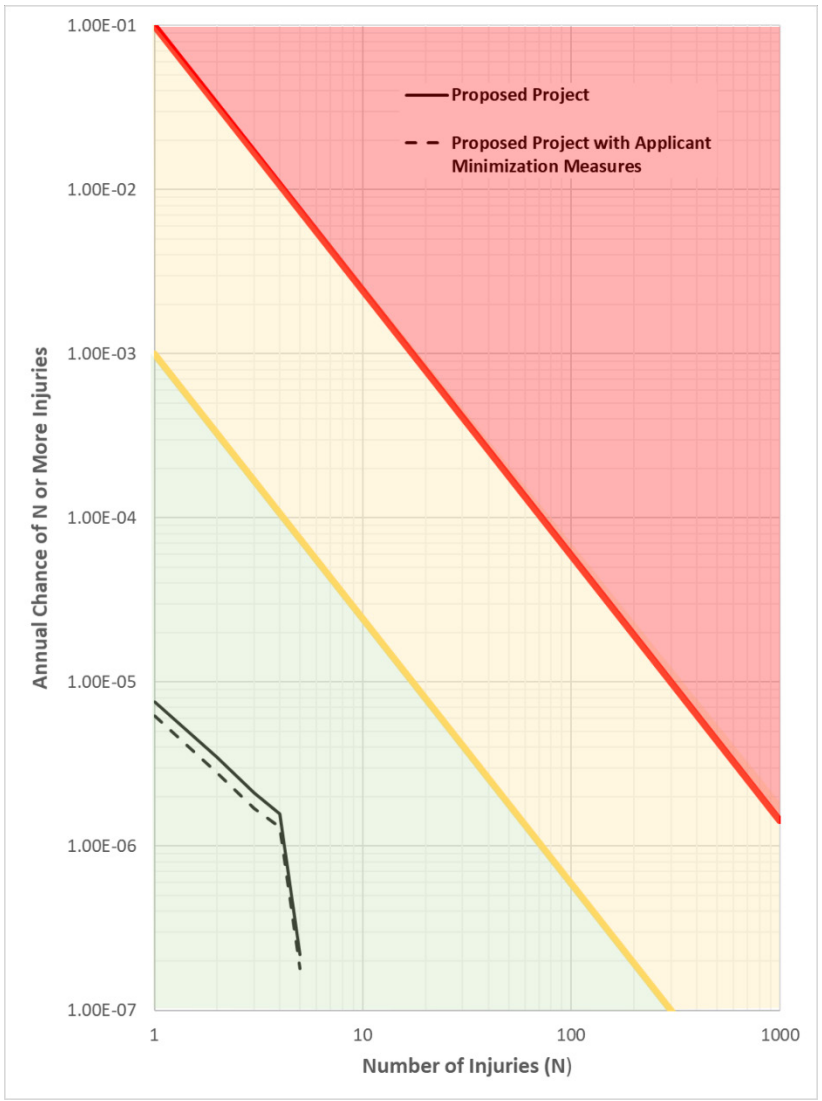




Source: ExxonMobil TQRA 2018

Figure 4.3-6 Risk Profiles for Crude Oil Transportation from LFC to the Plains Pentland Terminal





Source: ExxonMobil TQRA 2018

Potential Impact to Current Trucking to SMPS

The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed in Section 4.4, Transportation and Circulation, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 138 trucks per day with about 67 percent of these coming from east of the SMPS. Trucks coming from east are likely using State Route 166. Some of the trucks could also be using State Route 46.

At this current volume of truck deliveries, the SMPS would be able to handle about 32 trucks per day from the proposed Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude coming from the east due to longer transportation distance.

This longer travel distance for the trucks from the east increases the transportation cost of delivering the crude to the SMPS. There would be an economic incentive for Phillip 66, to displace trucks from the east (like somewhere in San Joaquin Valley) with crude from the proposed Project due to the lower transportation costs. The proposed Project would need to displace about 38 trucks per day from the east for all 70 trucks per day to go to the SMPS.

Trucks currently coming from the east would potentially be displaced by the proposed Project which would serve to reduce the risk of trucking along State Route 166. However, the proposed Project would increase the risk of trucking along Highway 101.

While is likely that crude oil from the proposed Project would displace crude transported from the east, there is no guarantee that this would happen. Therefore, no reduction in the project impacts has been considered for this potential displacement.

Impact #	Impact Description	Phase	Impact Classification
RISK.2	The proposed Project could generate risks to public safety by exposing the public to hazards from the truck loading operations at LFC.	Accidental Spill	Class III

Risks to the public from accidental releases of crude oil and gas are associated with the existing operations at the LFC facilities, including large storage tanks of crude oil, gas processing activities, ammonia storage, and LNG storage. The incremental increase in risk due to the installation of crude oil truck loading operations at the LFC are based on the different crude oil release scenarios that could occur from the truck loading operations as well as the potential for these scenarios to produce impacts that extend offsite.

The truck loading operations would involve the transfer of crude oil from the existing crude oil storage tanks via new pipelines that would transfer the crude to the truck loading racks. At the loading racks, loading lines would be used to transfer the crude to the trucks.

The scenarios that could occur include crude oil spills due to equipment or operational failures associated with piping and loading lines, or spills from the crude oil trucks, associated with equipment failures or operational failures. The spill of crude oil would produce the potential for a pool fire if an ignition source is encountered or could produce a flammable vapor cloud from volatile components of the crude oil vaporizing off the spilled crude oil that could then ignite if an ignition source is encountered.

There are several different scenarios that could produce spill of crude oil, including leaks or ruptures of piping, valves, meters and various other components. A review of the truck loading operations was conducted to determine a set of worst-case scenarios that were used to determine if the hazard zones would impact offsite areas. The identified worst-case scenarios were:

- Release from the feed piping associated with a full rupture resulting in a pool fire or flammable vapor hazard;
- Release from the loading line associated with a full rupture resulting in a pool fire or flammable vapor hazard; and
- Releases from the crude oil truck resulting in a pool fire or flammable vapor hazard.

Table 4.3-15 provides the key inputs and maximum downwind distances for each of the hazard scenarios that would be associated with the trucking activities at the LFC facility.

Table 4.3-15 LFC Trucking Release Scenarios and Associated Hazard Zones

Modeling Parameters	Value	
Crude oil pentane fraction	5%	
Wind speeds and stability	1.5 m/s – F stability 4 m/s – D stability	
Crude oil temperature (°F)	100	
Spill surface	Pavement	
Release pumping duration (minutes)	5	
Piping pressure (psig)	61.5	
Truck Loading Release Scenarios	**Loading Line**	**Feed Piping**
Loading Line diameter (inches)	4	10
Peak pumping rate (gpm)[1]	149	597
Pool diameter (feet)	22	37
Thermal Radiation Fatality (maximum downwind distance in feet)[2]	64	82
Thermal Radiation Injury (maximum downwind distance in feet)[2]	36	36
Maximum Vapor Cloud Distance to LFL (feet)[3]	39	45
Maximum Vapor Cloud Distance to ½ LFL (feet)[3]	22	37
Tanker Truck Release Scenarios	**Large Release (160 bbls)**	**Small Release (16 bbls)**
Pool diameter (feet)	118	38
Thermal Radiation Fatality (maximum downwind distance in feet)[2]	180	110
Thermal Radiation Injury (maximum downwind distance in feet)[2]	240	130
Maximum Vapor Cloud Downwind Distance to LFL (feet)[3]	105	36
Maximum Vapor Cloud Downwind Distance to ½ LFL (feet)[3]	150	42

1. Peak pumping rate for loading line is based on loading a single 160 bbl truck in 45 minutes. Peak pumping rate for feed piping is based upon loading four trucks simultaneously.
2. Maximum thermal radiation distances are for D stability and 4 m/sec windspeed.
3. Maximum vapor cloud distances are for F stability and 1.5 m/sec windspeed.

The consequence modeling results for the tanker truck release scenarios are provided in Appendix C1-TQRA.
The consequence modeling results for the loading hose and feed pipeline are provided in Appendix C2-LFC Release Modeling Results.

The proposed trucking loading operations at the LFC facility would not result in any new risk to the public since the worst-case hazard zones would not extend offsite. Therefore, the impacts to public safety from the loading operations would be **less than significant (Class III)**.

Impact #	Impact Description	Phase	Impact Classification
RISK.3	Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	Accidental Spill	Class I

Spills of oil from the trucking operations could have direct effects to special-status species, habitat, vegetation communities, streams and other jurisdictional resources (e.g., drainages) along the truck transportation routes. For the portion of the route along the Gaviota coast a spill of oil that entered a drainage, could potentially reach the ocean resulting in direct effects to marine resources.

The maximum spill from a truck would be about 160 barrels (6,720 gallons). The initial spill would likely be on the road pavement, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would influence the severity of impacts to biological, cultural and water resources. The annual probability of 160 barrel spill occurring was estimated to be equivalent to one in once in 86 years for trucks going to the SMPS and once in 30 years for trucks going to the Plains Pentland Terminal.

Depending upon the location and timing of a spill, biological resources, including critical habitat for La Graciosa thistle, Gaviota tarplant, Tidewater goby, California red-legged frog, California tiger salamander, Southwestern willow flycatcher, and Steelhead could be impacted.

Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources. As discussed in Section 4.3.1.5, the truck transportation routes cross perennial streams and major drainages. In the event of a spill that enters these waterways, there could be impacts to water quality and the aquatic habitat. Some of the creeks that could be affected by an oil spill flow into major waterways such as the Santa Ynez River, Cuyama River, Santa Maria River, and Twitchell Reservoir. If the oil spill occurred during periods when these creeks were flowing it is possible that oil could enter into these major waterways and impact biological and water resources.

In the event of an oil spill into a stream and creek crossings along the Gaviota Coast, oil could flow into the Pacific Ocean resulting in impacts to marine resources. Spills that reached the ocean could impact the local kelp ecosystem, as well as marine mammals, marine birds, and other sensitive marine species such as abalone, California Brown Pelican, and southern steelhead.

Truck spills along roads would be easier to contain and clean up than spills that entered waterways where there could be impacts to aquatic and riparian habitats. Spills of oil that reached the ocean would be even more difficult to cleanup.

In the event that a truck accident results in an oil spill, disturbance of cultural resources could occur as a result of associated cleanup and/or restoration activities. For there to be an impact to cultural resources, the spill would need to occur in the vicinity of these resources. Clean up of an oil spill would likely require the use of bulldozers, frontend loaders, and other construction equipment to remove any contaminated soil. Use of this type of construction equipment could impact both known and unknown cultural resources. As the exact location and extent of this type of event cannot be reasonably predicted, a resource-specific analysis was not conducted for the preparation of this section.

In the event of a truck accident resulting in a crude oil spill, the application of RISK-01 would require a qualified cultural resources specialist to develop resource-specific measures for further avoidance, protection, and treatment of cultural resources in the vicinity of the accident. For instance, where feasible, a qualified cultural resources specialist could direct emergency crews, clean up, and remediation efforts to avoid further impacts to known cultural resources. Total avoidance in the event of a spill would not be feasible; therefore, if cultural resources are affected, the impact could be significant.

Spills of oil at the truck loading area in LFC would likely be contained on the large existing graded pad where the proposed truck loading rack would be installed. This large existing graded pad, which is about 2.91 acres in size, is slightly sloped to drain into the existing emergency containment basin. Therefore, any oil spill that was not contained on the pad would be contained within the emergency containment basin.

The Applicant has a number approved plans in place to address spills and emergency response. These include the following;

- Spill Prevention, Control and Countermeasure (SPCC) Plan for the LFC Facilities,
- Emergency Response Plan (ERP) for the LFC Facilities,
- Pacific Region Oil Spill Response Plan (OSRP),
- SYU Facility Response Plan (FRP), and
- SYU Spill Cleanup Impact Reduction and Restoration Supplement (IRRS).

For onshore spill events, the LFC Emergency Response Plan (ERP) is the main plan that would be activated and utilized to respond to the event. The other plans such as the SPCC, IFPP, and FRP would be utilized as needed to support the response activities. If oil reached the ocean the OSRP would be activated. Each of these plans is discussed below.

LFC Spill Prevention Control and Countermeasure Plan (SPCC) - A SPCC Plan is currently in place for the LFC and POPCO facilities. Each facility has a SPCC Plan that has been prepared in accordance with 40 CFR Part 112 (Oil Pollution Prevention). Under this regulation, Non-Transportation related facilities which exceed listed oil storage capacities and which, due to their location, could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines are subject to the regulation. The SPCC Plan discussed the equipment at the LFC facility and the methods that are in place to control spills. The plan also discusses the various spill volumes that could occur at the facility.

LFC Emergency Response Plan (ERP) - This Plan's purpose is to provide emergency response guidelines for on-site and onshore Applicant and contract personnel at the LFC facility, including the POPCO gas processing plant. The Plan was prepared pursuant to FDP Condition XI-2.c of the Santa Barbara County Final Development Plan for the LFC facilities, and Permit Condition P-3 of the POPCO Compliance Program. The primary emphasis of this Plan is to facilitate the protection of life and health of onshore Applicant and contract employees and to protect the general public and surrounding area from being adversely affected in the event of an emergency event at the facilities. This Plan has been developed to address potential impacts and situations that may result from a failure of processing equipment, pipelines, tanks, and other equipment at the LFC facilities. The ERP currently addresses both on-site and off-site truck accidents and would be cover a crude oil truck accident. The plan also addresses responses to pool fire and flammable vapor events.

Pacific Region Oil Spill Response Plan (OSRP) - The OSRP was prepared pursuant to FDP Condition XI-2-e of the Santa Barbara County Final Development Plan and as required by the Bureau of Safety and

Environmental Enforcement (BSEE) in accordance with 30 CFR Part 250.203 (Oil Spill Response Plans). The intent of these regulations is to ensure that an appropriate oil spill contingency plan, a response plan, is in place to respond to offshore spills. The OSRP for Pacific OCS Operations covers all offshore facilities and oil pipelines. The OSRP is consistent with the current National Oil and Hazardous Substances Pollution Contingency Plan and the Area Contingency Plan (ACP) Los Angeles/Long Beach for Santa Barbara County. Preparation of the OSRP also fulfills the requirements set forth in California Government Code 8670-35, which requires local governments with jurisdiction over or located directly adjacent to marine waters to develop an oil spill contingency plan element as a component of the Hazardous Materials Emergency Response Area Plan. The Plan discusses the available oil spill equipment inventories and their location, the methods procedures that would be used in the event of an oil spill. This plan would be implemented in the event of an oil spill from trucking operations reached the ocean.

SYU Facility Response Plan (FRP)- The SYU Facility developed a Facility Response Plan to satisfy Section 311(j)(5) of the Clean Water Act and CFR 40 Part 112.20 (f)(1) (Oil Spill Prevention). These regulations stated that an onshore facility prepare and submit a plan to EPA if the facility, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines. This Plan lays out the response to an oil spill that could impact the environment.

SYU Spill Cleanup Impact Reduction and Restoration Supplement (IRRS) - The IRRS is a supplement to the Las Flores Canyon ERP. The IRRS is intended to provide guidance in: (1) the assessment of spill impacts to biological and cultural resources; (2) the use of appropriate cleanup procedures to minimize impacts to biological and cultural resources; and (3) habitat restoration following spill cleanup. The IRRS addresses the requirements of Conditions XI-2.e and XIV-3 of the FDP regarding low impact cleanup strategies and restoration procedures to riparian and instream habitats, and procedures for protecting and/or avoiding archaeological resources. This Plan addresses specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during spill response and cleanup operations, including provisions for containment and cleanup for the entire extent of the spill site. The Plan would also include low-impact techniques for clean-up operations designed to minimize further damage to sensitive habitats.

Mitigation Measure RISK-01 requires updates to some of the aforementioned existing emergency response plans to include the crude oil trucking operations.

Mitigation Measure RISK-2 requires additional safety features for the trucks that would serve to reduce the overall likelihood of an accident thereby reducing the likelihood of an oil spill. These additional safety features include the following:

- Drivers will have a minimum of two years of commercial driver experience, plus extensive training in defensive driving, emergency response, and other driving skills.
- Drivers will be trained on Project-specific requirements, including loading and
- transportation procedures, local traffic concerns and hazards, driver safety, and driver courtesy.
- Drivers will be trained to use dedicated routes.
- Maximum speed limits will be established for the ECC highway access roads.
- All trucks will be linked to an integrated fleet geographical information management system that provides real-time satellite tracking and mapping of locations, speeds, and other parameters.

- The geographical information system will be used to set and measure compliance to speed limits, acceleration, and de-acceleration for trucks in a specific area and/ or at a specific time of day.
- All tanker trucks will be equipped with dual-sided dashboard video cameras.
- All tanker trucks will be equipped with Roll Stability Control (RSC) systems.
- The fleet will operate an Electronic Driver Vehicle Inspection Report system, integrated with its maintenance system.

Use of these measures would reduce the likelihood of an accident by about 29% (Santa Barbara County 2018a).

However, the potential remains for a spill and the associated environmental effects and its clean-up. Even with implementation of mitigation, in the unlikely event of a spill associated with the trucking operations, the impacts to biological, water, and cultural resources could be **significant and unavoidable (Class I)** particularly if a spill was to enter a waterway or occur during a rainy period.

Mitigation Measures

RISK-1 ***Updated Emergency Plans.*** *The following existing plans shall be updated to include the trucking operations.*

a. ***LFC Spill Prevention Control and Countermeasure Plan (SPCC) –*** *Section 2.6 shall be updated to cover the truck loading rack. The section shall include a brief description of the rack and loading operations, and the measures in place to avoid releases of oil.*

b. **LFC Emergency Response Plan (ERP) -** *The ERP shall be updated to include the truck loading operations with the FLC facility. This shall include a discussion of the actions to be taken in the event of an oil spill from the loading operations, including reference to other emergency plans.*

c. ***SYU Facility Response Plan (FRP)*** *– The FRP shall be updated to include the truck loading operations with the FLC facility. This shall include a discussion of the actions to be taken in the event of an oil spill from the loading operations, including reference to other emergency plans.*

d. ***SYU Spill Cleanup Impact Reduction and Restoration Supplement (IRRS) –*** *This plan shall be updated to address any additional sensitive biological resources that could be present along the truck transportation routes. As needed, the measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during spill response and cleanup operations shall be updated to any unique aspects of the transportation routes that are not covered under the existing IRRS. The IRRS shall also include an Emergency Contingency and Treatment Plan for Cultural Resources. The Treatment Plan shall include: (1)Protocols for determining the cultural resources regulatory setting of the incident site; (2) methodologies for identifying cultural resources, as needed, within the incident site (e.g., California Historical Resources Information System records search, agency contact, field survey); (3) If cultural resources are present, identify measures for their avoidance, protection, and treatment; and (4). identification of a cultural resource monitor and Native American monitors that would be contacted in the event of a spill.*

PLAN REQUIREMENTS and TIMING: *The updated emergency plans shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance. The requirements of the*

approved Action Plan shall be implemented by the Owner/Applicant as necessary in the event of a spill. The Owner/Applicant shall report its implementation of emergency measures to P&D consistent with the Santa Barbara County's Emergency Notification Guidance Matrix, which is part of the approved LFC Emergency Response Plan.

***MONITORING**: P&D shall conduct onsite inspection(s) to verify and document implementation of emergency action measures.*

RISK-2 ***Truck Hazard Mitigation Plan.** A Truck Hazard Mitigation Plan shall be prepared that addresses the various aspects of truck operation safety with the goal of minimizing the potential for an accident or release to occur. The Plan shall include: carrier qualifications, driver selection and training, electronic driver vehicle inspection report/maintenance systems, approved travel routes, truck loading/unloading procedures, and use of onboard safety systems such as speed limiters, dual-sided dashboard video cameras, and geographical information management systems. In addition, incident and annual reporting procedures shall be included. This Truck Hazard Mitigation Plan can be included as part of the applicant proposed CO-TRMPP.*

***PLAN REQUIREMENTS and TIMING:** The Truck Hazard Mitigation Plan shall be submitted to P&D for review and approval prior to issuance of the Zoning Clearance.*

***MONITORING**: P&D shall verify implementation of the approved Truck Hazard Mitigation Plan through review of incident and annual reports, and site inspection as needed throughout Project operations.*

Impact #	Impact Description	Phase	Impact Classification
FIRE.1	New Development in an Area without Adequate Fire Fighting Capabilities or Adequate Access for Fire Fighting	Operations	Class III

The new development would include the truck loading racks and associated pipelines that would be constructed with the confines of the existing LFC facilities. In the unlikely event of a spill and resultant fire from the truck loading operations, the oil would be contained within the transportation terminal and adjacent spill containment system. The loading rack would be equipped with a firefighting equipment including a fire monitor (converted from an existing fire hydrant).

The Applicant has an existing Integrated Fire Protection Plan (IFPP) for the LFC facilities. The IFPP was prepared pursuant to Permit Condition Xl-2.i of the Santa Barbara County Final Development Plan for ExxonMobil's onshore oil and gas facilities at LFC and Permit Condition P-2 of the POPCO Compliance Program. The IFPP addresses the potential fire hazards associated with operations within LFC and identified the firefighting capabilities available at the site. The IFPP contains a section that addresses the Transportation Terminal and the Truck Loading Area, which is the area in LFC where the truck loading rack would be constructed. The County has found the IFPP adequate for the current LFC facilities.

The truck loading operations would represent a small change to the overall fire hazards at the LFC facility and would not occur within an area without adequate fire prevention or fire suppression and protection systems, including firefighting access. Therefore, the impacts to firefighting capabilities and access would be **less than significant (Class III)**.

4.3.5 Cumulative Effects

Risk of Upset

As discussed in Section 3.2.2, other cumulative crude oil trucking projects, there are several proposed oil development projects in Northern Santa Barbara County that would involve the trucking of crude oil and/or light oil for blending. The Aera East Cat Canyon Project would involve the trucking of light and blended crude oil between Cat Canyon and the Belridge Producing Complex in Kern County. It has been assumed that trucking for the Aera Project would be via Clark Road to Highway 101 to State Route 46, which is the assumption used in the mileage calculation of the Aera TQRA. The only overlap with the proposed Project would be the portion of Highway 101 between Clark Road and Betteravia Road for trucks going to the Santa Maria Pump Station and Highway 101 between Clark Road and State Route 166 for trucks going to the Plains Petland Terminal.

The ERG West Cat Canyon Revitalization Project and the PetroRock UCCB Production Plan Project have proposed to use the Foxen Petroleum Pipeline (FPP) when and if it becomes operational. These projects have proposed to truck their oil to the SMPS until the FPP is operational or when the pipeline is down during maintenance periods. If they trucked their oil to the SMPS they would not use U.S. Highway 101. Even with the use of the FPP, the ERG and PetroRock Projects would need to truck light oil to their sites for blending. The source location for the light oil is unknown but will likely come from suppliers in Kern County. If the light oil comes from Kern County, there could also be an overlap of truck routes with proposed Project trucks and Aera's trucks along Highway 101 between Clark Road and Betteravia Road for trucks going to the SMPS and Highway 101 north of Betteravia Road and State Route 166 for trucks going to the Plains Pentland Terminal.

Table 4.3-16 provides an estimate of the daily laden trucks for each of the cumulative oil projects by year during the seven years that trucking for the proposed Project could be occurring along the stretch of U.S. Highway 101 between Clark Road and State Route 166 East. These number include light oil for ERG and PetroRock and light and blended oil for Aera.

Table 4.3-16 Cumulative Development Laden Oil Trucks on U.S. Highway 101 Between Clark Road and State Route 166 East (# of laden truck trips per day)

Year	ExxonMobil SYU Interim Trucking	ERG West Cat Canyon Revitalization Project	Aera East Cat Canyon Oil Field Redevelopment Plan	PetroRock UCCB Production Plan	Total Laden Trucks
1	70	1	In Construction	1	72
2	70	3	In Construction	1	74
3	70	5	31	2	108
4	70	8	42	2	122
5	70	10	50	3	133
6	70	13	51	3	137
7	70	15	53	3	141
8 and Greater	0	15	116	5	136

1. For ExxonMobil trucking to the SMPS, the overlap is from Clark Road to Betteravia Road.
2. For ExxonMobil trucking to the Plains Pentland Terminal the overlap is from Clark Road to State Route 166 East.
3. Aera truck numbers based upon trucking numbers by year in AQIA adjusted for estimated project timing.
4. ERG and PetroRock light oil truck numbers based upon ratio of peak light oil trucks to total trucks (light oil and blend oil). Includes existing trucks.
5. Assumes all ERG and PetroRock light oil comes from Kern County.
6. Year 8 and greater is post ExxonMobil trucking and assumes peak trucking numbers for other projects.

If all the LFC crude was trucked to the Plains Pentland Terminal, the stretch of Highway 101 from Clark Road to the intersection of State Route 166 east could see as many as 141 trucks per day carrying crude oil, blended crude or light crude. This assumes that the ERG and PetroRock Projects import their light oil from Kern County. Most of the trucks would be associated with the proposed Project (50%) and the Aera East Cat Canyon Project (38%). If all the LFC oil was trucked to SMPS then the stretch of Highway 101 between Clark Road and Betteravia Road would see as many as 141 trucks per day carrying crude oil, blended crude or light crude.

Using data from the proposed Project and the Aera East Cat Canyon Project transportation quantitative risk assessments (TQRAs), estimates of the cumulative transportation risk were developed for proposed Project routes to the SMPS and the Plains Pentland Terminal. Appendix C provides the cumulative transportation risk calculations. For the SMPS route the peak cumulative transportation risk occurs on the stretch of U.S. Highway 101 between Clark Road and Betteravia Road. For the Plains Pentland Terminal the peak cumulative transportation risk occurs on the stretch of U.S. Highway 101 between Betteravia Road and State Route 166 East.

The TQRA for the Aera Project found that the highest transportation risk segment was in Santa Maria on Highway 101 Between Betteravia Road and State Route 166 East. This was the same segment that had the highest transportation risk for the proposed Project crude trucks travelling to the Pains Pentland Terminal.

Figures 4.3-7 shows the cumulative trucking risk profiles for both injury and fatality for each of the proposed Project truck delivery routes. This figure shows that the peak cumulative transportation risk would be less than significant. Implementation of mitigation measure RISK-2 would serve to reduce the overall incident rate for the trucking operations, which would serve to further reduce the overall cumulative risk.

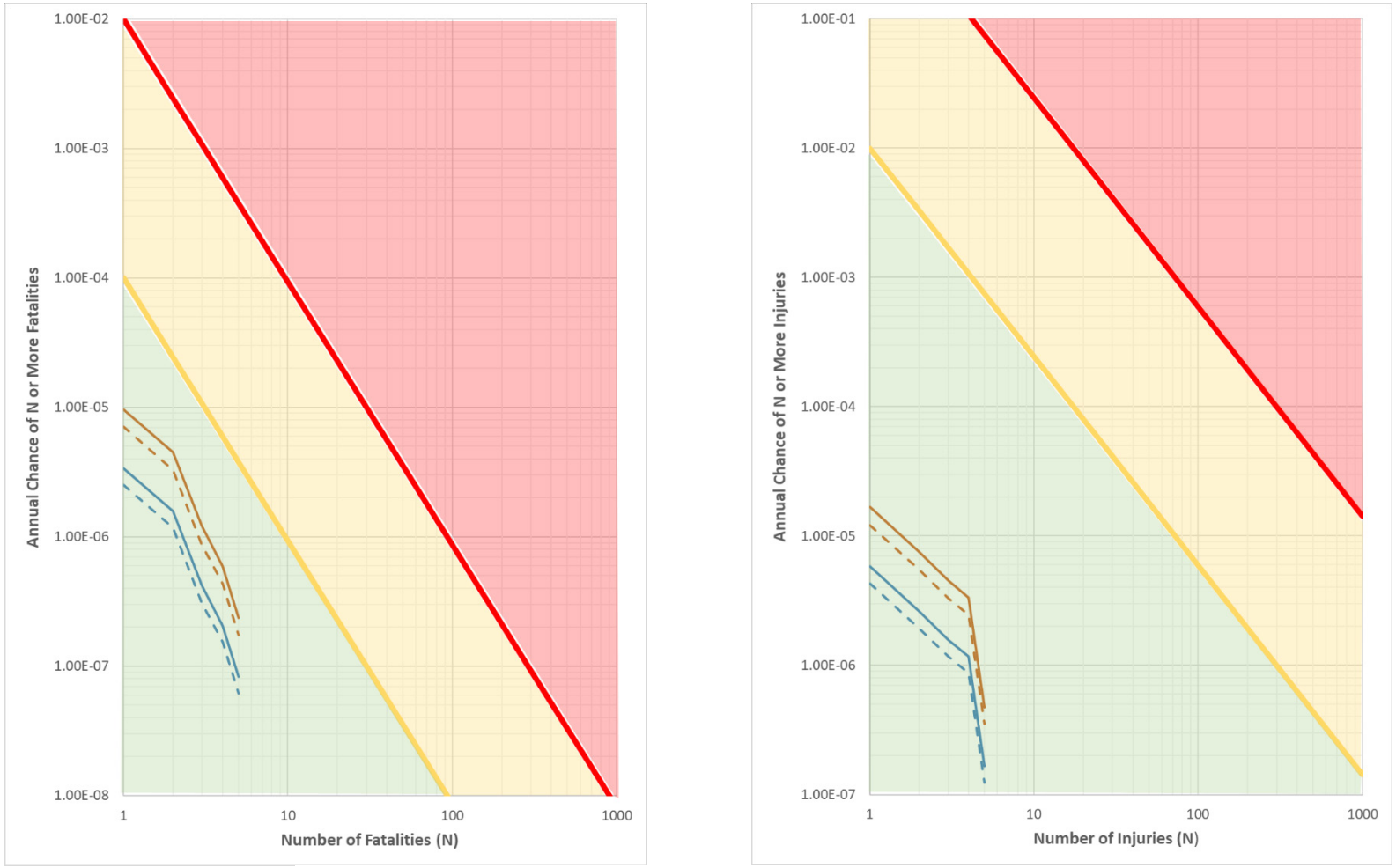
The transportation risk on the segment of U.S. Highway 101 between Clark Road and Betteravia Road has a lower risk due to (1) a lower truck accident rate, (2) lower annual average daily traffic, and (3) lower population density than the segment from Betteravia Road to State Highway 166 East.

As detailed within Section 4.3.1, the baseline conditions are the average of the last three years of the SYU facility operations prior to shutdown of the facilities. Therefore, hazards associated with the operation of the onshore and offshore facilities will remain as evaluation under prior environmental analysis and no new hazards at the SYU facilities would occur except for the truck loading hazards at the LFC facilities, which are discussed under Impact RISK 2. Since none of the truck loading hazards would extend to offsite areas, the proposed Project's contribution to cumulative risk at the LFC facilities would be less than significant.

Oil Spills

As discussed above, the proposed Project and the three proposed oil development projects located in Cat Canyon would all involve trucking of crude oil within Northern Santa Barbara County. The cumulative oil trucking projects would result in several overlapping truck route segments. Along certain portions of the proposed truck routes, there could be as many as 141 trucks per day carrying crude oil, blended crude or light crude during the peak year overlap with the proposed Project. Of these, most of the proposed trucks would be associated with the proposed Project (50%) and the Aera East Cat Canyon Redevelopment Plan Project (38%).

Figure 4.3-7 Cumulative Risk Profiles for Crude Oil Transportation



In the event of an accidental oil spill resulting from a truck accident, the potential to impact sensitive biological, cultural and water resources exist. In most cases the initial spillage would likely be on the road pavement, and in most cases would be confined to the road surface and within an area about 500 feet of the roadway since the spill size of a full tanker would be approximately 11,000 ft^2. However, the volume, location and timing (seasonal) of any potential spill could influence the severity of impacts to these sensitive resources. Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources.

Pursuant to ERG's and Aera's EIRs the projects would be required to have emergency response and restoration plans that cover spills that have the potential to result from trucking operations. Mitigation measure RISK-1 would require the Applicant to update their oil spill and restoration plans to cover the proposed trucking operations. Also, the mitigation measures discussed above would serve to reduce the likelihood of an oil spill. However, even with these plans in place, the potential for a full tanker oil spill and the associated environmental effects of the spill and its clean-up still exists.

Even with mitigation, in the event of an accidental spill associated with the trucking operations, the cumulative impacts to biological, cultural and water resources could be significant and unavoidable depending upon the location of the spill and weather conditions at the time of the spill.

Spill risk related to the operation of the existing onshore LFC and offshore SYU facilities were addressed in prior environmental analyses. Under the proposed Project no new potential spill risk at the SYU facilities would occur except for the spills associated with the truck loading operations, which are discussed under Impact RISK.3. Spills from the truck loading operations would be limited to a maximum of about 160 barrels or approximately 6,720 gallons. Truck loading spills would be contained within the existing emergency containment basin. Therefore, the proposed Project's contribution to cumulative oil spill impacts at the LFC facilities would be less than significant.

Fire

The proposed Project, in conjunction with other planned and pending projects would result in an incremental increase in the creation of temporary and permanent fire hazard activities. All projects within fire hazard areas which have the potential for the risk of fire must have a Fire Protection Plan which is submitted to the County Fire Department and Planning and Development for approval. The LFC facilities already have an approved Integrated Fire Protection Plan. County Fire vegetation abatement and access requirements are already implemented and verified through ongoing inspections at the LFC facilities. The truck loading operations would represent a negligible addition to the existing fire risk the LFC facilities.

Given the fact that the existing LFC facilities have acceptable fire response times and adequate accesses to the site is available, the proposed Project's contribution to cumulative fire risk impacts would be less than significant.

4.3.6 Mitigation Monitoring Program

Table 4.3-17 Mitigation Monitoring Program

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
RISK-1	Updated Emergency Plans	Update and implement the SPCC, ERP, and IRRS to include the trucking operations.	Prior to Issuance of Zoning Clearance	P&D review and approval. P&D staff to monitor implementation	Prepare and submit the updates to the SPCC, ERP, FRP, and IRRS to include the trucking operations. Implement requirements of the Plans for the life of the trucking Project.
RISK-2	Truck Hazard Mitigation Plan	Prepare and Implement a Truck Hazard Mitigation Plan	Prior to Issuance of Zoning Clearance	P&D review and approval. P&D staff to monitor implementation	Prepare and submit a Truck Hazard Mitigation Plan for crude oil trucking. Implement Plan requirements for the life of the trucking Project.

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4.4 Land Use and Policy Consistency

This section describes land uses in the vicinity of the proposed Project area and the land use impacts of the proposed Project. The baseline environmental setting was developed by reviewing State and Local land use policy, plans, zoning, maps, and aerial images to establish the zoning and land uses of the area near the Project site. The last part of this section provides a preliminary policy consistency analysis.

4.4.1 Environmental Setting

ExxonMobil Production Company, a division of Exxon Mobil Corporation ("the Applicant") is proposing the Interim Trucking Project to allow for the phased restart of offshore oil production at the Santa Ynez Unit (SYU) for seven years or until a pipeline becomes available to transport crude oil to a refinery destination whichever is shorter. The project request is a revision to Development Plan 87-DP-32cz. Trucking would occur seven days per week, 24-hours per day, with no more than 70 trucks leaving the facility within a 24-hours period to one, or both, of the two identified receiver sites located in Santa Maria and Maricopa. The project would include minor modifications to the Las Flores Canyon (LFC) facilities including the installation of four Lease Automatic Custody Transfer (LACT) Units, associated piping, electrical and communication connections, pipe and equipment supports, truck loading racks, operator shelter, paving of selected areas, and minor containment and drainage grading.

The LFC facility is approximately twelve miles west of the City of Goleta and one mile north of Highway 101. The LFC facility is located on a 550-acre parcel zoned M-CR (Coastal Dependent Industry) APN 081-220-014, at 12000 Calle Real in the Goleta Area. Surrounding properties are zoned AG-II-100, AG-II-320 and REC and land uses include agriculture, commercial agriculture and recreation/open space, respectively. Figures 2-1 through 2-5 in Section 2.0, Project Description, provide the follow maps and figures for the proposed Project:

- Figure 2-1 - Vicinity Map;
- Figure 2-2 - Las Flores Canyon Facilities Site Map;
- Figure 2-3 - Proposed Truck Loading Facility Layout;
- Figure 2-4 - Proposed Truck Route to Receiving Facilities; and
- Figure 2-5 - Truck Layout within the Las Flores Canyon Facility.

4.4.2 Regulatory Setting

This section presents a summary of the key land use regulations that would be applicable to the proposed Project. Other regulations that indirectly affect land use such as those pertaining to air quality and traffic are discussed in those other issue area sections.

4.4.2.1 State Regulations

The California Public Resource Code Section of the California Coastal Act

The LFC Facility is located on land designated by the State and County in both the inland and coastal zones. Most of the facilities, including the proposed Project area, are in the inland land use zoning area. The lower portion of Las Flores Canyon and portions of the proposed trucking route are in the coastal zone. Sections of the Coastal Act applicable to the proposed Project are listed below.

- **Section 30260 Coastal-dependent industrial facilities.** Shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

- **Coastal Act Policy 30232 Oil and Hazardous Substance Spills.** Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances, shall be 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.

- **Coastal Act Policy 30240 - Environmentally Sensitive Habitat Areas (ESHAs).**

  (a) The ESHAs shall be protected against any significant disruption of habitat values, and only uses, dependent on those resources, shall be allowed within those areas.

  (b) Development in areas adjacent to environmentally sensitive habitat areas, and parks and recreation areas, shall be sited and designed to prevent impacts, which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

- **Coastal Act Policy 30244 - Archaeological or Paleontological Resources.** Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

- **Coastal Act Policy 30250 - Location in Existing Developed Area.** New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.

- **Coastal Act Policy 30251 - Scenic and Visual Qualities.** 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 land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

- **Coastal Act Policy 30253 - New Development, Risk and Stability.** New development shall (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard; and (2) Assure stability and structural integrity, and neither create, nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area, or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

- **Coastal Act Policy 30253.3 - New Development, APCD and CARB Rules.** New development shall be consistent with requirements imposed by an air-pollution control district or the State Air Resources Control Board, as to each particular development.

- **Coastal Act Policy 30262 - Oil and Gas Development.** (a) Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:

  (2) New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible. (…)

  (5) The 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. (…)

  (7)(B) Once oil produced offshore California is onshore, it shall be transported to processing and refining facilities by pipeline.

Section 30265 Legislative findings and declarations; offshore oil transportation. The Legislature finds and declares all of the following:

- a) Transportation studies have concluded that pipeline transport of oil is generally both economically feasible and environmentally preferable to other forms of crude oil transport.
- b) Oil companies have proposed to build a pipeline to transport offshore crude oil from central California to southern California refineries, and to transport offshore oil to out-of-state refiners.
- c) California refineries would need to be retrofitted if California offshore crude oil were to be used directly as a major feedstock. Refinery modifications may delay achievement of air quality goals in the southern California air basin and other regions of the state.
- d) The County of Santa Barbara has issued an Oil Transportation Plan which assesses the environmental and economic differences among various methods for transporting crude oil from offshore California to refineries.
- e) The Governor should help coordinate decisions concerning the transport and refining of offshore oil in a manner that considers state and local studies undertaken to date, that fully addresses the concerns of all affected regions, and that promotes the greatest benefits to the people of the state.

4.4.2.2 Local Regulations

County of Santa Barbara Comprehensive Plan

The County of Santa Barbara's (County's) Comprehensive Plan consists of the following elements (County of Santa Barbara, 2015a):

- **Circulation Element:** Identifies the general location and extent of existing and proposed major roads, transit routes, terminals, and public utilities and facilities.
- **Conservation Element:** Addresses the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits.
- **Land Use Element:** Lays out the general patterns of development throughout the County, including the distribution of real estate, open space and agricultural land, mineral resources, recreational facilities, schools, and waste facilities. This is one of the broadest elements of the Comprehensive Plan, and includes the following four fundamental goals:

  - Environment: Environmental policies on development shall be respected. Economic and population growth shall proceed at a rate that can be sustained by available resources.
  - Urbanization: In order for the County to sustain a healthy economy in the urbanized areas and to allow for growth within its resources and within its ability to pay for necessary services, the County shall encourage infill, prevent scattered urban development, and encourage a balance between housing and jobs.
  - Agriculture: In the rural areas, cultivated agriculture shall be preserved and, where conditions allow, expansion and intensification should be supported. Lands with both prime and non-prime soils shall be reserved for agricultural uses.
  - Open Lands: Certain areas may be unsuited for agricultural uses due to poor or unstable soil conditions, steep slopes, flooding or lack of adequate water. These open lands have importance as grazing, water-shed, wildlife habitat, mineral resources, recreation, and scenic qualities. These lands are usually located so that they are not necessary or desirable for urban uses. There is no basis for the proposition that all land, no matter where situated or whatever the need, must be planned for urban purposes if they cannot be put to some other profitable economic use.

- **Noise Element:** Identifies and appraises noise problems within the community and influences the distribution of land uses.
- **Open Space Element:** Details plans and measures for preserving open space for natural resources, outdoor recreation, public health and safety, and agriculture.
- **Seismic Safety & Safety Element:** Establishes policies to protect the community from natural and manmade hazards (e.g. seismic, geologic, flood, wildfire, and toxic materials hazards).
- **Safety Supplement:** Amends the Seismic Safety & Safety Element and addresses facilities that handle acutely hazardous materials and are fixed in location to a single site; and gas pipelines which are fixed in location to a corridor.
- **Agricultural Element:** Addresses the future use of agricultural lands and resources and includes goals and policies applicable to projects that affect agricultural resources.
- **Energy Element:** Contains long-range planning guidelines and strategies to encourage energy efficiency and alternative energy sources in Santa Barbara County.
- **Environmental Resource Management Element:** Summarizes the various environmental factors analyzed in the Seismic Safety and Safety, Conservation, and Open Space Elements, and identifies policies which define whether development is appropriate given the severity of constraints.
- **Hazardous Waste Element:** Includes goals, policies and siting criteria that must be evaluated for proposed hazardous waste facilities.
- **Scenic Highways Element:** Presents the County's scenic highway goals, evaluation standards, preservation measures and procedures for obtaining official "Scenic Highway" designation for State and County roads.

Santa Barbara County Local Coastal Plan

The lower portion of Las Flores Canyon and portions of the proposed trucking route are in the coastal zone. Sections of the Santa Barbara Local Coastal Plan applicable to the proposed Project are listed below.

- **Coastal Plan Policy 2-11.** All development, including agriculture, adjacent to areas designated on the land use plan or resource maps as environmentally sensitive habitat area, shall be regulated to avoid adverse impacts on habitat resources. Regulatory measures include, but are not limited to, setbacks, buffer zones, grading controls, noise restrictions, maintenance of natural vegetation, and control of runoff.

- **Coastal Plan Policy 3-13.** The plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied, if it is determined that the development could be carried out with less alteration of the natural terrain.

- **Coastal Plan Policy 3-14.** All the development shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions, and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site, which are not suited for development because of known soils, geologic, flood, erosion, or other hazards, shall remain in open space.

- **Coastal Plan Policy 6-8.** If an onshore pipeline for transporting crude oil to refineries is determined to be technically and economically feasible, proposals for expansion, modification, or construction of new oil and gas processing facilities shall be conditioned to require transportation of oil through the pipeline when constructed, unless such condition would not be feasible for a particular shipper. *(Revised 6/18/84, B/S Resol #84-284; 11/19/91, B/S Resol#91-670*).

  a. Pipeline transportation of crude oil to a refining center served by a pipeline is presumed to be technically and economically feasible and the required method of transportation to that center. (*Revised 6/18/84, B/S Resol #84-284*).

  b. Pipeline transportation of crude oil is presumed feasible for a particular shipper if a pipeline is in operation to the refining center of the shipper's choice. (*Revised 6/18/84, S/S Resol #84-284*).

  c. Crude oil processing facilities shall be conditioned to require that each shipper's oil leaving those facilities be transported by pipeline when a pipeline is in operation to the refining center of the shipper's choice. (*Revised 6/18/84, S/S Resol #84-284*).

  d. Until pipelines become available, and for refining centers not served by pipeline, other modes of oil transportation are allowed consistent with County policies. Rail is not preferred for large volume shipments of oil. (*Revised 6/18/84, B/S Resol #84-284*).

  e. For refining centers served by pipeline, other modes of transportation up to the limits of permitted capacity for those modes, and with assurances that the shipper or transportation facility operator can and will mitigate the environmental impacts caused by the alternate transportation mode, are allowed only under the following circumstances:

     1) Pipeline unavailability or inadequate capacity; or

     2) A refinery upset lasting no longer than two (2) months and only where the alternate refining center is not served by pipeline; or

3) An emergency which may include a national state of emergency. (*Revised 6/18/84, B/S Resol #84-284*).

- **Coastal Plan Policy 6-11**. If an onshore pipeline is determined to be technically and economically feasible existing marine terminals shall become, after a specified period, non-conforming uses. Crude oil shall be transported by pipeline, unless the County makes the finding that transportation of oil by pipeline is not feasible for a particular shipper according to the provisions of Policies 6-8 and 6-8A. (*Revised 6/18/84, B/S Resol #84-284*)"

County of Santa Barbara Codes and Ordinance

As noted in the Section 2.0, Project Description, the SYU oil and gas processing facilities are located in Las Flores Canyon on the Gaviota Coast. The LFC facility property boundary extends from Highway 101 on the coastline to approximately 1.6 miles up the canyon. As such, the facility is located in both the Coastal Zone and the Inland area of the County's Land Use Development Code. The oil and gas processed at the LFC facilities is produced from offshore reservoirs is transported through offshore to onshore facility pipelines which pass through the coastal zone. The actual oil and gas processing facilities in LFC are in the inland area. The site is zoned MC-R (Coastal Related Industry). The proposed Project loading rack facility would also be located in the inland area. The proposed crude oil trucking routes travel through both coastal and inland areas. Therefore, for the purposes of applying ordinance standards, the proposed Project is subject to both the Land Use Development Code Ordinance (inland) and the Coastal Zoning Ordinance.

County of Santa Barbara Land Use and Development Code (LUDC)

The County's Land Use and Development Code (LUDC) constitutes a portion of Chapter 35 of the Santa Barbara County Code. The LUDC is currently applicable to the unincorporated areas of the County outside the Coastal Zone and the Montecito Planning Area.

The LUDC effectuates the policies of the County's Comprehensive Plan by classifying and regulating the uses of land and structures within the County. The purpose of the LUDC is to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses in the County (LUDC Section 35.10.010 - Purpose of LUDC). (County of Santa Barbara, 2018b). Oil and gas facilities are allowed uses in the Inland Areas for land zoned AG-I, AG-II, M-2, and M-CR (LUDC Section 35.52.040, Allowed Used and Permit/Plans Requirements for Oil and Gas Facilities) subject to the requirements of the LUDC (Chapter 35 of the County Code) (County of Santa Barbara, 2018b).

On the South Coast, offshore oil production can only be processed at one of the two approved consolidated onshore processing facilities, without voter approval. The LFC facility is considered one of the South Coast consolidated onshore processing facilities.

Article II, Coastal Zoning Ordinance

The Coastal Zoning Ordinance is applicable to SB County's unincorporated coastal zone and implements the Coastal Land Use Plan by classifying and regulating the uses of land, buildings, and structures in the coastal zone. Division 9 of the Coastal Zoning Ordinance covers oil and gas facilities. This Division sets forth specific regulations for those oil and gas facilities designated as permitted uses or uses permitted with a Conditional Use Permit in the applicable zoning districts within the Coastal Zone.

On the South Coast, offshore oil production can only be processed at one of the two approved consolidated onshore processing facilities, without voter approval. The LFC facility is considered one on the South Coast consolidated onshore processing facilities.

Section 35-154 details the specific requirements and regulations applicable to structures, equipment, or facilities that are necessary and incidental to Onshore Processing Facilities Necessary or Related to Offshore Oil and Gas Development within the Coastal Zone.

4.4.3 CEQA Appendix G Land Use Thresholds

Appendix G of the CEQA Statute and Guidelines provides the following thresholds for determining the potential environmental impact of a proposed project regarding land use; would the proposed Project:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan?

Section 4.4.4 discusses potential Project impacts with these CEQA Appendix G thresholds.

4.4.4 Project Impacts and Mitigation Measures

Impact #	Impact Description	Phase	Impact Classification
LU.1	The proposed Project could physically divide a community.	Construction Operations	Class III

The proposed Project is in a County approved consolidated oil and gas processing site on land zoned Coastal Related Industry (M-CR) and therefore does not divide an established community. Potential impacts for Land Use and Policy 1 are **less than significant (Class III)**.

Impact #	Impact Description	Phase	Impact Classification
LU.2	The proposed Project may conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Construction Operations	Class III

The proposed Project is located at the existing LFC facilities, a County approved consolidated oil and gas processing site, on land zoned Coastal Related Industry (M-CR). The preliminary analysis in Table 4.4-1 finds the proposed Project potentially consistent with applicable land use plans, policies, and regulations, however, due to the subjectivity of policy interpretation, it is the responsibility of the County decision makers to make the final determination regarding consistency issues as it relates to applicable County policies. Based on the preliminary analysis presented in Table 4.4-1, potential impacts for Land Use and Policy 2 would be **less than significant (Class III)**.

Impact #	Impact Description	Phase	Impact Classification
LU.3	Conflict with any applicable habitat conservation plan or natural community conservation plan?	Construction Operations	Class III

As noted above, the proposed Project is in a County approved consolidated oil and gas processing facility and therefore does not conflict with a habitat conservation or natural community conservation plan. Potential impacts for Land Use and Policy 3 are **less than significant (Class III)**.

4.4.5 Preliminary Consistency Analysis

State CEQA Guidelines §15125(d) requires that an EIR discuss any inconsistencies between a proposed project and applicable general plans, specific plans, and regional plans. Table 4.4-1 provides a preliminary evaluation of the proposed Project's potential inconsistency or consistency with applicable local policies, goals and standards. Inconsistency with a plan or policy that does not have a physical impact on the environment may not be considered an impact under CEQA. It is noted that the proposed Project's final determination of consistency or inconsistency with adopted plans rests with decision makers.

CEQA issue areas with the potential for an impact on the environment are discussed in the respective issue area sections.

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
Santa Barbara County Local Coastal Plan			
Coastal Land Use Plan	Coastal Land Use Plan Policy 2-11	All development, including agriculture, adjacent to areas designated on the land use plan or resource maps as environmentally sensitive habitat area, shall be regulated to avoid adverse impacts on habitat resources. Regulatory measures include, but are not limited to, setbacks, buffer zones, grading controls, noise restrictions, maintenance of natural vegetation, and control of runoff.	**Potentially Consistent.** The proposed Project is located at the existing LFC facilities on land zoned Coastal Related Industry (M-CR). The Project TLA site is currently graded and has been used in the past for equipment and supply storage. Mapped Environmental Sensitive Habitat (EHS) runs through the middle of the LFC facility and generally follows Corral Creek. The proposed TLA would be over 300 feet from the ESH and construction of the truck loading facilities would not result in any impacts to the ESH. In the event of a spill from the truck loading operations oil would be contained by the proposed containment berms and/or existing secondary containment basin. The entire TLA pad drains into the existing secondary containment basin.
Coastal Land Use Plan	Coastal Land Use Plan Policy 3-13	The plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied, if it is determined that the development could be carried out with less alteration of the natural terrain.	**Potentially Consistent.** The proposed Project is located on a previously disturbed and developed area and only minor grading (up to 500 cubic yards) would be necessary to prepare the existing site, no alteration of natural terrain is proposed.
Coastal Land Use Plan	Coastal Land Use Plan Policy 3-14	All the development shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions, and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site, which are not suited for development because of known soils, geologic, flood, erosion, or other hazards, shall remain in open space.	**Potentially Consistent.** The proposed Project is located on a previously disturbed and developed area and only minor grading (up to 500 cubic yards) would be necessary to prepare the existing site. No vegetation or trees are proposed to be removed and no alteration of natural terrain is required for the proposed Project.
Coastal Land Use Plan	Coastal Land Use Plan Policy 6-8	If an onshore pipeline for transporting crude oil to refineries is determined to be technically and economically feasible, proposals for expansion, modification, or construction of new oil and gas processing facilities shall be conditioned to require transportation of oil through the pipeline when constructed, unless such condition would not be feasible for a particular shipper. (*Revised 6/18/84, B/S Resol #84-284; 11/19/91, B/S Reso#91-670*). a. Pipeline transportation of crude oil to a refining center served by a pipeline is presumed to be technically and economically feasible and the required method of transportation to that center. (*Revised 6/18/84, B/S Resol #84-284*).	**Potentially Consistent.** The proposed Project is for temporary trucking of crude oil until the Plains Pipeline Replacement Project becomes operational, or until the existing Plains Pipeline is repaired and is placed back in service, or for a maximum of seven year without further review and approval by Santa Barbara County. Oil transportation by and existing pipeline is not possible at this time since no pipeline is currently available. *Policy 6-8.a* Transportation of crude oil by and existing pipeline is not possible since no pipeline is currently available. An application has been submitted by Plains All American Pipeline for the replacement of the Lines 901 and 903 pipeline system

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		b. Pipeline transportation of crude oil is presumed feasible for a particular shipper if a pipeline is in operation to the refining center of the shipper's choice. (*Revised 6/18/84, S/S Resol #84-284*). c. Crude oil processing facilities shall be conditioned to require that each shipper's oil leaving those facilities be transported by pipeline when a pipeline is in operation to the refining center of the shipper's choice. (*Revised 6/18/84, S/S Resol #84-284*). d. Until pipelines become available, and for refining centers not served by pipeline, other modes of oil transportation are allowed consistent with County policies. Rail is not preferred for large volume shipments of oil. (*Revised 6/18/84, B/S Resol #84-284*). e. For refining centers served by pipeline, other modes of transportation up to the limits of permitted capacity for those modes, and with assurances that the shipper or transportation facility operator can and will mitigate the environmental impacts caused by the alternate transportation mode, are allowed only under the following circumstances: 1) Pipeline unavailability or inadequate capacity; or 2) A refinery upset lasting no longer than two (2) months and only where the alternate refining center is not served by pipeline; or 3) An emergency which may include a national state of emergency. (*Revised 6/18/84, B/S Resol #84-284*).	and is proceeding under separate environmental, safety and land use policy review. The proposed Project is for temporary trucking of crude oil until a repaired or replaced pipeline is available. *Policy 6-8.b.* Normal operations for the LFC facility utilize pipeline for transportation of the produced crude oil. Lines 901 and 903 are not currently available at this time. *Policy 9-8.c*. See discussion for Policy 6-8.b above. *Policy 9-8.d*. See discussion for Policy 6-8.b above. *Policy 9-8.e*. See discussion for Policy 6-8.b above.
Coastal Land Use Plan	Coastal Land Use Plan Policy 6-11	If an onshore pipeline is determined to be technically and economically feasible existing marine terminals shall become, after a specified period, non-conforming uses. Crude oil shall be transported by pipeline, unless the County makes the finding that transportation of oil by pipeline is not feasible for a particular shipper according to the provisions of Policies 6-8 and 6-8A. (*Revised 6/18/84, B/S Resol #84-284*)	**Potentially Consistent.** See discussion for Coastal Policy 6-8 above. The proposed Project does not involve construction, or the use, of a marine terminal. Under the current FDP (Case No. 87-DP-32cz) Exxon is not able to construct a marine terminal since construction of the terminal did not begin prior to April 1, 1994.
Chapter 35 Coastal Zoning Ordinance			
Article II Coastal Zoning Ordinance	Section 35-154.5-Onshore Processing Facilities Necessary or Related to Offshore Oil and Gas Development	a. The level of noise generated by the facility at the property boundary shall not exceed 70 db(A). b. The applicant has received "authority to construct" from the Air Pollution Control District. c. There shall be no visible emission of smoke.	**Potentially Consistent.** (a) The proposed Project would add some noise to the LFC facility from trucks traveling on the access road to the loading rack. The Project on average would add about 6 one-way trips per hour on the access road. Trucks at slow speed have a noise level of about 85 dBA at 50 feet. The nearest property line is about 200 feet from the roadway which would give

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		d. The installation shall be visually compatible with the potential surroundings by use of any or all of the following measures where applicable: buffer strips, depressions, natural or artificial; screen planting and landscaping continually maintained; camouflage and/or blending colors. e. All lights shall be shielded so as not to directly shine on adjacent properties. f. Grading and alteration of natural drainages shall be minimized. g. Adequate provisions shall be made to prevent erosion and flood damage. h. Permanent structures and equipment shall be painted a neutral color so as to blend in with natural surroundings. i. Permits for expanding, modifying, or constructing crude oil processing or related facilities shall be conditioned to require that all oil processed by the facility shall be transported from the facility and the County by pipeline as soon as the shipper's oil refining center of choice is served by pipeline. Transportation by a mode other than pipeline may be permitted only: 1) Within the limits of the permitted capacity of the alternative mode; and 2) When the environmental impacts of the alternative transportation mode are required to be mitigated to the maximum extent feasible; and 3) When the shipper has made a commitment to the use of a pipeline when operational to the shipper's refining center of choice; and 4) When the County has determined use of a pipeline is not feasible by making one of the following findings: a) A pipeline to the shippers' refining center of choice has inadequate capacity or is unavailable within a reasonable period of time; b) A refinery upset has occurred, which lasts less than two months, precludes the use of a pipeline to that refinery, and requires temporary	a noise level of about 38 dBA. Therefore, the tucks would be expected to result in an exceedance of the 70 dBA standard at the property line. The only major noise generating equipment associated with the loading operations would be the pumps, which are existing equipment and part of the baseline noise levels. (b) The applicant would be required to obtain an ATC for the loading rack from the SBCAPCD. (c) None of the equipment associated with the proposed Project would generate smoke. (d) The loading rack would be installed within the existing LFC facility and would be a minor addition of equipment to an existing large industrial facility and therefore would be compatible with the existing surroundings. (e) The proposed Project has the addition of lights that will be shielded. The lights would be placed within the middle of the existing LFC facility which already as a substantial number of lights. The proposed Project would not add any additional amount of glare to the LFC facility. (f) The proposed Project would not result in any grading or alternations of natural drainages. (g) The proposed loading rack would be construction on an existing flat pad. The pad is already designed to control erosion and flood damage. (h) The loading rack equipment would be painted to match the color scheme, approved by the County, that is used for the other parts of the LFC facilities. (i) The proposed Project is to ship crude via tanker truck until Lines 901 and 903 are replaced or the existing lines are repaired. Plains is in the process of obtaining permit to replace Lines 901 and 903. Once these pipelines become available, the trucking of crude oil would cease. Therefore, the project is consistent with provision i.3. The proposed Project would limit trucking until the pipeline is available or seven years, whichever is shorter. This trucking period would then have to be extended by the Santa Barbara County decision makers.

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		transportation of oil to an alternative refining center not served by pipeline; c) The costs of transportation of oil by common carrier pipeline is unreasonable taking into account alternative transportation modes, economic costs, and environmental impacts; or d) An emergency, which may include a national state of emergency, has precluded use of a pipeline. A permit based on finding b. or d. may be granted by the Director of the Planning and Development Department and shall be subject to appeal to the Planning Commission. A permit based on findings a. and c. may be granted by the Board of Supervisors. All permits in this section are subject to appeal to the Coastal Commission. All permits for the use of a non-pipeline mode of transportation may specify the duration for such permitted use. Such permit may be extended upon a showing of good cause based upon a consideration of the findings listed above. A permit based on finding b. shall be granted for two months only. If refinery upset conditions continue beyond two months and the shipper wishes to continue use of a non-pipeline transportation mode, the shipper must seek a new or modified permit that is based on a consideration of finding a., c., or d. In all cases, the burden of proof as to pipeline unavailability or inadequate capacity, unreasonable tariffs, and the need for and use of other transportation systems shall be on the shipper. j. Except in an emergency, no materials, equipment, tools, or pipes used for plant operation shall be delivered to or removed from the plant site through streets within a residential district between the hours of 7 p.m. and 7 a.m. of the next day.	
Santa Barbara County Land Use Development Code			
Land Use & Development Code-Inland	Section 35.35.030: Industrial Zones Allowable Land Uses	Table 2-22 (Allowed Land Uses and Permit Requirements for Industrial Zones).	**Potentially Consistent.** Oil and gas uses are allowable on lands zoned M-CR Coastal Dependent Related Industry with issuance

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
			of the appropriate permit(s). The proposed Project site is zoned M-CR.
Land Use & Development Code-Inland	Section 435.52.060: Treatment and Processing Facilities (for Offshore Oil)	1. **Noise.** The level of noise generated by the facility at or beyond the property boundary shall not exceed 70 dB(A). 2. **Outdoor lighting.** Lights shall be shielded to ensure that lighting is confined to the project site. 3. **Visible gas flares.** Visible gas flares shall not be allowed except for emergency purposes unless deemed infeasible for a particular operator. 4. **Grading.** Grading and alteration of natural drainages shall be minimized. 5. **Erosion.** Adequate provisions shall be made to prevent erosion and flood damage. 6. **Prevention of access.** The site shall be enclosed with a fence or wall to prevent unauthorized access. 7. **Truck operation hours and routes.** It shall be prohibited to operate trucks exceeding one and a half tons for use in oil and gas operations between the hours of 9 p.m. and 7 a.m. of the next day upon streets within a residential neighborhood. This prohibition shall not apply in an emergency as determined by the County Sheriff, Fire Department, or Petroleum Administrator. This regulation shall go into effect and shall apply to streets or parts of streets only after signs giving notice of the prohibition are posted at entrances to the affected streets or parts of streets. Truck routes shall be reviewed for proposed oil or gas facilities to ensure that oil field support traffic is not routed through residential neighborhoods, unless alternative routes do not exist. 8. **Noxious odors.** Noxious odors associated with the facilities shall not be detectable at the property boundary. 9. **Equitable, nondiscriminatory access to consolidated facilities.** Within the South Coast Consolidation Planning Area, operators and owners of County designated consolidated facilities and sites shall make their facilities and property available for commingled processing and consolidation of oil and gas facilities on an equitable and	**Potentially Consistent.** (1) The proposed Project would add some noise to the LFC facility from trucks traveling on the access road to the loading rack. The Project on average would add about 6 one-way trips per hour on the access road. Trucks at slow speed have a noise level of about 85 dBA at 50 feet. The nearest property line is about 200 feet from the roadway which would give a noise level of about 38 dBA. Therefore, the tucks would be expected to result in an exceedance of the 70 dBA standard at the property line. The only major noise generating equipment associated with the loading operations would be the pumps, which are existing equipment are part of the baseline noise levels. (2) The proposed Project has the addition of lights that will be shielded. The lights would be placed within the middle of the existing LFC facility which already as a substantial number of lights. The proposed Project would not add any additional amount of glare to the LFC facility (3) the proposed Project would not involve the installation of any visible gas flares. (4) The proposed Project would not result in any grading or alternations of natural drainages. (5) The proposed loading rack would be construction on an existing flat pad. The pad is already designed to control erosion and water flow. (6) The proposed crude loading rack would be installed within the existing LFC site which is fully enclosed with fencing. (7) None of the proposed truck route streets would pass through areas that are zoned residential. (8) Hydrocarbon vapors generated from the truck loading operations would be collected and routed to the existing LFC vapor recovery system. The only source of odors would be related to fugitive emissions. The fugitive emission would be less than two percent of the permitted fugitive and tank emissions for the existing LFC facility. This small increase would not affect the overall noxious odors from the LFC facility.

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		nondiscriminatory basis. If existing processing capacity is insufficient to accommodate proposed production and necessary new facilities are not allowed in compliance with the County's consolidated policies, operators of consolidated facilities shall reduce throughput on a pro-rata basis to accommodate other developers. **10. Transportation of processed oil.** a. Overland pipeline transport. Oil processed by facilities that receive oil from offshore fields exclusively or from both offshore and onshore fields shall be transported from the facility and the County to the final refining destination by overland pipeline, except in the case of highly viscous oil or during an emergency, as stipulated below. For the purposes of this Subsection, final refining destination shall mean a refinery in California where final refining of the subject oil into products is accomplished. In addition, oil shall be considered to reach its final refining destination if the oil has been: (1) Transported out of the State of California, and does not reenter before final refining; or (2) Transferred to truck or train after leaving the County by pipeline and does not re-enter the County by truck or train and is not transferred to a marine terminal vessel for further shipment to a port in California before final refining. b. Other transportation methods. Transportation by a mode other than pipeline may be allowed only: (1) For that fraction of the oil that cannot feasibly be transported by pipeline; and (2) When the environmental impacts of the alternative transportation mode are required to be mitigated to the maximum extent feasible. 11. **Additional standards if deemed necessary by Commission.** In addition, the following development standards shall be applied to the extent deemed necessary by the Commission.	(9) the Applicant has committed as part of their Final Development Plan permit to provide Equitable, nondiscriminatory access to the LFC site. (10) Historically, crude treated and processed at the LFC facility has been transported through the Plains Lines 901 and 903 pipelines in compliance with the provision. The LFC facility has been shut down the since Plains Line 901 and 903 went out of operations. Since this time is has not been possible to move crude from LFC via pipeline. The proposed Project is to ship crude via tanker truck until Lines 901 and 903 are replaced or the existing lines are repaired. Plains is in the process of obtaining permit to replace Lines 901 and 903. Once these pipelines become available, the trucking of crude oil would cease. The proposed Project would limit trucking until the pipeline is available or seven years, whichever is shorter. This trucking period would have to be extended by the Santa Barbara County decision makers. Since the oil currently cannot be transported via an existing pipeline and the impacts of the trucking project have been mitigated to the maximum extent feasible through the implementation of the mitigation measures identified in the SEIR, the proposed Project appears to meet the requirements of provision 10(b). (11a) The truck loading rack would be within the existing LFC facility. The loading rack would be a small additional component to a much larger industrial facility and therefore, would be visually compatible with the surrounding area. (11b) The current LFC Final Development Plan permit has several conditions that require monitoring. These conditions would also apply to the truck loading operations. Mitigation Measure AQ-1 would require additional air emission monitoring for truck operations.

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		a. **Visual compatibility.** The installation shall be visually compatible with the existing and anticipated surroundings by use of any or all of the following measures where applicable: buffer strips; depressions, natural or artificial; screen planting and landscaping continually maintained, and camouflage and/or blending colors. b. **Monitoring system.** A monitoring system to measure off-site impacts, including noise, vibration, odor, and air or water quality degradation, shall be required as a condition of approval.	
Santa Barbara County Comprehensive Plan			
Conservation Element- Oak Tree Protection in Rural Areas of Santa Barbara County	Oak Tree Protection Policy 1	Native oak trees, native oak woodlands and native oak savannas shall be protected to the maximum extent feasible in the County's rural and/or agricultural lands. Regeneration of oak trees shall be encouraged. Because of the limited range and increasing scarcity of valley oak trees, valley oak woodlands and valley oak savanna, special priority shall be given to their protection and regeneration.	**Potentially Consistent.** The proposed Project does not require the removal of any trees and would not impact any oak woodlands or oak savannas.
Hazardous Waste Element	Goal 7-1 Policy 7-1	To ensure the safe transport of hazardous wastes from the source of generation to the point of ultimate disposal. The County and cities should promote the strong enforcement of existing laws regarding vehicle safety, inspections, and the hazardous waste manifest system for full protection of public health and the environment. Note: The Hazardous Waste Element states that *"…for some issues areas such as transportation, there is no clear delineation between wastes and materials."* (HW Element, Chapter 7, page 116)	**Potentially Consistent.** The proposed Project does not involve transportation of hazardous wastes; however, the Project would add up to 70 daily tanker trucks transporting crude oil through the County. All tanker trucks would be operated in accordance with the rules and regulations of the California Vehicle Code. compliance with Title 13 of the California Code of Regulations (Hazardous Materials Transportation) would be required. In addition, Mitigation Measure Risk-01-Truck Hazard Mitigation Plan would provide for additional safety oversight for vehicles that transport crude oil on public roadways by requiring audits of trucking carriers, identification of transportation routes, inspection of vehicle maintenance records, inspection of driver training programs, and enhanced documentation of loading procedures. .
Hazardous Waste Element	Policy 8-1	Any land use permit for a hazardous waste generator or a hazardous waste facility shall require submittal of an emergency response plan prior to operations, if such a plan is required under	**Potentially Consistent.** The proposed Project would be an addition to the existing operations at the LFC facilities. The existing LFC facilities are subject to the requirements of County permit DP 87-DP-32cz and the Applicant maintains a Facility

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		Chapter 6.95 (section 25500 et seq.) of the California Health and Safety Code.	Response Plan (FRP), a Spill Cleanup Impact Reduction and Restoration Supplement (IRRS), and a Spill Prevention, Control, and Countermeasure Plan (SPCC). These plans include measures for emergency response and are reviewed and approved by appropriate County departments. Mitigation measure RISK-02 require updates to these plans to include the proposed Project trucking and loading activities.
Hazardous Waste Element	Goal 13-1	To protect the public health and safety and the environment by ensuring that all hazardous waste generators and facilities are operating safely and are in compliance with all appropriate local, state, and federal laws.	**Potentially Consistent.** County requirements include continued implementation of the existing LFC facilities FRP, IRRS, and SPCC plans. Mitigation measure RISK-02 require these plans to be amended to reflect proposed Project operations. In addition, the proposed Project would be required to comply with all applicable federal, State and County regulations for the storage, use and disposal for hazardous materials and waste, as outlined in EIR Section 4.3.2 (Regulatory Setting for Hazardous Materials/Risk of Upset).
Land Use Element	Land Use Development Policy 4	Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan. (The remainder of this policy does not apply to the proposed Project.)	**Potentially Consistent.** The proposed Project would be an addition to the existing operations at the LFC facilities. The proposed Project would be serviced by existing public and private roads and resources and no expansion of them would be required as part of the proposed Project. As addressed in SEIR Section 4.5 (Transportation and Circulation), temporary vehicle trips during construction would not decrease existing roadway or intersection levels of service or exceed County thresholds for roadway and intersection volume-to-capacity ratios. Operation of the proposed Project would exceed the County traffic thresholds for the PM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection. Implementation of mitigation measure TR-01 would prevent truck from using this intersection during the peak PM hours. All other roadways and intersections would not decrease existing levels of service or exceed County thresholds for roadway and intersection volume-to-capacity ratios. The proposed Project would require limited fresh water for construction of the loading rack, which would be provided by the onsite private water wells. No water would be needed for operation of the loading rack. Existing LFC facilities sewer and other services are enough for the temporary increase in personal

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
			for construction activities. Operation of the truck loading facilities would require no new additional employees so the existing LFC facilities sewer and other services would not be impacted during operations.
Land Use Element	Hillside and Watershed Policy 1	Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.	**Potentially Consistent.** The proposed Project is located on a previously disturbed and developed area and only minor grading (up to 500 cubic yards) would be necessary to prepare the existing site for the Project.
Land Use Element	Hillside and Watershed Policy 2	All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.	**Potentially Consistent.** The proposed Project is located on a previously disturbed and developed area and only minor grading (up to 500 cubic yards) would be necessary to prepare the existing site. Erosion control measures, including implementation of existing construction and/or industrial SWPPP and Best Management Practices, would minimize offsite soil transport. No vegetation is proposed for removal and no natural landforms or features would be altered or disturbed.
Land Use Element	Hillside and Watershed Policy 3	For necessary grading operations on hillsides, the smallest practical area of land shall be exposed at any one-time during development and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.	**Potentially Consistent.** The proposed Project is located on a previously disturbed and developed area and only minor grading (up to 500 cubic yards) would be necessary to prepare the existing site. No grading on hillsides is proposed as the existing pad is level. The existing Erosion Control Plan, including implementation of SWPPP and Best Management Practices, would minimize offsite soil transport.
Land Use Element	Hillside and Watershed Policy 4	Sediment basins (including debris basins, desilting basins, or silt traps) shall be installed on the project site in conjunction with the initial grading operations and maintained through the development process to remove sediment from runoff waters.	**Potentially Consistent.** The proposed Project site has been previously developed and all new graded areas would be connected to the existing storm water runoff system. The LFC facilities were constructed under an approved Grading Plan and an Erosion Control Plan as required by FDP 87-DP-32cz. The FDP requires a facility Erosion Control Plan for the LFC facility, including implementation of existing construction and/or industrial SWPPP and Best Management Practices, to minimize offsite soil transport. Furthermore, grading over 50 cubic yards would require a Grading Permit from SB County's Building and Safety Department.
Land Use Element	Hillside and Watershed Policy 5	Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development.	**Potentially Consistent.** The proposed Project site has been previously developed and the minor grading to prepare the existing pad would not require soil stabilization activities. The

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		All cut and fill slopes shall be stabilized as rapidly as possible with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.	Project does not involve any cut and fill on slopes nor the removal of vegetation. See discussion for Hillside and Watershed Policy 4 above.
Land Use Element	Hillside and Watershed Policy 6	Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions as a result of development. Water runoff shall be retained onsite whenever possible to facilitate groundwater recharge.	**Potentially Consistent.** The proposed Project site has been previously developed and all new graded areas will be connected to the exiting storm water runoff system. The LFC facilities were constructed with an approved Erosion Control Plan as required by the County FDP (Case No. 87-DP-32cz), which would also apply to any grading for the proposed Project. Any new grading over 50 cubic yards would require a Grading Permit from SB County's Building and Safety Division. See discussion for Hillside and Watershed Policy 4 above.
Land Use Element	Hillside and Watershed Policy 7	Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.	**Potentially Consistent.** The proposed Project site has been previously developed and stormwater run-off would be routed to the existing storm water runoff system. The proposed Project would continue to adhere with the LFC facility SWPPP and would not discharge any material adjacent to or into a stream or wetland. See discussion for Hillside and Watershed Policy 4 above. Furthermore, the TLA would be graded to drain into the existing containment channel for the Crude Oil Storage Tanks that connected to the Emergency Containment Basin. Release of any liquids or material would drain into the containment channel and would not be discharged into or alongside coastal streams or wetlands during or after construction.
Land Use Element	Streams and Creeks Policy 1	All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.	**Potentially Consistent.** No grading within stream corridors would occur as a result of a proposed Project. Any accidental release of produced oil at the loading rack facility would be capture by the proposed containment berms at the truck loading area or by existing secondary containment devices at the LFC facility. Specifically, the area for truck loading operations would drain into the existing containment catch basin.
Land Use Element	Flood Hazard Area Policy 1	All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with federal regulations are provided. If the proposed development falls within the floodway	**Potentially Consistent.** The proposed Project site has been previously developed. The LFC facilities originally approved under the County's FDP (Case No. 87-DP-32cz) were reviewed and approved by various departments including SB County Public Works' Flood Control District. The proposed development

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
		fringe, development may be permitted, provided creek setback requirements are met and finished floor elevations are two feet above the projected 100-year flood elevation, and the other requirements regarding materials and utilities as specified in the Flood Plain Management Ordinance are in compliance.	would not be located within any designated floodway or flood hazard overlay and would not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works.
Land Use Element	Flood Hazard Area Policy 2	Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.	**Potentially Consistent.** See discussion of Flood Hazard Area Policy 1 above.
Land Use Element	Flood Hazard Area Policy 3	All development shall be reviewed in accordance with the requirements of County Code Chapter 15A–Floodplain Management and 15B–Development Along Watercourses.	**Potentially Consistent.** See discussion of Flood Hazard Area Policy 1 above.
Land Use Element	Parks/Recreation Policy 4	Opportunities for hiking and equestrian trails should be preserved, improved, and expanded whenever compatible with surrounding uses.	**Potentially Consistent.** The proposed Project would be located on private property within a gated facility closed to the public. The proposed Project would have no effect on local or regional hiking and equestrian trails.
Land Use Element	Visual Resource Policy 2	In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow the natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.	**Potentially Consistent.** The proposed Project is located within the existing LFC facilities and the addition of the proposed Project infrastructure would not cause a visual change to the facility as seen from the public roads or vantage points. The Project location, the TLA, is not visible to the public from Highway 101. Proposed modifications to the current site for the TLA would not alter any natural landforms and would not intrude into the skyline as seen from public viewing places.
Land Use Element	Historical and Archaeological Sites Policy 2	When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.	**Potentially Consistent.** The proposed Project is located within the existing LFC facilities on an existing previously disturbed and graded pad. This pad was constructed from fill material when the LFC facility was built. No historical, archaeological or cultural sites were found at that time and none are expected.
Noise Element	Noise Policy 1	In the planning of land use, 65 dB Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.	**Potentially Consistent.** No new noise sources except for the operation of tanker trucks are proposed for the Project. Existing shipping pumps would be used to transfer the oil to the truck loading rack. The Project on average would add about 6 one-way trips per hour on the access road. Trucks at slow speed have a noise level of about 85 dBA at 50 feet. at 200 feet from the roadway the noise level of the trucks would be about 38 dBA. Therefore, noise from the operation of the tanker trucks would

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
			not be expected to exceed a 65-dB day-night average sound level.
Noise Element	Noise Policy 5	Noise-sensitive uses proposed in areas where the Day-Night Average Sound Level is 65 dB or more should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dB LDN when doors and windows are closed. An analysis of the noise insulation effectiveness of proposed construction should be required, showing that the building design and construction specifications are adequate to meet the prescribed interior noise standard.	**Potentially Consistent.** The proposed Project is not considered to be a noise-sensitive use and would require the use of an operator shelter. No noise insulation analysis is needed for the proposed Project. See discussion above for Noise Policy 1.
Safety Element	Hazardous Facility Safety Policy 1-A	Risk Estimates: The County shall employ accurate estimates of risk associated with hazardous facilities to inform discretionary land-use decisions where substantial, preliminary evidence indicates involuntary public exposure to significant risk may result from the land-use decision.	**Potentially Consistent.** Quantitative Risk Assessment (QRA) studies were prepared for the operation of the tanker trucks and for the loading rack activities. The QRAs were prepared in accordance with the County's environmental thresholds which require a Quantitative Risk Analysis to determine the societal risk attributable to the full set of possible accidents that can occur from the operation of a hazardous facility or undertaking of an activity that involves handling of hazardous materials. The QRA for trucking loading operations included the potential for leaks and spills from truck loading and the potential for truck accidents during transport of the crude oil to the two possible offloading destinations. As detailed in Section 4.3 of this EIR, the QRA analysis determined that the risk to the public from loading rack activities at the LFC facility would be less than significant since none of the identified hazard zones would extend beyond the LFC facility boundary. As discussed in Section 4.3 modeling completed as part of the Transportation QRA determined the trucking risk was in the green region of the County's F/N risk profiles and is below the significance thresholds and therefore was found to be less than significant. Both offloading destination options currently operate crude oil truck unloading operations and the proposed Project would not represent a significant change to those operations, and therefore no significant increase in risk.

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
Safety Element	Hazardous Facility Safety Policy 2-A	Unacceptable Risk Involving New Development: Proposed new development that meets either of the following two criteria shall represent an unacceptably high level of risk and constitute a prima facie standard for denial of the proposed development. (1) All proposed development that registers mitigated risk in the red zone of the County's risk thresholds unless the proposed development is determined to be urban dependent as defined in this supplement, it avoids exposure of highly sensitive land uses to significant risk, and no other feasible location is available. (2) All new development that registers mitigated risk in the amber zone of the County's risk thresholds if exposure of a highly sensitive land use would occur as result of project approval.	**Potentially Consistent.** See Policy Hazardous Facility Safety 1-A above. Based on the TQRA, risk associated with the proposed Project does not fall within the amber or red zones of the County's risk thresholds. All risk scenarios analyzed for both crude oil tanker truck operations and loading rack operations were determined to be less than significant (Class III). None of the hazard zones for the truck loading operations in LFC would impact offsite areas.
Safety Element	Hazardous Facility Safety Policy 3-A	New hazardous facilities shall be sited to prevent unacceptable risk to offsite population as defined in this chapter. New hazardous facilities should also be sited to avoid significant offsite risk to populated areas, as defined in this chapter. Siting considerations undertaken to optimize public safety shall also examine routes used for transporting acutely hazardous materials to or from a new hazardous facility.	**Potentially Consistent.** The proposed Project would be an addition to the existing operations at the LFC facilities. The facility was sited in LFC since the area reduced safety and risk impacts to the offsite population. In addition, the QRA for loading rack operations determined potential accidents were less than significant (Class III) with no offsite impacts.
Safety Element	Hazardous Facility Safety Policy 3-C	New hazardous facilities shall employ primary and secondary preventative measures to eliminate or reduce significant risk to offsite population.	**Potentially Consistent.** The proposed Project would be an addition to the existing operations at the LFC facilities. The QRA for loading rack operations in LFC determined potential accidents were less than significant (Class III) with no offsite impacts.
Seismic Safety and Safety Element	Land Use Planning Objective 1	Avoid the construction of buildings of all types and most structures on or across historically active or active faults. This is not always possible with long linear structures or facilities such as utility lines, roads, and irrigation canals. However, certain safety features such as shut-off valves, can be required to minimize damage and expedite repair. The appropriate setback distance from the trace of the fault would be variable, depending on the conditions, but normally would be a minimum of at least fifty feet on either side of the sheared zone.	**Potentially Consistent.** The proposed Project would be an addition to the existing operations at the LFC facilities. The location of the truck loading rack does not have a historically active or active fault.
Congestion Management Plan			
Circulation	CMP LOS Goals	LOS D or better on U.S. 101 through the Project area.	**Potentially Consistent**. All U.S. 101 Highway mainline segments that would be used by the proposed Project operate at LOS B or better under daily and peak hour conditions. The

Table 4.4-1 Preliminary Policy Consistency Analysis

Source	Item	Plan, Ordinance, Regulation or Standard	Preliminary Analysis
			proposed Project would not affect this Level of Service. This covers only U.S. 101 freeway and not the associated intersections.

4.4.6 References

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4.5 Transportation and Circulation

This section addresses existing transportation and circulation conditions in the study area, details Project-related traffic, identifies potential impacts to, intersections and recommends mitigation measures to reduce or eliminate Project impacts. This section is based on a traffic impact study prepared by Associated Transportation Engineers, which is included in Appendix D.

4.5.1 Environmental Setting

4.5.1.1 Physical Setting

Roadways are classified according to their function. The County of Santa Barbara classifies roadways based on their design characteristics and the types of land uses served. Table 4.5-1 summarizes the roadway classifications, their daily vehicle design capacity, and their daily vehicle Level of Service (LOS) C threshold. Level of Service (LOS) is a quantitative measure of transportation conditions. LOS can be calculated using Average Daily Traffic (ADT) volumes or using peak hour traffic volumes where the LOS grades correspond to specific levels of calculated vehicle delay.

Table 4.5-1 Santa Barbara County Roadway Classifications

Classification	Description	Policy Capacity ADT[1]
Freeway	A four or six lane divided arterial highway with full control of access and with grade separations at intersections. As the highest type of road facility, Freeways carry traffic between cities, traffic generators, and points of interest	Four Lane Urban: 67,000 Four Lane Rural: 44,000 Six Lane Urban: 100,000 Six Lane Rural: 67,000
Expressway	An arterial highway with at least partial control of access with may or may not be divided or have grade separations at intersections.	Four Lane Urban: 50,000 Four Lane Rural: 33,000 Two Lane Urban: 16,000 Two Lane Rural: 11,000
Arterial	A divided four lane road with intersections at grade, and partial control of access. Arterial roads serve as the highest type of facility carrying local traffic within communities.	30,000
Major Road	An undivided road with intersections at grade and partial control of access. Major roads serve as a secondary type of arterial facility carrying local through traffic within communities.	Four Lane: 20,000 Two Lane: 10,000
Collector Road	A two-lane undivided road with intersections at grade and designed to have minimal interference from driveways. Collector roads provide principal access to residential areas and connect streets of higher classifications.	5,000

Notes: 1. ADT=Average Daily Traffic. Policy capacity is limited not by the physical capacity of the road, but by other neighborhood considerations.
Source: Santa Barbara County, 2014

Table 4.5-2 describes LOS conditions at signalized and unsignalized intersections.

Santa Barbara County has adopted LOS criteria based on daily traffic volumes. Table 4.5-3 presents generalized LOS criteria for roadway segments. Note that specific roadway characteristics, including intersection density and control, roadway width, vertical and horizontal curves, and vehicle mix all affect the LOS for a specific roadway.

Table 4.5-2 Intersection Levels of Service & Delay

Level of Service	Signalized Intersection Delay (seconds per vehicle)	Unsignalized Intersection Delay (seconds per vehicle)	Description of Operating Conditions
A	Less than 10	Less than 10	Excellent conditions. No loaded cycles and little to no delay.
B	> 10 to 20	> 10 to 15	Very good conditions. A stable flow of traffic.
C	> 20 to 35	> 15 to 25	Good conditions. Stable operations continue. Loading is intermittent. Occasionally drivers may have to wait, and backups may develop behind turning vehicles.
D	> 35 to 55	> 25 to 35	Fair conditions. Approaching instability. Delays may be lengthy during short times within the peak hours.
E	> 55 to 80	> 35 to 50	Poor conditions. At or near capacity with possible long queues for left turning vehicles. Full utilization of every signal cycle is seldom attained.
F	> 80	> 50 or v/c>1	Failure conditions. Gridlock with stoppages of long duration.

Source: Highway Capacity Manual, 6th Edition, Transportation Research Board, 2016.

Table 4.5-3 Santa Barbara County Roadway LOS Thresholds

Classification	Number of Lanes	LOS (Based on Average Daily Traffic Volumes)				
		A	B	C	D	E
Arterial	4	23,900	27,900	31,900	35,900	39,900
Arterial	2	12,000	14,000	16,000	18,000	20,000
Major	4	19,200	22,300	25,500	28,700	31,900
Major	2	9,600	11,200	12,800	14,400	16,000
Collector	2	7,100	8,200	9,400	10,600	11,800

Source: Santa Barbara County, 2014 and FHWA, 2015

The LOS definition for freeway segments is shown in Table 4.5-4. These values are defined by Santa Barbara County and Caltrans. The County's definition is based upon ADT, which Caltrans is based upon vehicles per lane per hour as noted in the Table.

Table 4.5-4 Santa Barbara County and Caltrans Freeway LOS Thresholds

Classification	Number of Lanes	LOS				
		A	B	C	D	E
Santa Barbara County (Average Daily Traffic)						
Freeway	6	44,000	74,400	88,800	99,900	111,000
Freeway	4	29,600	49,600	59,200	66,600	74,000
Caltrans (vehicles per lane per hour)						
Freeway	Vehicles/Lane/Hour	710	1,170	1,680	2,090	2,350

Source: Santa Barbara County, 2014, Caltrans, 2016

4.5.1.2 Study Area Roadways

Figure 4.5-1 shows the study area and proposed transportation routes.

Figure 4.5-1 Study Area Roadways

Source: ExxonMobil, 2018

U.S. Highway 101 operates in the north-south direction and provides primary access between the project and unloading locations. It provides four to six lanes within Santa Barbara County. Access between U.S. Highway 101 and the project site is provided via a grade separated interchange at Refugio Road.

State Route 166 is an east-west two-lane state highway connecting U.S. Highway 101 to I-5.

Betteravia Road is an east-west arterial that with two lanes from the City of Santa Maria to Foxen Canyon Road. Betteravia Road has designated Class II bicycle lanes east of U.S. Highway 101.

Rosemary Road is a north-south collector with two lanes extending north of Betteravia Road.

Battles Road is an east-west collector with two lanes that provides access to the Phillips 66 terminal (SMPS).

Basic School Road is a north-south collector with two lanes in Kern County. It connects State Route 166 to the Plains Pentland Terminal.

4.5.1.3 Existing Operating Conditions

Baseline traffic volumes were compiled from multiple sources. Caltrans publishes traffic counts along State Highways. The most recent available counts were from 2015 and 2016 and were adjusted with an annual growth factor to represent 2018 conditions. Traffic counts at the U.S. Highway 101 ramps/Betteravia Road intersections were collected in August 2016 and were adjusted to reflect full occupancy of the Enos Ranch Specific Plan.

Traffic counts at the remaining study locations were collected in November 2017, after the pipeline shutdown when staffing on site was reduced to 60 employees. Prior to the shutdown there were 100 employees. The traffic counts were adjusted to add trips from the 40 employees and reflect baseline conditions prior to the pipeline shutdown. Refer to Appendix D for additional details.

Regional Access

Regional access to the project will be provided via U.S. Highway 101. Table 4.10-5 shows the freeway Annual ADT and corresponding LOS under existing conditions.

Table 4.5-5 Existing U.S. Highway 101 Freeway Levels of Service

U.S. 101 Freeway Segment	Daily		Peak Hour			
	AADT	Daily LOS	Northbound PH Volume	Northbound PH LOS	Southbound PH Volume	Southbound PH LOS
North of Refugio Road	30,300	B	1,560	B	749	A
North of SR 1	23,500	A	987	A	655	A
North of SR 246	32,200	B	1,208	A	987	A
North of Clark Ave	42,200	B	1,591	B	1,363	A
North of Santa Maria Way	59,900	B	2,295	B	1,957	A
North of Betteravia Road	75,500	C	2,892	B	2,768	B

Source: Caltrans, 2016, ATE, 2019.
SR-State Route

The project would deliver crude oil to two potential offloading sites: 1) the Phillips 66 Santa Maria Pump Station (SMPS) and/or 2) the Plains Pentland Terminal in Kern County. Existing baseline conditions along routes to both sites are described below.

Phillips 66 Santa Maria Pump Station (SMPS) Truck Route

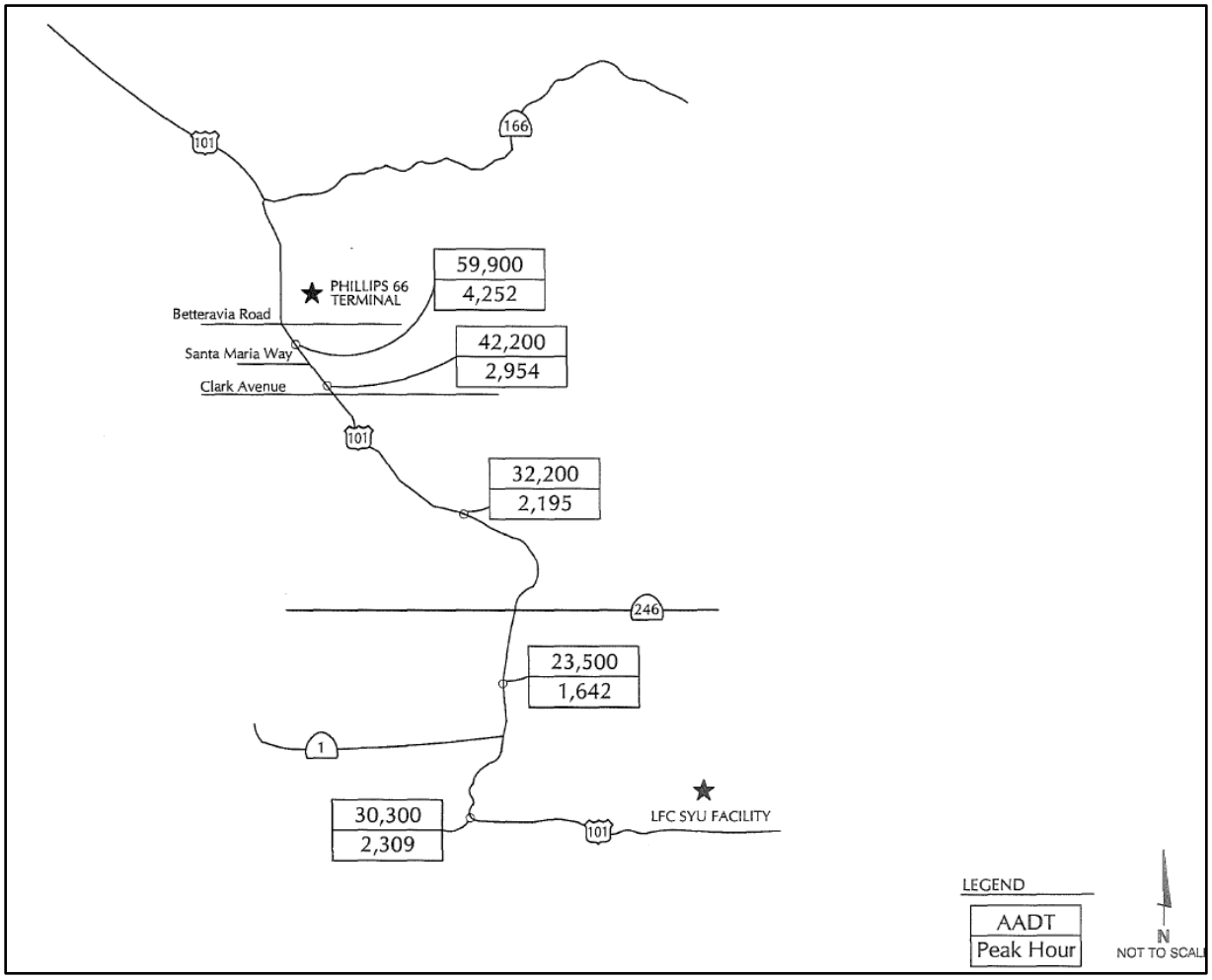
Project traffic destined to the SMPS would use Calle Real to Refugio Road to northbound U.S. Highway 101, exit at Betteravia Road, head east approximately one mile to Rosemary Road, and head north to Battles Road, a private road, to offload product. The return trip would reverse this route. Figure 4.5-2 below shows the baseline traffic volumes along the route to SMPS. Figure 4.5-3 shows the baseline traffic volumes at the key intersections. Table 4.5-6 summarizes the baseline operations along the County roadways used to access the SMPS.

Table 4.5-6 SMPS Route Existing Roadway Daily Levels of Service

Segment	Average Daily Traffic	LOS
Calle Real east of Refugio Road	160	A
Betteravia Road east of US 101	9,300	A
Rosemary Road north of Betteravia Road	1,800	A
Battles Road east of Rosemary Road	590	A

Source: ATE, 2019

Figure 4.5-2 SMPS Route Baseline Traffic Volumes



Source: ATE 2019

All the roadway segments operate at LOS A. Table 4.5-7 summarizes the peak hour LOS at the study intersections.

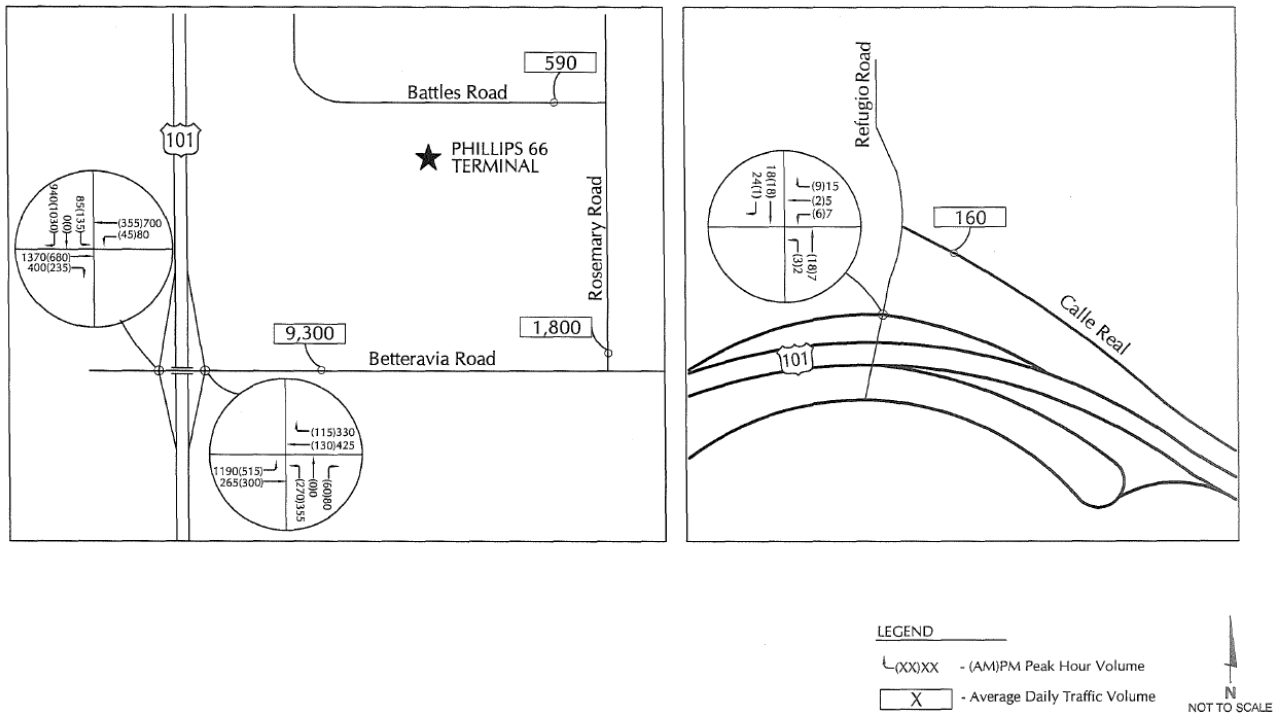
Table 4.5-7 SMPS Route Existing Intersection Peak Hour Levels of Service

Intersection	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS
US 101 NB/Refugio Road (worst approach)	8.7 / LOS A	8.9 / LOS A
US 101 SB/Refugio Road	0 / LOS A	0 / LOS A
US 101 NB/Betteravia Road	17.1/ LOS B	16.9 / LOS B
US 101 SB/Betteravia Road	**48.5 / LOS D**	**>80.0 / LOS F**

Source: ATE, 2019

The intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road operates at LOS D during the AM peak hour and LOS F during the PM peak hour. The remaining study intersections operate acceptable at LOS B or better.

Figure 4.5-3 SMPS Route Baseline Key Intersection Traffic Volumes



Source: ATE 2019

Collisions for all vehicles were evaluated from 2015 through 2017 on the highways within the study area. To determine if an above-average collision rate is statistically significant and merits further investigation a statistical significance test was applied. the collision rates along the SMPS route are summarized in Table 4.5-8.

Table 4.5-8 SMPS Route Collision Analysis

Location	Calculated Collision Rate (collisions per million vehicle miles)	Statewide Average Rate	Statistically Significant?
US 101 north of Refugio Road	0.67	0.53	***Yes***
US 101 north of SR 246	0.29	0.51	No
US 101 north of Clark Avenue	0.36	0.43	No
US 101 NB On-Ramp at Refugio Road	3.85	0.50	No
US 101 NB Off-Ramp at Refugio Road	0.0	0.98	No
US 101 SB On-Ramp at Refugio Road	0.0	0.43	No
US 101 SB Off-Ramp at Refugio Road	0.0	1.48	No
US 101 NB On-Ramp at Betteravia Road	0.55	0.60	No
US 101 NB Off-Ramp at Betteravia Road	0.76	0.92	No
US 101 SB On-Ramp at Betteravia Road	0.42	0.60	No
US 101 SB Off-Ramp at Betteravia Road	2.55	0.92	***Yes***

Source: ATE, 2019
SB-Southbound, NB-Northbound

Two study locations have collisions rates that are both statistically significant and are above the Statewide average for similar highway facilities. There were 395 collisions reported on U.S. Highway 101 north of Refugio Road, which resulted in a calculated collision rate of 0.67 during the three-year study period. The

number of accidents required to be statistically significant is 361, which means that the 395 reported collisions are statistically significant.

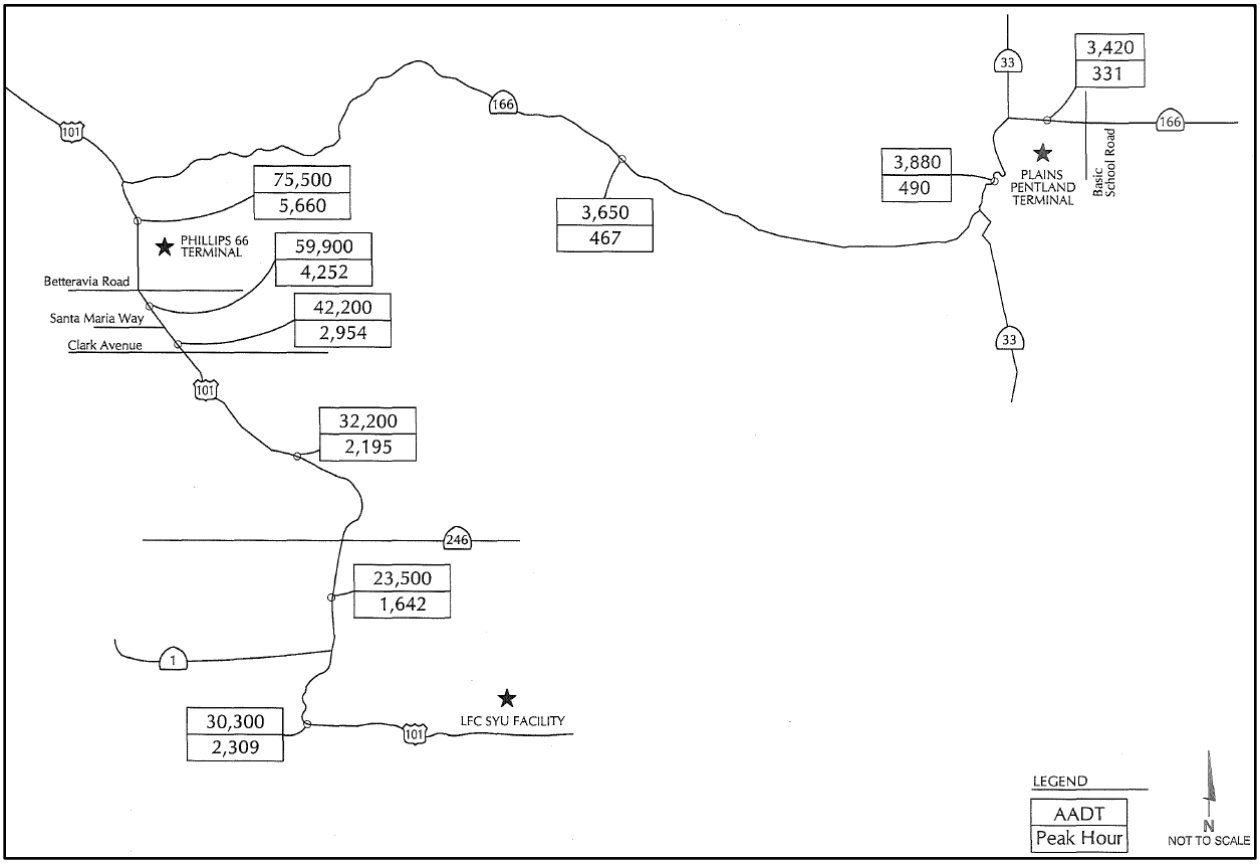
There were 28 collisions reported on the U.S. Highway 101 southbound off-ramp at Betteravia Road which resulted in a calculated collision rate of 2.55 during the three-year study period. The number of accidents required to be statistically significant is 21, indicating that the 28 reported collisions are statistically significant.

Plains Pentland Terminal Truck Route

Project traffic traveling to the Plains Pentland Terminal would follow the same route to northbound U.S. Highway 101, however would continue through the City of Santa Maria to State Route 166, turning on Basic School Road where the Plains Pentland Terminal is located. Return trips would reverse this route.

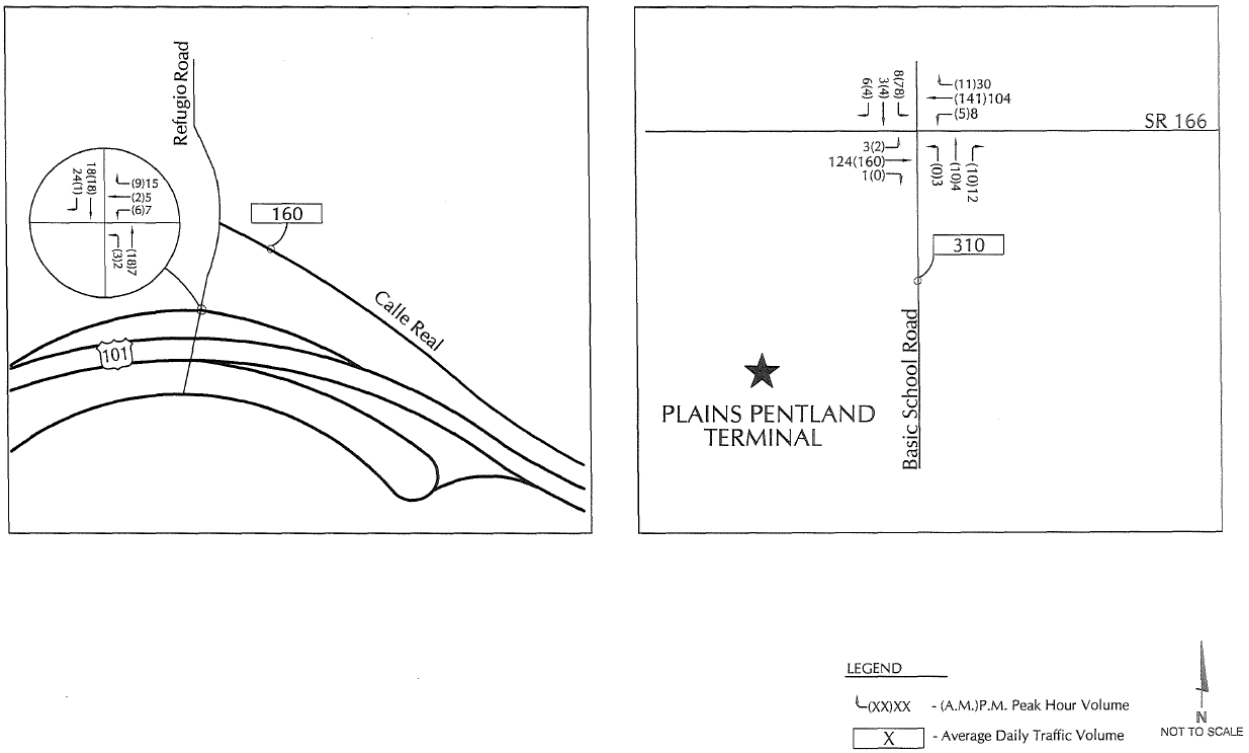
Figure 4.5-4 below shows the baseline traffic volumes along the route to the Plains Pentland Terminal. Figure 4.5-5 shows the baseline traffic volumes at the key intersections. Table 4.5-9 summarizes the baseline operations along State Route 166. As a two-lane highway, LOS is calculated based on the average travel speed and the percent time spent following another vehicle. Refer to Table 4.5-5 for operations along U.S. Highway 101. The study segments of State Route 166 operate acceptably at LOS C or better during the peak hour.

Figure 4.5-4 Plains Pentland Route Baseline Traffic Volumes



Source: ATE 2019

Figure 4.5-5 Plains Pentland Route Baseline Key Intersection Traffic Volumes



Source: ATE 2019

Table 4.5-9 Plains Pentland Route Existing State Route 166 Levels of Service

Segment	Peak Hour Volume	Average Travel Speed (MPH)	Percent Time Spent Following	LOS
SR 166 east of US 101	467	47.6	59.1%	C
SR 166 east of SR 33 south junction	490	47.4	60.6%	C
SR 166 east of SR 33 north junction	331	50.6	45.4%	B

Source: ATE, 2019
SR-State Route

Table 4.5-10 summarizes the baseline operations along the County roadways used to access the Plains Pentland Terminal. The study segments operate acceptably at LOS A. Table 4.5-11 summarizes the peak hour LOS at the study intersections. The southbound approach to the intersection of U.S. Highway 101 Southbound Ramps/State Route 166 operates at LOS D during the PM peak hour. The remaining study intersections operate acceptable at LOS C or better.

Table 4.5-10 Plains Pentland Route Existing Roadway Daily Levels of Service

Segment	Average Daily Traffic	LOS
Calle Real east of Refugio Road	160	A
Basic School Road south of SR 166	310	A

Source: ATE, 2019
SR-State Route

Table 4.5-11 Plains Pentland Route Existing Intersection Peak Hour LOS

Intersection	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS
US 101 NB/Refugio Road (worst approach)	8.7 / LOS A	8.9 / LOS A
US 101 SB/Refugio Road	0 / LOS A	0 / LOS A
US 101 NB/SR 166	11.3 / LOS B	23.6 / LOS C
US 101 SB/SR 166 (worst approach)	17.4 / LOS C	**26.1 / LOS D**
SR 166/Basic School Road (worst approach)	12.5 / LOS B	10.9 / LOS B

Source: ATE, 2019
SB-Southbound, NB-Northbound

Collisions were evaluated for the period of 2015 through 2017 on the study highway facilities for all vehicles. Table 4.5-12 summarizes the collision rates along the Plains Pentland route. Refer to Table 4.5-8 for collisions along the portion of the route that overlaps with the SMPS.

Table 4.5-12 Plains Pentland Route Collision Analysis

Location	Calculated Collision Rate (collisions per million vehicle miles)	Statewide Average Rate	Statistically Significant?
US 101 north of Betteravia Road	0.71	0.55	**Yes**
US 101 north of SLO County line	0.83	0.51	**Yes**
SR 166 east of US 101	0.82	0.70	No
SR 166 east of SR 33 south junction	1.07	0.68	No
SR 166 east of Kern County line	0.83	0.98	No
SR 166 east of SR 33 north junction	0.80	0.76	No
US 101 NB On-Ramp at SR 166	0.0	0.47	No
US 101 NB Off-Ramp at SR 166	0.0	0.68	No
US 101 SB On-Ramp at SR 166	0.67	0.60	No
US 101 SB Off-Ramp at SR 166	0.88	0.92	No
SR 166/Basic School Road	0.53	0.16	No

Source: ATE, 2019
SB-Southbound, NB-Northbound, SR-State Route

Three study locations along the Plains Pentland route have a statistically significant collision rate above the Statewide average for similar facilities. The segment of U.S. Highway 101 north of Refugio Road (collision rate shown in Table 4.5-8) had 395 collisions reported on during the three-year study period, above the number of collisions (361) required to be statistically significant.

There were 222 collisions reported on the segment of U.S. Highway 101 north of Betteravia Road during the three-year study period, above the number of collisions (208) required to be statistically significant.

There were 53 collisions reported on the segment of U.S. Highway 101 north of the San Luis Obispo County line during the three-year study period, number of collisions (48) required to be statistically significant.

ExxonMobil Las Flores Canyon (LFC) Traffic

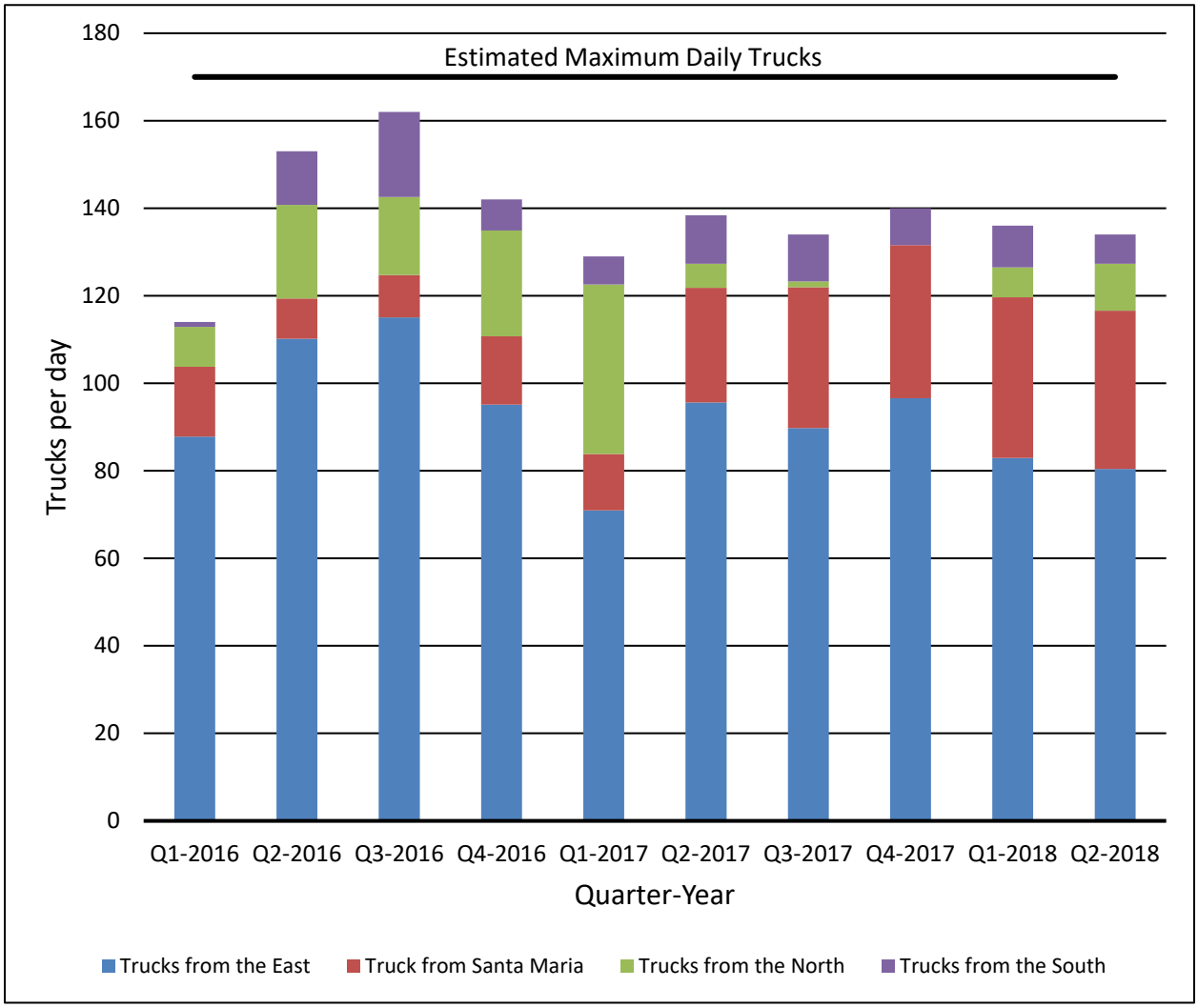
Between 2013 and the shutdown of the SYU facilities in 2015, the traffic to LFC was composed of workers commuting to the site and truck servicing the facility. The number of workers commuting to the site was about 100 per day, which would represent a maximum of 200 one-way trips per day. An average of six trucks per day (12 one-way trips) serviced the LFC facility.

Since the shutdown in 2015, approximately 60 workers per day (120 one-way trips) commute to the LFC facility, and about one truck per day (2 one-way trips) services the facility.

Phillips 66 Santa Maria Pump Station (SMPS) Traffic

Based upon monthly data submitted by Phillips 66 to Santa Barbara County, the SMPS was unloading approximately 50 and 60 trucks per day (100-120 one-way trips) in the months just before the shutdown of the All American Pipeline Company (AAPL) pipeline. Since that time, the number of trucks unloaded has increased to be between approximately 62 and 162 per day (124-324 one-way trips). Between January 2018 and June 2018, the average number of truck unloaded at the SMPS has been approximately 135 trucks per day (270 one-way trips). Trucks servicing the SMPS come from various area of the State. Figure 4.5-6 shows the average daily truck deliveries to the SMPS by region for the period 2016 through the second quarter of 2018.

Figure 4.5-6 Average Daily Truck Deliveries to the SMPS by Region



Source: Phillips 66

Trucks coming from the east are delivering crude from the San Joaquin Valley. Trucks from the north are likely delivering crude from oil fields in San Luis Obispo and/or Monterey Counties. Trucks from the South are likely delivering crude from oil fields in Ventura and/or Los Angeles Counties. As Figure 4.5-4 shows the majority of the of the trucks delivering crude to the SMPS are coming from the east and are likely using State Route 166 as a travel route. Some of these trucks could also be using State Route 46.

Plains Pentland Terminal Traffic

The historical unloading at the Plains Pentland Terminal truck racks has been about 100 truck per day (200 one-way trips) with a high of approximately 150 and a low in the 60's.

4.5.2 Regulatory Setting

4.5.2.1 State Regulations

The following Statewide regulations apply to the movement of heavy trucks and transport of crude oil and other hazardous materials on public freeways:

- California Vehicle Code (CVC), Division 6, Chapter 7; Division 14.8; and, Division 15 all include regulations pertaining to the licensing, size, weight, and load of commercial vehicles operated on State highways and the safe operation of vehicles (California, 2018).
- California Streets and Highway Code, Divisions 1 and 2, Chapters 3 and 5 includes regulations for the care and protection of State and county highways as well as provisions for the issuance of written roadway permits (California, 2018).
- California Street and Highway Code Sections 670 through 695 set forth the provisions for Caltrans issuance of roadway permits including, but not limited to, permits for roadway encroachment during truck transportation and delivery and permits for any load that exceeds Caltrans weight, length, or width standards for public roadways (California, 2018).

Caltrans

Caltrans' Guide for the Preparation of Traffic Impact Studies notes that "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D" (Caltrans, 2002). The Transportation Concept Report for U.S. Highway 101 does not provide performance standards for Segment 3, which contains the study area portion of U.S. Highway 101 (Caltrans, 2014). Therefore, the overall Caltrans performance standard applies to U.S. Highway 101.

Caltrans controls the U.S. Highway 101 and State Route 166 mainline and ramps and relies on LOS to identify impacts. Caltrans strives to maintain operations at the LOS C/D threshold on state-operated facilities, where LOS C is acceptable, but LOS D is not. If an existing State Highway facility is operating at LOS D, E, or F the existing service level should be maintained.

California Office of Planning and Research, California Environmental Quality Act (CEQA)

The CEQA Guidelines discuss use of the level-of-service (LOS) methodology described in Sections 4.5.1.1 for transportation analyses in CEQA documents. In response to Senate Bill 743, the California Natural Resources Agency in December 2018 certified and adopted CEQA Guideline updates that implement changes to the methodology used to assess traffic impacts in CEQA documents. The Guidelines requires an alternative to LOS for evaluating transportation impacts by enhancing or replacing the typical LOS analysis with a vehicle miles travelled (VMT) analysis. These changes included 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)). Since the County has not adopted this updated approach to the traffic analysis

as part of their CEQA Environmental Thresholds and Guidelines Manual, the LOS approach has been used in this analysis.

4.5.2.2 Local Regulations

Santa Barbara County Association of Governments (SBCAG) 2016 Congestion Management Program

The Congestion Management Plan (CMP) sets LOS D or better as the standard for roadways and intersections included within the CMP system. At the project level, if a proposed development is located adjacent to or near one of the CMP designated highways and arterials, then the proposed development must also meet the CMP specified thresholds of significance. U.S. Highway 101 through the Project area is included as part of the CMP (SBCAG, 2016, Map 3.3)

County of Santa Barbara

The County's Public Works Department, Transportation Division, regulates roadway encroachment through permits. Short-term impacts during construction and temporary activities are regulated through review and approval of Traffic Control Plans. Long-term impacts associated with private activities and improvements on and adjacent to public roads are regulated through Encroachment Permits , including Haul Permits which are required for projects using large and/or heavy trucks.

County of Santa Barbara Comprehensive Plan, Circulation Element

The Circulation Element of the County Comprehensive Plan includes policies relevant to the proposed Project:

- *Policy B-a, Roadway Standards*: A project that would contribute ADTs (average daily trips) to a roadway where the Estimated Future Volume does not exceed the policy capacity would be considered consistent with this section of the Circulation Element.
- *Policy D-1, Intersection Standards*: Projects contributing PHTs (peak hour trips) to intersections that operate at an Estimated Future Level of Service that is better than LOS C shall be found consistent with this section of this Element unless the project results in a change in V/C (volume/capacity) ratio greater than 0.20 for an intersection operating at LOS A or 0.15 for an intersection operating at LOS B.
- *Policy V-A, Circulation Element Policies*: The roadway classifications, intersection levels of service, and capacity levels adopted in this Element shall apply to all roadways and intersections within the unincorporated area of the County, with the exception of those roadways and intersections located within an area included in an adopted community or area plan. Roadway classifications, intersection levels of service, and capacity levels adopted as part of any community or area plan subsequent to the adoption of this Element shall supersede any standards included as part of this Element.
- *Policy V-E, Circulation Element* Policies: A determination of project consistency with the standards and policies of this Element shall constitute a determination of project consistency with the Land Use Element's Land Use Development Policy #4 with regard to roadway and intersection capacity.

At this time the County's Circulation Element does not include the proposed OPR CEQA Guidelines for vehicle miles travelled (VMT) analysis. As mandated by the State, the County has begun its regular comprehensive update of the Circulation Element. The current update includes the integration of current traffic information and roadway requirements; new state requirements which seek to reduce greenhouse

gas emissions from vehicles, facilitate multi-modal transportation, and create complete streets to reduce reliance on the automobile as the primary form of transportation as well as the change from LOS to VMT.

County of Santa Barbara Land Use and Development Code

Section 35.52 of the County's Land Use and Development Code (LUDC) provides development standards for oil and gas facilities in the inland portions of the County. Section 35.52.050.B.1 of the LUDC includes the following relevant section:

- Truck Operation Hours and Routes. It shall be prohibited to operate trucks exceeding one and a half tons for use in oil and gas operations between the hours of 9 p.m. and 7 a.m. upon streets within a residential neighborhood. This prohibition shall not apply in an emergency as determined by the County Sheriff, Fire Department, or Petroleum Administrator. This regulation shall go into effect and apply to streets and parts of streets only after signs giving notice of the prohibition are posted at entrances to the affected streets or parts of streets. Truck routes shall be reviewed for proposed oil and gas facilities to ensure that oil field support traffic is not routed through residential neighborhoods, unless alternative routes do not exist.

4.5.3 Significance Thresholds

The Notice of Preparation (NOP) for this EIR identified items related to potential transportation impacts, including addressing the potential for traffic congestion by quantifying the number of daily trips generated and their distribution and routes, an evaluation of the potential increased wear and damage to study area roadway segments and the potential need for mitigation ensuring fair-share contribution of the project to road maintenance. Based on this determination, the Project was evaluated pursuant to the Santa Barbara County environmental thresholds discussed below.

A significant traffic impact would occur if any of the following conditions are met:

- The addition of project traffic increases the volume to capacity ratio or adds project trips above the levels shown in Table 4.5-13.
- Project access to a major or arterial road would require a driveway that would create an unsafe situation or would require a new traffic signal or major revisions to an existing traffic signal.
- Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g. rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceeding the roadway capacity designated in the Circulation Element may indicate the potential for the occurrence of the above impacts.
- Project traffic would use a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

Table 4.5-13 County of Santa Barbara Intersection Impact Thresholds

LOS (Including Project)	Increase in V/C Greater Than:
A	0.20
B	0.15
C	0.10
	Or the addition of:
D	15 trips
E	10 trips
F	5 trips

Source: County of Santa Barbara, 2015

4.5.4 Project Impacts and Mitigation Measures

The impact analysis presented below discusses the addition of temporary vehicle trips (during construction activities and operational vehicle trips associated with implementation of the proposed Project. As part of the proposed Project the applicant has proposed and avoidance and minimization measure (AMM) for traffic that is as follows:

- **AMM-TR-1 –** Crude truck traffic would not be allowed on Calle Real between the Refugio/U.S. Highway 101 interchange and the LFC facility during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed.

This AMM has not been included in the traffic impact analysis below since it is not a specific design feature of the project that was considered part of the project description.

Impact #	Impact Description	Phase	Impact Classification
TR.1	Construction traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments.	Construction	Class III

Short-term construction traffic would be generated by the Project in preparation for trucking operations. This construction activity would involve up to 30 workers and up to 12 deliveries per day. This corresponds to 84 daily trips, two AM peak hour trips, and 32 PM peak hour trips. As shown in Tables 4.5-6, -7, and -8 the study roadways and intersections near the project operate at LOS B or better. Construction traffic would increase V/C of the affected roadway and intersection by less than 0.1.

The segment of U.S. Highway 101 north of Refugio Road carries 30,300 daily vehicles. As a worst-case scenario if all 84 daily trips were added to this segment the daily volume would be 30,384. This is an increase of less than 1/3 of one percent and would not change the LOS or V/C on U.S. Highway 101. The addition of short-term construction traffic would increase daily vehicles on Calle Real from 160 to 244, which would not change the LOS A conditions, and would represent a V/C increase of less than 0.1.

The temporary traffic increases associated with construction is considered negligible and would not diminish the existing operating conditions on the study roadways. Therefore, the impact of temporary construction-related trips to affected roadways would be **less than significant (Class III).**

Impact #	Impact Description	Phase	Impact Classification
TR.2	Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.	Operations	Class II

The project will generate 70 trucks per day, which equates to an average of about three truck trips per hour. No new employees would be required to operate the truck loading facilities. This corresponds to 140 new average daily one-way trips, with an average of six trips occurring during both the AM and PM peak hours. These truck trips were converted to their passenger car equivalent (PCE) to reflect the fact that large trucks accelerate and maneuver more slowly than passenger cars, thereby having a larger effect on traffic operations. Each truck trip was converted to two PCEs for areas with flat terrain and three PCEs in areas with rolling terrain. Table 4.5-14 summarizes the Baseline Plus Project operations on U.S. Highway 101 during AM and PM peak hours.

Table 4.5-14 Baseline Plus Project U.S. Highway 101 Freeway Levels of Service During Peak Hours

U.S. 101 Freeway Segment	Baseline		Baseline Plus Project			
	Northbound PH Volume/ LOS	Southbound PH Volume/ LOS	Northbound Project Added Trips (PCEs)	Southbound Project Added Trips (PCEs)	Northbound PH Volume/ LOS	Southbound PH Volume/ LOS
North of Refugio Road	1,560 / B	749 / A	9	9	1,569 / B	758 / A
North of SR 1	987 / A	655 / A	9	9	996 / A	664 / A
North of SR 246	1,208 / A	987 / A	9	9	1,217 / A	996 / A
North of Clark Ave	1,591 / B	1,363 / A	6	6	1,597 / B	1,369 / A
North of Santa Maria Way	2,295 / B	1,957 / A	6	6	2,301 / B	1,963 / A
North of Betteravia Road	2,892 / B	2,768 / B	6	6	2,898 / B	2,774 / B

Source: Caltrans, 2016, ATE, 2019.
SR-State Route

The addition of project traffic would not degrade LOS on U.S. Highway 101. All studied freeway segments would continue to operate at LOS B or better with the Project. Therefore, the Project impact to LOS on U.S. Highway 101 would be **less than significant impact (Class III).**

The project would deliver crude oil to two potential offloading sites: (1) the Phillips 66 Santa Maria Pump Station (SMPS) and/or (2) the Plains Pentland Terminal in Kern County. Potential impacts to roadways along routes to both sites are discussed below.

SMPS Truck Route

Table 4.5-15 summarizes the intersection LOS under Baseline and Baseline Plus Project conditions for the SMPS truck route. Under the SMPS truck route, the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road would operate at LOS F during the PM peak hours and at LOS D during the AM peak hours with the proposed Project traffic. All the remaining study intersections operate at LOS A or B and the proposed Project would add less than 0.1 V/C. During the AM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. During the PM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 PCE's would be added to the intersection which is above the County's significance threshold of 5 PCEs for intersections operating at LOS F.

Table 4.5-15 SMPS Route Baseline Plus Project Intersection Levels of Service

Intersection	Baseline		Baseline Plus Project			
	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	Project Added Trips (PCEs)	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	AM/PM Significant Impact?
US 101 NB/Refugio Road (worst approach)	8.7 / LOS A	8.9 / LOS A	12	8.8 / LOS A	8.9 / LOS A	No/No
US 101 SB/Refugio Road	0 / LOS A	0 / LOS A	6	0 / LOS A	0 / LOS A	No/No
US 101 NB/ Betteravia Road	18.1 / LOS B	16.9 / LOS B	12	18.2 / LOS B	17.0 / LOS B	No/No
US 101 SB/ Betteravia Road	48.5 / LOS D	**>80.0 / LOS F**	6	48.6 / LOS D	**>80.0 / LOS F**	No/**Yes**

Source: ATE, 2019.
SB-Southbound, NB-Northbound

Mitigation measure TR-1 would restrict Project related trucks from using the intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road during the PM peak hours (3 PM to 6 PM)**.** With this mitigation measures the impact of project traffic to local intersections would be **less than significant with mitigation (Class II).**

Caltrans, in cooperation with the City of Santa Maria, is currently studying an operational improvement project to address the existing deficiency at the U.S. Highway 101/Betteravia Road interchange. The operational improvements would include widening the U.S. Highway 101 Southbound Off-Ramp to provide a second right turn lane and installing two new eastbound thru lanes on Betteravia Road at the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection. The traffic analysis prepared for the operational improvement project shows that the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection is forecast to operate at LOS B during the PM peak hour with the improvements, which would mitigate the Project's potential impact during the PM peak hours. City of Santa Maria staff indicated that the improvement project is currently out to bid, and the improvement is anticipated to be complete in 2019.

The intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road is maintained by Caltrans. During the peak AM hours this intersection operates at a LOS of D for both the baseline and the proposed Project. With the addition of the proposed Project the peak hour delay would increase from 48.5 seconds to 48.6 seconds (a 0.1 second increase). Given the variability in traffic and the accuracy of the models, this is would be considered a de minimis change in delay, which would not materially affect the overall performance of the intersection. For the PM peak hours implementation of mitigation measure TR-1 would assure that the project adds no additional trips to the intersection, so there would be no change in the baseline conditions.

Plains Pentland Terminal Truck Route

Project traffic traveling to the Plains Pentland Terminal would follow the same route to northbound U.S. Highway 101 as the route to the SMPS. The route would then continue through the City of Santa Maria to State Route 166 east, turning on Basic School Road where the Plains Pentland Terminal is located. Return trips would reverse this route. Table 4.5-16 summarizes the baseline plus project operations along State Route 166 to the Plans Pentland Terminal. The study segments of State Route 166 operate acceptably at LOS C or better during the peak hour. The proposed Project's contribution V/C would be well less than 0.1. Therefore, the Project impact related to LOS on State Route 166 would be **less than significant (Class III).**

Table 4.5-16 Plains Pentland Route Baseline Plus Project State Route 166 Levels of Service

Segment	Baseline LOS	Project Added PCEs	Significant Impact?
SR 166 east of US 101	C	18	No
SR 166 east of SR 33 south junction	C	18	No
SR 166 east of SR 33 north junction	B	12	No

Source: ATE, 2019
SR-State Route

Table 4.5-17 summarizes the baseline plus project operations along study intersections used to access the Plains Pentland Terminal.

Table 4.5-17 Plains Pentland Route Baseline Plus Project Intersection Levels of Service

Intersection	Baseline		Baseline Plus Project			
	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	Project Added Trips (PCEs)	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	AM/PM Significant Impact?
US 101 NB/Refugio Road (worst approach)	8.7 / LOS A	8.9 / LOS A	12	8.8 / LOS A	8.9 / LOS A	No/No
US 101 SB/Refugio Road	0 / LOS A	0 / LOS A	6	0 / LOS A	0 / LOS A	No/No
US 101 NB/SR 166	11.3 / LOS B	23.6 / LOS C	12	11.4 / LOS B	23.8 / LOS C	No/No
US 101 SB/SR 166 (worst approach)	17.4 / LOS C	26.1 / LOS D	6	17.7 / LOS B	26.6 / LOS D	No/No
SR 166/Basic School Road (worst approach)	12.5 / LOS B	10.9 / LOS B	12	12.6 / LOS B	10.9 / LOS B	No/No

Source: ATE, 2019.
SB-Southbound, NB-Northbound

With the Plains Pentland Route, the intersection of U.S. Highway 101 Southbound Ramp/State Route 166 would operate at LOS D during the PM peak hours with the proposed Project. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/State Route 166 intersection a total of 6 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. The remaining study intersections operate at LOC C or better and the proposed Project would add less than 0.1 V/C at each of these intersections. Therefore, impacts along the route to the Plains Pentland Terminal would be **less than significant (Class III).**

The intersection of U.S. Highway 101 Southbound Ramp/State Route 166 is controlled by Caltrans. During the peak PM hours this intersection operates at a LOS of D for both the baseline and with the proposed Project. With the addition of the proposed Project the peak hour delay would increase from 26.1 seconds to 26.6 seconds (a 0.5 second increase). Given the variability in traffic and the accuracy of the models, this is would be considered a de minimis change in delay, which would not materially affect the overall performance of the intersection.

Mitigation Measures

TR-1 ***PM Peak Hour Trip Restriction.*** *The Project Owner/Operator shall restrict truck trips during the PM peak hours (3 PM to 6 PM) that pass through the impacted intersection of U.S Highway 101 Southbound Ramp/Betteravia Road. Truck trips shall not pass through this intersection during the PM peak hours. Upon completion of the planned U.S. Highway 101 Southbound Ramps/Betteravia Road improvements this measure will expire.*

PLAN REQUIREMENTS and TIMING: *Prior to issuance of the Zoning Clearance, the Owner/ Operator shall provide an operational plan defining, at a minimum, the schedule for truck*

loading that avoids truck trips to the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection during the PM peak hours (3 PM to 6 PM).

***MONITORING:** P&D will work with the Owner/Operator to ensure the terms of this measure are met. P&D and Public Works will participate in the review and approval and of the operational plan.*

Potential Impact to Current Trucking to SMPS

The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed above in Section 4.5.1.3, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 135 trucks per day with about 67% of these coming from areas east of the SMPS. Trucks coming from the east are likely using State Route 166. Some of the trucks could also be using State Route 46.

At this current volume of truck deliveries, the SMPS would be able to handle approximately 32 additional trucks per day from the proposed Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude coming from the east (i.e. San Joaquin Valley) due to longer transportation distance and economic considerations.

This longer travel distance for the trucks from the east increases the transportation cost of delivering the crude to the SMPS. There would be an economic incentive for Phillip 66 to displace trucks from the east (San Joaquin Valley crude oil) with crude from the proposed Project due to the lower transportation costs. The proposed Project would need to displace about 38 trucks per day from the San Joaquin Valley for all 70 trucks per day to go to the SMPS.

Trucks coming from the east that are displaced by the proposed Project would likely reduce truck traffic along State Route 166. However, the proposed Project would increase truck traffic along Highway 101. While is likely that crude oil from the proposed Project would displace crude coming from the east, there is no guarantee that this would happen. Therefore, no reduction in the project impacts has been considered for this potential displacement.

Impact #	Impact Description	Phase	Impact Classification
TR.3	Project related trucks could create a traffic safety hazard.	Operations	Class II

The Project would add truck traffic to area roadways, including roadways with above-average collision rates and a statistically significant number of collisions. This includes truck traffic associated with construction and operations. The proposed Project would not involve the addition of any new driveways that would access a major road or arterial road. The proposed Project would not require any revisions to existing traffic signals.

The as shown in the above tables, the proposed Project would not result in an exceedance of any of the roadway capacities, nor would the proposed Project result in a substantial increase in traffic on any of the project roadways. The Refugio north bound on-ramp at Highway 101 has a third lane, which would provide space for the trucks to merge onto U.S. Highway 101.

All tanker trucks transporting crude oil would be consistent with the rules and regulations of the California Vehicle Code and the Department of Transportation and would only by driven by authorized drivers in

vehicles permitted and licensed to transport crude oil. Mitigation measure RISK-2 requires carrier qualifications, driver selection and training, vehicle inspection/maintenance, and use of onboard safety systems such as speed limiters. As discussed in Section 4.3, implementation of mitigation measure RISK-2 would reduce the likelihood of an accident by about 29%. Application of mitigation measure RISK-2 would serve to reduce the likelihood of the crude trucks being in an accident. See Section 4.3 for a discussion of the potential risk of upset hazards associated with crude oil truck transport.

An accident analysis was completed for the proposed Project in November 2018 (ATE, 2018). This study found that the following road segments have accident rates that are above the statewide average during the 3-year period analyzed in the traffic study (January 1, 2015-December 31, 2017) and the number of accidents that occurred during the 3-year period is statistically significant based upon the Caltrans requirements.

- Highway 101 Refugio Road Interchange to State Route 246 interchange,
- Highway 101 Betteravia Road Interchange to State Route 166 Interchange, and
- Highway 101 Southbound Off-Ramp at U.S. Highway 101/Betteravia Road Interchange.

The segment of Highway 101 from the Refugio Road interchange to State Route 246 interchange currently carries about 2,242 vehicles per hour during the single highest peak hour period, based upon the Caltrans 2017 traffic count data (ATE 2019). The Project would add 6 trucks per hour to this segment during each AM and PM peak hour period (3 northbound + 3 southbound). This traffic addition equates to an increase of about 3/10th of 1%, or 0.3%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

The segment of Highway 101 between the Betteravia Road interchange and the State Route 166 interchange would be used for trucks traveling to the Plains Pentland Terminal in Kern County. This segment currently carries about 5,660 vehicles per hour during the single highest peak hour period, based upon the Caltrans 2017 traffic count data (ATE 2019). The Project would add 6 trucks per hour to this segment during each AM and PM peak hour period (3 northbound + 3 southbound). This traffic addition equates to an increase of about 1/10th of 1%, or 0.1%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate. The proposed Project would not use the Highway 101 southbound off-ramp at U.S. Highway 101/Betteravia Road interchange. Therefore, it would not impact the accident rate at this location.

Crude oil trucks traveling along Calle Real during the morning and afternoon hours could present a safety risk to local school children that take the bus to school and could be a potential significant impact in the event of an accident. Implementation of mitigation measure TR-2 would restrict the use of Calle Real by crude oil trucks during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school busses are operating along Calle Real.

Therefore, the impacts to traffic safety hazards would be considered **less than significant with mitigation (Class II)**.

Mitigation Measures

TR-2 ***Calle Real Time of Day Restrictions.*** *Crude oil trucks shall not be allowed on Calle Real between the Refugio/U.S. Highway 101 interchange and the LFC facility during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed.*

PLAN REQUIREMENTS and TIMING: *Prior to issuance of the Zoning Clearance, the Owner/ Operator shall provide an operational plan defining, at a minimum, the schedule for truck loading that avoids truck trips on Calle Real during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed .*

MONITORING: *P&D will work with the Owner/Operator to ensure the terms of this measure are met. P&D and Public Works will participate in the review and approval and of the operational plan.*

Impact #	Impact Description	Phase	Impact Classification
TR.4	Project related trucks could degrade public roadway conditions.	Operations	Class III

The proposed Project would contribute to roadway damage because of a net increase in truck trips over existing conditions. When fully loaded, the trucks would weigh up to 80,000 pounds. Trucks impact roadway structural conditions much more severely than passenger cars, generally by a factor of at least 1,000. Pavements are therefore engineered to accommodate truck traffic, since passenger cars have a negligible effect on pavement conditions (Caltrans, 2017b). A five-axle tractor-trailer loaded to 80,000 pounds has the same impact to roadways as at least 9,600 automobiles (GAO 1979). The addition of 70 80,000-pound trucks per day would increase the overall impact of trucks on local roadway due the high weight per axle or these trucks. The Project would result in a net increase of 70 daily round truck trips over existing local roadways (140 one-way trips).

The County's Public Works Road Division requires a specific type of Encroachment Permit, known as a Haul Permit, for projects that require the use of vehicles of a size, weight or load that would be used for the proposed Project. The Haul Permit will contain conditions for the proposed Project that include but are not limited to current roadway condition assessment, conduct and submit video recordings of all County-roadway used, regularly scheduled road inspections, and immediate repair of damage and roadway resurfacing if and when necessary. These Haul Permits contain provisions for the Applicant to cover their share of County roadway repairs. It is difficult to estimate the additional costs of any local roadway repairs that may be needed as a result of the proposed Project. Based upon a recent road maintenance agreement between Chevron and the City of Carpinteria for truck travel on local roads the estimated additional maintenance costs were about $1.2 million per mile. However, the actual number is dependent upon the individual roads being evaluated and the extent of truck traffic.

With the required Haul Permit, the impacts to roadway damage would be **less than significant (Class III)**.

4.5.5 Cumulative Effects

As described in Section 3.0, various projects could have a cumulative impact on overall traffic conditions in different areas where the proposed Project crude trucks would be traveling. These include multiple oil extraction and transportation projects as well as new commercial and residential developments in and around the City of Santa Maria.

Calle Real

With the phased restart of the SYU facilities the number of workers at the LFC facility will return to the baseline condition of approximately 100 workers per day. At some point during the trucking operations, work would begin on preparations for the full restart of the SYU facilities. Restart preparations would occur regardless of the status of the proposed Project and would not require discretionary permits from the County. Trucks servicing the LFC facility would also return to near the baseline conditions of 6 trucks per day, not including the crude oil trucks associated with the proposed Project. This would be done in anticipation of a pipeline becoming available for crude oil transport and would occur while trucking activities are underway. Facility restart preparations will require about 15 additional employees and four daily truck trips during the peak phase of the work effort. These additional employees would work in two-day shifts and a night shift. This corresponds to 38 one-way trips, five AM peak hour trips, and seven PM peak hour trips along Calle Real and the Refugio/U.S. Highway 101 interchange.

Construction of the Plains Replacement Pipeline Project would likely overlap with the proposed Project. Plains' construction spreads operating in the vicinity of Calle Real would generate traffic along the section of Calle Real between the LFC facility and the Refugio/U.S. Highway 101 interchange. Plains' application assumed this construction spread will have estimated peak of 206 one-way trips per day, with eight trips occurring during each AM and PM peak hour period. Construction of the Plains replacement pipeline along the Gaviota Coast has been estimated to last approximately three months. Therefore, the portion of Calle Real between the LFC facility and Refugio/U.S. Highway 101 interchange could see an additional 384 one-way trips cumulatively. Once the construction of the Plains Replacement Pipeline Project is complete, the cumulative traffic would decrease to about 178 one-way trips per day.

The analysis prepared for the proposed Project found that the segment of Calle Real adjacent to the site would continue to carry low volumes (440 ADT) and operate at LOS A during project trucking activities. The cumulative traffic volumes (baseline + Project + cumulative) are forecasted to reach 736 ADT, which assumes trucks from the SYU facility restart, and the Plains Replacement Pipeline Project construction are equivalent to two passenger cars (PCEs). Even with the 736 ADT, Calle Real is anticipated to continue to operate at LOS A and would meet the County's standards.

As discussed above, in the area of the LFC facility Calle Real is considered to be a rural collector road by the County. The road primarily serves the LFC facility, local residences, and recreational users accessing the Refugio State Beach facility. The additional cumulative truck traffic using Calle Real would represent an average of an additional eight truck per hour. Since this rural road is not used extensively for farm equipment, livestock, or horseback riding, the cumulative traffic would not be considered incompatible due to potential safety issues. However, this segment of Calle Real is used daily by school busses. While this increased truck traffic could represent an incompatibility due to safety concerns the implementation of mitigation measure TR-2 would restrict crude oil trucks from using Calle Real during the school busing hours.

The cumulative traffic on Calle Real would not result in an exceedance of the roadway capacity as designated by the County.

The analysis prepared for the proposed Project also found that the U.S. Highway 101/Refugio Road interchange is forecast to operate at LOS A during the AM and PM peak hour periods during project trucking activities. The U.S. Highway 101/Refugio Road interchange would continue to operate at LOS A during the AM and PM peak hour periods with the aforementioned cumulative projects. With cumulative impacts and assuming trucks from the SYU facility restart, and the All American Replacement Pipeline Project construction are equivalent to two passenger cars, a total of 30 AM trips and 32 PM trips would

occur. Based upon the County's cumulative traffic thresholds, cumulative impacts would not be significant.

With the implementation of mitigation measure TR-2, the proposed Project's contribution to the cumulative traffic impacts on Calle Real and the Highway 101/ Refugio Road interchange would be less than significant.

U.S. Highway 101/Betteravia Road Interchange

The most intense future traffic generating developments in the study area are located in and around the City of Santa Maria. The City of Santa Maria's Traffic Model was used to develop cumulative traffic forecasts reflecting all approved and pending projects in the area. Based upon the traffic study submitted as part of the Plains' Replacement Pipeline application, one peak AM and PM trip could be added to this the Betteravia Road intersection assuming they use one of the conceptual pipe yard storage areas in the vicinity of Betteravia Road. The Cat Canyon Oil Projects (ERG, Aera, PetroRock) are proposing to use the U.S. Highway 101/Clark Avenue interchange and would not overlap at these intersections with the proposed Project.

Modeling for Betteravia intersections was completed using SYNCHRO10. Table 4.5-18 reports the LOS for the U.S. Highway 101/Betteravia Road interchange under cumulative conditions. The SYNCHRO10 output files are provided in Appendix D.

Table 4.5-18 SMPS Route Cumulative Intersection Levels of Service

Intersection	Cumulative		Cumulative Plus Project		
	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	AM Peak Hour Delay (s)/ LOS	PM Peak Hour Delay (s)/ LOS	AM/PM Significant Impact?
US 101 NB/ Betteravia Road	16.6 / LOS B	19.3 / LOS B	15.2 / LOS B	19.4 / LOS B	No/No
US 101 SB/ Betteravia Road	50.9 / LOS D	>80.0 / LOS F	52.2 / LOS D	>80.0 / LOS F	No/No

Source: ATE, 2019.

The proposed Project's contribution to cumulative traffic at that intersection would be well less than 1.0 percent. The proposed Project would increase the V/C ratio by less than 0.01, and would be under the County's cumulative impact threshold for intersections that are forecast at LOS F. The analysis shows that the proposed Project's contribution to cumulative traffic impacts at the U.S. Highway 101 Southbound on-ramp/Betteravia Road intersection would be less than significant.

Under cumulative conditions the U.S. Highway 101 Southbound on-ramp/Betteravia Road intersection operates at LOS D during the AM peak hour and LOS F during the PM peak hour. Implementation of mitigation measure TR-1, which prohibits project trucks from using the U.S. Highway 101 Southbound on-ramp/Betteravia Road intersection during the PM peak hours, would eliminate the Project's cumulative contribution for PM peak hour impacts.

The proposed Project is for interim trucking of crude until such time as a pipeline becomes available. The interim trucking would last up to seven years and require additional approval from Santa Barbara County to extend the life of the project. It is not clear when the cumulative traffic and forecasted regional growth would reach the levels used in the cumulative analysis but would likely occur after the trucking project had ended.

Caltrans, in cooperation with the City of Santa Maria, is currently studying an operational improvement project to address the existing deficiency at the U.S. Highway 101/Betteravia Road interchange. The operational improvements include widening the U.S. Highway 101 Southbound Off-Ramp to provide a second right turn lane and installing two new eastbound thru lanes on Betteravia Road at the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection. The traffic analysis prepared for the operational improvement project shows that the U.S. Highway 101 Southbound Ramps/Betteravia Road intersection is forecast to operate at LOS B during the PM peak hour with the improvements. City of Santa Maria staff indicated that the improvement project is currently out to bid, and the improvement is anticipated to be complete in 2019.

U.S. Highway 101/State Route 166 Interchange and State Route 166

The Route Concept Report for State Route 166 (Caltrans, 2017) describes current and future operating conditions along State Route 166, noting that the segment of State Route 166 and SR 33 experience low levels of congestion under current and future conditions. The Report projects a peak V/C ratio of 0.29 in 2040 for the stretch of State Route 166 between U.S. Highway 101 and the junction of SR 33 during the peak PM hours, with a peak ADT of about 3,970. This peak would occur after the proposed Project was completed. The Route Concept Report for State Route 166 does not recommend any capacity expansions along this segment.

Under the cumulative scenario, light oil trucks from the PetroRock and ERG project are assumed to come from Kern County and use State Route 166. Crude oil trucks from the Aera project are assumed to use State Route 46. As discussed in Section 3.0, during the peak year of overlap with the proposed Project, an additional 18 light oil trucks per day could be using State Route 166 from the PetroRock and ERG projects. Therefore, the cumulative oil trucks that could be using State Route 166 would be 86 trucks per day assuming all 68 crude trucks from the proposed Project travel to the Plains Pentland Terminal. Construction traffic from the All American Pipeline Replacement Project is expected to generate as many as 206 daily trips for each of the construction spreads. One of the spreads would be accessed primarily from State Route 166. Construction along this spread has been estimated to take about one-year. The estimated peak AM and PM trips that could use the U.S. Highway 101/State Route 166 Interchange would be 49. This assumes trucks are the equivalent of two passenger cars.

The approved and pending cumulative projects are expected to have a minimal effect on traffic volumes at the U.S. Highway 101/State Route 166 interchange and along State Route 166. The proposed Project's contribution to cumulative traffic would be well less than 1.0 percent at the U.S. Highway 101/State Route 166 interchange. The proposed Project would increase the V/C ratio by less than 0.03 and would be below the County's cumulative impact threshold for intersections that are forecast at LOS D with cumulative traffic. The proposed Project's contribution to cumulative traffic impacts along State Route 166 and at the U.S. Highway 101/State Route 166 interchange would be less than significant.

While the accident rate along this stretch of State Route 166 is statistically insignificant based upon the Caltrans significance test, the accident rate is slightly higher than the statewide average rate for similar roads. This segment of State Route 166 currently carries about 490 vehicles per hour during the single highest peak hour period, as identified by Caltrans and the cumulative projects would add 14 trucks per hour to this segment during this period. As it relates to accident rates, this traffic addition equates to an increase of about 3.0%, which is considered an insignificant increase since it would not statistically change the overall accident rate. Also, implementation of mitigation measure RISK-2 would serve to reduce the accident rate of the proposed Project trucks by about 29%, therefore, with the implementation of mitigation measure RISK-2, the proposed Project's contribution to the cumulative traffic safety impacts along State Route 166 would be less than significant.

As discussed above under Impact TR.2, it is likely that the crude trucks from the proposed Project would displace crude trucks current going to the SMPS from the east (i.e., the San Joaquin Valley) due to the shorter transportation distance and lower transportation costs. It is also likely that the existing crude trucks coming from the east to the SMPS are using State Route 166. Therefore, it is possible that with the proposed Project there would be a reduction in crude trucks traveling on State Route 166, which would result in a reduction in cumulative crude trucks using State Route 166.

U.S. Highway 101 Clark Road to State Route 166 East

The U.S. Route 101 Corridor System Management Plan (Caltrans, 2012) describes the current and future operating conditions along U.S. Highway 101 between Santa Maria and Arroyo Grande. For the segment of U.S. Highway 101 between Clark Road and State Route 135 traffic flows are expected to be stable until about 2033. The Caltrans study estimated that this segment would reach a V/C ratio of 0.85 in the northbound direction during the PM peak hours in about 2033, with a projected ADT of 87,168. This is because this segment of highway was expanded to a six-lane freeway to accommodate the future demand as identified in the 2000 Santa Barbara County Association of Governments (SBCAG) regional traffic model (Caltrans 2012). The proposed Project trucking would be completed before that date.

As discussed in Section 3.0, Cumulative Projects, three major oil projects are proposed within the Cat Canyon area. If trucks under the proposed Project were routed to the SMPS, these trucks would over overlap along the same stretch of U. S. Highway 101 between Clark Road and Betteravia Road as the three Cat Canyon projects. If trucks under the proposed Project were routed to the Pentland Terminal in Kern County, these cumulative oil projects would also overlap along U. S. Highway 101 between Clark Road and State Route 166 East. Table 4-5-19 show the estimated number of trucks per day from the proposed Project and the three major oil projects in Cat Canyon.

Table 4.5-19 Estimated Number of Cumulative Daily Truck by Year (no Foxen Canyon Pipeline)

Year	ExxonMobil SYU Interim Trucking	ERG West Cat Canyon Revitalization Project	Aera East Cat Canyon Oil Field Redevelopment Plan	PetroRock UCCB Production Plan	Total Trucks
1	70	43	7	3	123
2	70	53	7	26	156
3	70	65	35	35	205
4	70	78	45	38	231
5	70	90	50	21	231
6	70	103	51	21	245
7	70	75	53	22	220
8 and Greater	0	78	103	39	220

1. ERG truck trips based upon 40 trips per day for construction/drilling (years 1-6) from FEIR traffic section. Oil trucks prorated based upon estimated well development schedule. Includes existing project trucks.
2. Aera construction truck trips from Table 4.10-8 of DEIR. Aera operational truck trips from Revised Table 3 of Appendix N-Traffic Study of DEIR. Assumes no drilling in years 6 based upon Table 2-4 of the DEIR. Oil trucks by year from AQIA.
3. PetroRock UCCB development truck numbers for Application Traffic Study UCCB Trip Generation Table. Oil trucks prorated based upon estimated well development schedule. Included existing project trucks.
4. Year 8 and greater assume peak number of oil trucks for ERG, Aera, and PetroRock.
5. These are daily trucks. Each truck would make one round trip.

The peak overlap of cumulative trucks during the maximum seven years of the proposed Project would be approximately 245 truck trips which includes construction, drilling and transportation of crude oil. This number assumes that the Foxen Canyon Pipeline is not available. With the Foxen Canyon Pipeline the peak daily one-way trips would drop to 191.

Construction traffic from the Plains Pipeline Replacement Project is expected to generate as many as 206 daily trips for each of the construction spreads. A second construction spread is proposed within the vicinity and would likely generate additional traffic on this section of U.S. Highway 101. Construction traffic in this vicinity is been estimated to last approximately one-year.

These additional traffic volumes would not change the overall LOS for this segment of U.S. Highway 101. Based upon the Caltrans cumulative traffic estimates for this stretch of Highway 101, the proposed Project's contribution to cumulative traffic impacts for the stretch of U.S. Highway 101 between Clark Road and State Route 166 East, would be less than significant.

Betteravia Road to SMPS

Crude trucks for the proposed Project traveling to the SMPS would use Betteravia Road to Rosemary Road to E. Battles Road. As noted above, three Cat Canyon projects are proposed, two of which proposed use of the FPP. If the FPP is not operational, blended crude trucks from the ERG and PetroRock projects could deliver their oil to the SMPS. These trucks would also use Rosemary Road and E. Battles Road. The Aera project proposed to truck blended crude to their Belridge Facility in Kern County and would not use the SMPS. Table 4.5-20 provides an estimate of the number of oil trucks per day that would be transported to the SMPS from the proposed Project, ERG, and PetroRock by year of the proposed Project.

During the peak year overlap with the proposed Project a cumulative total of 143 crude oil trucks per day would be generated for moving crude oil that could go the SMPS, assuming no Foxen Canyon Pipeline. With the Foxen Canyon Pipeline this number would drop to a peak of 70 crude oil trucks per day.

As discussed above, the SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed above in Section 4.5.1.3, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 135 trucks per day with about 67 percent of these coming from areas east of the SMPS and 7% coming from areas south. Both the trucks coming from the east and south would be using Rosemary Road and E. Battles Road to get to the SMPS.

Table 4.5-20 Estimated Number of Cumulative Daily Trucks by Year Delivering Crude to the SMPS (no Foxen Canyon Pipeline)

Year	ExxonMobil SYU Interim Trucking	ERG West Cat Canyon Revitalization Project	PetroRock UCCB Production Plan	Total Trucks
1	70	2	2	74
2	70	10	2	82
3	70	20	7	97
4	70	30	10	110
5	70	40	12	122
6	70	50	12	132
7	70	60	13	143
8 and Greater	0	63	28	91

1. ERG truck numbers are estimated based on number of wells drilled per year from FEIR and current oil trucks.
2. PetroRock truck numbers estimated on projected drilling schedule for wells, and current oil trucks.
3. Year 8 and greater assume peak number of oil trucks for ERG and PetroRock.

In addition to the current volume of truck deliveries, the SMPS would only be able to handle approximately 32 additional trucks per day from the proposed Project and/or other cumulative oil projects before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the cumulative oil projects would displace crude coming from the east (i.e. likely San Joaquin Valley) and the

south (i.e. likely Ventura and Los Angeles Counties) due to longer transportation distance and higher transportation costs. Whether or not these existing trucks are displaced is unknown, however, in either case the likely additional cumulative oil truck traffic on Rosemary Road and E. Battles Road would be limited to a total of 32 crude trucks per day (64 one-way trips) due to the capacity limitations of the SMPS.

The Plains Pipeline Replacement Project could add as many as 14 one-way trips per day along Betteravia Road assuming they use one of the identified conceptual pipe yard storage areas in the vicinity of Betteravia Road.

As discussed above, Betteravia Road east of U.S. Highway 101, Rosemary Road, and E. Battles Road all operate at LOS A. The addition of 64 one-way truck trips per day (128 PCE one-way trips per day) to Rosemary Road and E. Battles Road would not change the LOS for these roads, nor would it result in an exceedance of the design capacity of the roads.

Both Rosemary Road, and E. Battles Road are considered rural 2-lane collector roads by the County. Rosemary Road and E. Battles Road currently operates at a V/C of 0.15 and 0.05 respectively. These roads are primarily used for agricultural traffic, trucks servicing the SMPS, and some limited residential. Delivery of crude oil to the SMPS has been part of the normal operations for a long time. The SMPS has been receiving local crude via truck since the pump station began operating over 40 years ago. The roads are primarily bordered on both sides by agricultural fields. The addition of 64 one-way truck trips per day, or the average of less than three trucks per hour, would increase the V/C on Rosemary Road to 0.16 and E. Battles Road to 0.06. This small increase in V/C would not affect the LOS and would not be considered a substantial increase in traffic or would it be incompatible with farming traffic.

Betteravia Road east of U.S. Highway 101 is considered a rural 4-lane arterial road. Betteravia Road east of U.S. Highway 101 currently operates at a V/C of 0.23. These roads are primarily used for agricultural traffic, trucks servicing the SMPS, and some limited residential. The roads are primarily bordered on both sides by agricultural fields and some limited industrial facilities that support agricultural operations. The addition of 78 one-way truck trips per day (156 PCE one-way trips per day), or the average of less than five trucks per hour, would result in a change in V/C of about 0.002 on this portion of Betteravia Road. This small increase in V/C would not affect the LOS and would not be considered a substantial increase in traffic nor would it be incompatible with farming traffic.

Therefore, the project's contribution to cumulative traffic impacts along Betteravia Road east of Highway 101, Rosemary Road, and E. Battles Road would be considered less than significant.

4.5.6 Mitigation Monitoring Program

Table 4.5-21 Mitigation Monitoring Program

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
TR-1	PM Peak Hour Trip Restriction	Develop and Operational Plan that defines the schedule for truck loading that would avoid trucks using the intersections of U.S Highway 101 Southbound Ramp/Betteravia Road	Prior to the issuance of Zoning Clearance.	County reviews and approves the Operational Plan. County monitors compliance.	Prepare and Submit an Operational Plan for truck loading timing. Implement Plan requirements until such time as the improvements to the U.S Highway 101 Southbound

Table 4.5-21 Mitigation Monitoring Program

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	Agency or County Responsibilities	Applicant Responsibilities
		during the PM peak hours.			Ramp/Betteravia Road intersection are complete.
TR-2	Calle Real Time of Day Restrictions	Develop and Operational Plan that defines the schedule for truck loading that would avoid trucks using Calle Real during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed.	Prior to the issuance of Zoning Clearance.	County reviews and approves the Operational Plan. County monitors compliance.	Prepare and Submit an Operational Plan for truck loading timing. Implement Plan requirements for the life of the trucking Project.

4.5.7 References

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5.0 Environmental Analysis and Comparison of Alternatives

This section presents the environmental impacts of the alternatives selected for further analysis in Section 2.7.3, and summarizes the environmental advantages and disadvantages compared with the proposed Project. Section 2.0 introduces and describes the proposed Project and alternatives considered in this SEIR, including those alternatives eliminated from further consideration. The alternatives carried forward for analysis included the No Project Alternative and three alternatives identified to potentially reduce significant impacts resulting from the proposed Project. This section is organized as follows:

- **Section 5.1:** Comparison Methodology
- **Section 5.2:** Environmental Impacts of the Alternatives
  - **Section 5.2.1:** No Project Alternative
  - **Section 5.2.2:** Reduced Trucking Alternative
  - **Section 5.2.3:** No Trucking During Rainy Periods Alternative
  - **Section 5.2.4:** Trucking to the Santa Maria Pump Station Only Alternative
- **Section 5.3**: Alternative Comparison Summary
- **Section 5.4:** Environmentally Superior Alternative Discussion

5.1 Comparison Methodology

The California Environmental Quality Act (CEQA) does not provide specific direction regarding the methodology for comparing alternatives. Each project must be evaluated for the issues and impacts that are most important, which will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with longer-term impacts (e.g., air quality and risk of upset). Impacts that are short-term (e.g., construction-related impacts) or those that are easily mitigable to less than significant levels are generally considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6(d), Evaluation of Alternatives, which state:

"The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed."

In accordance with CEQA Guidelines Section 15126.6(d) as presented above, this SEIR provides sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative from among the other alternatives [CEQA Guidelines Section 15126.6(e)(2)].

The following methodology was used to compare alternatives in this SEIR:

- **Identification of Alternatives.** A range of alternative were identified for the proposed Project. An alternatives screening process (described in Section 2.7) was used to identify which of these alternatives had the potential to reduce or minimize significant (Class I) impacts of the proposed Project. Four of the identified alternatives were found to have the potential to reduce or minimize significant impact of the project. The remainder of the alternatives were dropped from further consideration (see Section 2.7 for a discussion of all the alternatives).
- **Determination of Environmental Impacts.** The environmental impacts of the four selected alternatives from Section 2.7 are discussed below in Section 5.2. The environmental impacts of the proposed Project were identified in Sections 4.2 through 4.5.
- **Comparison of Proposed Project with Alternatives.** Section 5.3 presents a comparison of the significant and unavoidable (Class I) and significant but mitigable (Class II) impacts that could occur with the proposed Project and the selected alternatives.
- **Identification of the Environmentally Superior Alternative.** Based upon the analysis conducted as part of Steps 2 and 3 the environmentally superior alternative is selected as required by CEQA in Section 5.4.

5.2 Environmental Impacts of Selected Alternatives

In accordance with State CEQA Guidelines Section 15126.6(d) as presented above, this section contains an analysis of the environmental impacts of the selected alternatives, which provides enough detail and substantial evidence to allow for a comparison with the proposed Project.

5.2.1 No Project Alternative

Under the No Project Alternative construction and operations of the proposed interim trucking project would not occur, and the LFC and SYU facilities would not restart oil and gas production and processing operations until a pipeline or another alternative becomes available to transport the crude oil.

Although the Plains pipeline system is currently shut down, if the Pipeline and Hazardous Materials Safety Administration's (PHMSA) Corrective Action Orders are addressed, Plains maintains the ability to restart the system without decision maker approval. All pipeline maintenance activities would be covered under the existing CEQA document. However, on August 15, 2017, Plains submitted a discretionary application to Santa Barbara County Planning and Development Energy, Minerals and Compliance Division for the complete replacement of their existing Line 901 and 903 system. The Plains Replacement Pipeline Project is subject to CEQA and the Energy, Minerals and Compliance Division will be preparing a CEQA document to analysis and disclose all impacts related to the replacement of the Line 901 and 903 pipeline system. Information regarding the status of the Plains application can be found online at the Energy, Minerals and Compliance Division website. Current estimates are that the pipeline could be available for use in approximately four to seven years.

With the No Project Alternative, no new environmental impacts would occur. However, the No Project Alternative would not meet any of the objectives of the proposed Project.

5.2.2 Reduced Trucking Alternative

Under the Reduced Trucking Alternative, trucking of oil from the LFC facility would be limited to a maximum of 50 trucks per day. Each truck would transport approximately 160 barrels of crude oil (6,720

gallons). Truck transportation would occur seven days per week, 24-hours per day, with no more than 50 trucks loads leaving the LFC facility within a 24-hour period. Trucks could either travel to the SMPS or the Plains Pentland Terminal. This represents about a 30% reduction in truck trips compared to the proposed Project.

Construction of the truck loading facilities would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS and the Plains Pentland Terminal would remain the same as for the proposed Project. For more details on this alternative, see Section 2.7.3, which provides a more detailed description of the alternatives carried forward.

5.2.2.1 Air Quality

Impact AQ.1 - Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

With the Reduced Trucking Alternative, the same facilities as the proposed Project would need to be built in LFC. This would include the truck loading rack and associated equipment. The air emissions associated with construction would be the same as described for the proposed Project in Section 4.1.4. Construction impacts for this alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact AQ.2 - Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Table 5-1 provides an estimate of the operational emissions associated with the Reduced Trucking Alternative.

Table 5-1 Operational Emissions Reduced Trucking Alternative (Pounds/Day)

Source	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Scenario 1: Phillips 66 Santa Maria Pumps Station						
Stationary	0.0	21.5	0.0	0.0	0.0	0.0
Mobile Emissions	14.7	0.3	4.1	0.1	9.9	1.6
Total Emissions	14.7	21.9	4.1	0.1	9.9	1.6
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No
Scenario 2: Plains Pentland Terminal						
Stationary	0.0	21.5	0.0	0.0	0.0	0.0
Mobile Emissions	36.1	0.7	8.1	0.4	34.0	5.4
Total Emissions	36.1	22.2	8.1	0.4	34.0	5.4
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No

Notes:
1. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
2. See Appendix B for the detailed emission calculations.

Potential operational emission sources include the components necessary to transfer the product to the truck loading rack (i.e., piping, hoses), emissions occurring during loading operations, emissions from the transfer of truck vapors to the facility's vapor recovery system, and components associated with the Lease Automatic Custody Transfer (LACT) units. Estimates for fugitive emissions associated with the loading rack operations, components, and piping are included in Table 5-1

Emissions from trucking assumes the use of 2017 model year diesel trucks operating at the peak activity levels, utilizing the EMFAC2017 on-road emission model and emission factors. Emissions associated with both the deliveries to the SMPS and the Plains Pentland Terminal are shown in Table 5-1.

Under the Reduced Trucking Alternative, the cogeneration system gas turbine in LFC would have to operate below the minimum turndown rate of 31 MW due to a lack of heat demand as result of the low emulsion flow coming from the platforms. Below a 31 MW operating level the carbon monoxide (CO) emissions start to exceed the SBCAPCD permitted limits, as carbon monoxide emissions increase at lower loads due to inefficiencies in the turbines. At an oil production rate of about 8,000 barrels per day (50 trucks per day) the cogeneration system gas turbine would need to operate at about 24 MW. The permitted hourly CO emissions for the SYU cogeneration power plant in the SBCAPCD Permit to Operate (PTO) is 182.82 lbs/hr.

With operation of the cogeneration system gas turbine at 24 MW, it is likely that the CO emission limit would be exceeded based upon the previous experience operating the cogeneration system gas turbine at 31 MW. CO emissions from gas turbines typically increase with decreasing load, with the minimum level of CO emission being at full load. However, the emissions characteristics as a function of load vary significantly based upon turbine design (Hung 1994). What the exact CO emission levels would be at 24 MW power generation is uncertain, but emissions could increase by about 60 percent from the full load values.

With this alternative it is likely that the CO emission from the cogeneration system gas turbine would exceed the SBCAPCD permit limits. However, the increase in cogeneration system gas turbine CO emissions combined with the Reduced Trucking Alternative emissions would likely not exceed any of the CO related thresholds. Therefore, operational related emissions for the reduce trucking alternative would be **less than significant (Class III)**, which is the same classification as for the proposed Project.

Impact AQ.3 - Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Trucking activities would result in mobile emissions associated with the exhaust gases from the operation of the tanker truck engines. Table 5-2 below presents the estimated mobile emissions associated with the Santa Maria Pump Station Route along with the Santa Barbara County significance thresholds for motor vehicle trips/mobile sources. All emissions from the Santa Maria Pump Station route would occur within Santa Barbara County. The mobile air emissions for the reduce tucking alternative would not exceed the County thresholds.

Table 5-2 Mobile Source Emissions Reduced Trucking Alternative – Santa Maria Pump Station Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Santa Barbara County	14.7	0.3	4.1	0.1	9.9	1.6
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	No	No	---	---	---	---

Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.

Table 5-3 presents the mobile emissions associated with the Plains Pentland Terminal Route and includes both total emissions for the entire route as well as emissions by County. The emissions associated with

the total Plains Pentland Terminal route are compared with each County's respective significance thresholds and standards as applicable.

Table 5-3 Mobile Source Emissions Reduced Trucking Alternative – Plains Pentland Terminal Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
All - Total Route	36.1	0.7	8.1	0.4	34.0	5.4
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	**Yes**	No	---	---	---	---
Santa Barbara County	22.8	0.4	5.0	0.2	18.9	3.0
Significance Threshold[2] (lbs)	25	25	---	---	---	---
Threshold Exceeded?	**No**	No	---	---	---	---
San Luis Obispo County(3)	9.2	0.2	1.3	0.1	10.8/0.1	1.7
Significance Threshold[3] (lbs)	25	25	550	---	25/1.25	---
Threshold Exceeded?	No	No	No	---	No	---
Kern County	4.1	0.1	1.8	0.1	4.3	0.7
Significance Threshold[4] (tons)	25	25	---	---	25	---
Threshold Exceeded?	No	No	---	---	No	---

Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.
3. PM_{10}/Diesel Particulate Matter (DPM) San Luis Obispo County significance thresholds for PM_{10} 25 lbs/day, DPM 1.25 lbs/day.
4. Kern County significance thresholds in tons per year for ROC, NO_x, and PM.

Mobile source emissions for the Plains Pentland Terminal truck route would exceed the County's criteria pollutant significance thresholds for NO_X, for the entire route; therefore, the impact would be potentially significant. The emissions in San Luis Obispo County and Kern County for the Plains Pentland Terminal route would be below the significance thresholds for these agencies. Implementation of mitigation measure AQ-1 for the proposed Project would reduce the air quality impacts from mobile sources for the Reduced Trucking Alternative to **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Impact AQ.4 - Proposed Project activities could create objectionable odors affecting a substantial number of people.

Odor events could occur from loading rack operations, the LACT units or from leaks associated with loading and piping components. Sulfur compounds, found in oil and gas, have very low odor threshold levels and the release of substances that contain even small amounts of sulfur compounds (H_2S) or hydrocarbons can be noticed. Any odor complaints regarding the SYU facilities are logged by the SBCAPCD. The additional infrastructure associated with this alternative would increase the number of loading and piping components, and therefore leak paths with the potential to create odors. Fugitive emissions associated with this alternative would increase LFC facility emissions by about 4.5 percent. The increase in fugitive emissions would be slightly less than the proposed Project on an annual basis due to fewer truck loading operations. With the use of the BACT control measures and the distance from the loading rack area to LFC facility property boundaries, as well as the lack of historical odor events at the facility associated with fugitive emissions, the additional components associated with this alternative would not be expected to create objectionable odors affecting a substantial number of people. Therefore, impacts for the Reduced Trucking Alternative would be **less than significant (Class III)**, which is the same classification as for the proposed Project.

Impact AQ.5 - Toxic air emissions from stationary equipment loading operations and truck transportation of crude oil may expose nearby residents to toxic air contaminants.

Table 5-4 compares the ROC emissions for baseline LFC facilities and for the LFC facilities with the Reduced Trucking Alternative. This alternative would increase the total potential ROC emissions for LFC by 3.9%, compared to a 5.2% increase under the proposed Project. A 3.9% increase in ROC emissions would correspondingly increase the health risk values by approximately an equal amount, which is a conservative estimate.

Table 5-4 Air Toxic Emissions and Health Risk Reduced Trucking Alternative

Source	Baseline, 3 Year Average*	Baseline with Reduced Trucking Alternative**
ROC Emissions (tons per year)	98.4	102.2
Risk		
Cancer, per million	6.00	6.23
Chronic, HI	0.10	0.11
Acute, HI	0.30	0.32

*Source: SBCAPCD 1995.

**Source: MRS Environmental. Baseline emissions include the onshore (LFC and POPCO) facilities only. Project emissions are for the loading rack fugitive emissions and the emissions associated with crude loading.

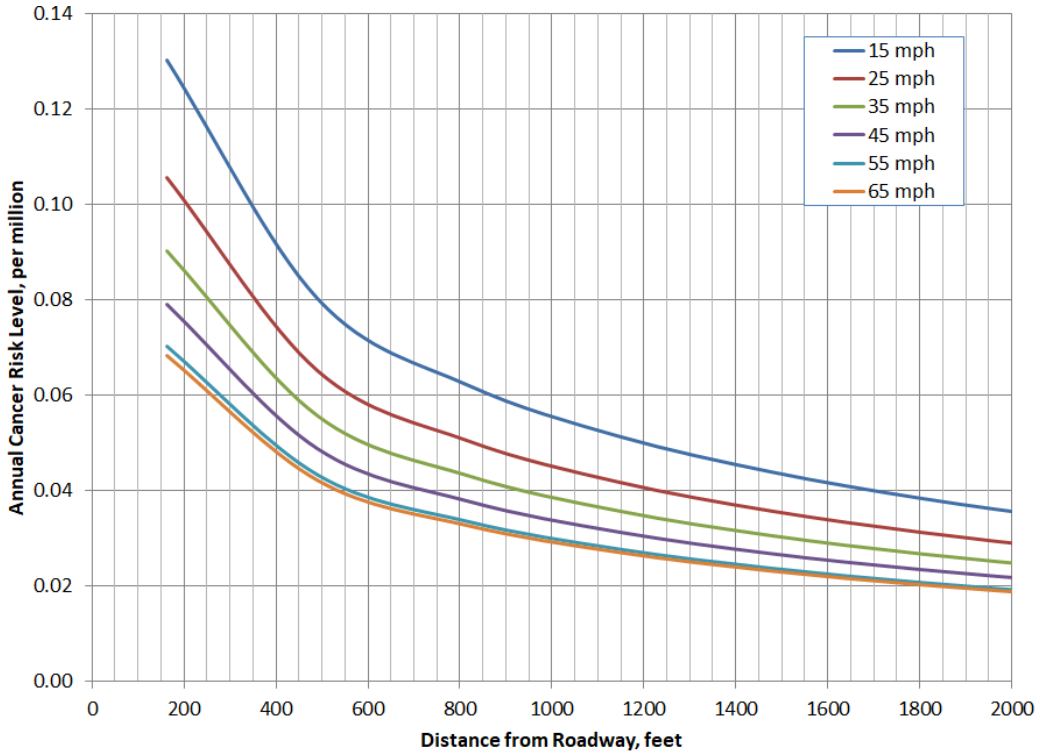
As discussed above and as previously analyzed under the original EIR and SEIR, the baseline LFC operations are below the applicable HRA significance threshold for cancer risk, chronic risk and acute risk established by CARB. Based on the estimated 3.9% increase in ROC emissions, the Reduced Trucking Alternative has the potential to increase the cancer risk from the current estimated value of 6 to 6.2 which would remain below the threshold for cancer risk of 10. A 3.9% increase to the current HRA values for chronic (0.1) and acute (0.3) also would remain below the 1.0 hazard index threshold. Therefore, the impacts associated with the potential increase in air toxic emissions at the LFC facilities for the Reduced Trucking Alternative would be less than significant, which is the same classification as for the proposed Project.

The operation of diesel trucks along area roadways would generate emissions of diesel particulate matter (DPM) that could increase cancer risks at areas near roadways. Figure 5-1 depicts the cancer risk associated with DPM generated from the diesel trucks at various speeds and distances from the roadway for the Reduced Trucking Alternative. Cancer risks from DPM are well below the significance thresholds of 10 in a million at all speeds.

Cancer risks close to the LFC facility would be a combination of the cancer risks associated with the LFC facility and those associated with diesel truck activity within about a 1,000 feet of the LFC facility. These values combined would total 6.49 cancer cases per million based on the estimated cancer risk from the LFC with the Reduced Trucking Alternative plus the maximum diesel risk from diesel trucks at 15 mph shown in Figure 5-1.

Therefore, the potential increase in air toxic emissions associated with the use of diesel trucks and the LFC Reduced Trucking Alternative operations would not expose sensitive receptors to pollutant concentrations exceeding the health risk threshold of 10 cancer cases per million and therefore, the health risk impact would be **less than significant (Class III)**, which is the same classification as for the proposed Project.

Figure 5-1 Project Diesel Truck On-Road Cancer Risks Reduced Trucking Alternative



5.2.2.2 Climate Change/Greenhouse Gas Emissions

Impact GHG.1 - Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.

The primary GHG emissions associated with the Reduced Trucking Alternative would be emitted by mobile sources associated with the trucking activities. Additionally, the construction of the truck loading facilities at LFC would generate GHG emissions. Table 5-5 provides a summary of the GHG emissions associated with the Reduced Trucking Alternative.

Table 5-5 includes total GHG emissions for the initial year of operations which includes the emissions associated with the construction of the loading rack facilities, operational stationary source emissions and operational mobile source emissions for each trucking route scenario. The table also includes the GHG emissions for subsequent operational years which includes the stationary and mobile source emissions for each of the two potential trucking routes.

The GHG emissions for the Reduced Trucking Alternative exceed the County threshold for both the truck routes (i.e., SMPS and Plains Pentland Terminal). Implementation of mitigation measure GHG-1 identified for the proposed Project would reduce the GHG emission impact to below the County threshold. Therefore, the GHG emission impacts from the Reduced Trucking Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as for the proposed Project.

Table 5-5 GHG Emissions Increases Reduced Trucking Alternative

Emission Source	Annual GHG Tons/Year ($MTCO_2e$)
Construction[1]	540
Operational Stationary Source[2]	30
Operational Mobile Source – Santa Maria Pump Station Route	2,526
Operational Mobile Source – Plains Pentland Terminal Route	6,526
Project Totals by Year and Trucking Route[3]	
Total Year One with Santa Maria Pump Station Route (includes construction)	3,096
Total Year One with Plains Pentland Terminal Route (includes construction)	7,096
Subsequent Years Total with Santa Maria Pump Station Route	2,557
Subsequent Years Total with Plains Pentland Terminal Route	6,556
Santa Barbara County CEQA Threshold (Tons/Year)	1,000
Threshold Exceeded? (Pentland/Santa Maria Routes)	**Yes/Yes**

Notes:
1. The emissions from Project construction activities are based on Project specific estimates and include off-road diesel equipment and on-road motor vehicles.
2. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
3. Year one for each route includes construction, stationary and mobile sources, subsequent years include stationary and mobile sources.

Impact GHG.2 - Project GHG emissions conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

California's regulatory setting for GHG emissions ensures that most of the existing and foreseeable GHG sources in the business of oil and gas production are subject to one or more programs aimed at reducing GHG emission levels. There are numerous regulatory requirements and programs in California which cover many aspects of the permitted facility operations, some of which would be applicable to the Reduced Trucking Alternative. The primary requirements for this alternative would include the CARB GHG Emission Standards for Crude Oil and Natural Gas Facilities (leak detection and repair), which would be implemented and enforced by the SBAPCD, and the CARB Mandatory Reporting Rule; low carbon fuel standards, and the Cap-and-Trade Program.

Given the oversight of the GHG sources from the Reduced Trucking Alternative, and progress of California's ongoing efforts to implement policies and a regulatory setting for reducing GHG emissions, the Reduced Trucking Alternative is not likely to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and would comply with the policies by utilizing diesel fuel and gasoline that is covered by the existing programs (Low Carbon Fuel Standard and Cap-and-Trade) and would use 2017 or new trucks. In addition, with the implementation of mitigation measure GHG-1, the total emissions associated with the Reduced Trucking Alternative would be below the County's threshold. Therefore, the Reduced Trucking Alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the impact would be considered **less than significant (Class III)**, which is the same classification as that for the proposed Project.

5.2.2.3 Hazardous Materials and Risk of Upset

Impact RISK.1 - The proposed Project could generate risks to public safety by exposing the public to hazards from truck transport of crude oil.

Under the Reduced Trucking Alternative, up to 50 trucks per day could leave the LFC facility going either to the SMPS or the Plains Petland Terminal. This represents about a 30% reduction in truck trips compared

to the proposed Project. These trucks could generate risk to the public in the unlikely event of an accident that resulted in a spill of crude oil.

Truck Pool Fire Risk

In the event of a truck accident that results in a spill of oil and subsequent pool fire, the heat (i.e., thermal radiation) from the fire could result in a serious injury for fatality. Table 5-6 provides an estimate of the likelihood of a large and small pool fire along with the probability of a pool fire given an accident for the Reduced Trucking Alternative.

In the unlikely event of a large pool fire, there is the potential for serious injury or fatality to those involved in the accident or the public on the roadway or adjacent properties if they are unable to escape quickly. The large pool fire hazard areas that could lead to injury or fatality would be the same as for the proposed Project since the same type of tanker trucks would be used. (See Section 4.3.4 for a discussion of the pool fire hazard zones.)

Table 5-6 Frequency of Crude Oil Fires Due to Laden Truck Accident Reduced Trucking Alternative

Item	Truck Route to SMPS	Truck Route to Plains Pentland Terminal
Route Length (miles)	54.3	140
Average Accident Rate per million miles	0.323	0.383
Truck Accident Rate per Trip	1.75E-05	5.37E-05
Number of Peak Day Laden Trips	50	50
Number of Annual Laden Trips[1]	18,250	18,250
Truck Incidents per Year (collisions and non-collisions)	0.38	1.18
Probability of Large Fire Given an Accident	0.0043	0.0043
Frequency of Large Fire per year	1.65E-03 (equivalent to once in 607 years)	5.05E-03 (equivalent to once in 198 years)
Probability of Small Fire Given an Accident	0.00064	0.00064
Frequency of Small Fire per year	2.45E-04 (equivalent to once in 4,077 years)	7.53E-04 (equivalent to once in 1,329 years)

Notes:
1. Annual trips are based upon an annual average of 50 trucks per day to SMPS or Plains Pentland Terminal.

Flammable Vapor Fire

In the unlikely event that accident results in a spill of oil, a flammable vapor cloud could form and if ignited, would result in a flash fire. Ignition of a flammable vapor cloud could be caused by other vehicles on the road or an ignition source adjacent to the road. A flash fire could result in injury or fatality to people in the vicinity of the vapor cloud if they are not able to evacuate the area before the vapor cloud ignites. Although the probability of an accident would decrease under this alternative due a reduction in the number of trucks, the same type of tanker truck would be used and therefore the area or radius of a flammable vapor cloud hazard that could lead to serious injury or fatality would be the same as for the proposed Project. See Section 4.3.4 for a discussion of the flammable vapor hazard zones.

Societal Risk Profiles

Figure 5-2 provides the injury and fatality risk profiles (F-N curves) for the proposed truck route to the SMPS for the Reduced Trucking Alternative. Figure 5-3 provides the injury and fatality risk profiles (F-N curves) for the proposed truck route to the Plains Pentland Terminal for the Reduced Trucking Alternative.

Figure 5-2 Risk Profiles for Crude Oil Transportation from LFC to the SMPS Reduced Trucking Alternative

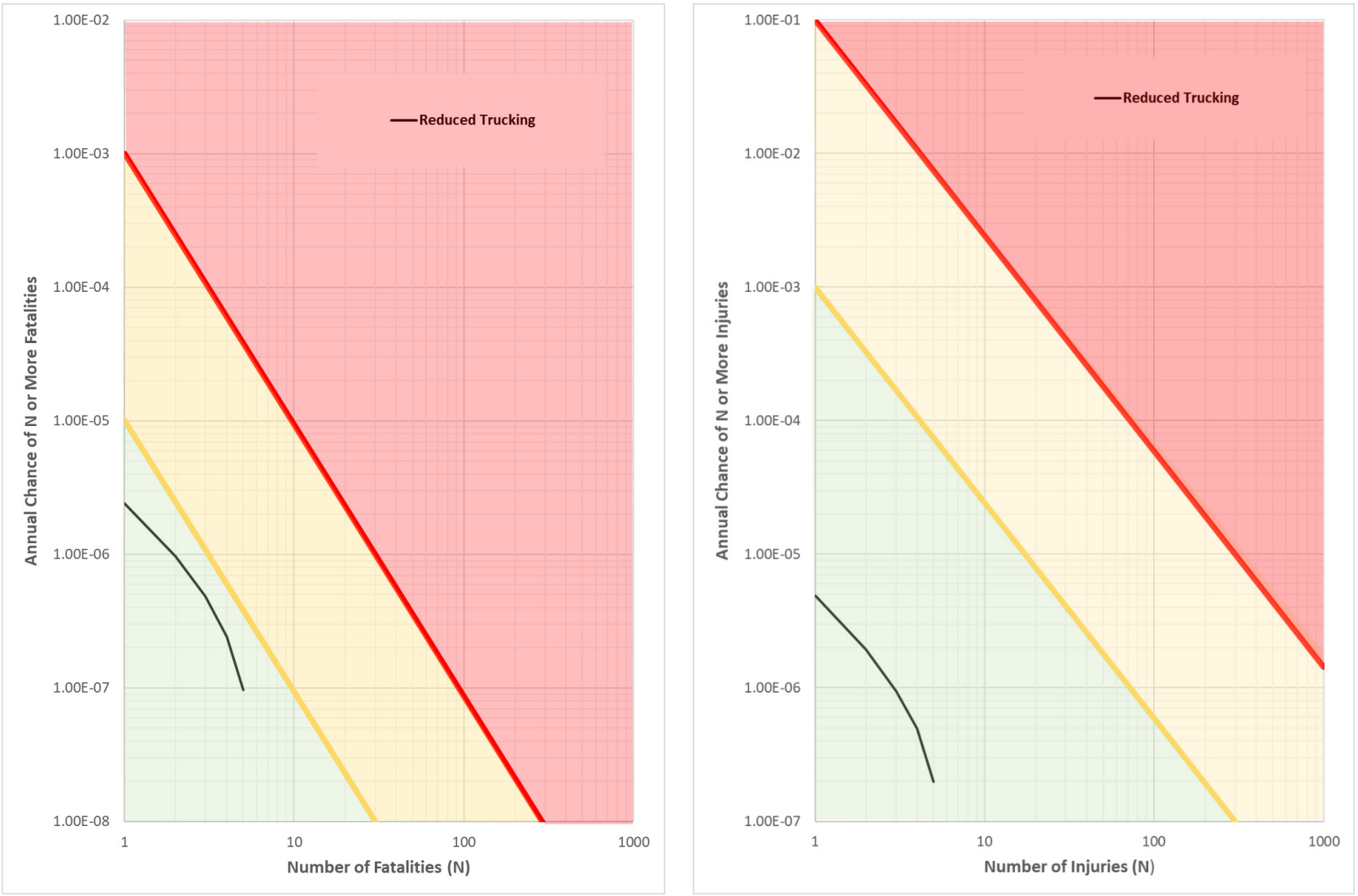
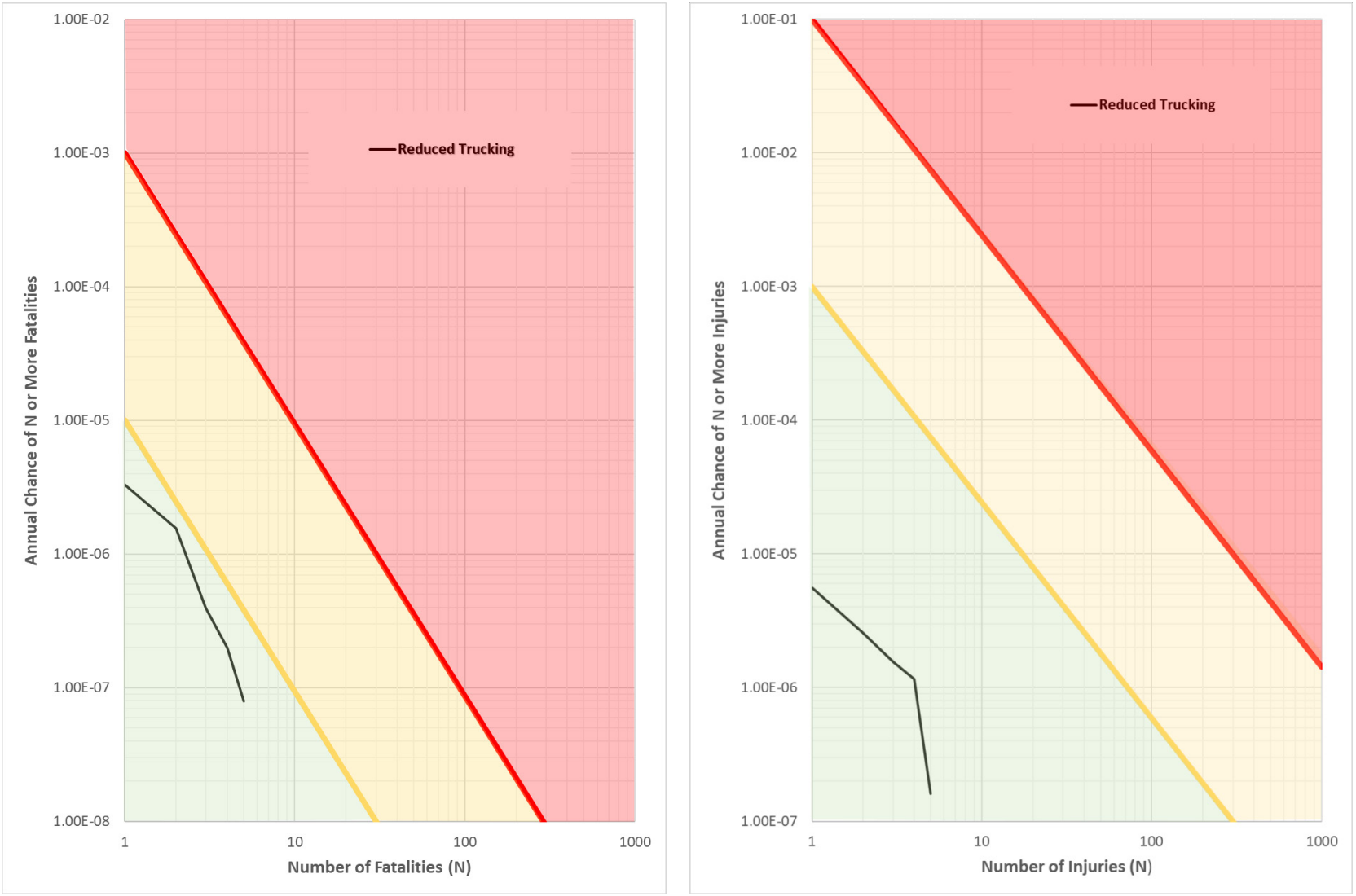


Figure 5-3 Risk Profiles for Crude Oil Transportation from LFC to the Plains Pentland Terminal Reduced Trucking Alternative



Based on the risk profiles, the public safety risk of transporting crude oil from the LFC facility to each of the two receiving terminals under the Reduced Trucking Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

If the Applicant proposed avoidance and minimization measure (AMM-RISK-01) was applied to this alternative, the risk depicted in the risk profiles would be reduced. AMM-RISK-01 would serve to reduce the likelihood of both collision and non-collision incidents. Also, implementation of mitigation measure RISK-02 identified for the proposed Project would serve to further reduce the likelihood of an accident for this alternative.

Impact RISK.2 - The proposed Project could generate risks to public safety by exposing the public to hazards from the truck loading operations at LFC.

The truck loading equipment and operations for the Reduced Trucking Alternative would be the same as for the proposed Project. The truck loading operations would involve the transfer of crude oil from the existing crude oil storage tanks via new pipelines that would transfer the crude to the truck loading racks. At the loading racks, loading lines would be used to transfer the crude to the trucks. The scenarios that could occur include crude oil spills due to equipment or operational failures associated with piping and loading lines, or spills from the crude oil trucks, associated with equipment failures or operational failures. The spill of crude oil would produce the potential for a pool fire if an ignition source is encountered or could produce a flammable vapor cloud from volatile components of the crude oil vaporizing off the spilled crude oil that could then ignite if an ignition source is encountered. The hazard zones for the Reduced Trucking Alternative would be the same as the proposed Project. See Section 4.3.4 for a discussion of the truck loading hazard zones.

As discussed in Section 4.3.4 under impact RISK.2, The trucking loading operations at the LFC facility would not result in any new risk to the public since the worst-case hazard zones would not extend offsite. Therefore, the impacts to public safety from the loading operations associated with the Reduced Trucking Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.

The Reduced Trucking Alternative would utilize the same trucks as the proposed Project. The maximum spill from a truck would be about 160 barrels (6,720 gallons). In the event of a spill, the crude oil would likely spill on the road pavement, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would impact the areas that would be affected.

Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources. As discussed in Section 4.3.1.5, the truck transportation routes cross perennial streams and major drainages. In the event of a spill that enters these waterways, there could be impacts to water quality and the aquatic habitat. Some of the creeks that could be affected by an oil spill flow into major waterways such as the Santa Ynez River, Cuyama River, Santa Maria River, and Twitchell Reservoir. If the oil spill occurred during periods when these creeks were flowing it is possible that oil could enter these major waterways and impact biological and water resources. With the Reduced Trucking Alternative, the likelihood for a spill impacting waterways would be reduced since fewer trucks would be transporting crude oil.

Potential impacts of an oil spill from a tanker truck for the Reduced Trucking Alternative would be the same as described for the proposed Project because the size of the trucks would be the same as the proposed Project. See Section 4.3.4, Impact RISK.3 for a discussion of the potential impacts to biological and water resources from and oil spill.

In the event that a truck accident results in an oil spill, disturbance of cultural resources could occur as a result of associated cleanup and/or restoration activities. For there to be an impact to cultural resources, the spill would need to occur in the vicinity of these resources. Clean up of an oil spill would likely require the use of bulldozers, frontend loaders, and other construction equipment to remove any contaminated soil. Use of this type of construction equipment could impact both known and unknown cultural resources.

Spills of oil at the truck loading area in LFC would likely be contained on the large existing graded pad where the proposed truck loading rack would be installed. This large existing graded pad, which is about 2.91 acres in size, is slightly sloped to drain into the existing emergency containment basin. Therefore, any oil spill that was not contained on the pad would be contained within the emergency containment basin. In addition, the Applicant has a number approved plans in place to address spills and emergency response. These plans are discussed in Section 4.3.4, Impact RISK.3.

However, the potential remains for a spill and the associated environmental effects and its clean-up to occur along the truck route with the Reduced Trucking Alternative. Implementation of mitigation measures RISK-01 and RISK-02, identified for the proposed Project would serve to reduce the likelihood and extent of a truck spill.

Under the Reduced Trucking Alternative, the operations of the SYU facilities, including the emulsion pipeline from the Platforms to the LFC facilities, would be reduced from the proposed Project. This could introduce some operational issues at these lower rates. The daily crude oil production would be reduced to about 8,000 barrels per day of oil. Based upon the historical average water fraction of the emulsion (a mixture of oil, natural gas and produced water) coming from the platforms, at 8,000 barrels per day the emulsion flow rate in the pipeline from the Platforms to the LFC facility would be about 23,530 barrels per day. At this flow rate, the velocity in the emulsion pipeline would be about 0.75 feet per second. This velocity is not enough to keep the water/oil emulsion mixed and could result in water dropping to the bottom of the pipeline, which would increase the potential for corrosion in the pipeline. One of the keys to maintaining the integrity of the emulsion pipeline from the Platforms to the LFC facility is regular pigging of the pipeline with both cleaning pigs and special instrumented pigs that are used to inspect the integrity of the pipeline. For liquid pipelines the normal velocity needed for pigs to be effective is between 1.5 and 12 feet per second (Williams 2014). At an emulsion flow rate of 23,530 barrels per day, the velocity in the emulsion pipeline would be well below 1.5 feet per second, which would likely reduce the effectiveness of the pigging operations, and possibly limit the ability to collect accurate integrity data on the pipeline from the instrumented pigs. Both factors would serve to increase the likelihood of a release from the emulsion pipeline due to increase corrosion and lack of accurate pipeline integrity data associated with this alternative.

Also, at these low flow rates the leak detection system on the emulsion pipeline may not function properly. The emulsion pipeline from Platform Harmony to the LFC facility was designed for a flowrate of approximately 228,000 barrels of emulsion per day. At flow rates below about 30,000 barrels per day the velocity and pressure drop in the pipeline becomes so low that the leak detection system most likely would generate more false alarms indicating a potential leak. Therefore, the low flow rates associated with this alternative would reduce the likelihood that a leak in the emulsion pipeline would be detected.

The emulsion pipeline is 19-inches in diameter and runs from Platform Harmony to the LFC facilities. In the event of the leak or rupture could spill in excess of 18,000 barrels of water and oil emulsion into the ocean, which would result in significant impacts to the marine environment, an impact previously analyzed under the original EIR and subsequent SEIR.

Even with the implementation of the identified trucking mitigation measures, in the unlikely event of a spill associated with the Reduced Trucking Alternative, the impact to biological, cultural and water resources could be **significant and unavoidable (Class I)**, which is the same classification as the proposed Project.

Impact FIRE.1 - New Development in an Area without Adequate Fire Fighting Capabilities or Adequate Access for Fire Fighting.

With the Reduced Trucking Alternative, the truck loading rack and associated equipment at the LFC facility would be the same as the proposed Project. In the unlikely event of a spill and resultant fire from the truck loading operations, the oil would be contained within the transportation terminal and adjacent spill containment system. The loading rack would be equipped with a firefighting equipment including a fire monitor (converted from an existing fire hydrant).

The Applicant has an existing Integrated Fire Protection Plan (IFPP) for the LFC facilities. The IFPP was prepared pursuant to Permit Condition Xl-2.i of the Final Development Plan for the Applicant's onshore oil and gas facilities at LFC. The IFPP addresses the potential fire hazards associated with operations within LFC and identified the firefighting capabilities available at the site. The IFPP contains a section that addresses the Transportation Terminal and the Truck Loading Area, which is the area in LFC where the truck loading rack would be constructed. The County has found the IFPP adequate for the current LFC facilities.

The truck loading operations would represent a small change to the overall fire hazards at the LFC facility and would not occur within an area without adequate fire prevention or fire suppression and protection systems, including firefighting access. Therefore, the impacts to firefighting capabilities and access for the Reduced Trucking Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.2.4 Transportation and Circulation

Impact TR.1 - Construction traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments.

Under the reduce trucking alternatives, the construction traffic would be the same as for the proposed Project. This construction activity would involve up to an additional 30 workers and up to 12 deliveries per day. This corresponds to 84 daily trips, two AM peak hour trips, and 32 PM peak hour trips. As discussed in Section 4.5.1.3, study roadways and intersections near the project operate at LOS B or better. Construction traffic would increase the volume to capacity (V/C) ratio of the affected roadway and intersection by less than 0.1.

The temporary traffic increases associated with construction are considered negligible and would not diminish the existing operating conditions on the study roadways. Therefore, the impact of temporary construction-related trips to affected roadways with the Reduced Trucking Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.2 - Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.

This alternative would generate a maximum of 50 trucks per day, which equates to between 2 and 3 truck trips per hour. No new employees would be required to operate the truck loading facilities. This corresponds to a peak of 100 new average daily one-way trips, with a peak of six trips occurring during both the AM and PM peak hours. These truck trips were converted to their passenger car equivalent (PCE) to reflect the fact that large trucks accelerate and maneuver more slowly than passenger cars, thereby having a larger effect on traffic operations. Each truck trip was converted to two PCEs for areas with flat terrain and three PCEs in areas with rolling terrain. With the Reduced Trucking Alternative, a total of between 6 and 9 PCEs would be added to the peak hours both northbound and southbound on U.S. Highway 101. This small increase in PCEs would not affect the level of service on U.S. Highway 101.

SMPS Truck Route

With the SMPS truck route, the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road with the Reduced Trucking Alternative traffic would operate at LOS F during the PM peak hours and at LOS D during the AM peak hours. All the remaining study intersections operate at LOS A or B. The reduced trucking would add 6 PCEs to the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection, which represents less than 0.1 V/C. For the AM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 PCE's would be added to the intersection which is above the County's significance threshold of 5 PCEs for intersections operating at LOS F.

Implementation of mitigation measure TR-1, identified for the proposed Project, would restrict trucks from using the intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road during the PM peak hours (3 PM to 6 PM). With this mitigation measure the impact of traffic from the Reduced Trucking Alternative to local intersections would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Plains Pentland Terminal Truck Route

With the Plains Pentland Terminal route, trucks would use State Route 166. The study segments of State Route 166 operate acceptably at LOS C or better during the peak hour. With the reduced trucking a total of between 6 and 9 PCEs would be added to the peak hours both northbound and southbound on State Route 166. This small increase in PCEs would not affect the level of service on State Route 166.

With the Plains Pentland Terminal Route, the intersection of U.S. Highway 101 Southbound Ramp/State Route 166 would operate at LOS D during the PM peak hours with the Reduced Trucking Alternative. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/State Route 166 intersection a total of 6 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. The remaining study intersections operate at LOC C or better and the Reduced Trucking Alternative would add less than 0.1 V/C at each of these intersections. Therefore, impacts along the route to the Plains Pentland Terminal would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.3 - Project related trucks could create a traffic safety hazard.

The Reduced Trucking Alternative would add truck traffic to area roadways, including roadways with above-average collision rates and a statistically significant number of collisions. This includes truck traffic associated with construction and operations. This alternative would not involve the addition of any new driveways that would access a major road or arterial road or require any revisions to existing traffic signals. The Reduced Trucking Alternative would not result in an exceedance of any of the roadway capacities, nor would it result in a substantial increase in traffic on any of the project roadways.

All vehicle trips transporting crude oil would be consistent with the rules and regulations of the California Vehicle Code and would only occur by permitted drivers in vehicles permitted and licensed to transport crude oil. Mitigation measure RISK-02 requires carrier qualifications, driver selection and training, vehicle inspection/maintenance, and use of onboard safety systems such as speed limiters. As discussed in Section 4.3, implementation of mitigation measure RISK-02 would reduce the likelihood of an accident by about 29%, therefore application of this mitigation measure to the Reduced Trucking Alternative would serve to reduce the likelihood of the crude trucks being in an accident.

An accident analysis was completed for the proposed Project in November 2018 (ATE, 2018). This study found that two road segments that would be used by this alternative would have accident rates that are above the statewide average during the 3-year period analyzed in the traffic study (January 1, 2015-December 31, 2017) and the number of accidents that occurred during the 3-year period is statistically significant based upon the Caltrans requirements.

The segment of U.S. Highway 101 from the Refugio Road interchange to State Route 246 interchange currently carries about 2,242 vehicles per hour during the peak hour period. The Reduced Trucking Alternative would add up to 6 trucks per hour to this segment during each AM and PM peak hour period (3 northbound + 3 southbound). This traffic addition equates to an increase of about $3/10^{th}$ of 1%, or 0.3%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

The segment of U.S. Highway 101 between the Betteravia Road interchange and the State Route 166 interchange would be used for trucks traveling to the Plains Pentland Terminal in Kern County. This segment currently carries about 5,660 vehicles per hour during the peak hour period. The Reduced Trucking Alternative would add up to 6 trucks per hour to this segment during each AM and PM peak hour period (3 northbound + 3 southbound). This traffic addition equates to an increase of about $1/10^{th}$ of 1%, or 0.1%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

Crude oil trucks traveling along Calle Real during the morning and afternoon hours could presents a safety risk to local school children who are taking the bus to school, which could be a potential significant impact in the event of an accident. Implementation of mitigation measure TR-2, identified for the proposed Project, would restrict the use of Calle Real by crude oil trucks during the hours when school busses where present.

With implementation of mitigation measure TR-2, impacts to traffic safety hazards for the Reduced Trucking Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Impact TR.4 - Project related trucks could degrade public roadway conditions.

The Reduced Trucking Alternative would contribute to roadway damage because of a net increase in truck trips over existing conditions. When fully loaded, the trucks would weigh up to 80,000 pounds. Trucks impact roadway structural conditions much more severely than passenger cars, generally by a factor of at least 1,000. Pavements are therefore engineered to accommodate truck traffic, since passenger cars have a negligible effect on pavement conditions (Caltrans, 2017b). A five-axle tractor-trailer loaded to 80,000 pounds has the same impact to roadways as at least 9,600 automobiles (GAO 1979). The addition of a fifty 80,000-pound trucks per day would increase the overall impact of trucks on local roadways due the high weight per axle or these trucks. On an annual basis the Reduced Trucking Alternative would see about 30 percent fewer trucks than the proposed Project traveling on local roadways.

The County's Public Works Road Division requires a specific type of Encroachment Permit, known as a Haul Permit, for projects that require the use of vehicles of a size, weight or load that would be used for the proposed Project. The Haul Permit will contain conditions for the proposed Project that include but are not limited to current roadway condition assessment, conduct and submit video recordings of all County-roadway used, regularly scheduled road inspections, and immediate repair of damage and roadway resurfacing if and when necessary. These Haul Permits contain provisions for the Applicant to cover their share of County roadway repairs. With the required Haul Permit, the impacts to roadway damage would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.3 No Trucking During Rainy Periods Alternative

Under this alternative, on days when the National Weather Service predicts a 50% chance of receiving ½-inch of rain or more in a 24-hr period in the areas along the truck routes, no trucking shall occur unless the rain event does not materialize. This would reduce the likelihood of a spill entering creeks and drainages. The annual number of trucks leaving the LFC facility would remain the same as the proposed Project (25,550). However, under the No Trucking During Rainy Periods Alternative, trucking of oil from the LFC facility would be limited to a peak day of 78 trucks. The higher peak day number would allow the Applicant to transport crude oil built up and account for the days when no trucking can occur due to predicted rain levels.

Each truck would transport approximately 160 barrels of crude oil (6,720 gallons). Truck transportation would occur seven days per week, 24-hours per day during days when rain was not predicted to reach ½ -inches or greater in a 24-hour period. Trucks could either travel to the SMPS or the Plains Pentland Terminal. For more details on this alternative, see Section 2.7.3, which provides a more detailed description of the alternatives carried forward.

Construction of the truck loading facilities would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS and the Plains Pentland Terminal would remain the same as for the proposed Project.

5.2.3.1 Air Quality

Impact AQ.1 - Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

With the No Trucking During Rainy Periods Alternative, the same facilities as the proposed Project would need to be built in LFC. This would include the truck loading rack and associated equipment. The air emissions associated with construction would be the same as described for the proposed Project in Section 4.1.4. Construction impacts for this alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact AQ.2 - Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Under the No Trucking During Rainy Periods Alternative, annual truck trips leaving the LFC facility would be limited to the same as the proposed Project (25,550), however a peak of 78 trucks per day could leave the LFC facility. The higher peak day number would be needed to account for the days when no trucking can occur due to a predicted rain of ½-inch or greater in a 24-hour period. As designed, the four truck loading racks would be capable of accommodating the increased peak of 78 trucks per day.

Table 5-7 provides an estimate of the operational emissions associated with the No Trucking During Rainy Periods Alternative. Potential operational emission sources include the components necessary to transfer the product to the truck loading rack (i.e., piping, hoses), emissions occurring during loading operations, emissions from the transfer of truck vapors to the facility's vapor recovery system, and components associated with the Lease Automatic Custody Transfer (LACT) units. Estimates for fugitive emissions associated with the loading rack operations, components, and piping are included in Table 5-7.

Emissions from trucking considers the use of 2017 model year diesel trucks operating at the peak activity levels, utilizing EMFAC2017 on-road emission model and emission factors. Emissions associated with both the deliveries to the SMPS and the Plains Pentland Terminal are also shown in Table 5-7.

Table 5-7 Operational Emissions No Trucking During Rainy Periods Alternative (Pounds/Day)

Source	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Scenario 1: Phillips 66 Santa Maria Pump Station						
Stationary	0.0	30.7	0.0	0.0	0.0	0.0
Mobile Emissions	22.5	0.5	5.8	0.2	15.5	2.5
Total Emissions	22.5	31.2	5.8	0.2	15.5	2.5
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No
Scenario 2: Plains Pentland Terminal						
Stationary	0.0	30.7	0.0	0.0	0.0	0.0
Mobile Emissions	55.4	1.0	11.6	0.6	53.0	8.4
Total Emissions	55.4	31.7	11.6	0.6	53.0	8.4
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	Yes	No	-	-	No	No

Notes:
1. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
2. See Appendix B for the detailed emission calculations.

Due to the increase in peak truck trips from 70 under the proposed Project to 78 under the No Trucking During Rainy Periods Alternative, operational related emissions are below the applicable threshold for the SMPS route, but slightly above the threshold for the Plains Pentland Terminal route. Implementation of mitigation measure AQ-1 would reduce the impacts for the Plains Pentland Terminal route to less than significant. Therefore, impacts would be **less than significant with mitigation (Class II)**, which is a higher classification as the proposed Project.

Impact AQ.3 - Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Trucking activities would result in mobile emissions for the exhaust gases from the operation of the tanker truck engines. Table 5-8 below presents the estimated mobile emissions associated with the SMPS route along with the Santa Barbara County significance thresholds for motor vehicle trips/mobile sources. All emissions from the SMPS route would occur within Santa Barbara County. The mobile air emissions for the No Trucking During Rainy Periods Alternative would not exceed the County thresholds.

Table 5-8 Mobile Source Emissions No Trucking During Rainy Periods Alternative – Santa Maria Pump Station Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
Santa Barbara County	22.5	0.5	5.8	0.2	15.5	2.5
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	No	No	---	---	---	---

Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.

Table 5-9 presents the mobile emissions associated with the Plains Pentland Terminal Route and includes both total emissions for the entire route as well as emissions by County. The emissions associated with the total Plains Pentland Terminal route are compared with each County's respective significance thresholds and standards as applicable.

Mobile source emissions for the Plains Pentland Terminal truck route would exceed the County's criteria pollutant significance thresholds for NO_X, for the portion within Santa Barbara County as well as the entire route; therefore, the impact would be potentially significant. The emissions in San Luis Obispo County and Kern County for the Plains Pentland Terminal route would be below the significance thresholds for these agencies. Implementation of mitigation measure AQ-1 for the proposed Project would reduce the air quality impacts from mobile sources for the No Trucking During Rainy Periods Alternative to **less than significant with mitigation (Class II)**, which is the same as the proposed Project.

Impact AQ.4 - Proposed Project activities could create objectionable odors affecting a substantial number of people.

Odor events could occur from loading rack operations, the LACT units or from leaks associated with loading and piping components. Sulfur compounds, found in oil and gas, have very low odor threshold levels and the release of substances that contain even small amounts of sulfur compounds (H_2S) or hydrocarbons can be noticed. Any odor complaints regarding the SYU facilities are logged by the SBCAPCD. The additional infrastructure associated with this alternative would increase the number of loading and piping components, and therefore leak paths with the potential to create odors. Fugitive emissions associated with this alternative would increase LFC facility emissions by about five percent. The increase

in fugitive emissions would be the same as for the proposed Project on an annual basis. Even with the increase of a peak trucks to 78, with the use of the BACT control measures and the distance from the loading rack area to LFC facility property boundaries, as well as the lack of historical odor events at the facility associated with fugitive emissions, the components associated with this alternative would not be expected to create objectionable odors affecting a substantial number of people. Therefore, impacts for the No Trucking During Rainy Periods Alternative would therefore be **less than significant (Class III)**, which is the same classification as the proposed Project.

Table 5-9 Mobile Source Emissions No Trucking During Rainy Periods Alternative – Plains Pentland Terminal Route

Route Location Area(s)	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
All - Total Route	55.4	1.0	11.6	0.6	53.0	8.4
Significance Threshold[2]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	**Yes**	No	---	---	---	---
Santa Barbara County	35.1	0.7	7.2	0.4	29.6	4.7
Significance Threshold[2] (lbs)	25	25	---	---	---	---
Threshold Exceeded?	**Yes**	No	---	---	---	---
San Luis Obispo County(3)	14.5	0.2	2.1	0.2	16.9/0.16	2.7
Significance Threshold[3] (lbs)	25	25	550	---	25/1.25	---
Threshold Exceeded?	No	No	No	---	No	---
Kern County	5.9	0.2	2.3	0.1	6.6	1.0
Significance Threshold[4] (tons)	25	25	---	---	25	---
Threshold Exceeded?	No	No	---	---	No	---

Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.
3. PM_{10}/Diesel Particulate Matter (DPM) San Luis Obispo County significance thresholds for PM_{10} 25 lbs/day, DPM 1.25 lbs/day.
4. Kern County significance thresholds in tons per year for ROC, NO_x, and PM.

Impact AQ.5 - Toxic air emissions from stationary equipment loading operations and truck transportation of crude oil may expose nearby residents to toxic air contaminants.

The fugitive emissions associated with the loading rack piping and components, loading operations and operations of diesel trucks would increase the amount of ROC emissions, which contain air toxic components. The air toxic risk numbers are based upon the annual number of trucks and loadings, so the air toxic emissions would be the same as for the proposed Project.

Table 5-10 compares the ROC emissions for baseline LFC facilities and for the LFC facilities with the No Trucking During Rainy Periods Alternative. This alternative would increase the total potential annual ROC emissions for LFC by 5.3%, which is the same as the proposed Project. A 5.3% increase in annual ROC emissions would correspondingly increase the health risk values by approximately an equal amount, which is a conservative estimate.

As discussed above and as previously analyzed under the original EIR and SEIR, the baseline LFC operations are below the applicable HRA significance threshold for cancer risk, chronic risk and acute risk established by CARB. Based on the estimated 5.3% increase in ROC emissions, the No Trucking During Rainy Periods Alternative has the potential to increase the cancer risk from the current estimated value of 6 to 6.3 which would remain below the threshold for cancer risk of 10.

Table 5-10 Air Toxic Emissions and Health Risk No Trucking During Rainy Periods Alternative

Source	Baseline, 3 Year Average*	Baseline with No Trucking During Rainy Periods Alternative**
ROC Emissions (tons per year)	98.4	103.5
Risk		
Cancer, per million	6.00	6.31
Chronic, HI	0.10	0.11
Acute, HI	0.30	0.32

*Source: SBCAPCD 1995.
**Source: MRS Environmental. Baseline emissions include the onshore (LFC and POPCO) facilities only. Project emissions are for the loading rack fugitive emissions and the emissions associated with crude loading.

A 5.3% increase to the current HRA values for chronic (0.1) and acute (0.3) also would remain below the 1.0 hazard index threshold. Therefore, the impacts associated with the potential increase in air toxic emissions at the LFC facilities for the No Trucking During Rainy Periods Alternative would be less than significant, which is the same classification as for the proposed Project.

The operation of diesel trucks along area roadways would generate emissions of diesel particulate matter (DPM) that could increase cancer risks at areas near roadways. Figure 5-4 depicts the cancer risk associated with DPM generated from the diesel trucks at various speeds and distances from the roadway for the No Trucking During Rainy Periods Alternative. Cancer risks from DPM are well below the significance thresholds of 10 in a million at all speeds.

Cancer risks close to the LFC facility would be a combination of the cancer risks associated with the LFC facility and those associated with diesel truck activity within about a 1,000 feet of the LFC facility. These values combined would total 6.51 cancer cases per million based on the estimated cancer risk from the LFC with the No Trucking During Rainy Periods Alternative plus the maximum diesel risk from diesel trucks at 15 mph shown in Figure 5-4.

Therefore, the potential increase in air toxic emissions associated with the use of diesel trucks and the LFC operations under the No Trucking During Rainy Periods Alternative would not expose sensitive receptors to pollutant concentrations exceeding the health risk threshold of 10 cancer cases per million and therefore, the health risk impact would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.3.2 Climate Change/Greenhouse Gas Emissions

Impact GHG.1 - Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.

The primary GHG emissions associated with the No Trucking During Rainy Periods Alternative would be emitted by mobile sources associated with the trucking activities. Additionally, the construction of the truck loading facilities at LFC would generate GHG emissions. The annual GHG emissions would be the same as for the proposed Project since the annual number of trucks (25,550) would be the same.

Table 5-11 provides a summary of the GHG emissions associated with the No Trucking During Rainy Periods Alternative. The GHG emissions exceed the County threshold for both the truck routes (i.e., SMPS and Plains Pentland Terminal). Implementation of mitigation measure GHG-1, identified for the proposed Project, would reduce the GHG emission impact to below the County threshold. Therefore, the GHG

emission impacts from the No Trucking During Rainy Periods Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Figure 5-4 Project Diesel Truck On-Road Cancer Risks No Trucking During Rainy Periods Alternative

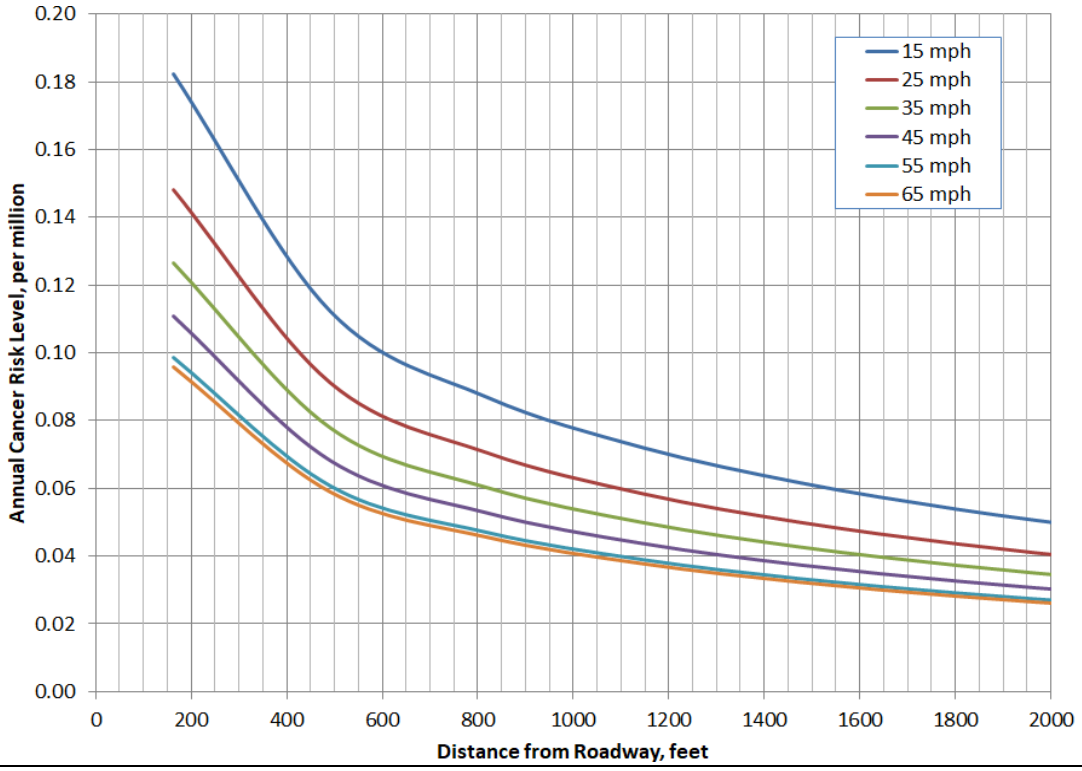


Table 5-11 GHG Emissions Increases No Trucking During Rainy Periods Alternative

Emission Source	Annual GHG Tons/Year ($MTCO_2e$)
Construction[1]	540
Operational Stationary Source[2]	34
Operational Mobile Source – Santa Maria Pump Station Route	3,537
Operational Mobile Source – Plains Pentland Terminal Route	8,875
Project Totals by Year and Trucking Route[3]	
Total Year One with Santa Maria Pump Station Route (includes construction)	4,111
Total Year One with Plains Pentland Terminal Route (includes construction)	9,449
Subsequent Years Total with Santa Maria Pump Station Route	3,571
Subsequent Years Total with Plains Pentland Terminal Route	8,909
Santa Barbara County CEQA Threshold (Tons/Year)	1,000
Threshold Exceeded? (Pentland/Santa Maria Routes)	**Yes/Yes**

Notes:
1. The emissions from Project construction activities are based on Project specific estimates and include off-road diesel equipment and on-road motor vehicles.
2. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
3. Year one for each route includes construction, stationary and mobile sources, subsequent years include stationary and mobile sources.

Impact GHG.2 - Project GHG emissions conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

California's regulatory setting for GHG emissions ensures that most of the existing and foreseeable GHG sources in the business of oil and gas production are subject to one or more programs aimed at reducing GHG emission levels. There are numerous regulatory requirements and programs in California which cover many aspects of the permitted facility operations, some of which would be applicable to the No Trucking During Rainy Periods Alternative. The primary requirements for the No Trucking During Rainy Periods Alternative would include the CARB GHG Emission Standards for Crude Oil and Natural Gas Facilities (leak detection and repair), which would be implemented and enforced by the SBAPCD, and the CARB Mandatory Reporting Rule; low carbon fuel standards, and the Cap-and-Trade Program.

Given the regulatory oversight of the GHG sources from the No Trucking During Rainy Periods Alternative, and progress of California's ongoing efforts to implement policies and a regulatory setting for reducing GHG emissions, the No Trucking During Rainy Periods Alternative is not likely to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions. This alternative would comply with the policies by utilizing diesel fuel and gasoline that is covered by the existing programs (Low Carbon Fuel Standards and Cap-and-Trade) and would use 2017 or new trucks. In addition, with the implementation of mitigation measure GHG-1, the total emissions associated with the No Trucking During Rainy Periods Alternative would be below the County's threshold. Therefore, the No Trucking During Rainy Periods Alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the impact would be considered **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.3.3 Hazardous Materials and Risk of Upset

Impact RISK.1 - The proposed Project could generate risks to public safety by exposing the public to hazards from truck transport of crude oil.

Under the No Trucking During Rainy Periods Alternative, a peak of 78 trucks per day could leave the LFC facility. Annual truck trips leaving the LFC facility would be the same as the proposed Project (25,550). The higher peak day number would be needed to account for the days when no trucking can occur due to predicted rain of ½-inches or greater in a 24-hour period. These trucks could generate risk to the public in the unlikely event of accident resulting in a spill of crude oil. Since the risk is based upon the number of annual truck trips, the risk for this alternative would be the same as for the proposed Project. It is likely that not tucking during period of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions. However, the accident data for trucks is not detailed enough to determine the effects due to wet weather. Therefore, no adjustment has been made to the accident rate.

Truck Pool Fire Risk

In the event of a truck accident that results in a spill of oil and subsequent pool fire, the heat (i.e., thermal radiation) from the fire could result in a serious injury for fatality. Table 5-12 provides an estimate of the likelihood of a large and small pool fire along with the probability of a pool fire given an accident for the No Trucking During Rainy Periods Alternative.

In the unlikely event of a large pool fire, there is the potential for serious injury or fatality to those involved in the accident or the public on the roadway or adjacent properties if they are unable to escape quickly. The radius or areas of a large pool that could lead to injury or fatality would be the same as for the

proposed Project since the same type of tanker trucks would be used. See Section 4.3.4 for a discussion of the pool fire hazard zones.

Flammable Vapor Fire

In the unlikely event of that an accident results in a spill of oil, a flammable vapor cloud could form and if ignited, would result in a flash fire. Ignition of a flammable vapor cloud could be caused by other vehicles on the road or an ignition source adjacent to the road. A flash fire could result in injury or fatality to people in the vicinity of the vapor cloud if they are not able to evacuate the area before the vapor cloud ignites. The probability of an accident would be the same as for the proposed Project under this alternative due to there being no change in the annual number of truck trips. The same type of tanker truck as the proposed Project would be used and therefore the area or radius of a flammable vapor cloud hazard that could lead to serious injury or fatality would be the same as for the proposed Project. See Section 4.3.4 for a discussion of the flammable vapor hazard zones.

Table 5-12 Frequency of Crude Oil Fires Due to Laden Truck Accident No Trucking During Rainy Periods Alternative

Item	Truck Route to SMPS	Truck Route to Plains Pentland Terminal
Route Length (miles)	54.3	140
Average Accident Rate per million miles	0.32	0.38
Truck Accident Rate per Trip	1.72E-05	5.26E-05
Number of Peak Day Laden Trips	78	78
Number of Annual Laden Trips[1]	25,550	24,820
Truck Incidents per Year (collisions and non-collisions)	0.54	1.60
Probability of Large Fire Given an Accident	0.0043	0.0043
Frequency of Large Fire per year	2.31E-03 (equivalent to once in 433 years)	6.88E-03 (equivalent to once in 145 years)
Probability of Small Fire Given an Accident	0.00064	0.00064
Frequency of Small Fire per year	3.43E-04 (equivalent to once in 2,912 years)	1.02E-03 (equivalent to once in 977 years)

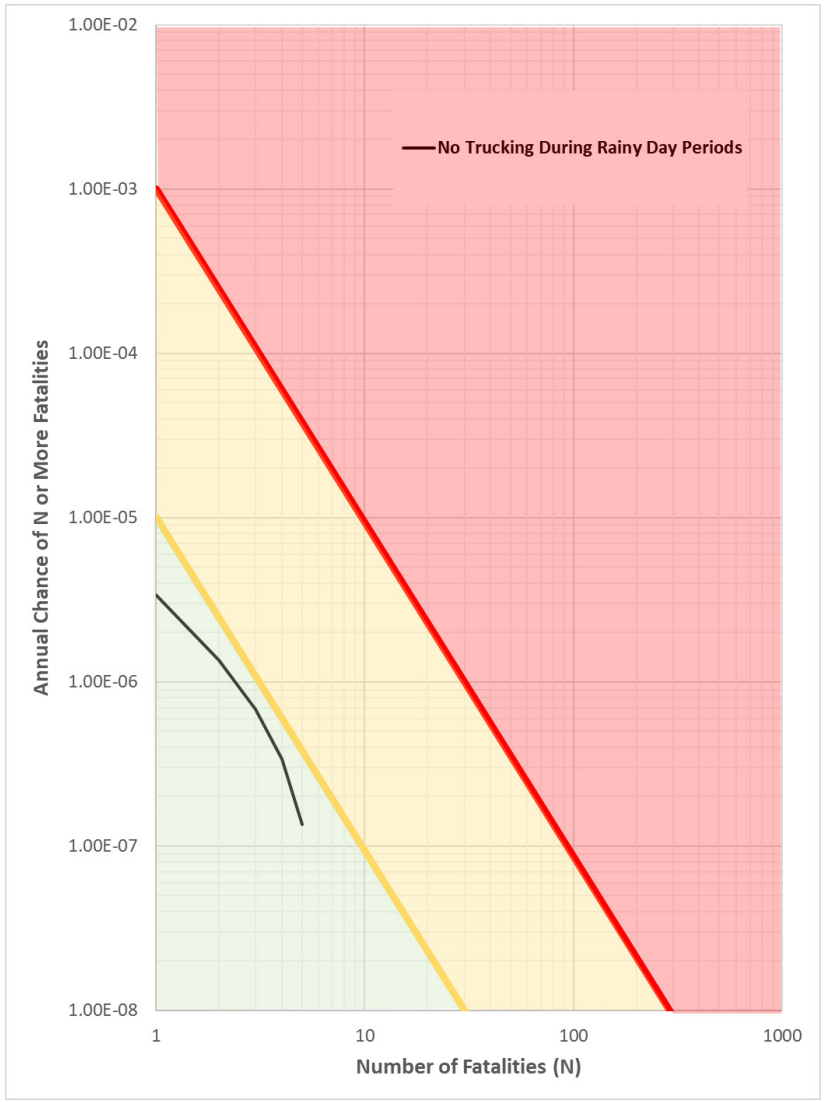
Notes:
1. Annual trips are based upon an annual average of 70 trucks per day to SMPS and 68 truck trips to the Plains Pentland Terminal.

Societal Risk Profiles

Figure 5-5 provides the injury and fatality risk profiles (FN curves) for the proposed truck route to the SMPS for the No Trucking During Rainy Periods Alternative. Figure 5-6 provides the injury and fatality risk profiles (FN curves) for the proposed truck route to the Plains Pentland Terminal for the No Trucking During Rainy Periods Alternative. Based on the risk profiles, the public safety risk of transporting crude oil from the LFC facility to each of the two receiving terminals under the No Trucking During Rainy Periods Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

If the Applicant proposed avoidance and minimization measure (AMM-RISK-01) was applied to the No Trucking During Rainy Periods Alternative, the risk would be reduced. These avoidance and minimization measures would serve to reduce the likelihood of both collision and non-collision incidents. Also, implementation of mitigation measure RISK-02, identified for the proposed Project, would serve to further reduce the likelihood of an accident further for this alternative.

Figure 5-5 Risk Profiles for Crude Oil Transportation from LFC to the SMPS No Trucking During Rainy Periods Alternative



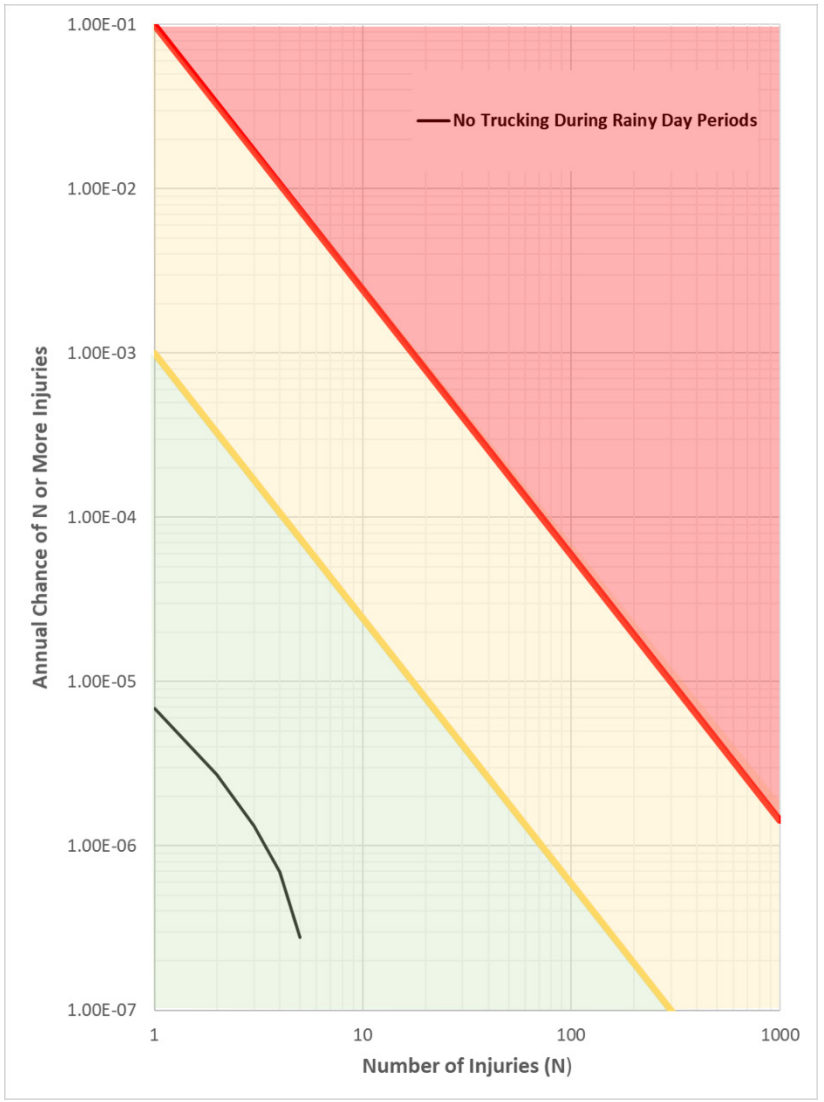
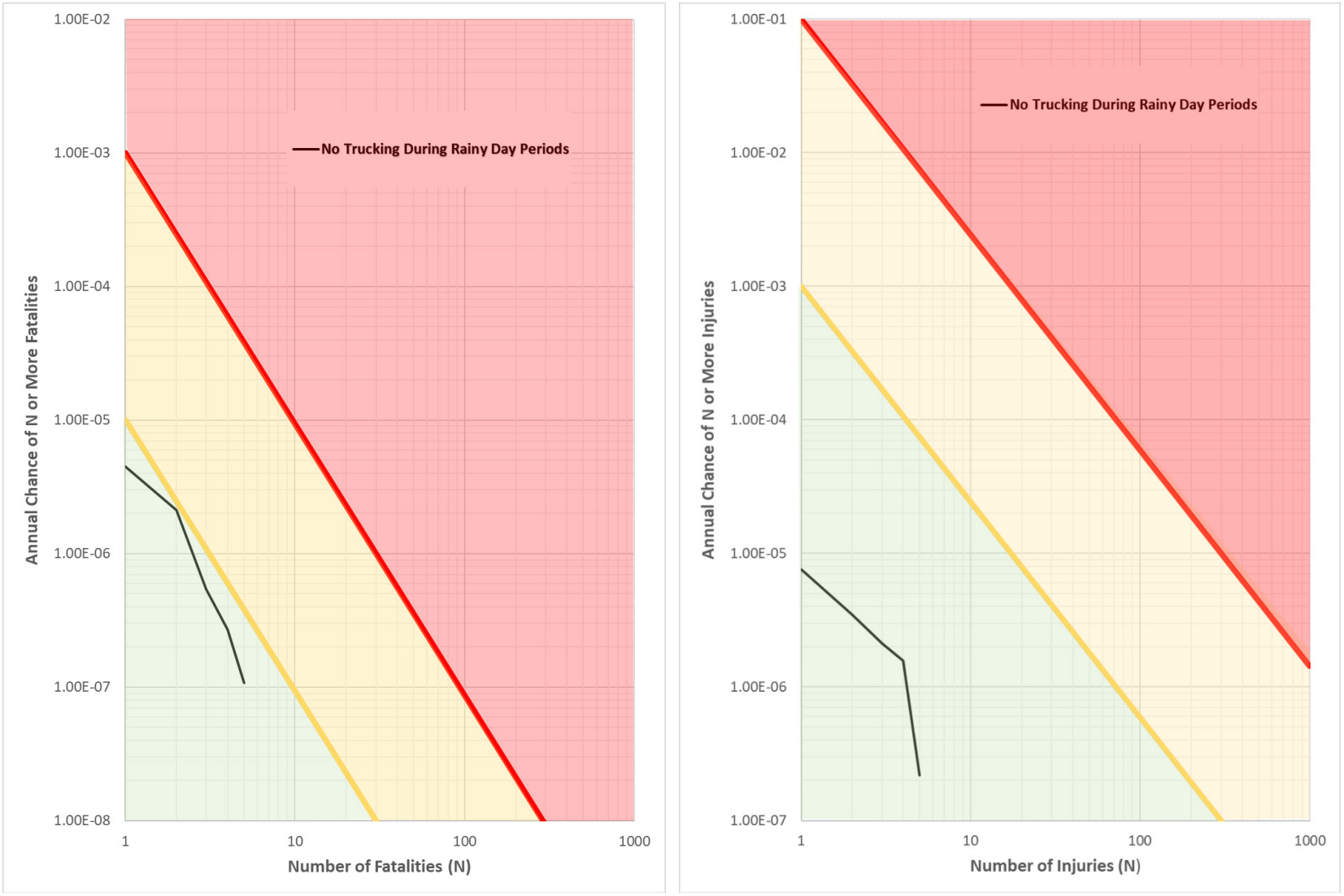


Figure 5-6 Risk Profiles for Crude Oil Transportation from LFC to the Plains Pentland Terminal No Trucking During Rainy Periods Alternative



Impact RISK.2 - The proposed Project could generate risks to public safety by exposing the public to hazards from the truck loading operations at LFC.

The truck loading equipment and operations for the No Trucking During Rainy Periods Alternative would be the same as for the proposed Project. The truck loading operations would involve the transfer of crude oil from the existing crude oil storage tanks via new pipelines that would transfer the crude to the truck loading racks. At the loading racks, loading lines would be used to transfer the crude to the trucks.

The scenarios that could occur include crude oil spills due to equipment or operational failures associated with piping and loading lines, or spills from the crude oil trucks, associated with equipment failures or operational failures. The spill of crude oil would produce the potential for a pool fire if an ignition source is encountered or could produce a flammable vapor cloud from volatile components of the crude oil vaporizing off the spilled crude oil that could then ignite if an ignition source is encountered. The hazard zones for the no trucking during rainy periods would be the same as the proposed Project. See Section 4.3.4 for a discussion of the truck loading hazard zones.

As discussed in Section 4.3.4 under impact RISK.2, the trucking loading operations at the LFC facility would not result in any new risk to the public since the worst-case hazard zones would not extend offsite. Therefore, the impacts to public safety from the loading operations associated with the No Trucking During Rainy Periods Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.

The No Trucking During Rainy Periods Alternative would utilize the same trucks as the proposed Project. The maximum spill from a truck would be about 160 barrels (6,720 gallons). In the event of a spill, the crude oil would likely spill on the road pavement, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would impact the areas that would be affected.

Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources. As discussed in Section 4.3.1.5, the truck transportation routes cross perennial streams and major drainages. In the event of a spill that enters these waterways, there could be impacts to water quality and the aquatic habitat. Some of the creeks that could be affected by an oil spill flow into major waterways such as the Santa Ynez River, Cuyama River, Santa Maria River, and Twitchell Reservoir. If the oil spill occurred during periods when these creeks were flowing it is possible that oil could enter these major waterways and impact biological and water resources. Under the No Trucking During Rainy Periods Alternative, the likelihood for a spill impacting waterways would be reduced since it would be less likely that the spilled oil would be transported via the rainwater into nearby creeks and other drainages.

Potential impacts of an oil spill from a tanker truck for the No Trucking During Rainy Periods Alternative would be the same as described for the proposed Project. See Section 4.3.4, Impact RISK.3 for a discussion of the potential impacts to biological and water resources from and oil spill.

In the event that a truck accident results in an oil spill, disturbance of cultural resources could occur as a result of associated cleanup and/or restoration activities. For there to be an impact to cultural resources, the spill would need to occur in the vicinity of these resources. Clean up of an oil spill would likely require

the use of bulldozers, frontend loaders, and other construction equipment to remove any contaminated soil. Use of this type of construction equipment could impact both known and unknown cultural resources.

Spills of oil at the truck loading area in LFC would likely be contained on the large existing graded pad where the proposed truck loading rack would be installed. This large existing graded pad, which is about 2.91 acres in size, is slightly sloped to drain into the existing emergency containment basin. Therefore, any oil spill that was not contained on the pad would be contained within the emergency containment basin. In addition, the Applicant has a number approved plans in place to address spills and emergency response. These plans are discussed in Section 4.3.4, Impact RISK.3.

However, the potential remains for a spill and the associated environmental effects and its clean-up from the trucking operations with the No Trucking During Rainy Periods Alternative. Implementation of mitigation measures RISK-01 and RISK-02, identified for the proposed Project, would serve to reduce the likelihood and extent of a truck spill. Even with the implementation of the identified mitigation measures, in the unlikely event of a spill associated with the No Trucking During Rainy Periods Alternative, the impact to biological, cultural and water resources could be **significant and unavoidable (Class I)**, which is the same classification as the proposed Project.

Impact FIRE.1 - New Development in an Area without Adequate Fire Fighting Capabilities or Adequate Access for Fire Fighting.

Under the No Trucking During Rainy Periods Alternative the truck loading rack and associated equipment at the LFC facility would be the same as the proposed Project. In the unlikely event of a spill and resultant fire from the truck loading operations, the oil would be contained within the transportation terminal and adjacent spill containment system. The loading rack would be equipped with a firefighting equipment including a fire monitor (converted from an existing fire hydrant).

The Applicant has an existing Integrated Fire Protection Plan (IFPP) for the LFC facilities. The IFPP was prepared pursuant to Permit Condition Xl-2.i of the Final Development Plan for the Applicant's onshore oil and gas facilities at LFC. The IFPP addresses the potential fire hazards associated with operations within LFC and identified the firefighting capabilities available at the site. The IFPP contains a section that addresses the Transportation Terminal and the Truck Loading Area, which is the area in LFC where the truck loading rack would be constructed. The County has found the IFPP adequate for the current LFC facilities.

The truck loading operations would represent a small change to the overall fire hazards at the LFC facility and would not occur within an area without adequate fire prevention or fire suppression and protection systems, including firefighting access. Therefore, the impacts to firefighting capabilities and access for the No Trucking During Rainy Periods Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.3.4 Transportation and Circulation

Impact TR.1 - Construction traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments.

Under the No Trucking During Rainy Periods Alternative, the construction traffic would be the same as for the proposed Project. This construction activity would involve up to an additional 30 workers and up to 12 deliveries per day. This corresponds to 84 daily trips, two AM peak hour trips, and 32 PM peak hour trips. As discussed in Section 4.5.1.3 study roadways and intersections near the project operate at LOS B

or better. Construction traffic would increase V/C of the affected roadway and intersection by well less than 0.1.

The temporary traffic increases associated with construction are considered negligible and would not diminish the existing operating conditions on the study roadways. Therefore, the impact of temporary construction-related trips to affected roadways with the No Trucking During Rainy Periods Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.2 - Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.

This alternative would generate a peak of 78 trucks per day, which equates to an average of between three and four truck trips per hour. No new employees would be required to operate the truck loading facilities. This corresponds to a peak of 156 new average daily one-way trips, with a peak of eight trips occurring during both the AM and PM peak hours. These truck trips were converted to their passenger car equivalent (PCE) to reflect the fact that large trucks accelerate and maneuver more slowly than passenger cars, thereby having a larger effect on traffic operations. Each truck trip was converted to two PCEs for areas with flat terrain and three PCEs in areas with rolling terrain. With the No Trucking During Rainy Periods Alternative a total of between 8 and 12 PCEs would be added to the peak hours both northbound and southbound on U.S. Highway 101. This small increase in PCEs would not affect the level of service on U.S. Highway 101.

SMPS Truck Route

With the SMPS truck route, the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road with the No Trucking During Rainy Periods Alternative traffic would operate at LOS F during the PM peak hours and at LOS D during the AM peak hours. All the remining study intersections operate at LOS A or B. The No Trucking During Rainy Periods Alternative would add 8 PCEs to the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection, which represents less than 0.1 V/C. For the AM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 8 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 8 PCE's would be added to the intersection which is above the County's significance threshold of 5 PCEs for intersections operating at LOS F.

Implementation of mitigation measure TR-1 identified for the proposed Project, would restrict trucks from using the intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road during the PM peak hours (3 PM to 6 PM). With this mitigation measures the impact of traffic from the No Trucking During Rainy Periods Alternative to local intersections would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Plains Pentland Terminal Truck Route

With the Plains Pentland Terminal route, trucks would use State Route 166. The study segments of State Route 166 operate acceptably at LOS C or better during the peak hour. Under the No Trucking During Rainy Periods Alternative a total of between 8 and 12 PCEs would be added to the peak hours both northbound and southbound on State Route 166. This small increase in PCEs would not affect the level of service on State Route 166.

With the Plains Pentland Terminal Route, the intersection of U.S. Highway 101 Southbound Ramp/State Route 166 would operate at LOS D during the PM peak hours with the No Trucking During Rainy Periods

Alternative. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/State Route 166 intersection a total of 8 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. The remaining study intersections operate at LOC C or better and the No Trucking During Rainy Periods Alternative would add less than 0.1 V/C at each of these intersections. Therefore, impacts along the route to the Plains Pentland Terminal would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.3 - Project related trucks could create a traffic safety hazard.

The No Trucking During Rainy Periods Alternative would add truck traffic to area roadways, including roadways with above-average collision rates and a statistically significant number of collisions. This includes truck traffic associated with construction and operations. This alternative would not involve the addition of any new driveways that would access a major road or arterial road or require any revisions to existing traffic signals. The No Trucking During Rainy Periods Alternative would not result in an exceedance of any of the roadway capacities, nor would it result in a substantial increase in traffic on any of the project roadways.

All vehicle trips transporting crude oil would be consistent with the rules and regulations of the California Vehicle Code and would only occur by permitted drivers in vehicles permitted and licensed to transport crude oil. Mitigation measure RISK-02 requires carrier qualifications, driver selection and training, vehicle inspection/maintenance, and use of onboard safety systems such as speed limiters. As discussed in Section 4.3, implementation of mitigation measure RISK-02 would reduce the likelihood of an accident by about 29%, therefore, application of this mitigation measure to the No Trucking During Rainy Periods Alternative would serve to reduce the likelihood of the crude trucks being in an accident.

An accident analysis was completed for the proposed Project in November 2018 (ATE, 2018). This study found that two road segments that would be used by this alternative would have accident rates that are above the statewide average during the 3-year period analyzed in the traffic study (January 1, 2015-December 31, 2017) and the number of accidents that occurred during the 3-year period is statistically significant based upon the Caltrans requirements.

The segment of U.S. Highway 101 from the Refugio Road interchange to State Route 246 interchange currently carries about 2,242 vehicles per hour during the peak hour period. The No Trucking During Rainy Periods Alternative would add up to 8 trucks per hour to this segment during each AM and PM peak hour period (4 northbound + 4 southbound). This traffic addition equates to an increase of about $4/10^{th}$ of 1%, or 0.4%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

The segment of U.S. Highway 101 between the Betteravia Road interchange and the State Route 166 interchange would be used for trucks traveling to the Plains Pentland Terminal in Kern County. This segment currently carries about 5,660 vehicles per hour during the peak hour period. The No Trucking During Rainy Periods Alternative would add up to 8 trucks per hour to this segment during each AM and PM peak hour period (4 northbound + 4 southbound). This traffic addition equates to an increase of about $1/10^{th}$ of 1%, or 0.1%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

Crude oil trucks traveling along Calle Real during the morning and afternoon hours could presents a safety risk to local school children who are taking the bus to school, which could be a potential significant impact in the event of an accident. However, it is likely that not tucking during period of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions.

Implementation of mitigation measure TR-2, identified for the proposed Project, would restrict the use of Calle Real by crude oil trucks during the hours when school busses where present.

With implementation of mitigation measure TR-2, impacts to traffic safety hazards for the No Trucking During Rainy Periods Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Impact TR.4 - Project related trucks could degrade public roadway conditions.

The No Trucking During Rainy Periods Alternative could contribute to roadway damage because of a net increase in truck trips over existing conditions. When fully loaded, the trucks would weigh up to 80,000 pounds. Trucks impact roadway structural conditions much more severely than passenger cars, generally by a factor of at least 1,000. Pavements are therefore engineered to accommodate truck traffic, since passenger cars have a negligible effect on pavement conditions (Caltrans, 2017b). A five-axle tractor-trailer loaded to 80,000 pounds has the same impact to roadways as at least 9,600 automobiles (GAO 1979). The addition of a peak of seventy-eight 80,000-pound trucks per day would increase the overall impact of trucks on local roadway due the high weight per axle or these trucks. On an annual basis the No Trucking During Rainy Periods Alternative would see the same number of trucks traveling local roadway as the proposed Project.

The County's Public Works Road Division requires a specific type of Encroachment Permit, known as a Haul Permit, for projects that require the use of vehicles of a size, weight or load that would be used for the proposed Project. The Haul Permit will contain conditions for the proposed Project that include but are not limited to current roadway condition assessment, conduct and submit video recordings of all County-roadway used, regularly scheduled road inspections, and immediate repair of damage and roadway resurfacing if and when necessary. These Haul Permits contain provisions for the Applicant to cover their share of County roadway repairs. With the required Haul Permit, the impacts to roadway damage would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.4 Trucking to the Santa Maria Pump Station Only Alternative

Under the Trucking to the SMPS Only Alternative, under normal conditions trucks would only be allowed to travel to the SMPS in order to limit truck travel, associated air emissions, and reduce the likelihood of accidents resulting in spills due to less miles traveled. Crude oil would be trucked to the SMPS only unless the truck loading facilities at the SMPS were down for an extended period of time (10 days or more). Under normal operations, 70 trucks per day would travel from the LFC facility to the SMPS. Each truck would transport approximately 160 barrels of crude oil (6,720 gallons). Truck transportation would occur seven days per week, 24-hours per day.

In the event of an extended shutdown (10 days or more) of the SMPS or the Santa Maria Refinery (SMR), the Applicant would be allowed to transport crude oil to the Plains Pentland Terminal with a maximum of 34 trucks per day. At this rate of trucking the SYU facilities could continue at the production rate of the proposed Project for about 40 days assuming the LFC crude oil storage tanks were half full at the time the extended SMPS shutdown began. If the extended shutdown lasted more the about 40 days, the SYU facilities would likely need to be shut-in.

Once the SMPS or SMR returns to normal operating conditions, to make up for lost shipping days and to transport the excess crude that has been stored in the crude tanks this alternative would allow for up to 78 trucks per day between the LFC facility and the SMPS. However, the annual number of trucks leaving the LFC facility would be limited to 25,550, which is the same as the proposed Project.

Construction of the truck loading facilities at the LFC facility would remain the same as for the proposed Project. The truck loading operations and the truck routes to the SMPS would remain the same as for the proposed Project. However, due to the potential for exceedances of the SMPS capacity, with this alternative a sixth truck unloading lane would be installed at the SMPS. The new lane would be adjacent to the existing lanes 4 and 5. Access to lane 6 would be identical to existing access to lanes 4 and 5. Truck access to and from the SMPS is currently provided via six driveways as shown on Figure 2-10.

A concrete slab with the dimensions of 60'X20' by 6" deep would need to be constructed. Additionally, new light standards would be installed with four LED flood lights per pole for safety of the trucks coming to lanes 4/5/6. A new 4" hose would be installed coming off the tee that currently serves lane 5 for offloading the crude from the new lane 6. Operation of the new truck loading lane would be the same as operation of the other five truck unloading lanes. Installing a sixth truck unloading lane would increase the daily capacity of the SMPS from a maximum of approximately 170 trucks to about 208 trucks per day.

5.2.4.1 Air Quality

Impact AQ.1 - Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

With the Trucking to the SMPS Only Alternative, the same facilities as the proposed Project would need to be built in LFC. This would include the truck loading rack and associated equipment. The air emissions associated with construction of the SYU truck loading facilities would be the same as described for the proposed Project in Section 4.1.4. Table 5-13 provides an estimate of the construction emissions for both the SYU facilities and the sixth lane at the SMPS. Construction impacts for the Trucking to the SMPS Only Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Table 5-13 Estimated Construction Emissions Trucking to the SMPS Only

Construction Location	Total Emissions Tons					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
LFC Truck Loading Rack	0.529	0.087	2.052	0.006	6.982	1.103
SMPS Truck Loading Lane	0.079	0.013	0.308	0.001	1.047	0.165
Total Emissions	0.079	0.100	2.360	0.007	8.029	1.268
SBCAPCD CEQA Threshold (Tons/Year)	25	25	--	25	25	--
Threshold Exceeded?	***No***	***No***	--	***No***	***No***	--

Source: ExxonMobil Air Quality Assessment (2018) with EIR preparer modifications for SYU facilities. EIR prepare estimates for SMPS truck loading lane.
Notes: The emissions from Project construction activities are based on Project specific estimates. Per the "Santa Barbara County Environmental Thresholds and Guidelines Manual", the emissions from PERP equipment is not included in the Project emissions when comparing to the CEQA thresholds. As the breakdown of PERP equipment is unknown at this time (some of the equipment above might or might not be PERPed) the above emissions include all construction equipment including any PERP equipment.

Impact AQ.2 - Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Under the Trucking to the SMPS Only Alternative, a maximum of 70 trucks per day could leave the LFC facility under normal operations. In the event of an extended shutdown at the SMPS or SMR, the Applicant would be allowed to transport crude oil to the Plains Pentland Terminal with a maximum of 34 trucks per day throughout the duration of the disruption. Once normal operations resume and in order to make up

for the reduction in trucking, the maximum number of trucks per day could increase to 78 trucks. The annual number of trucks leaving the LFC facility would be limited to 25,550, which is the same as the proposed Project. Table 5-14 provides an estimate of the operational emissions associated with the trucking to the SMPS Only Alternative for both the 70 and 78 trucks per day cases. Table 5-14 also provides an estimate of the operational emissions for the case where 34 trucks per day go to the Plains Pentland Terminal due to an extend shutdown of the SMPS and/or SMR.

Potential operational emission sources at the SYU facilities include the components necessary to transfer the product to the truck loading rack (i.e., piping, hoses), emissions occurring during loading operations, emissions from the transfer of truck vapors to the facility's vapor recovery system, and components associated with the Lease Automatic Custody Transfer (LACT) units. Estimates for fugitive emissions associated with the loading rack operations, components, and piping are included in Table 5-14. The only new emission source associated with the new loading pad at the SMPS would be fugitive emissions from the loading hose connections.

Emissions from trucking assumes the use of 2017 model year diesel trucks operating at the peak activity levels, utilizing EMFAC2017 on-road emission model and emission factors. Emissions associated with the deliveries to the SMPS are also shown in Table 5-14.

Table 5-14 Operational Emissions SMPS Only Alternative (Pounds/Day)

Source	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
70 Trucks per Day to SMPS						
Stationary	0.0	28.2	0.0	0.0	0.0	0.0
Mobile Emissions	20.5	0.5	5.6	0.2	13.9	2.2
Total Emissions	20.5	28.5	5.6	0.2	13.9	2.2
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No
78 Trucks per Day to SMPS						
Stationary	0.0	30.7	0.0	0.0	0.0	0.0
Mobile Emissions	22.5	0.5	5.8	0.2	15.5	2.5
Total Emissions	22.5	31.2	5.8	0.2	15.5	2.5
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No
34 Trucks per Day to the Plains Pentland Terminal						
Stationary	0.0	16.3	0.0	0.0	0.0	0.0
Mobile Emissions	24.5	0.5	5.4	0.2	23.1	3.7
Total Emissions	24.5	16.8	5.4	0.2	23.1	3.7
Thresholds	55	55	-	-	80	80
Exceed Thresholds?	No	No	-	-	No	No

Notes:
SYU estimated emissions for both loading rack activities and fugitive hydrocarbon components. Includes estimated SMPS fugitive emissions from new loading hoses.

All operational related emissions for the trucking to SMPS only alternative are below the applicable threshold and therefore impacts would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact AQ.3 - Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

Trucking activities would result in mobile emissions for the exhaust gases from the operation of the tanker truck engines. Table 5-15 below presents the estimated mobile emissions along with the Santa Barbara County significance thresholds for motor vehicle trips/mobile sources for the Trucking to the SMPS Only Alternative. The table includes both the 70 and 78 truck per day cases for trips to the SMPS as well as the 34 trucks per day to the Plains Pentland Terminal, which would only occur if the SMPS was down for an extended period of time.

For all cases, mobile air emissions for the Trucking to the SMPS Only Alternative would not exceed the County thresholds, therefore impacts would **be less than significant (Class III)**, which is the same as the proposed Project under the SMPS route, but less than the proposed Project trucks under the Plains Pentland Terminal route.

Table 5-15 Mobile Source Emissions SMPS Only Alternative

Route Location Area	Daily Emissions Pounds/Day[1]					
	NO_X	ROC	CO	SO_X	PM_{10}	$PM_{2.5}$
70 Trucks per Day to SMPS	20.5	0.5	5.6	0.2	13.9	2.2
78 Trucks per day to SMPS	22.5	0.5	5.8	0.2	15.5	2.5
34 Trucks per day to Plains Pentland Terminal[2]	24.5	0.5	5.4	0.2	23.1	3.7
Significance Threshold[3]	25	25	---	---	---	---
Threshold Exceeded? (lbs)	No	No	---	---	---	---

Notes:
1. Emissions for T7 Tractor Diesel Engine Trucks- Round Trips (EMFAC2017 Emission Factors - 2017 and Later Fleet).
2. Santa Barbara County significance threshold for NO_x and ROC for motor vehicle trips, for PM_{10} all project sources mobile and stationary.
3. The trucks to the Plains Pentland Terminal would only be needed if the SMPS was down for an extended period of time (10 days or more).

Impact AQ.4 - Proposed Project activities could create objectionable odors affecting a substantial number of people.

Odor events could occur from loading rack operations, the LACT units or from leaks associated with loading and piping components. Sulfur compounds, found in oil and gas, have very low odor threshold levels and the release of substances that contain even small amounts of sulfur compounds (H_2S) or hydrocarbons can be noticed. Any odor complaints regarding the SYU facilities or the SMPS are logged by the SBCAPCD.

LFC Facility

With the Trucking to the SMPS Only Alternative, the loading rack and associated equipment would add fugitive components associated with the loading rack and associated pipping, and therefore leak paths with the potential to create odors. Fugitive emissions associated with this alternative would increase LFC facility emissions by about five percent. The increase in fugitive emissions would be the same as for the proposed Project on an annual basis. With the use of the BACT control measures and the distance from the loading rack area to LFC facility property boundaries, as well as the lack of historical odor events at the facility associated with fugitive emissions, the additional components associated with this alternative would not be expected to create objectionable odors affecting a substantial number of people.

SMPS

The only source of odors from the new loading pad at the SMPS would be associated with the small amount of fugitive emissions from the loading hose which were estimated to be approximately 0.1 lbs per day. This would represent less than 4/10th of one percent (0.4%) of the current permitted ROC emissions from the SMPS. The surrounding land uses for the SMPS are agriculture (AG-II and Commercial Agriculture) which are low density. This small increase in ROC emissions would not be expected to result in any increase in odors affecting a substantial number of people. Therefore, impacts would therefore be **less than significant (Class III)**, which is the same classification as for the proposed Project.

Impact AQ.5 - Toxic air emissions from stationary equipment loading operations and truck transportation of crude oil may expose nearby residents to toxic air contaminants.

LFC Facility

The fugitive emissions associated with the loading rack piping and components, loading operations and operations of diesel trucks would increase the amount of ROC emissions, which contain air toxic components. Table 5-16 compares the ROC emissions for baseline LFC facilities and for the LFC facilities with the Trucking to the SMPS Only Alternative. Similar to the proposed Project, under this alternative the total potential ROC emissions for LFC would increase by 5.3% since the number of annual truck trips would be the same. A 5.3% increase in ROC emissions would correspondingly increase the health risk values by approximately an equal amount, which is a conservative estimate.

Table 5-16 Air Toxic Emissions and Health Risk SMPS Only Alternative

Source	Baseline, 3 Year Average*	Baseline with Trucking to SMPS Only Alternative**
ROC Emissions (tons per year)	98.4	103.5
Risk		
Cancer, per million	6.00	6.31
Chronic, HI	0.10	0.11
Acute, HI	0.30	0.32

*Source: SBCAPCD 1995.

**Source: MRS Environmental. Baseline emissions include the onshore (LFC and POPCO) facilities only. Project emissions are for the loading rack fugitive emissions and the emissions associated with crude loading.

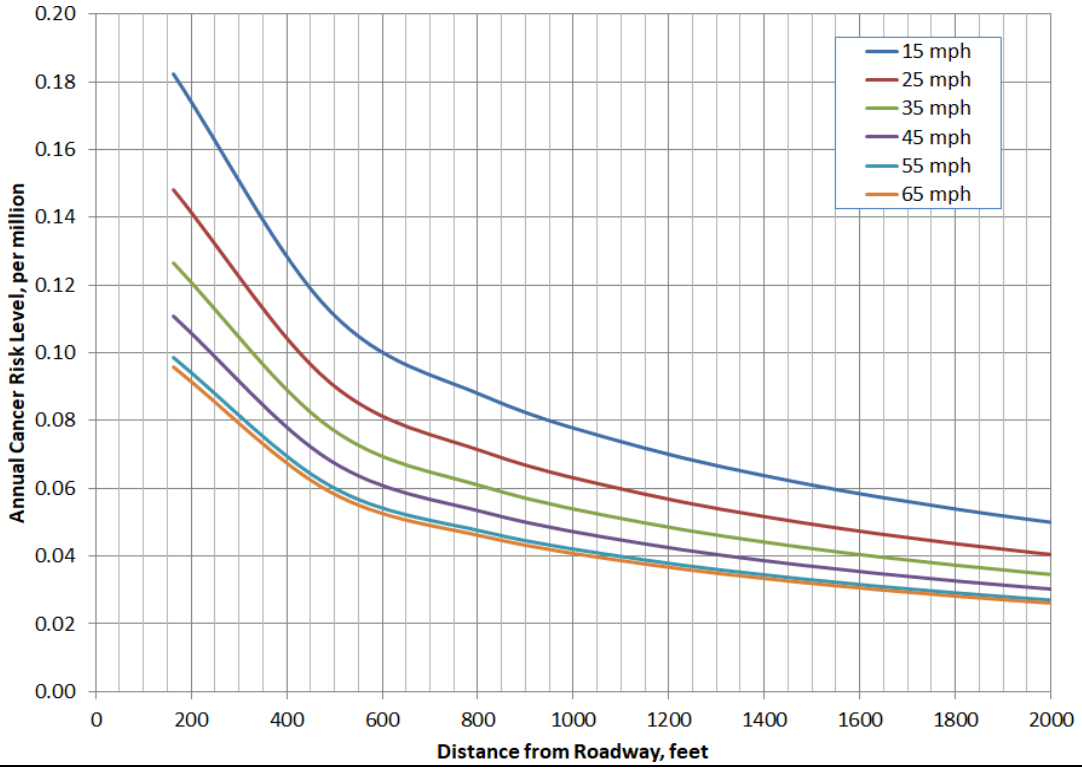
As discussed above, the baseline LFC operations are below the applicable HRA significance threshold for cancer risk, chronic risk and acute risk established by CARB. Based on the estimated 5.3% increase in ROC emissions, the Trucking to the SMPS Only Alternative has the potential to increase the cancer risk from the current estimated value of 6 to 6.3 which would remain below the threshold for cancer risk of 10. A 5.3% increase to the current HRA values for chronic (0.1) and acute (0.3) also would remain below the 1.0 hazard index threshold. Therefore, the impacts associated with the potential increase in air toxic emissions at the LFC facilities for the Trucking to the SMPS Only Alternative would be less than significant, which is the same classification as for the proposed Project.

Diesel Trucks

The operation of diesel trucks along area roadways would generate emissions of diesel particulate matter (DPM) that could increase cancer risks at areas near roadways. Figure 5-7 depicts the cancer risk associated with DPM generated from the diesel trucks at various speeds and distances from the roadway for the Trucking to the SMPS Only Alternative. Cancer risks from DPM are well below the significance thresholds of 10 in a million at all speeds.

Cancer risks close to the LFC facility would be a combination of the cancer risks associated with the LFC facility and those associated with diesel truck activity within about a 1,000 feet of the LFC facility. These values combined would total 6.51 cancer cases per million based on the estimated cancer risk from the LFC with the Trucking to the SMPS Only Alternative plus the maximum diesel risk from diesel trucks at 15 mph shown in Figure 5-7.

Figure 5-7 Project Diesel Truck On-Road Cancer Risks SMPS Only Alternative



SMPS

The fugitive emissions associated with the loading hose and operations of diesel trucks would increase the amount of ROC emissions, which contain air toxic components. Based upon the SBCAPCD guidelines, a health risk assessment (HRA) has not been conducted for the SMPS since the facility generates less than 10 tons per year of criteria air pollutants (oxides of nitrogen, oxides of sulfur, particulate matter or total organic gases). Facilities that emit less than 10 tons per year of criteria air pollutants are covered through the SBCAPCD's industry-wide emission inventory program for air toxics. The addition of the ROC emissions associated with the truck unloading pad would not increase any of the criteria air pollutants above 10 tons per year.

Therefore, the potential increase in air toxic emissions associated with the use of diesel trucks and the LFC Trucking to the SMPS Only Alternative operations would not expose sensitive receptors to pollutant concentrations exceeding the health risk threshold of 10 cancer cases per million and therefore, the health risk impact would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.4.2 Climate Change/Greenhouse Gas Emissions

Impact GHG.1 - Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.

The primary GHG emissions associated with the Trucking to the SMPS Only Alternative would be emitted by mobile sources associated with the trucking activities. Additionally, the construction of the truck loading facilities at LFC and the truck unloading pad at the SMPS would generate GHG emissions. Table 5-17 provides a summary of the GHG emissions associated with the trucking to the SMPS Only Alternative assuming all trucks go to the SMPS and in the instance where there is 40 days of trucking to the Plains Pentland Terminal due to an extended shutdown of the SMPS and/or SMR.

Table 5-17 GHG Emissions Increases SMPS Only Alternative

Emission Source	Annual GHG Tons/Year ($MTCO_2e$)	
	All Trucks to SMPS	With 40 Days of Trucking to Plains Pentland Terminal
Construction[1]	621	621
Operational Stationary Source[2]	35	35
Operational Mobile Source	3,537	3,835
Project Totals by Year		
Total Year One (including construction)	4,193	4,509
Subsequent Years Total	3,572	3,870
Santa Barbara County CEQA Threshold (Tons/Year)	1,000	1,000
Threshold Exceeded?	**Yes**	**Yes**

Notes:
1. The emissions from Project construction activities are based on Project specific estimates and include off-road diesel equipment and on-road motor vehicles.
2. Estimated emissions for both loading rack activities and fugitive hydrocarbon components.
3. Year one construction, stationary and mobile sources, subsequent years include stationary and mobile sources.
4. Forty days trucking to Plains Pentland Terminal is the maximum before SYU facilities would likely have to shut-in.

The GHG emissions for the Trucking to the SMPS Only Alternative exceed the County threshold. Implementation of mitigation measure GHG-1 identified for the proposed Project would reduce the GHG emission impact to below the County threshold. Therefore, the GHG emission impacts from the Trucking to the SMPS Only Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Impact GHG.2 - Project GHG emissions conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

California's regulatory setting for GHG emissions ensures that most of the existing and foreseeable GHG sources in the business of oil and gas production are subject to one or more programs aimed at reducing GHG emission levels. There are numerous regulatory requirements and programs in California which cover many aspects of the permitted facility operations, some of which would be applicable to the Trucking to the SMPS Only Alternative. The primary requirements for this alternative would include the CARB GHG Emission Standards for Crude Oil and Natural Gas Facilities (leak detection and repair), which would be implemented and enforced by the SBAPCD, and the CARB Mandatory Reporting Rule; low carbon fuel standards, and the Cap-and-Trade Program.

Given the oversight of the GHG sources from the Trucking to the SMPS Only Alternative, and progress of California's ongoing efforts to implement policies and a regulatory setting for reducing GHG emissions,

this alternative is not likely to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and would comply with the policies by utilizing diesel fuel and gasoline that is covered by the existing programs (Low Carbon Fuel Standard and Cap-and-Trade). In addition, with the implementation of mitigation measure GHG-1, the total emissions associated with this alternative would be below the County's threshold. Therefore, the Trucking to the SMPS Only Alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the impact would be considered **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.4.3 Hazardous Materials and Risk of Upset

Impact RISK.1 - The proposed Project could generate risks to public safety by exposing the public to hazards from truck transport of crude oil.

Under the Trucking to the SMPS Only Alternative, a maximum of 78 trucks per day could leave the LFC facility. These trucks could generate risk to the public in the unlikely event of accident that resulted in a spill of crude oil. The risk for this alternative would be the same for the proposed Project for the SMPS route.

Truck Pool Fire Risk

In the event of a truck accident that results in a spill of oil and subsequent pool fire, the heat (i.e., thermal radiation) from the fire could result in a serious injury for fatality. Table 5-18 provides an estimate of the likelihood of a large and small pool fire along with the probability of a pool fire given an accident for the trucking to the SMPS Only Alternative for the route to the SMPS and the Plains Pentland Terminal. For the route to the Plans Pentland Terminal it assumes a maximum of forty days of trucking at 34 trucks per day.

Table 5-18 Frequency of Crude Oil Fires Due to Laden Truck Accident SMPS Only Alternative

Item	Truck Route to SMPS (all trucks go to the SMPS)	Truck Route to the Plains Pentland Terminal (40 days of trucking per year)
Route Length (miles)	54.3	140
Average Accident Rate per million miles	0.32	0.383
Truck Accident Rate per Trip	1.72E-05	5.37E-05
Number of Peak Day Laden Trips	78	34
Number of Annual Laden Trips	25,550	1,360
Truck Incidents per Year (collisions and non-collisions)	0.54	0.09
Probability of Large Fire Given an Accident	0.0043	0.0043
Frequency of Large Fire per year	2.31E-03 (equivalent to once in 433 years)	3.77E-04 (equivalent to once in 2,654 years)
Probability of Small Fire Given an Accident	0.00064	0.00064
Frequency of Small Fire per year	3.43E-04 (equivalent to once in 2,912 years)	5.61E-05 (equivalent to once in 17,829 years)

Notes:
1. Forty days trucking to Plains Pentland Terminal is the maximum before SYU facilities would likely have to shut-in.

In the unlikely event of a large pool fire, there is the potential for serious injury or fatality to those involved in the accident or the public on the roadway or adjacent properties if they are unable to escape quickly. The radius and areas of a large pool fire that could lead to injury or fatality would be the same as for the proposed Project since the same type of tanker trucks would be used. See Section 4.3.4 for a discussion of the pool fire hazard zones.

Flammable Vapor Fire

In the unlikely event that an accident results in a spill of oil, a flammable vapor cloud could form and if ignited, would result in a flash fire. Ignition of a flammable vapor cloud could be caused by other vehicles on the road or an ignition source adjacent to the road. A flash fire could result in injury or fatality to people in the vicinity of the vapor cloud if they are not able to evacuate the area before the vapor cloud ignites. The probability of an accident would be the same as for the proposed Project. The area or radius of a flammable vapor cloud that could lead to serious injury or fatality would be the same as for the proposed Project. See Section 4.3.4 for a discussion of the flammable vapor hazard zones.

Societal Risk Profiles

Figure 5-8 provides the injury and fatality risk profiles (FN curves) for the proposed truck route to the SMPS assuming all trucks go to the SMPS. Based on the risk profiles, the public safety risk of transporting crude oil from the LFC facility to the SMPS under the Trucking to the SMPS Only Alternative would be less than significant**.** The risk of limited trucking to the Plains Pentland Terminal (34 trucks per day for 40 days) would be less than significant. Therefore, the impacts of public safety risk from transporting crude for the Trucking to the SMPS Only Alternative would be **less than significant (Class III)** which is the same classification as the proposed Project.

If the Applicant proposed avoidance and minimization measure (AMM-RISK-01) was applied to tis alternative, the risk would be reduced. These avoidance and minimization measures would serve to reduce the likelihood of both collision and non-collision incidents. Also, implementation of mitigation measure RISK-02 identified for the proposed Project would serve to reduce the likelihood of an accident further for this alternative.

Impact RISK.2 - The proposed Project could generate risks to public safety by exposing the public to hazards from the truck loading operations at LFC.

LFC Facility

The truck loading equipment and operations for the alternative would be the same as for the proposed Project. The truck loading operations would involve the transfer of crude oil from the existing crude oil storage tanks via new pipelines that would transfer the crude to the truck loading racks. At the loading racks, loading lines would be used to transfer the crude to the trucks.

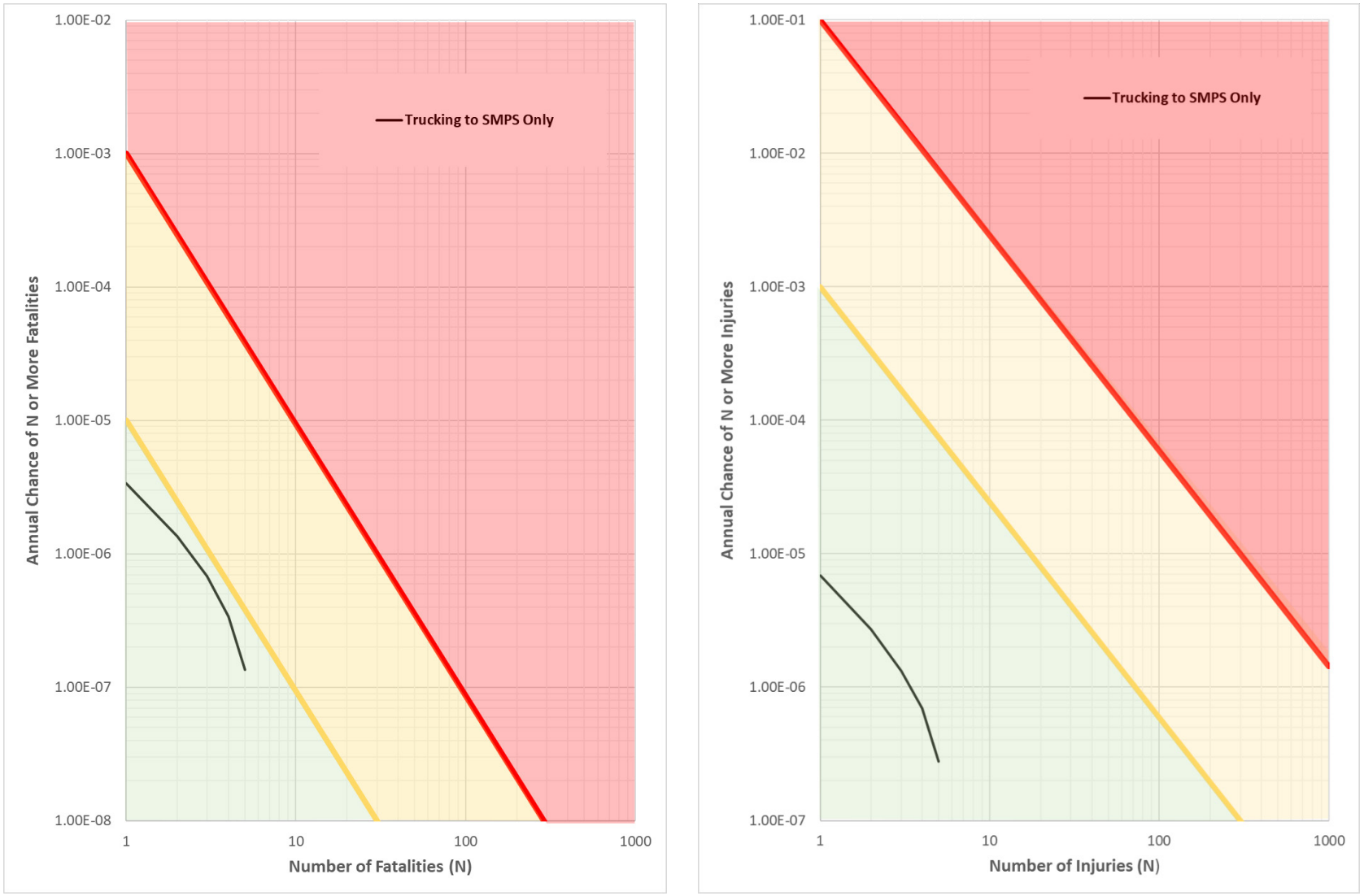
The scenarios that could occur include crude oil spills due to equipment or operational failures associated with piping and loading lines, or spills from the crude oil trucks, associated with equipment failures or operational failures. The spill of crude oil would produce the potential for a pool fire if an ignition source is encountered or could produce a flammable vapor cloud from volatile components of the crude oil vaporizing off the spilled crude oil that could then ignite if an ignition source is encountered. The hazard zones for the trucking to SMPS only alternative would be the same as the proposed Project. See Section 4.3.4 for a discussion of the truck loading hazard zones.

As discussed in Section 4.3.4 under impact RISK.2, the truck loading operations at the LFC facility would not result in any new risk to the public since the worst-case hazard zones would not extend offsite.

SMPS

The largest hazard zone associated with the truck unloading pad would be a spill and resultant fire from a crude oil truck. As discussed in Section 4.3.4, the maximum hazard distance for a 160 barrel crude spill from a truck is 240 feet, which would not impact any sensitive receptors.

Figure 5-8 Risk Profiles for Crude Oil Transportation from LFC to the SMPS Trucking to SMPS Only Alternative



Therefore, the impacts to public safety from the loading operations associated with Trucking to the SMPS Only Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.

Trucking

The Trucking to the SMPS Only Alternative would utilize the same trucks as the proposed Project. The maximum spill from a truck would be about 160 barrels (6,720 gallons). In the event of a spill, the crude oil would likely spill on the road pavement, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would impact the areas that would be affected.

Spills that occurred near drainages or waterways during the rainy season could be transported downstream increasing the severity of the impacts to biological and water resources. As discussed in Section 4.3.1.5, the truck transportation route cross perennial streams and major drainages. In the event of a spill that enters these waterways, there could be impacts to water quality and the aquatic habitat. Some of the creeks that could be affected by an oil spill flow into major waterways such as the Santa Ynez River, Cuyama River, Santa Maria River, and Twitchell Reservoir. If the oil spill occurred during periods when these creeks were flowing it is possible that oil could enter these major waterways and impact biological and water resources.

In the event that a truck accident results in an oil spill, disturbance of cultural resources could occur as a result of associated cleanup and/or restoration activities. For there to be an impact to cultural resources, the spill would need to occur in the vicinity of these resources. Clean up of an oil spill would likely require the use of bulldozers, frontend loaders, and other construction equipment to remove any contaminated soil. Use of this type of construction equipment could impact both known and unknown cultural resources.

Potential impacts of an oil spill from a tanker truck for the Trucking to the SMPS Only Alternative would be the same as described for the proposed Project. See Section 4.3.4, Impact RISK.3 for a discussion of the potential impacts to biological, cultural and water resources from and oil spill.

LFC Facility

Spills of oil at the truck loading area in LFC would likely be contained on the large existing graded pad where the proposed truck loading rack would be installed. This large existing graded pad, which is about 2.91 acres in size, is slightly sloped to drain into the existing emergency containment basin. Therefore, any oil spill that was not contained on the pad would be contained within the emergency containment basin. In addition, the Applicant has a number approved plans in place to address spills and emergency response. These plans are discussed in Section 4.3.4, Impact RISK.3.

SMPS

Spills of oil at the unloading pad at the SMPS would be contained on the large existing graded pad where the proposed truck loading pad would be installed. This large existing graded pad, which is about 2.2 acres in size is flat. The elevation of the areas surrounding the truck unloading pad is such that any spilled oil would be contained with the existing pad area. In addition, Phillips 66 has an approved SPCC plans in place to address spills and emergency response at the SMPS.

However, the potential remains for a spill and the associated environmental effects and its clean-up to occur with Trucking to the SMPS Only Alternative. Implementation of mitigation measures RISK-01 and RISK-02, identified for the proposed Project would serve to reduce the likelihood and extent of a truck spill. Even with the implementation of the identified mitigation measures, in the unlikely event of a spill associated with the trucking operations, the impact to biological, cultural and water resources could be **significant and unavoidable (Class I)**, which is the same classification as the proposed Project.

Impact FIRE.1 - New Development in an Area without Adequate Fire Fighting Capabilities or Adequate Access for Fire Fighting.

LFC Facility

With the Trucking to the SMPS Only Alternative the truck loading rack and associated equipment at the LFC facility would be the same as the proposed Project. In the unlikely event of a spill and resultant fire from the truck loading operations, the oil would be contained within the transportation terminal and adjacent spill containment system. The loading rack would be equipped with a firefighting equipment including a fire monitor (converted from an existing fire hydrant).

The Applicant has an existing Integrated Fire Protection Plan (IFPP) for the LFC facilities. The IFPP was prepared pursuant to Permit Condition Xl-2.i of the Final Development Plan for the Applicant's onshore oil. The IFPP addresses the potential fire hazards associated with operations within LFC and identified the firefighting capabilities available at the site. The IFPP contains a section that addresses the TT and the TLA, which is the area in LFC where the truck loading rack would be constructed. The County has found the IFPP adequate for the current LFC facilities.

The truck loading operations would represent a small change to the overall fire hazards at the LFC facility and would not occur within an area without adequate fire prevention or fire suppression and protection systems, including firefighting access.

SMPS

Phillips 66 has an approve Fire Protection Plan for the SMPS. The addition of a new truck unloading pad would represent a small change to the overall fire hazards at the SMPS and would not occur within an area without adequate fire prevention or fire suppression and protection systems, including firefighting access.

Therefore, the impacts to firefighting capabilities and access for the Trucking to the SMPS Only Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.2.4.4 Transportation and Circulation

Impact TR.1 - Construction traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments.

Under the Trucking to the SMPS Only Alternative, the construction traffic would be the same as for the proposed Project for the LFC facility. This construction activity would involve up to an additional 30 workers and up to 12 deliveries per day. This corresponds to 84 daily trips, two AM peak hour trips, and 32 PM peak hour trips. As discussed in Section 4.5.1.3 study roadways and intersections near the project operate at LOS B or better. Construction traffic would increase V/C of the affected roadway and intersection by well less than 0.1.

For the SMPS construction traffic would be minimal. An estimated 10 workers and up to 3 deliveries per day may be needed. This corresponds to 26 daily trips, with an estimated two AM peak hour trips, and four PM peak hour trips. As discussed in Section 4.5.1.3 study roadways and intersections near the SMPS operate at LOS B or better, except for U.S. Highway 101/Betteravia Road Interchange. The addition of four peak hour trips to the U.S. Highway 101/Betteravia Road Interchange would not exceed the County's significance threshold of 5 PCEs for intersections operating at LOS F.

The temporary traffic increases associated with construction are considered negligible and would not diminish the existing operating conditions on the study roadways. Therefore, the impact of temporary construction-related trips to affected roadways with the Trucking to the SMPS Only Alternative would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.2 - Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.

Santa Maria Truck Route

This alternative would generate a maximum of 70 trucks per day under normal operations, which equates to three truck trips per hour. If an extended shutdown occurred at the SMPS then a maximum of 78 trucks per day could be used. No new employees would be required to operate the truck loading or unloading facilities. This corresponds to a peak of 140 new average daily one-way trips under normal operations, with a peak of 3 trips occurring during both the AM and PM peak hours. If an extended shutdown of the SMPS occurred then a peak of 156 daily one-way trips could occur, with a peak of 4 trips occurring during both the AM and PM peak hours.

These truck trips were converted to their passenger car equivalent (PCE) to reflect the fact that large trucks accelerate and maneuver more slowly than passenger cars, thereby having a larger effect on traffic operations. Each truck trip was converted to two PCEs for areas with flat terrain and three PCEs in areas with rolling terrain. With the Trucking to the SMPS Only Alternative a total of between 6 and 12 PCEs would be added to the peak hours both northbound and southbound on U.S. Highway 101. This small increase in PCEs would not affect the level of service on U.S. Highway 101.

With the SMPS truck route, the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road with the Trucking to the SMPS Only Alternative traffic would operate at LOS F during the PM peak hours and at LOS D during the AM peak hours. All the remining study intersections operate at LOS A or B. The trucking to the SMPS only would add 6 to 8 PCEs to the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection, which represents less than 0.1 V/C. For the AM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 to 8 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/Betteravia Road intersection a total of 6 to 8 PCE's would be added to the intersection which is above the County's significance threshold of 5 PCEs for intersections operating at LOS F.

Implementation of mitigation measure TR-1, identified for the proposed Project, would restrict trucks from using the intersection of U.S. Highway 101 Southbound Ramps/Betteravia Road during the PM peak hours (3 PM to 6 PM). With this mitigation measures the impact of traffic from the Trucking to the SMPS Only Alternative to local intersections would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Plains Pentland Terminal Truck Route

Under this alternative 34 trucks per day for a maximum of approximately 40 days could deliver crude oil to the Plains Pentland Terminal in the event of an extend shutdown of the SMPS and/or the SMR. During disruption trucks would use State Route 166 to deliver crude to the Plains Pentland Terminal. The study segments of State Route 166 operate acceptably at LOS C or better during the peak hour. Under this alternative a total of between 4 and 6 PCEs would be added to the peak hours both northbound and southbound on State Route 166. This small increase in PCEs would not affect the level of service on State Route 166.

With the Plains Pentland Terminal Route, the intersection of U.S. Highway 101 Southbound Ramp/State Route 166 would operate at LOS D during the PM peak hours with the No Trucking During Rainy Periods Alternative. For the PM peak hours at the U.S. Highway 101 Southbound Ramp/State Route 166 intersection a total of 4 PCE's would be added to the intersection which is below the County's significance threshold of 10 PCEs for intersections operating at LOS D. The remaining study intersections operate at LOC C or better and the No Trucking During Rainy Periods Alternative would add less than 0.1 V/C at each of these intersections. Therefore, impacts along the route to the Plains Pentland Terminal would be **less than significant (Class III)**, which is the same classification as the proposed Project.

Impact TR.3 - Project related trucks could create a traffic safety hazard.

The trucking to the SMPS Only Alternative would add truck traffic to area roadways, including roadways with above-average collision rates and a statistically significant number of collisions. This includes truck traffic associated with construction and operations. This alternative would not involve the addition of any new driveways that would access a major road or arterial road or require any revisions to existing traffic signals. The Trucking to the SMPS Only Alternative would not result in an exceedance of any of the roadway capacities, nor would it result in a substantial increase in traffic on any of the project roadways.

All vehicle trips transporting crude oil would be consistent with the rules and regulations of the California Vehicle Code and would only occur by permitted drivers in vehicles permitted and licensed to transport crude oil. Mitigation measure RISK-02 requires carrier qualifications, driver selection and training, vehicle inspection/maintenance, and use of onboard safety systems such as speed limiters. As discussed in Section 4.3, implementation of mitigation measure RISK-02 would reduce the likelihood of an accident by about 29%., therefore application of this mitigation measure to the Trucking to the SMPS Only Alternative would serve to reduce the likelihood of the crude trucks being in an accident.

An accident analysis was completed for the proposed Project in November 2018 (ATE, 2018). This study found that one road segment that would be used by this alternative under normal operations has an accident rate that are above the statewide average during the 3-year period analyzed in the traffic study (January 1, 2015-December 31, 2017) and the number of accidents that occurred during the 3-year period is statistically significant based upon the Caltrans requirements.

The segment of U.S. Highway 101 from the Refugio Road interchange to State Route 246 interchange currently carries about 2,242 vehicles per hour during the peak hour period. The Trucking to the SMPS Only Alternative would add up to 6 trucks per hour to this segment during each AM and PM peak hour period (3 northbound + 3 southbound). This traffic addition equates to an increase of about $3/10^{th}$ of 1%, or 0.3%, which is considered an insignificant increase in traffic as it relates to accident rates since it would not statistically change the overall accident rate.

Crude oil trucks traveling along Calle Real during the morning and afternoon hours could presents a safety risk to local school children who are taking the bus to school; which could be a potential significant impact

in the event of an accident. Implementation of mitigation measure TR-2, identified for the proposed Project, would restrict the use of Calle Real by crude oil trucks during the hours when school busses when present.

With implementation of mitigation measure TR-2, impacts to traffic safety hazards for the Trucking to the SMPS Only Alternative would be **less than significant with mitigation (Class II)**, which is the same classification as the proposed Project.

Impact TR.4 - Project related trucks could degrade public roadway conditions.

The Trucking to the SMPS Only Alternative would contribute to roadway damage because of a net increase in truck trips over existing conditions. When fully loaded, the trucks would weigh up to 80,000 pounds. Trucks impact roadway structural conditions much more severely than passenger cars, generally by a factor of at least 1,000. Pavements are therefore engineered to accommodate truck traffic, since passenger cars have a negligible effect on pavement conditions (Caltrans, 2017b). A five-axle tractor-trailer loaded to 80,000 pounds has the same impact to roadways as at least 9,600 automobiles (GAO 1979). The addition of a peak of seventy 80,000-pound trucks per day would increase the overall impact of trucks on local roadway due the high weight per axle or these trucks.

The County's Public Works Road Division requires a specific type of Encroachment Permit, known as a Haul Permit, for projects that require the use of vehicles of a size, weight or load that would be used for the proposed Project. The Haul Permit will contain conditions for the proposed Project that include but are not limited to current roadway condition assessment, conduct and submit video recordings of all County-roadway used, regularly scheduled road inspections, and immediate repair of damage and roadway resurfacing if and when necessary. These Haul Permits contain provisions for the Applicant to cover their share of County roadway repairs. With the required Haul Permit, the impacts to roadway damage would be **less than significant (Class III)**, which is the same classification as the proposed Project.

5.3 Alternative Comparison Summary

Tables 5-19 provides a comparison of each of the alternatives to the proposed Project for each of the Class I and II impacts based on the discussion above. Section 5.4 summarizes this comparison and discusses the Environmentally Superior Alternative.

Table 5-19 Comparison of Proposed Project and Alternative Impacts

Significant and Unavoidable (Class I) Impacts	
Hazardous Materials and Risk of Upset	
Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	
Proposed Project	The maximum spill volume from a truck would be approximately 160 barrels (6,720 gallons). Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. The probability of 160 barrel spill occurring was estimated to be equivalent to one in once in 86 years for trucks going to the SMPS and once in 30 years for trucks going to the Plains Pentland Terminal. The area that a spill would affect would depend upon the volume and location of the spill as well as the seasonal timing of the spill. In the event of a crude oil spill from a tanker truck there could be significant and unavoidable impact to biological, cultural and water resources, include marine resources. If an oil spill occurred during rainy periods, the oil could be transported into steams, drainages or other waterways that could extend the areas impacted by the spill.
No Project	This impact would be eliminated since no trucking would occur.

Significant and Unavoidable (Class I) Impacts	
Hazardous Materials and Risk of Upset	
Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	
Reduced Trucking Alternative	With the reduce trucking alternative the number of trucks leaving the LFC facility would be 50 trucks per day, which is a reduction from the 70 trucks per day for the proposed Project. The annual probability of 160 barrel spill occurring was estimated to be equivalent to one in once in 122 years for trucks going to the SMPS and once in 39 years for trucks going to the Plains Pentland Terminal for 50 trucks per day. This alternative would use the same trucks as the proposed Project so the potential spill volumes would be the same. In the event of a spill the impacts to biological and water resources would be the same as for the proposed Project. Under the Reduced Trucking Alternative, the daily crude oil production would be limited to about 8,000 barrels per day of oil. Based upon the historical average water fraction of the emulsion coming from the platforms, at 8,000 barrels per day the emulsion flow rate in the pipeline from the Platforms to the LFC facility would be about 23,530 barrels per day. At this flow rate, the velocity in the emulsion pipeline would be about 0.75 feet per second. At this velocity the water would separate from the oil which would increase the potential for corrosion in the pipeline. This velocity is also not adequate for effective pipeline pigging operations. These factors would serve to increase the likelihood of a release from the emulsion pipeline due to increase corrosion and lack of accurate pipeline integrity data from pigging. Also, at these low flow rates the leak detection system on the emulsion pipeline may not function properly. The emulsion pipeline from Platform Harmony to the LFC facility was designed for a flow rate of approximately 228,000 barrels of emulsion per day. At flow rates below about 30,000 barrels per day the velocity and pressure drop in the pipeline becomes so low that the leak detection system generates false alarms indicating a potential leak. These low flow rates would reduce the likelihood that a leak in the emulsion pipeline would be detected. The emulsion pipeline is 19-inches in diameter and runs from Platform Harmony to the LFC facilities, and in the event of the leak or rupture could spill in excess of 18,000 barrels of water and oil emulsion into the ocean, which would result in significant impacts to the marine environment. This alternative would result in a small reduction in the probability of a crude oil spill from a tanker trucks but would increase the probability of a spill from the offshore emulsion pipeline from the Platforms to the LFC facility.
No Trucking During Rainy Periods Alternative	With this alternative, trucks would not be allowed to transport oil via truck when ½ -inch or more of rain is forecasted for a 24-hr period. Based upon historical rain data this alternative is likely to eliminate trucking during about 11 to 30 days per year. To make up for these lost days the peak daily trucks leaving the LFC facility would be limited 78, but the annual average would be the same as the proposed Project. The annual spill probabilities would remain the same as the proposed Project since the annual number of trucks would be the same. However, the likelihood for a spill impacting waterways would be reduced since it would be less likely that the spilled oil would get transported via the rainwater to the creeks and other drainages.
Trucking to SMPS Only Alternative	With this alternative, trucking would be routed to the SMPS only, unless there was an extend shutdown of the SMPS and/or SMR (10 days or longer). Under normal operating conditions a maximum of 70 trucks per day would leave the LFC facility, which is the same as the proposed Project. In the event of an extended shutdown of the SMPS and/or SMR (10 days or longer), up to 34 trucks per day could go to the Plains Pentland Terminal for the duration of the shutdown/disruption only. Once the SMPS and/or SMR resume normal operations, then a maximum of up to 78 trucks per day could be used to account for the reduction in trucking. However, the maximum number of trucks per year would be limited to 25,550, the same as the proposed Project. Under the SMPS Only Alternative, a new truck unloading lane would be built at the SMPS. For normal operations, the annual spill probabilities to the SMPS would remain the same as the proposed Project since the annual number of trucks would be the same. This alternative would use the same trucks as

Significant and Unavoidable (Class I) Impacts	
Hazardous Materials and Risk of Upset	
Impact RISK.3 - Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	
	the proposed Project so the potential spill volumes would be the same. In the event of a spill the impacts to biological and water resources would be the same as for the proposed Project. This alternative would substantially reduce trucking to the Plains Pentland Terminal, which has a higher probably of spill due to the longer travel route. Trucking would only be allowed to the Plain Pentland Terminal if the unlikely event of an extend shutdown of the SMPS and/or SMR and would limit the maximum number of trucks per day to 34 trucks. The overall spill probability for this alternative would be similar to that for the proposed Project.

Significant and Mitigable (Class II) Impacts	
Air Quality	
Impact AQ.3 - Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	
Proposed Project	Under the proposed Project the daily NO_x mobile source emissions to the Plains Pentland Terminal was 48.95 lbs, which exceeds the County threshold of 25 lbs/day. This number assumes all 68 trucks go to the Plains Pentland Terminal. If all the trucks were to go to the SMPS, the daily NO_x mobile source emissions would be 20.5 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. This impact could be mitigated to less than significant.
No Project	This impact would be eliminated since no trucking would occur.
Reduced Trucking Alternative	With the reduced trucking alterative the criteria pollutant emissions from mobile sources would be reduced by about 30% compared to the proposed Project. Daily NO_x mobile source emissions for the Plains Pentland Terminal route would be about 36.1 lbs, which exceeds the County threshold of 25 lbs/day. This assumes all 50 trucks go to the Plains Pentland Terminal. If all the trucks were to go to the SMPS, the daily NO_x mobile source emissions would be 14.7 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. This impact could be mitigated to less than significant However, this alternative would substantially increase CO emissions of the cogeneration system gas turbine in LFC. At the production rate associated with 50 trucks per day it is likely that the CO emissions from the cogeneration system gas turbine in LFC would exceed the SBCAPCD permitted limits.
No Trucking During Rainy Periods Alternative	Under the no Trucking During Rainy Periods Alternative the peak daily criteria pollutant emissions from mobile source would be about 11% higher than for the proposed Project. Daily NO_x mobile source emissions to the Plains Pentland Terminal would be about 55.4 lbs, which exceeds the County threshold of 25 lbs/day. This assumes all 78 trucks go to the Plains Pentland Terminal. Under the case were all the trucks go to the SMPS, the daily NO_x mobile source emissions would be 22.5 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds for both the SMPS and Plains Pentland Terminal destinations. This impact could be mitigated to less than significant. This alternative could result in more trucks having to go to the Plains Pentland Terminal. The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. As discussed in Section 4.4, Transportation and Circulation, the average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 138 trucks per day. At this current volume of truck deliveries, the SMPS would be able to handle about 32 trucks per day from the Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the Project would displace crude trucks going to the SMPS that are coming from the east due to the higher transportation costs. However, under this alternative either more of the trucks from the east would have to be displaced, or more project related trucks would need to go to the Plains Pentland Terminal.

Significant and Mitigable (Class II) Impacts	
Air Quality	
Trucking to SMPS Only Alternative	Under normal operations the SMPS Only Alternative would have the same mobile source air emissions as the proposed Project for the SMPS route. Daily NO_x mobile source emissions to SMPS would be 20.5 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds. In the event of an extended shutdown of the SMPS and/or SMR, up to 34 trucks per day could deliver crude to the Plains Pentland Terminal. Daily NO_x mobile source emissions to the Plains Pentland Terminal would be 24.5 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds. Upon resumption of normal operations at the SMPS up to 78 trucks per day could deliver crude to the SMPS to account for the reduction in trucking. Daily NO_x mobile source emissions to SMPS would be 22.5 lbs, which is below the County threshold of 25 lbs/day. All other criteria air pollutants from mobile sources would be below the County thresholds.
Climate Change and Greenhouse Gas Emissions	
Impact GHG.1 - Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.	
Proposed Project	The peak year GHG emissions were estimated at 4,111 $MTCO_2e$ if all trucks go to the SMPS. If all trucks go to the Plains Pentland Terminal, the peak year GHG emission would be about 9,449 $MTCO_2e$. Both values exceed the County threshold of 1,000 $MTCO_2e$. This impact could be mitigated to less than significant.
No Project	This impact would be eliminated since no trucking would occur.
Reduced Trucking Alternative	Peak year GHG emissions with the Reduced Trucking Alternative would be about 25% lower than for the proposed Project. The peak year GHG emissions were estimated at 3,096 $MTCO_2e$ if all trucks go to the SMPS. If all trucks go to the Plains Pentland Terminal, the peak year GHG emission would be about 7,096 $MTCO_2e$. Both values exceed the County threshold of 1,000 $MTCO_2e$. This impact could be mitigated to less than significant.
No Trucking During Rainy Periods Alternative	Peak year GHG emissions with this alternative would be the same as for the proposed Project. The peak year GHG emission were estimated at 4,111 $MTCO_2e$ if all trucks go to the SMPS. If all trucks go to the Plains Pentland Terminal, the peak year GHG emission would be about 9,449 $MTCO_2e$. Both values exceed the County threshold of 1,000 $MTCO_2e$. This impact could be mitigated to less than significant.
Trucking to SMPS Only Alternative	The peak year GHG emissions with this alternative would slightly higher than for the proposed Project for all trucks going to the SMPS due to the additional GHG emissions at the SMPS from constructing and operating the new truck lane. The peak year GHG emission were estimated at 4,193 $MTCO_2e$ with all trucks going to the SMPS. This values exceed the County threshold of 1,000 $MTCO_2e$. In the event of an extended shutdown of the SMPS and/or SMR, up to 34 trucks per day could deliver crude to the Plains Pentland Terminal for a maximum of about 40 days before the SYU facilities would need to shut-in. Assuming forty days of trucking to the Plains Pentland Terminal and the remaining days to the SMPS, the peak year GHG emission were estimated at 4,509 $MTCO_2e$. This values exceed the County threshold of 1,000 $MTCO_2e$. This impact could be mitigated to less than significant.
Transportation and Circulation	
Impact TR.2 - Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.	
Proposed Project	The proposed Project would add 6 passenger car equivalents (PCEs) to the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road during the P.M. peak hours. This intersection operates at a LOS of F during the peak P.M. hours. This exceeds the County threshold of 5 PCEs for intersections operating at LOS F. The U.S. Highway 101 Southbound Ramp/Betteravia Road interchange is in the process of being upgraded. The work on the interchange is expected to be complete by the end of 2019. Once the work is complete the interchange would operate at LOS B during the peak P.M. hours thereby eliminating this Class II impact. This would also apply to the alternatives discussed below. This impact could be mitigated to less than significant.

Significant and Mitigable (Class II) Impacts	
Transportation and Circulation	
Impact TR.2 - Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.	
No Project	This impact would be eliminated since no trucking would occur.
Reduced Trucking Alternative	This alternative would generate a maximum of 50 trucks per day, which equates to between 2 and 3 truck trips per hour. At a peak of 3 trucks per hour the impacts to the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road during the P.M. peak hours would be the same as for the proposed Project. This intersection operates at a LOS of F during the peak P.M. hours. This exceeds the County threshold of 5 PCEs for intersections operating at LOS F. This impact could be mitigated to less than significant.
No Trucking During Rainy Periods Alternative	This alternative would generate a maximum of 78 trucks per day, which equates to between 3 and 4 truck trips per hour. This alternative would add 8 passenger car equivalents (PCEs) to the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road during the P.M. peak hours. This intersection operates at a LOS of F during the peak P.M. hours. This exceeds the County threshold of 5 PCEs for intersections operating at LOS F. This impact could be mitigated to less than significant.
Trucking to SMPS Only Alternative	Under normal operations, this alternative would add 6 passenger car equivalents (PCEs) to the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road during the P.M. peak hours, which would be the same as for the proposed Project. If an extended shutdown of the SMPS and/or SMR occurred, once the SMPS resumed operation a total of 8 PCEs would be added to this intersection. This increase traffic would be due to the additional trucks (a total of 78 per day) to transport the excess crude oil that was stored at the LFC facility during the SMPS/SMR extended shutdown/disruption. This intersection operates at a LOS of F during the peak P.M. hours. The 6 to 8 PCEs exceeds the County threshold of 5 PCEs for intersections operating at LOS F. This impact could be mitigated to less than significant.
Impact TR.3 - Project related trucks could create a traffic safety hazard.	
Proposed Project	Trucks from the proposed Project would use Calle Real during the morning and afternoon hours which could presents a safety risk to local school children who are taking the bus to school. This impact could be mitigated to less than significant.
No Project	This impact would be eliminated since no trucking would occur.
Reduced Trucking Alternative	With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. However, with this alternative the number of trucks present during this period would be reduced so the probability of an incident would be reduced compared to the proposed Project. This impact could be mitigated to less than significant.
No Trucking During Rainy Periods Alternative	With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. However, with this alternative the number of trucks present during this period would be increased on days when as many as 78 trucks are leaving the LFC facility. This would increase the probability of an incident over the proposed Project for the days when trucks are present. However, it is likely that not tucking during period of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions. This impact could be mitigated to less than significant.
Trucking to SMPS Only Alternative	With this alternative trucks would still use Calle Real during the morning and afternoon hours when local school children are present who are taking the bus to school. This alternative would have the same number or trucks as the proposed Project, so the probability of an incident would be the same. This impact could be mitigated to less than significant.

5.4 Environmentally Superior Alternative Discussion

This section summarizes the environmental advantages and disadvantages associated with the proposed Project and the alternatives evaluated above. Based upon this discussion, the environmentally superior alternative is selected as required by CEQA. The State 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 proposed 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 long-term impacts are generally given more weight in comparing alternatives. Impacts that are short-term (e.g., construction-related impacts) or those that are mitigable to less than significant levels are generally considered to be less important.

The comparison of alternatives is somewhat complicated by the fact that the SEIR has addressed the impact of all trucks either going to the SMPS or the Plains Pentland Terminal. The differences in the routes used and the length of the routes result in different levels of impacts. For example, mobile source emissions would be a Class III impact if all trucks went to the SMPS, but a Class II impact if all trucks went to the Plains Pentland Terminal. If approved, some mix of trucks would likely go to each of the receiving stations under each alternative except for the SMPS Only Alternative.

The SEIR looked at all trucks going to either the SMPS or the Plains Pentland Terminal and a summary of impact classifications has been prepared for each route. Table 5-20 provides a summary comparison of the impact classifications between the proposed Project and each of the alternatives for the Class I and Class II impacts assuming the vast majority of trucks go the SMPS. For impacts where there was no change in the classification but a change in the severity, an up or down arrow denotes the increase or decrease.

Table 5-20 Summary Comparison of Impact Classifications for Proposed Project and Alternatives if All Trucks go to the SMPS (Class I and Class II Only)

Impact #	Impact Description	Impact Classification Compared to Proposed Project ↓- Decrease in Severity but the same Classification ↑ - Increase in Severity but the same Classification				
		Proposed Project (SMPS)[1]	No Project	Reduced Trucking	No Trucking During Rainy Periods	Trucking to SMPS Only
GHG.1	Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.	Class II	None	Class II(↓)	Class II	Class II(↑)
RISK.3	Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	Class I	None	Class I(↑)	Class I(↓)	Class I
TR.2	Operational traffic trips could increase the volume to capacity (V/C) ratio for relevant roadway segments and intersections.	Class II	None	Class II(↓)	Class II(↑)	Class II
TR.3	Project related trucks could create a traffic safety hazard.	Class II	None	Class II(↓)	Class II(↓)	Class II

1. Assumes all trucks go to the SMPS except when truck unloading is unavailable due to maintenance or other operational issues.

Table 5-21 provides a summary comparison of the impact classifications between the proposed Project and each of the alternatives for the Class I and Class II impacts assuming the vast majority of trucks go the Plains Pentland Terminal. The impacts in Table 5-20 and 5-21 were identified as a result of the analysis provided in Section 4.0, Environmental Analysis, for the proposed Project and Section 5.2 for the project alternatives.

Table 5-21 Summary Comparison of Impact Classifications for Proposed Project and Alternatives if All Trucks go to the Plains Pentland Terminal (Class I and Class II Only)

Impact #	Impact Description	Impact Classification Compared to Proposed Project ↓- Decrease in Severity but the same Classification ↑ - Increase in Severity but the same Classification				
		Proposed Project (Plains Terminal)[1]	No Project	Reduced Trucking	No Trucking During Rainy Periods	Trucking to SMPS Only
AQ.2	Total operational emissions (both stationary and mobile emissions) could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Class III	None	Class III(↓)	Class II	Class III
AQ.3	Operational mobile source emissions only could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	Class II	None	Class II(↓)	Class II(↑)	Class III
GHG.1	Construction and operational GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance.	Class II	None	Class II(↓)	Class II	Class II(↓)
RISK.3	Oil spills and fires associated with the trucking of oil could impact sensitive resources including biological, water, and cultural resources at the LFC facility and along the trucking routes.	Class I	None	Class I(↑)	Class I(↓)	Class I(↓)
TR.3	Project related trucks could create a traffic safety hazard.	Class II	None	Class II(↓)	Class II(↓)	Class II

1. Assumes all trucks go to the Plains Pentland Terminal except when truck unloading is unavailable due to maintenance or other operational issues.

No Project Alternative. The No Project Alternative is the environmentally superior alternative since none of the impacts associated with the proposed Project or other alternative would occur. This would apply for both the SMPS and Plains Pentland Terminal routes. Under the No Project Alternative, no trucking would occur. The SYU facilities would remain in their current preserved state until such time as a pipeline becomes available to transport the crude oil. However, the No Project Alternative would not meet any of the objectives of the proposed Project. CEQA requires that if the No Project Alternative is found to be the environmentally superior alternative then the next most environmentally preferred alternative from among the other alternatives must also be identified.

Reduced Trucking Alternative. The Reduced Trucking Alternative would reduce the severity of all of Class II impact as shown in Tables 5-20, and 5-21 and discussed in Table 5-19 for both the SMPS and Plains Pentland Terminal. This alternative would increase the severity of the only Class I impact identified for the proposed Project. Operation of the SYU facilities below about 30,000 barrels per day of emulsion (10,200

barrels of oil per day) would result in increasing the probability of an oil spill from the emulsion pipeline from the SYU Platforms to the LFC facility by increasing pipeline corrosion and reducing the effectiveness of the various pigging operations. Also, at flow rates below 30,000 barrels per day, the leak detection system is considerably less reliable. These factors would increase the likelihood of an oil spill into the ocean, which if it occurred, would have significant impact to the marine environment. Operation of the LFC facilities at less than 30,000 barrels per day of emulsion would also likely result in an exceedance of the CO emission limit in the SBCAPCD air permit for the cogeneration system gas turbine. For these reasons, the Reduced Trucking Alternative was not chosen as the next most environmentally preferred alternative.

No Trucking During Rainy Day Periods Alternative. The major environmental advantage to this alternative is that it would reduce the probability of an oil spill impacting biological cultural and water resources, which was the only Class I impact identified for the proposed Project. This would apply for both the SMPS and the Plains Pentland Terminal. The maximum spill from a truck would be about 160 barrels (6,720 gallons). The initial spill would likely be on the road pavement or near road areas, and in most cases would be confined to the road surface and the area within about 500 feet of the roadway. Spill modeling done for pavement estimate that the spill of 160 barrels would result in a pool of oil with a diameter of about 118 feet. However, the volume, location and seasonal timing of any potential spill would influence the severity of impacts to biological and water resources. Spills that occurred near drainages or waterways during the rainy season could be transported downstream more readily than during dry periods, increasing the severity of the impacts to biological and water resources. By not allowing trucking when rainfall of ½ inch or more in a 24-hour period is predicted, the potential for impacting biological and water resources from a spill would be reduced.

The probability of a 160 barrel tanker truck spill was estimated to be equivalent to once in 86 years for trucks going to the SMPS and once in 30 years for trucks going to the Plains Pentland Terminal, which is the same as the proposed Project since the number of annual truck trips would be the same. It is likely that not tucking during periods of heavy rain would reduce the likelihood of a truck accident since overall accidents tend to be higher during wet conditions. However, the accident data for trucks is not detailed enough to determine the effects due to wet weather. Therefore, no adjustment has been made to the accident rate. This means that it is unlikely a spill would occur during the four to seven years of the project. However, in the event of a spill the potential impacts to biological and water resources could be greater if the spill occurred during a rainy period. In addition, truck spills along roads would be easier to contain and clean up than spills that entered waterways where there could be impacts to aquatic and riparian habitats.

To maintain the proposed Project oil production level, peak daily trucking under the No Trucking During Rainy Periods Alternative would be increased from 70 to 78 trucks per day. The annual number of trucks would remain the same as the proposed Project (25,550 per year). The higher number of daily trucks would increase the total daily emissions compared to the proposed Project. For this alternative the daily total emissions would exceed the daily thresholds for NO_x emissions if all trucks went to the Plains Pentland Terminal, which would be a Class II impact. For the proposed Project the total daily emissions for all trucks going to the Plains Pentland Terminal is a Class III impact. If all trucks went to the SMPS the total daily emissions would be a Class III impact, which is the same as the proposed Project.

For just the daily mobile emissions the impact would be Class II if all trucks go to the Plains Pentland Terminal, and Class III if all trucks go to the SMPS, which is the same as the proposed Project.

The higher daily truck traffic would result in higher PCEs at the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road during the P.M. peak hours than the proposed Project if all the trucks went to the SMPS. This intersection operates at a LOS of F during the peak P.M. hours. This was identified as a Class II impact. The interchange is undergoing an improvement project that is scheduled to be complete by the end of 2019. With these improvements the intersection of U.S. Highway 101 Southbound Ramp/Betteravia Road would operate at a LOS B during the P.M. peak hours, which would eliminate this Class II impact. If all trucks went to the Plains Pentland Terminal, traffic impact would be less than significant (Class III).

As discussed in Table 5-19, this alternative could increase the number of trucks going to the Plains Pentland Terminal. The SMPS can unload a maximum of approximately 170 trucks per day with the existing five truck unloading racks. The average number of trucks unloading crude at the SMPS for the period 2016 through the end of the second quarter of 2018 was about 135 trucks per day with about 67 percent of these coming from areas east of the SMPS. Trucks coming from the east are likely using State Route 166. Some of the trucks could also be using State Route 46.

At this current volume of truck deliveries, the SMPS would be able to handle approximately 32 additional trucks per day from the proposed Project before they reached their estimated full capacity of 170 trucks per day. However, it is likely that trucks from the proposed Project would displace crude coming from the east (i.e. San Joaquin Valley) due to longer transportation which increases the transportation cost. With the No Trucking During Rainy Periods Alternative, more trucks would need to be displaced, or the additional trucks associated with this alternative would need to go the Plains Pentland Terminal.

Given that this alternative would reduce the probability of an oil spill impacting biological, cultural and water resources thereby reducing the overall severity of the only Class I impact, it has been chosen as the next most environmentally preferred alternative. All the Class II impacts could be mitigated to less than significant.

Trucking to the Santa Maria Pump Station Only Alternative. The environmental advantage of this alternative is that it would substantially reduce the potential for trucks to go to the Plains Pentland Terminal, which is a longer transportation route. Assuming that for the proposed Project all trucks go the Plains Pentland Terminal, this alternative would reduce the Class II mobile source air emission impact to Class III. It would also minimize the need for trucks to use State Route 166, which would reduce the severity of the Class I oil spill risk along State Route 166. GHG emissions would be reduced when compared to all trucks going to the Plains Pentland Terminal.

Assuming that for the proposed Project most of the trucks go the SMPS, the benefits of this alternative are minimal. There would be a slight increase in air and GHG emission due to the construction and operations of the sixth unloading lane at the SMPS. This alternative would limit the number of trucks that could go to the Plains Petland Terminal in the unlikely event that the SMPS and/or SMR is down for an extended period of time (10-days or longer). Assuming that most of the trucks from the proposed Project go to the SMPS, the other impacts would remain the same for this alternative.

This alternative would increase the overall truck unloading capacity of the SMPS from about 170 trucks per day to about 208 trucks per day. As discussed previously in this document, it is likely that trucks from the proposed Project would displace trucks currently going to the SMPS that are coming from the east (i.e. San Joaquin Valley) due to longer transportation which increases the transportation cost. While the SEIR evaluated all trucks going to either the SMPS or the Plains Pentland Terminal, it is likely that most of the trucks would go to the SMPS due economics.

The proposed Project would need to displace about 38 trucks per day from the San Joaquin Valley for all 70 trucks per day to go to the SMPS assuming no addition of the sixth truck unloading lane. Trucks coming from the east that are displaced by the proposed Project would likely reduce existing truck traffic along State Route 166. With this alternative, existing truck traffic along State Route 166 might not be reduced since the unloading capacity of the SMPS would be increased. It is also uncertain if Phillips 66, who owns and operates the SMPS, would be willing to pursue the installation of a sixth truck unloading lane.

This alternative was not chosen as the next most environmentally superior alternatives since (1) it is uncertain as to whether Phillips 66 would pursue the addition of a sixth truck unloading lane, (2) the fact that it is likely that most trucks for the proposed Project would go to the SMPS due to economic reasons, (3) it would increase the truck unloading capacity of the SMPS, and (4) it would not substantially reduce the only significant and unavoidable (Class I) impact for the proposed Project (Impact Risk.3).

5.5 References

Hung. 1992. Carbon Monoxide Emissions from Gas Turbines as Influenced by Ambient Temperature and Turbine Load. American Society of Mechanical Engineers. June 1992.

Phillips 66 Pipeline LLC. 2016. Santa Maria Station Lane 6 & Truck Weight Scales Project Description, November 2, 2016.

Phillips 66. 2018. 2017 Air Emission Annual Report Phillips 66 Pipeline Company. February 26, 2018.

Santa Barbara County Air Pollution Control District. 2016. Santa Maria Pumps Station Permit to Operate 08218-R10. December 6, 2016.

____. 2018. ExxonMobil-SYU Project Las Flores Canyon Oil & Gas Plant Permit to Operate 5651-R6 and Part 70 Operating Permit 5651. April 2018.

Williams Company. 2014. Cleaning Pig Designs and Applications. NACE Central Aera Conference, Houston TX. April 2014.

6.0 Other CEQA Related Requirements

This section of the SEIR addresses other CEQA related requirements. These include the following (1) identification of significant environmental effect which cannot be avoid if the Project is implemented, and (2) evaluation of the proposed Project's related growth-inducing effects. The following sections evaluate the proposed Project considering these requirements. The last part of this section presents a discussion of the issue area 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

Accidental Oil Spill from Trucking

Impact RISK-3: in the event of an oil spill from the trucking operations there is the potential for significant and unavoidable impacts to biological, cultural and water resources. This could include direct and indirect effects to special-status species, habitat, vegetation communities, CDFW and USFWS jurisdictional resources both onshore and offshore. Cultural resources could be impacted during the cleanup process if a spill occurred in the immediate vicinity of a cultural resource site.

The severity of impacts to biological, cultural and water resources would depend upon the volume, location and seasonal timing of any potential spill. The probability of a 160 barrel tanker truck spill was estimated to be equivalent to once in 86 years for trucks going to the SMPS and once in 30 years for trucks going to the Plains Pentland Terminal. This means that it is unlikely a spill would occur during the four to seven years of the project. However, in the event of a spill, the potential impacts to biological and water resources could be great particularly if the spill occurred during a rainy period where the oil could be transported into creeks and other drainages.

Small spills would likely have minor or negligible impacts to biological, cultural and water resources. In contrast, a full tanker truck spills could spread into sensitive habitats and could substantially degrade their value, with potential long-term impacts to biological and water resources. Depending upon the location and timing of a spill, biological resources, including critical habitat for La Graciosa thistle, Gaviota tarplant, Tidewater goby, California red-legged frog, California tiger salamander, Southwestern willow flycatcher, and Steelhead could be impacted.

As discussed in Section 4.3.1.5, the truck transportation routes cross perennial streams and major drainages. In the event of a spill that enters these waterways, there could be impacts to water quality and the aquatic habitat. Some of the creeks that could be affected by an oil spill flow into major waterways such as the Santa Ynez River, Cuyama River, Santa Maria River, and Twitchell Reservoir. If the oil spill occurred during periods when these creeks were flowing it is possible that oil could enter these major waterways and impact biological and water resources.

In the event of an oil spill into a stream and creek crossings along the Gaviota Coast, oil could flow into the Pacific Ocean resulting in impacts to marine resources. Spills that reached the ocean could impact the local kelp ecosystem, as well as marine mammals, marine birds, and other sensitive marine species such as abalone, California Brown Pelican, and southern steelhead.

Available Mitigation Implementation of a Truck Hazard Mitigation Plan (MM RISK-2) that addresses truck operating safety would reduce the probability of an accident and/or release. Items in this plan would include carrier qualifications, driver selection and training, electronic driver vehicle inspection

report/maintenance systems, approved travel routes, truck loading/unloading procedures, and use of onboard safety systems such as speed limiters, dual-sided dashboard video cameras, and geographical information management systems. These system were estimated to reduce the probably of a truck accident by about 29%.

Updating the existing emergency response plans for the LFC facilities (MM RISK-1) would also help to minimize the impacts of a spill and the associated cleanup activities.

Even with implementation of these mitigation measures, in the event of an oil spill from a tanker truck project impacts could be significant and unavoidable (Class I).

6.2 Growth Inducement

Section 15126.2(d) of the CEQA requires that EIRs provide a discussion of the growth-inducing impacts of the proposed 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 proposed Project are evaluated below with regard to these four growth-inducing criteria.

6.2.1 Removal of an Impediment to Growth

The proposed Project would not result in the establishment of an essential public service nor would it provide new access to a previously inaccessible area. The proposed Project would not be responsible for, nor contribute to, the expansion of utility services into a previously unserved area or an under-served area. Water for construction of the proposed Project would be provided by existing groundwater wells at the LFC, and electrical power would be provided by the onsite cogeneration system or existing SCE powerlines. As a result, the proposed Project would not cause significant growth inducement under this criterion.

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 proposed Project. Additional employment due to construction would peak at about 30 workers and would be limited to short-term temporary labor. The construction is expected to last about four to six months,

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 Santa Barbara County. Therefore, no growth in hotel services would be expected to occur.

No new operational employment would be associated with the proposed Project. Existing LFC facility staff would operate the truck loading facilities. Given the limited increase in local expenditures associated with the proposed Project, the economic growth associated with the trucking operations would not be significant from an economic standpoint under CEQA. Implementation of the proposed Project would allow for the restart of the SYU facilities. This would allow the platforms and LFC facilities to return to the pre-shutdown employment levels, which would provide some additional economic growth for the area. But would similar to the baseline.

6.2.3 Precedent-Setting Action

The purpose of the proposed Project is to provide trucking of crude oil from the LFC facility, such that the SYU Project can resume production of oil and gas. Under the proposed Project, production levels would be about 1/3 of the pre-shutdown levels. The SYU facilities are permitted by the County to produce, process and transport up to 140,000 barrels per day of oil and 21 million standard cubic feet of gas per day. The County policies require that oil be moved by pipeline from the SYU facilities, unless one is not available. The County codes allow for use of other modes of oil transportation until a pipeline becomes available. The proposed Project would use truck transport to move crude until the Plains Line 901 and 903 system is back in service. On August 15, 2017, Plains submitted a discretionary application to Santa Barbara County Planning and Development Energy, Minerals and Compliance Division for the complete replacement of their existing Line 901 and 903 system. The Plains Replacement Pipeline Project is subject to CEQA and the Energy, Minerals and Compliance Division will be preparing a CEQA document to analysis and disclose all impacts related to the replacement of the Line 901 and 903 system. Information regarding the status of the Plains application can be found online at the Energy, Minerals and Compliance Division website. Current estimates are that the pipeline could be available for use in approximately four to seven years. Therefore, the proposed Project would not be a precedent-setting action that would create significant growth inducing impacts.

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 proposed Project site is located on lands that are zoned specifically for oil and gas processing. The proposed Project would not involve the development of any open space. Therefore, the project would not cause new encroachment upon current open spaces.

6.3 Effects Found Not to be Significant

As discussed in Section 1.0, Introduction, Santa Barbara County, as lead agency under CEQA, determined than an SEIR would be required as part of the permitting process for the proposed Project. In compliance with CEQA Guidelines, the County solicited public and agency input through distribution of a Notice of Preparation (NOP) and a public scoping meeting and conducted an independent analysis of possible project impacts. Sections 4.1 through 4.5 provide an analysis of the proposed Project for those issues areas that were anticipated to have possible significant impacts. This Section provides an assessment of those issue areas where the scoping process determined no significant impacts would occur.

Aesthetics/Visual Resources – A new truck loading facility would need to be built in Las Flores Canyon. This facility would be located on a previously disturbed area within the existing developed portions of the

Truck Loading Area (TLA) and the Transportation Terminal (TT). The TLA is approximately 2.91 acres (126,588 square feet); the loading would occur within a consolidated 0.12 acres (5,400 square feet) portion of that area. The LFC contains major oil and gas processing equipment, a cogeneration facility and oil storage tanks. The addition of a truck loading rack would not change the overall visual character of the area, nor would it affect the any scenic vistas. The proposed Project would not affect any scenic resources within a state scenic highway.

Some additional nighttime lighting would be required, but the LFC facility has a substantial amount of existing lighting, and the addition of the limited lighting for the truck loading rack would not affect the overall lighting impacts for the facility. Therefore, impact to aesthetics/visual resources would be less than significant.

Agricultural Resources – The Las Flores Canyon site is currently zoned M-CR, Coastal Related Industry. No agricultural resources would be disturbed as part of the construction of operation of the proposed Project. The proposed site does not contain any Prime Farmland or other areas identified as farmland of State or Local Importance by the State Farmland Mapping and Monitoring Program or have land under Williamson Act contract. The proposed Project would not result in the loss or conversion of forest land, or conversion of any farmland. Therefore, impact to agricultural resources would be less than significant.

Biological Resources – The truck loading rack would be installed on a portion of an existing pad area at the TLA and the TT. Construction of the truck loading facility would not result in the disturbance to any habitat or vegetation since the area is previously disturbed ground with at least four feet of compacted fill in place. The Project location is not in an area of Federally protected wetlands, and there are no wetlands within 100 feet of the proposed truck loading facility location. Therefore, impacts to biological resources from construction would be less than significant. Potential impacts to biological resources that may result from operation of the trucks is discussed in Section 4.3, Hazardous Materials and Risk of Upset.

Cultural Resources – The truck loading rack would be installed on a portion of an existing pad area at the TLA and the TT. When the LFC facilities were built this area was heavy disturbed as discussed in the 1984 EIS/EIR and 1986 SEIR. The site is primarily made up of fill material. The site of the proposed truck loading facility has at least four feet of compacted fill in place. The proposed Project would require limited grading (up to 500 cubic yards) mainly for containment and drainage. There are no known cultural sites in the location of the proposed truck loading facility. Given the disturbance that occurred in this area when the Las Flores Canyon facilities were constructed, unknow cultural sites would not be present. Therefore, cultural resource impacts due to construction would be less than significant. Potential oil spill impacts to cultural resources from operation of the trucks is discussed in Section 4.3, Hazardous Materials and Risk of Upset.

Geological Resources – The geological resource impacts identified in the 1984 EIS/EIR and 1986 SEIR for the LFC site were associated with the massive grading activities that occur in Las Flores and Corral Canyon. These documents identified two faults near LFC consists of the inactive Erburu fault near the mouth of Corral Canyon, and the inactive Refugio fault immediately north of the project site. These faults were considered inactive and, consequently, were not found to present a hazard to the development at LFC. Construction of the truck loading facilities would not require the development of a new pad, or major earth moving activities. The earth moving activities would be limited to small amounts of grading (up to 500 cubic yards) for containment and drainage. The existing TLA, that would be used for the truck loading facilities, was designed for support the use of heavy equipment. The site has been used previous for loading crude oil trucks as part of the emergency trucking project and has been used for the storage of construction equipment in the past. The soil at the site is considered unstable or would become unstable as part of the proposed Project. Therefore, impacts to geological resources would be less than significant.

Noise – The major noise sources would be trucks coming and going from the LFC facility and the crude oil loading pumps. Typical loading pumps have a sound level of about 80 dBA at 50 feet. Trucks moving at slow speed can have noise levels around 50 dBA at 50 feet. The 1984 EIS/EIR found that the gas plant would have noise levels has high as 120 dBA. The addition of the trucks and loading rack equipment would not increase the noise levels at the LFC facility above the current levels or the levels analyzed in the 1984 EIS/EIR.

Traffic-generated noise levels associated with truck travel on Calle Real, U.S. Highway 101, Betteravia and State Route 166 were modeled using the Federal Highway Administration Traffic Noise Prediction Spreadsheet Model and traffic data detailed in the Caltrans annual traffic count reports for California roadways. This analysis was conducted in order to determine the noise levels associated with current and current plus proposed Project traffic levels. Table 6-1 presents the results of the traffic noise modeling.

Table 6-1 Noise Levels at Closest Sensitive Receptors, CNEL dBA

Location	Baseline Noise, CNEL	Project Noise, CNEL	Increase, dBA
Calle Real with Hwy 101	72.2	72.5	0.34
Hwy 101: Refugio	72.2	72.3	0.11
Hwy 101: Buellton	76.7	76.8	0.10
Hwy 101: Santa Maria - Clark Avenue	77.7	77.8	0.08
Hwy 101: Santa Maria - Betteravia	80.1	80.2	0.04
Hwy 166: Cuyama	66.1	67.0	0.82
Betteravia Road	67.3	67.9	0.53

The analysis indicates that the nearest residences along the travel routes currently experience an average CNEL from 66 dBA up to 80 dBA with the highest noise levels along U.S. Highway 101 in Santa Maria. With the project, these CNEL noise levels would increase by 0.08 dBA to a maximum of 0.82 dBA with the maximum increase occurring along State Route 166 in Cuyama. These increase would be below perception levels. The Applicant has also proposed as part of the Project to prohibit the use of jake brakes (i.e., compression release engine brakes on most trucks), while traveling on Calle Real, except in the event of an emergency. Therefore, noise impacts from the proposed Project would be less than significant.

Population and Housing – Construction of the truck loading facilities would require a peak of 30 additional workers, for a few weeks. Total construction time for the truck loading facilities would be four to six months. Construction workers are expected to come from the local labor pool in Santa Barbara County. Operation of the truck loading facility would not require any new workers and would be staffed by exiting LFC facility employees. As such, the proposed Project would not result in any population growth or create any new demand for housing. Therefore, the impacts to population and housing from the proposed Project would be less than significant.

Public Services – The Proposed Project would not require the need for new or physically altered public service facilities. The truck loading facilities would be located with the existing LFC facility. The LFC facilities fall within the jurisdiction of the Santa Barbara County Fire Department and is served by County Fire Station 18, which is located at 17200 Mariposa Reina Gaviota. Station 18 is about 12 miles, or approximately 20 minutes, from the LFC facilities. The two other closest County Fire Stations are Station 11 at 6901 Frey Way Goleta, and Station 14 at 320 Los Carneros Goleta. Both station are about 14 miles from the LFC facilities and have similar travel times as Station 18.

The LFC facilities have an Integrated Fire Protection Plan that is reviewed and approved by Santa Barbara County on a regular basis. The truck loading facilities would be covered under the existing Fire Protection

Plan. These County public service facilities would be adequate to cover the addition of a truck loading rack to the LFC facility and no new public services facilities would be required. Therefore, impacts to public services would be less than significant. Section 4.3, Hazardous Materials and Risk of Upset, provides more information on fire protection.

Recreation – The LFC site is currently zoned M-CR, Coastal Related Industry, is private property, and provides no recreational access for the public. As discussed for population and housing, the proposed Project is not expected to increase population, and would therefore not increase the use of existing parks or recreational facilities in the area or require the construction of new parks. The traffic analysis (see Section 4.5) indicates that Calle Real and the Calle Real/U.S. Highway 101 interchanges operate at LOS A with minimal delays, so traffic from the proposed Project would not impact travelers to Refugio State Beach. Therefore, impacts to recreation from the proposed Project would be less than significant.

Utilities and Service Systems – The proposed Project would not result in the need for construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. As discussed under Water Resources, the LFC has adequate water supplies to provide the limited amount of water needed for construction. No water would be needed for operation of the truck loading facilities. Therefore, impact to utilities and services from the proposed Project would be less than significant.

Water Resources – Construction of the facilities would occur on previous disturbed areas and would not impact any surface water bodies or drainage patterns at the site. The nearest surface water body (Las Flores Creek) is located more than 500 feet from the proposed location of the truck loading facility. During construction, limited water (about a thousand gallons) would be needed for dust control. During operations, the truck loading rack would not require the use of additional water.

The LFC facility has multiple groundwater wells on its property that are used as sources of freshwater for the facility. The annual guidance on safe yield for these wells are derived from the aquifers that they tie into. The annual safe yield limits for the aquifers are about 119 acre-feet per year. Historical water use at the LFC facility for the onsite ground water wells has been around 83 acre-feet per year. Water use for construction would add a de minimis amount to the historical use. In fact, it is likely that less water would be used relative to historic norms under the proposed Project as the LFC facility would not be operating at full capacity during trucking.

The installation of new paving could increase runoff in the location of the truck loading facility, but the LFC facilities have a comprehensive drainage control system, which can handle additional runoff that may result from the proposed Project. The proposed Project site would not be in the 100-year flood hazard zone. Therefore, impacts to water resources in Las Flores Canyon are expected to be less than significant. Potential oil spill impacts to water resources from operation of the trucks is discussed in Section 4.3, Hazardous Materials and Risk of Upset.

Wildfire – The LFC facilities maintain a Wildland Fire Protection Plan. The natural vegetation in the area of the LFC facilities is dominated by chaparral, coastal sage scrub, riparian woodland, and grasslands. This represents a high fire hazard during the normal seasonal dry weather cycles experienced on the south coast. The Wildland Fire Protection Plan requires that ExxonMobil maintains native plant communities within the LFC facilities. Fires in the developed areas could spread to the brush and threaten the nearby watershed. Flammable vegetation along the facility perimeter and access roads are mowed to approximately 6 inches in height and 10 feet away from the roads to minimize the potential spread of fires within the facilities to the undeveloped portion of the property.

Wildland fires could originate outside the developed areas of the LFC area which may threaten the process equipment, structures and other developed features. A Vegetation Management Plan is used to reduce the potential exposure of the developed site from wildland fires threatening the facilities. Additionally, there are various measures that are employed to protect the LFC facilities from wildland fires. These measures include but are not limited to:

- Posting of fire watches,
- Extinguishing embers,
- Activating fire monitors to create water curtains,
- Using water spray and deluge system to keep facilities cool and having site personnel wet down critical areas.

As discussed in Section 4.3, Hazardous Materials and Risk of Upset, the fire hazard zones for the truck loading facilities would be limited to within the existing LFC facility, which would limit the potential for a wildfire. This coupled with the existing Wildfire Protection Plan would result in the wildfire impacts at the LFC facility from the proposed Project being less than significant.

The crude oil trucking operations have the potential to create a fire in the event of an accident. The County has fire stations located along each of the proposed truck route which would be capable of responding to a truck accident. (See map of Santa Barbara County fire stations at http://www.sbcfire.com/wp-content/uploads/2012/05/station-map.pdf). As discussed in Section 4.3, Hazardous Materials and Risk of Upset, the risk of a fire from a crude oil tanker truck was found to be less than significant. Therefore, impacts to wildfires from a truck accident would be less than significant.

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7.0 Mitigation Monitoring and Reporting Program

This section provides the Mitigation Monitoring and Reporting Program (MMRP) for the proposed Project. Santa Barbara County, as the CEQA Lead Agency, would have the responsibility of ensuring that implementation of required mitigation as identified in this Supplemental Environmental Impact Report (SEIR) occurs as intended if the proposed Project (or an alternative) is approved. As the Applicant and Project proponent, ExxonMobil 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 Avoidance and Minimization Measures (AMMs) to minimize the Project's environmental impacts in a manner consistent with applicable rules and regulations (see the lists provided in each environmental issue area section). The Applicant proposes to implement these AMMs during the design, construction, and operation of the proposed Project in order to avoid or minimize potential environmental impacts. County approval would be based upon the Applicant adhering to the proposed Project as described in this document, including the AMMs, as well as any adopted mitigation measures identified by this SEIR.

The MMRP for the proposed Project (or alternative) establishes the approach to implementing the mitigation measures identified in this SEIR. If the project is approved and the MMRP described below is adopted by the County, a detailed Environmental Quality Assurance Program (EQAP) would be developed, as described in Section 7.2 below. The EQAP would describe compliance monitoring roles and responsibilities and would be the mechanism whereby the County would implement the MMRP.

MMRP tables are presented in Section 4.0, Environmental Analysis of the Proposed Project, at the end of each issues area (Sections 4.1 thorough 4.5) and are repeated in Section 7.5. These tables, along with the full text of the mitigation measures themselves, are central elements of 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 the California Environmental Quality Act (CEQA), the County of Santa Barbara is required to adopt a program for monitoring and reporting on the implementation of mitigation measures if the proposed Project or an alternative is approved. The MMRP would be used to ensure that the adopted mitigation measures are implemented as defined in this SEIR. 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).

7.2 Organization of the EQAP

If the proposed Project (or an alternative) is approved, the County would compile the Final MMRP and include it in the agency decision documents, as adopted. Based on the MMRP, a supplement to the existing SYU EQAP would be prepared prior to the issuance of Zoning Clearance, covering the trucking project. The EQAP serves as a self-contained guide for implementing the MMRP throughout project construction and operations. The EQAP for trucking shall be prepared according to procedures established by County Planning and Development (P&D), paid for by the Applicant, and submitted for review and approval by P&D. The EQAP shall include the following:

1. All conditions and mitigation measures imposed on this project and the impacts they are mitigating separated by issue area.
2. A plan for coordination and implementation of all measures and any additional plans and programs required therein.
3. A description of all measures the Applicant will take to assure compliance, including field monitoring, data collection, management and coordination of all field personnel and feedback to field personnel and affected County agencies including P&D.
4. A contractor to carry out the trucking EQAP shall be selected by P&D. The contractor(s) will be under contract and responsible to the County, with all costs to be funded by the Applicant. The EQAP contractor shall appoint at least one On-site Environmental Coordinator (OEC) responsible for overall monitoring, but shall employ as many qualified specialists as necessary, as determined by P&D, to oversee specific mitigation areas. In addition, the OEC has the authority and ability to ensure compliance with all project conditions and to stop work in an emergency.
5. Contractor feedback responsibilities shall include status reports (as specified in EQAP) to be prepared throughout the construction and operation of the Project. These shall include status of development, status of conditions, incidents of non-compliance and their results and any other pertinent or requested data.

The EQAP shall also provide for any appropriate procedures not specified in the conditions of approval to be carried out if they are necessary to avoid environmental impacts.

7.3 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, Santa Barbara 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 SEIR.

When a mitigation measure requires that a study or plan be developed during the design or pre-construction phase of the project, the Applicant must submit the final study or plan to the County for review and approval. Any study or plan that requires approval of the County must allow time for adequate review.

7.4 General Monitoring Procedures

7.4.1 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 its EQAP contractor are 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 EQAP OEC(s) must be onsite during construction activity having the potential to create a significant environmental impact or other impact for which mitigation is required. Likewise, the EQAP OEC(s) and agency Inspectors such as members of the County's System Safety Reliability Review

Committee (SSRRC) will be onsite to ensure compliance with their respective authorities during construction and operations.

7.4.2 Operations and Construction Personnel

A key element in the success of mitigation and mitigation monitoring is the full cooperation of project personnel and supervisors, during both construction and operations. 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 would be taken:

- Specific procedures to be followed by construction and operations contractor companies engaged to do their respective work would be written into their contracts with the Applicant. Procedures to be followed by construction and operations personnel would be written into an agreement that all construction and operation personnel would be asked to sign, denoting consent to the procedures regardless if Applicant staff or contractor,
- A Worker Environmental Awareness Program would be conducted to inform and train construction and operations personnel about the requirements of the monitoring program (as detailed in the EQAP). The OEC(s) would verify that each crew member received the required training.
- A written summary of mitigation monitoring procedures would be provided to construction and operations supervisors for all mitigation measures requiring their respective attention.

7.4.3 General Reporting Procedures

A checklist will be developed and maintained by the County EQAP contractor to track all mitigation measure requirements, including timing. The EQAP 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 EQAP 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 is to 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 would be generated on an as needed basis based upon the activities that are occurring and based upon the reporting schedule provided in the EQAP.

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the County or its designee on request.

7.5 Mitigation Monitoring Tables

The following tables present the monitoring and reporting plan requirements for the mitigation measures identified in the environmental analysis sections of this SEIR (see Sections 4.1 through 4.5), by issue area.

Table 7-1 Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	County Responsibility	Applicant Responsibilities
Air Quality					
AQ-1	Trucking Emissions Management Plan	Include trucking performance specifications and truck fleet criteria with contractor contracts. Review monthly reports on truck fleet characteristics.	Applicant submits contracts including engine exhaust specifications and records and submits reports of fleet activity	County inspects truck fleet for performance and fleet characteristics compliance and reviews reports on fleet activity. County consults with APCD on changes.	Implement tank fleet activity limits and truck engine criteria, submits reports to County.
Climate Change/Greenhouse Gas Emissions					
GHG-1	GHG Reduction Plan	Obtain documentation of GHG reductions or surrendered GHG offset credits	Applicant submits evidence of GHG reductions or surrendered GHG offset credits	County reviews Applicant evidence of reducing GHG or surrendering GHG offset credits	Reduce GHG or obtain and surrender GHG offset credits
Hazardous Materials and Risk of Upset					
RISK-1	Updated Emergency Plans	Update and implement the SPCC, ERP, and IRRS to include the trucking operations.	Prior to Issuance of Zoning Clearance	P&D review and approval. P&D staff to monitor implementation	Prepare and submit the updates to the SPCC, ERP, FRP, and IRRS to include the trucking operations. Implement requirements of the Plans for the life of the trucking Project.
RISK-2	Truck Hazard Mitigation Plan	Prepare and Implement a Truck Hazard Mitigation Plan	Prior to Issuance of Zoning Clearance	P&D review and approval. P&D staff to monitor implementation	Prepare and submit a Truck Hazard Mitigation Plan for crude oil trucking. Implement Plan requirements for the life of the trucking Project.
Transportation and Circulation					
TR-1	PM Peak Hour Trip Restriction	Develop and Operational Plan that defines the schedule for truck loading that would avoid trucks using the intersections of U.S Highway 101 Southbound Ramp/Betteravia Road during the PM peak hours.	Prior to the issuance of Zoning Clearance.	County reviews and approves the Operational Plan. County monitors compliance.	Prepare and Submit an Operational Plan for truck loading timing. Implement Plan requirements until such time as the improvements to the U.S Highway 101 Southbound Ramp/Betteravia Road intersection are complete.
TR-2	Calle Real Time of Day Restrictions	Develop and Operational Plan that defines the schedule	Prior to the issuance of Zoning Clearance.	County reviews and approves the Operational Plan.	Prepare and Submit an Operational Plan

Table 7-1 Mitigation Monitoring and Reporting Plan

MM #	MM Title	Monitoring/ Reporting Action	Timing & Method of Verification	County Responsibility	Applicant Responsibilities
		for truck loading that would avoid trucks using Calle Real during the hours of 7:45 AM and 8:30 AM and 2:55 PM and 3:40 PM when school is in regular operation and students are being bussed.		County monitors compliance.	for truck loading timing. Implement Plan requirements for the life of the trucking Project.

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8.0 List of Prepares and Contacts

This Supplemental Environmental Impact Report (SEIR) was prepared by County of Santa Barbara (County) Planning & Development Department (P&D) staff, with assistance from MRS Environmental, Inc. 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 SEIR.

The Applicant and their consultants were not directly involved in preparation of the environmental analyses in the Draft SEIR but did review of the portion of Section 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 and in response to P&D information requests during the preparation of the SEIR. The Appendices provide the final technical reports submitted by the Applicant.

P&D also coordinated with and the Santa Barbra County Air Pollution Control District (SBCAPCD) on the air quality and climate change/greenhouse gas sections of the SEIR.

The following persons associated with P&D were directly involved in preparing the SEIR:

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The following persons were contacted in preparing this SEIR, in addition to those listed above:

Carly Barham, Air Quality Specialist, SBCAPCD
Molly Pearson, Technical and Environmental Assessment Division Manager, APCD
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Eric Pearson, Santa Barbara County Public Works, Transportation
William Robertson, Transportation Planning Supervisor, Santa Barbara County Public Works
Ingrid McRoberts, Transportation Planner, Caltrans, District 5
John Olejnik, Planning Manager, Caltrans, District 5
Mark Eckenrode, BOEM Pacific Region

MRS Environmental, Inc. staff and subcontractors involved in the preparation of the SEIR included the following:

Company (Affiliation)	Key Contributors	Responsibilities
MRS Environmental, Inc (prime contractor)	John Peirson, Jr., BA	SEIR Project Manager Project Description and Alternatives Hazardous Material and Risk of Upset
	Gregory Chittick, BS, MS	Air Quality Climate Change and Greenhouse Gas Emissions Hazardous Materials and Risk of Upset
	Luis Perez, BA, MA	Land Use and Consistency Analysis
	Dean Dusette, BA	Land Use and Consistency Analysis Air Quality
	Lauren Brown, BS	Biological and Water Resources
Central Coast Transportation Consulting (subcontractor)	Joe Fernandez, BS, MS, PE, AICP	Transportation and Circulation

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