COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING & BUILDING

Initial Study – Environmental Checklist

PLN-2039
04/2019

Project Title & No. Guadalupe Restoration Soil Management Area
Development Plan/Coastal Development Plan ED21-004 (DRC2019-00069)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The proposed project could have a "Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture & Forestry Resources	☐ Hazards & Hazardous Materials	☐ Recreation
☒ Air Quality	☒ Hydrology & Water Quality	☐ Transportation
☒ Biological Resources	☐ Land Use & Planning	☐ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☐ Utilities & Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☐ Geology & Soils	☐ Population & Housing	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the Environmental Coordinator finds that:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

John F. Peirson, Jr		January 6, 2021
Prepared by (Print)	Signature	Date
Young Choi	Young Choi Digitally signed by Young Choi DN: C=US, E=ychoi@co.slo.ca.us, O=County of San Luis Obispo, OU=Department of Planning and Building, CN=Young Choi Date: 2021.01.19 18:18:48-08'00'	January 6, 2021
Reviewed by (Print)	Signature	Date

Initial Study – Environmental Checklist

Project Environmental Analysis

The County's environmental review process incorporates all of the requirements for completing the Initial Study as required by the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The Initial Study includes staff's on-site inspection of the project site and surroundings and a detailed review of the information in the file for the project. In addition, available background information is reviewed for each project. Relevant information regarding soil types and characteristics, geologic information, significant vegetation and/or wildlife resources, water availability, wastewater disposal services, existing land uses and surrounding land use categories and other information relevant to the environmental review process are evaluated for each project. Sections 6.0 and 7.0 of the Initial Study/Mitigated Negative Declaration includes the references used and the agencies or individuals that were contacted as a part of the Initial Study/Mitigated Negative Declaration respectively. The County Planning Department uses the checklist to summarize the results of the research accomplished during the initial environmental review of the project.

Persons, agencies or organizations interested in obtaining more information regarding the environmental review process for a project should contact the County of San Luis Obispo Planning Department, 976 Osos Street, Rm. 200, San Luis Obispo, CA, 93408-2040 or call (805) 781-5600.

A. Project

DESCRIPTION:

Request by Chevron Environmental Management Company for Development Plan/Coastal Development Plan (DRC2019-00069) to amend previously approved Development Plan/Coastal Development Plan (D890558D) for the Guadalupe Restoration Project, to construct and operate a Soil Management Area (SMA) for handling hydrocarbon affected soil that are generated as part of the ongoing restoration activities at the former Guadalupe Oil Field. The proposed SMA will be placed at the T-9 site, which currently has a large sump. The sump would be excavated prior to construction of the SMA as part of the ongoing Guadalupe Restoration Project. When completed, the SMA would be re-vegetated with Coastal Dune Scrub. The SMA is estimated to take approximately three to five years to complete. The project would disturb approximately 18 acres of previously disturbed area on a 939-acre parcels (092-041-001 & 092-041-005), including 1.2 million cubic-yards of earthwork. The project is located at 2184 West Thornberry Road, approximately 5 miles southwest of community of Nipomo, in the South County Coastal Planning Area.

ASSESSOR PARCEL NUMBER(S): 092-041-001 & 092-041-005

Latitude: 34.98073 N **Longitude:** 120.61149 W **SUPERVISORIAL DISTRICT #** 4

B. Existing Setting

Plan Area: South County Coastal **Sub:** N/A **Comm:** N/A

Land Use Category: Rural Lands, and Recreation

Combining Designation: Coastal Zone, Terrestrial Habitat, Energy Extractive Area, Sensitive Resource Area

Parcel Size: 939 Acres

Topography: Varies (average slope of 14%)

Vegetation: Sand Dunes; Coastal Dune Scrub

Existing Uses: Former Guadalupe Oil Field (currently in restoration)

Surrounding Land Use Categories and Uses:

North: Recreation; United States Fish and Wildlife Service (USFWS) refuge

East: Agriculture; row crops

South: Recreation/Open Space (County of Santa Barbara); Santa Maria River & Guadalupe-Nipomo Dunes Preserve

West: Pacific Ocean

Other Public Agencies Whose Approval is Required

- Central Coast Regional Water Quality Control Board
- San Luis Obispo County Air Pollution Control District

C. Environmental Analysis

The Initital Study/Mitigated Negative Declaration document, which follows the envronmental checklist, provides detailed information about the environmental impacts of the proposed project and mitigation measures to lessen the impacts.

Initial Study – Environmental Checklist

I. AESTHETICS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:					
(a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
(c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

II. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

Initial Study – Environmental Checklist

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

III. AIR QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:					
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☒	☐
(c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

IV. BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

V. CULTURAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
(c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

VI. ENERGY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

VII. GEOLOGY AND SOILS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐

Initial Study – Environmental Checklist

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
	(ii) Strong seismic ground shaking?	☐	☐	☒	☐
	(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	(iv) Landslides?	☐	☐	☒	☐
(b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

VIII. GREENHOUSE GAS EMISSIONS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
	(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(ii)	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv)	Impede or redirect flood flows?	☐	☐	☒	☐
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☒
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

XI. LAND USE AND PLANNING

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Physically divide an established community?	☐	☐	☐	☒
(b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

XII. MINERAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

XIII. NOISE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:					
(a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
(b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XIV. POPULATION AND HOUSING

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
(b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XV. PUBLIC SERVICES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

XVI. RECREATION

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

XVII. TRANSPORTATION

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
(b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
(c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
(d)	Result in inadequate emergency access?	☐	☐	☐	☒

XVIII. TRIBAL CULTURAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
	(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

XIX. UTILITIES AND SERVICE SYSTEMS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
(c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
(d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

XX. WILDFIRE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
(c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
(d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒

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		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

GUADALUPE RESTORATION
SOIL MANAGEMENT AREA (SMA) PROJECT
DRAFT INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

JANUARY 2021

LEAD AGENCY:

SAN LUIS OBISPO COUNTY

DEPARTMENT OF PLANNING AND BUILDING

976 OSOS STREET

SAN LUIS OBISPO, CA 93408

PREPARED BY:

MRS ENVIRONMENTAL, INC.

1306 SANTA BARBARA STREET

SANTA BARBARA, CALIFORNIA 93101

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1.0 Introduction

This document provides an Initial Study and Mitigated Negative Declaration (MND) for the proposed Guadalupe Restoration Soil Management Area (SMA) Project. Chevron Environmental Management Company (CEMC or Applicant) has applied for an amendment to their Coastal Development Permit/Development Plan permit (CDP/DP D890558D) for the Guadalupe Restoration Project to construct a SMA at the former Guadalupe Oil Field Site as part of the ongoing Guadalupe Restoration Project.

The proposed Project requires compliance with environmental procedures (CEQA and CEQA Guidelines), with San Luis Obispo serving as CEQA Lead Agency. The proposed Project would also require a permit from the Central Coast Regional Water Quality Control Board.

The preparation of the Initial Study and MND is governed by two principal sets of documents: The California Environmental Quality Act (hereinafter "CEQA," *California Public Resources Code* §21000, et seq.) and the CEQA Guidelines (*California Code of Regulations* §15000, et seq.). The environmental analysis presented in this document primarily focuses on the changes in the environment that would result from the proposed Project. The environmental analysis also evaluates all phases of the Project, including construction and operation.

In compliance with state law and San Luis Obispo County procedures, the County has determined that an MND is the appropriate environmental compliance document for the proposed Project. The Initial Study checklist form and explanation discussion format meets the requirements of the CEQA. Section 15063(d)(3) requires that the entries on the Initial Study checklist identifying environmental effects be briefly explained to indicate that there is some evidence to support the entries. An Initial Study/MND is not intended or required to include a level of detail that would be provided in an EIR. Therefore, in compliance with CEQA and the CEQA Guidelines, the IS/MND is not intended to be a lengthy, detailed document.

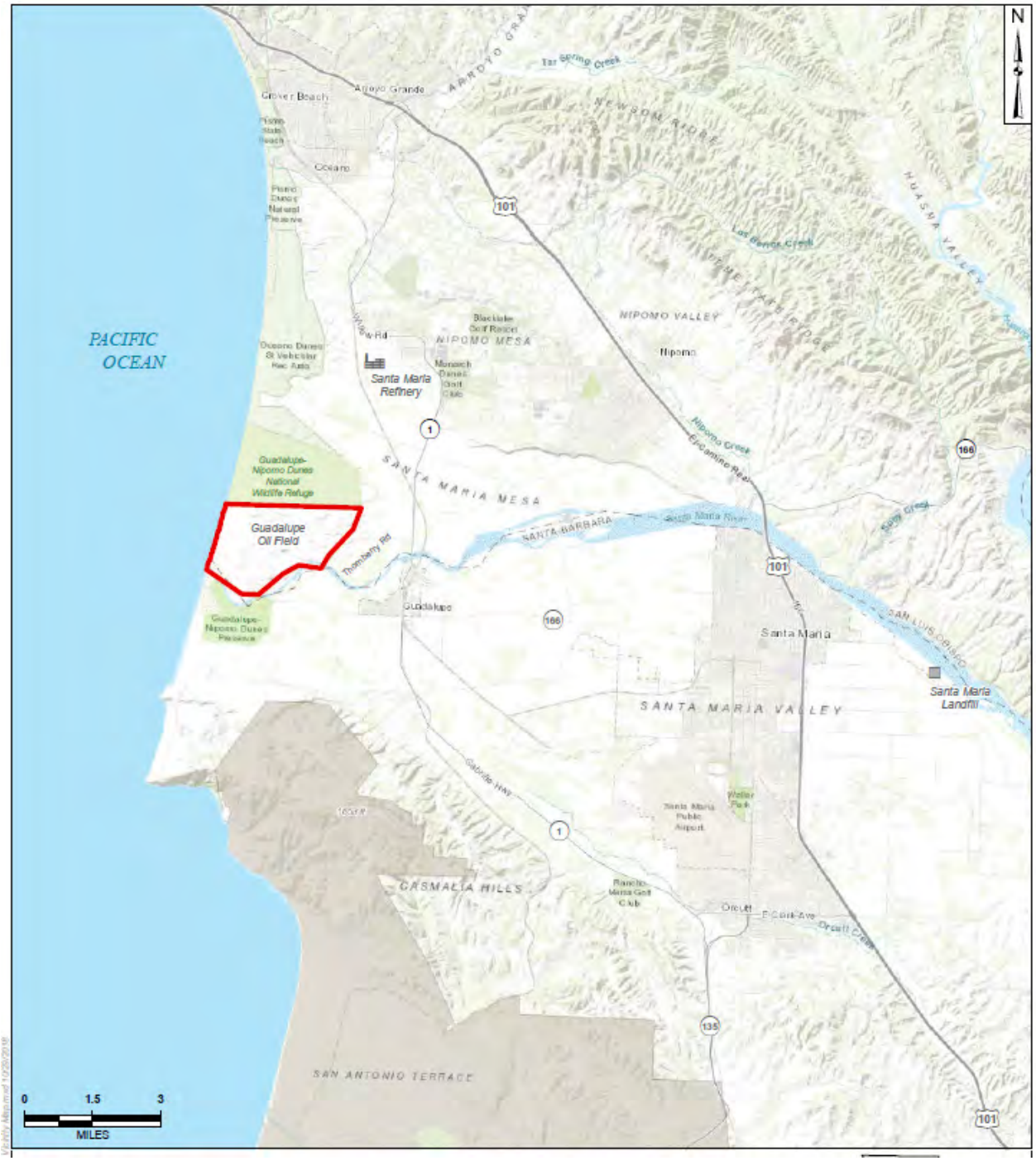
The CEQA Initial Study Checklist form is provided in Appendix A. Certain documents are incorporated by reference into this Initial Study and MND pursuant to CEQA Guidelines §15150. These documents are included in the refences listed in Section E of the document and are available for inspection at the SLO County Planning and Building office. Several technical reports were used in developing the Initial Study/MND. These technical reports are included as Appendices, which are available in electronic format only on the attached CD.

2.0 Project Location and Surrounding Land Uses

The Field is located in the southern part of San Luis Obispo adjacent to the Pacific Ocean. Figure 1 shows the regional location of the Field. The Field is approximately 2,700 acres in size. The Field site is part of the Guadalupe-Nipomo Dunes Complex. The Dunes Complex is defined as the unique coastal dune ecosystem that includes the Callender Dunes south of Pismo Beach, the Mobil Coastal Preserve, and the Guadalupe Dunes north of the Santa Maria River, and the Mussel Rock Dunes south of the Santa Maria River. Areas of the Dunes Complex are owned and managed by a mix of private entities, conservancies, and public agencies.

Just to the north of the former Guadalupe Oil Field is the Nipomo Dunes National Wildlife Refuge, which is managed by the United States Fish and Wildlife Service (USFWS). The former Guadalupe Oil Field is bordered on the west by the Pacific Ocean, on the south by the Santa Maria River, and agricultural land to the east.

Figure 1 Regional Map



Source: CEMC, Project Description. March 2019.

The SMA would be located at the Tank Battery 9 (TB-9) area of the Field as shown in Figure 2. The SMA would be located on APN 092-041-001 and 092-041-005 and is located in the south-central portion of the oil field. The Project Site is located within the SLO County South County Coastal Planning Area. Approximately 6 acres of the TB-9 Area is currently zoned as Recreation (REC), land use that is in support of recreational use, and approximately 14.17 acres are zoned as Rural Lands (RL), low density open areas that maximize preservation of watershed and wildlife habitat areas. The site has a combined designation overlay of Energy and Extractive (EX) that allow the potential continued oil field operations at the oil field including the remediation and abandonment of the site.

At the TB-9 area, the ground surface elevation ranges from approximately 65 ft to 105 ft mean sea level (msl) and is characterized as an elongated valley surrounded by vegetated dunes. Former oil storage and processing activities at the TB-9 area included above-ground storage tanks, processing equipment, and two concrete-lined basins that were decommissioned and dismantled in the early 2000's. The area was later used for temporary soil stockpiling, as well as the site for a land treatment unit and several bioremediation pilot studies during the period from 1999 through 2005. The western portion of the TB-9 area is currently used for stockpiling Total Petroleum Hydrocarbon (TPH)-affected soil excavated from the current remediation activity at the Field. The eastern portion is constructed with a high- density polyethylene (HDPE) lined basin filled with soil that supports the site-wide water handling system and the Advanced Water Treatment System (AWTS).

3.0 Project Background

The principal land use at the Field, from 1946 to March 1994, was the production of oil and natural gas. In the 1950s, a refined petroleum hydrocarbon referred to as diluent was introduced at the Field to assist in the production of heavy crude oil. At its peak in 1988, there were 215 production wells, producing approximately 4,400 barrels per day (bpd). As many as 23 wells remained in operation until April 1994 when the Field was shut-in.

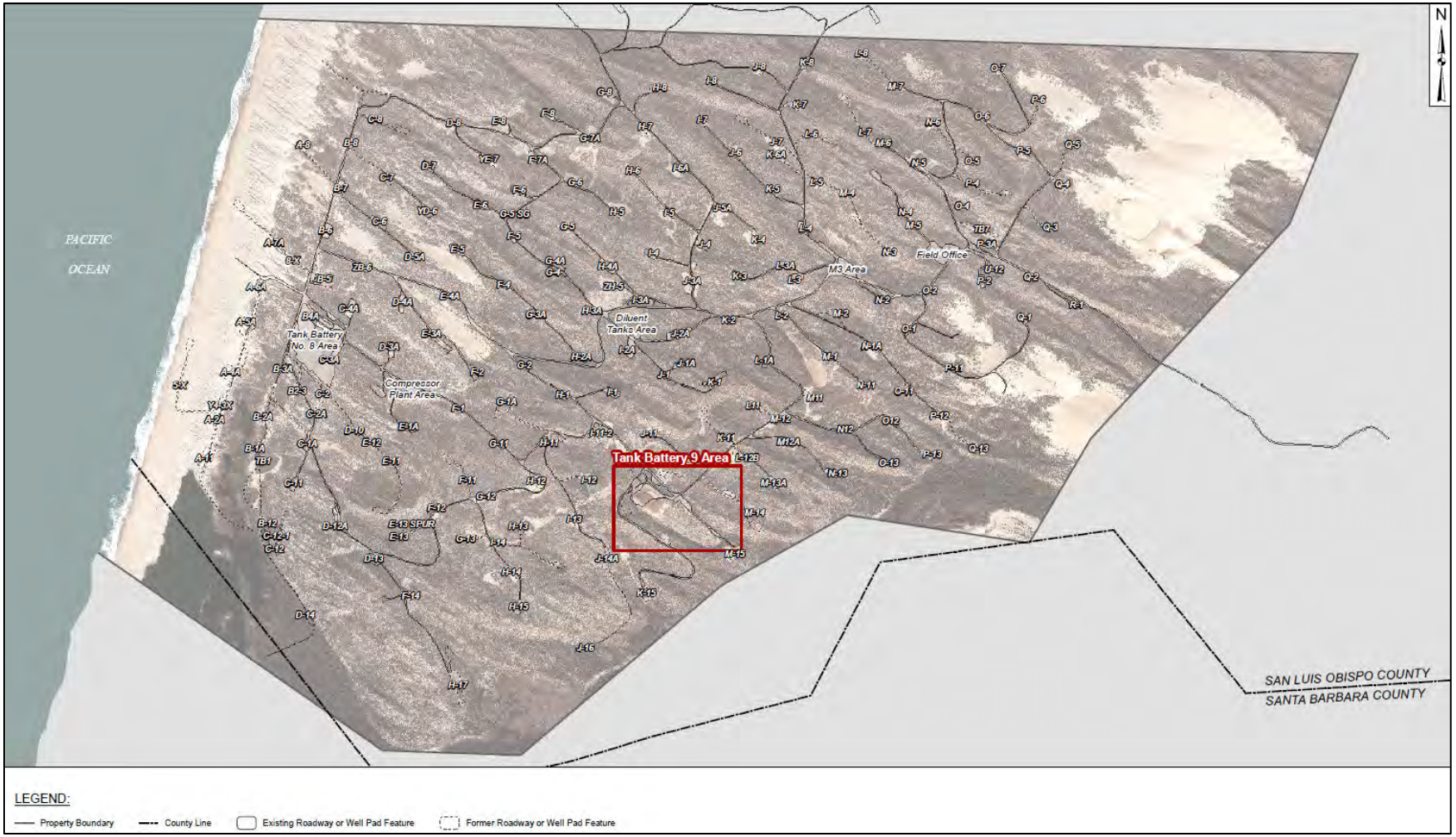
In the 1950s, a petroleum hydrocarbon referred to as diluent was used to assist in the production of the heavy crude oil. Diluent is similar to kerosene. Diluent use ceased in 1990. Over the years, diluent was inadvertently released from the pipelines and storage tanks, and diluent sources are now present in soils and the ground water at the Guadalupe site.

Between 1988 and early 1990 diluent was spotted on beach sands and on some ground surfaces at the site. This led Unocal to begin site investigation work to determine the cause and extent of the diluent leaks at the site. Between 1992 and 1994 diluent was observed being released into the ocean. Diluent is a toxic material to humans, wildlife, and plants, and therefore represented a risk to ecological and human health.

In February 1994, the United States Coast Guard issued a directive to Unocal to prevent any further marine releases of diluent because it represented an imminent threat to the marine environment.

In 1994, Unocal began a large excavation project called 5X at the beach to attempt to stop the marine releases of diluent. This excavation was overseen by a number of Federal, State, and local agencies and was done under emergency permits.

Figure 2 SMA Project Location



Source: CEMC, Project Description. March 2019.

In 1994, the Regional Water Quality Control Board (RWQCB) requested that Unocal conduct further site investigations to determine the extent of the diluent contaminated soil, groundwater, and surface water. The results of this site assessment showed that there was extensive groundwater contamination with more than 80 different locations throughout the field that had underground plumes of diluent.

In 1996, Unocal submitted applications to the County of San Luis Obispo and the RWQCB to remediate and restore some of the areas of the Guadalupe site. San Luis Obispo County and the RWQCB, as joint lead agencies, prepared an Environmental Impact Report (EIR) to address the proposed Unocal Remediation and Restoration Project.

When the EIR was completed in 1998, the RWQCB issued Cleanup and Abatement Order (CAO) 98-38, mandating remediation actions such as the excavation of specified sources and sumps. San Luis Obispo County then issued CDP/DP D890558D, which covered remediation and abandonment activities at the Guadalupe Field. This CDP/DP authorized Unocal to conduct remediation, restoration, and site characterization activities at the former Guadalupe Oil Field consistent with CAO 98-38 adopted by the RWQCB.

Permits for the remediation and restoration work were also issued by the California Coastal Commission (CCC), the California Department of Fish and Wildlife (CDFW), the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), and the San Luis Obispo County Air Pollution Control District (SLOAPCD).

The CDP/DP issued by the County authorized several project elements including “a Land Treatment Unit (LTU) at TB-9.” The CDP/DP states, “The landfarm operation shall be designed and constructed to collect and store excess water from wetting operations before treatment and disposal.” and “The landfarm operation shall be isolated from the ground surface by a barrier to prevent migration of treatment water into the dune sand aquifer and adjacent water resources unless otherwise determined by the RWQCB.” TB-9 is the site of the proposed SMA Project.

In 1999 Unocal began the restoration and remediation activates ordered by the RWQCB as part of their Cleanup and Abatement Order. In 2005 Chevron Corporation bought Unocal, CEMC is directing the remaining work at the Guadalupe site.

As required by various permit conditions, CEMC has established irrevocable protective easements over the Guadalupe site and is required to eventually dedicate the land to a public agency or private non-profit association as open space for habitat protection. It is likely this dedication would occur once the remediation and restoration of the site is complete in approximately five to ten years.

The 1998 EIR addressed the impact of landfarming the total petroleum hydrocarbon (TPH) affected soil that would be generated from the excavation and remediation projects and then reusing the material onsite as backfill for the excavations. However, during early testing of the landfarming it was determined that the treated material would not be suitable for using at the site for backfill.

In 2005, SLO County prepared a Supplemental EIR that addressed various alternatives for handling the TPH affected soil that would be generated from the remediation and restoration work at the Field. The main alternatives that were evaluated included the following:

1. Trucking the soils for disposal at Santa Maria Regional Landfill (SMRL).
2. Construction of an engineering containment unit (ECU) at theTB-9 Area (i.e., a SMA).
3. Construction of a Treated Material Land Feature (i.e., Landfarm) at the TB-9 Area.

At that time, soil disposal at SMRL was chosen as the preferred alternative. In 2005, CEMC received approval from the County to modify their permit to allow for offsite trucking of up 860,000 cubic yards to TPH affected soil from the Guadalupe Restoration Site to the SMRL. The SMLF uses the TPH affected soil as cover for closing landfill cells. The County prepared a Supplemental EIR for offsite trucking to the SMLF. The County approved the trucking operations in 2006. The approved primary haul route was south on Highway 1 through the City of Guadalupe to Highway 166 to Betteravia Road to the SMLF.

In 2011 CEMC submitted a permit request to the County to increase the total volume of material that could be transported to the SMRL by an additional 500,000 cubic yards, for a total of 1,260,000 cubic yards. An EIR Addendum was prepared for this permit modification, and the County approved the increase in volume in 2012.

A substantial amount of cleanup and restoration has taken place at the Guadalupe site. The work that has been completed to date includes the following:

- Approximately 44 separate source plumes have been excavated and restored.
- Over one-million cubic yards of contaminated soil has been cleaned up.
- A total of about one million cubic yards of contaminated soil has been hauled to the SMRL.
- About 150 miles of pipeline have been removed from the site.
- Over 20 acres of wetlands have been created.
- A large number of roads, pads and oil spray areas have been remediated and restored.

In 2016, Chevron began to re-evaluate the other TPH affected soil management alternatives evaluated in the 2005 SEIR. The proposed SMA Project, which is similar to the ECU evaluated in the 2005 SEIR, was developed in the footprint of the TB-9 Area to reduce emissions associated with existing operations and a concern for public safety resulting from trucking TPH affected soil along public roadways. In 2019, CEMC submitted applications to SLO County and the RWQCB for construction and operation of an SMA at the TB-9 Area. The proposed SMA Project consisting of an onsite, minimally treated soil management area as the center fill for a restored dune feature that will resemble the surrounding habitat was chosen as the preferred alternative among other options considered to address continued onsite TPH affected soil management. TB-9 Area is an approximately 14.52-acre area and contains a sump that will require remediation and excavation under the existing Guadalupe Restoration Project.

4.0 Project Description

CEMC is proposing to construct and maintain an SMA at the TB-9 Area of the former Guadalupe Oil Field. The SMA will be used to permanently store non-hazardous TPH affected soil from the remaining remediation and restoration activities at the Field. The SMA would be capable of holding up to 1,185,500 cubic yards of material. Construction and household type waste generated onsite would not be placed within the SMA. No waste materials of any type from offsite sources would be placed at the SMA. The remainder of this sections discusses (1) the project objectives, (2) the proposed construction and operational activities associated with the project, and (3) the potential permitted required for the proposed Project.

4.1 Project Objectives

The primary objectives of the proposed SMA Project include the following:

- To establish safe and efficient management of TPH affected soil excavated from the Field as part of the ongoing remediation and restoration activities.
- To eliminate the need for trucking TPH affected soil from the Field along public roadways.
- Minimize the environmental impacts associated with the final disposition of TPH affected soil excavated from the Field as part of the ongoing remediation and restoration activities.

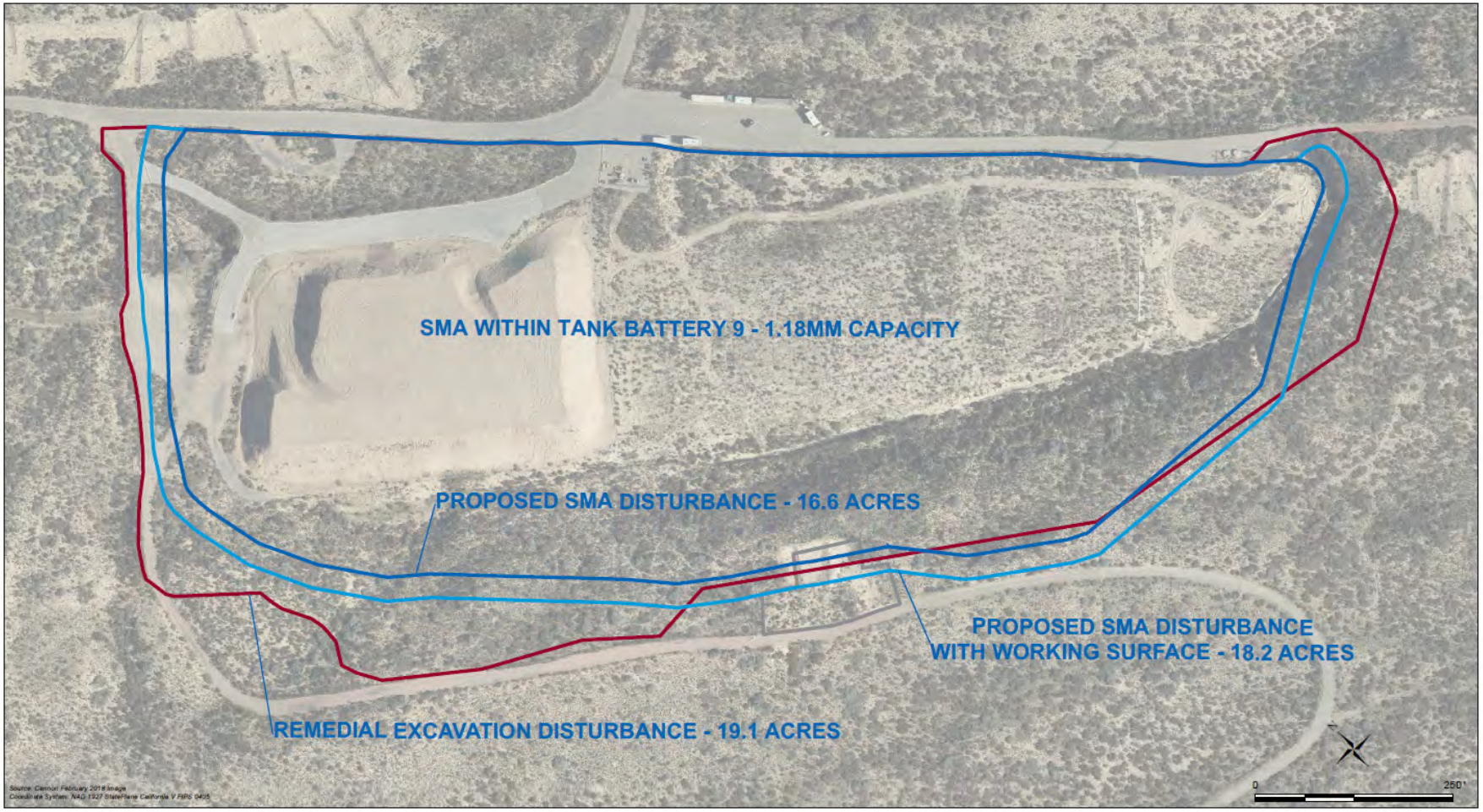
4.2 SMA Construction

At full build-out, the proposed SMA would encompass approximately 18.2 acres, including the working surface and would have a net capacity (air space) of approximately 1,203,900 cubic yards. Figure 3 shows the overall layout of the SMA, and Table 1 provides a breakdown of the components of the SMA by volume. Construction of the SMA would be sequenced as follows.

- Excavation of the eastern half of the TB-9 Area would be conducted to remove the existing sump material and soil. The excavated material would be managed in the existing TB-9 stockpile area. Excavation of the existing sump at TB-9 is covered under the existing CDP/DP Permit for the Guadalupe Restoration Project.
- The subgrade for the eastern portion of the SMA would be constructed, and the bottom liner and leachate collection system would be constructed.
- The stockpile of TPH affected soil present on the west side of TB-9 Area would be placed in the eastern portion of the SMA.
- Excavation of the western half of the TB-9 Area would be conducted to remove the existing sump material and soil. The excavated material would be moved into the eastern-half of the SMA.
- The subgrade of the western portion of the SMA would be constructed, then the bottom liner and leachate collection system would be constructed.
- The components of the eastern and western halves of the SMA would be tied together to create one complete bottom liner and leachate collection system.
- Additional material from ongoing remediation and restoration activities at the field would be transported to the TB-9 Area for treatment and final disposition at the SMA. The process would continue until the remediation and restoration work at the Field are complete.
- Once complete, the final cover system would be installed, and the site would be restored following an approved Site-Specific Restoration Plan.

The remainder of this section provides a description of the various construction phases for the SMA.

Figure 3 SMA Layout



Source: CEMC, Project Description. March 2019.

Table 1 SMA Capacity by Material and Source

Item	Cubic Yards
Total Airspace	1,430,200
TPH Affected Soil Excavation (TB-9 Sump)	206000
Clean Overburden Soil Excavation	56,500
Base Grading Plan Excavation	164,300
Total Clean Soil Excavation	220,800
Base Grading Plan Earthfill	51,000
Base Liner Low-Permeability Clay Layer - 1ft thick	26,350
Base Liner Operations Layer - 1 ft thick	26,350
Base Liner LCRS Gravel - 1ft thick	14,500
Base Liner Volume	67,200
TPH Affected Soil Placement	1,185,500
Final Cover Select Waste Foundation - 2ft thick	53,000
Final Cover Soils - 4ft thick	106,100
Access Road Additional Fill	1,400
Total Clean Soil Consumed	184,850
Soil Surplus	35,950
Net Airspace	1,203,900
Assumed Airspace Consumed per Year	400,000
Fill Duration (years)	3.0
Estimated Completion Date	2026

Source: Golder Associates. 2020.

4.2.1 TB-9 Sump Removal

As part of the County CDP/DP for the Chevron Restoration Project, sumps at the site are required to be remediated. Removal of the TB-9 sump would be required even without the SMA Project, and therefore is not considered part of the SMA Project. The description of this work is provided for informational purposes only.

Approximately 206,000 cubic yards of sump material would be excavated from the TB-9 Area. The western portion of the TB-9 Area is currently being used to stockpile TPH affected soil excavated from current facility remediation and restoration activities. To avoid additional hauling of this affected material, the TB-9 sump will be excavated in phases. The southeastern half of the TB-9 Area would be excavated first.

The excavated TPH affected soil would be loaded by 70,000 lb. excavators into off-road dump trucks and hauled to the adjacent TB-9 Area stockpile. Excavation activities in Phase 1 would take approximately 60 workdays and would require approximately 4,500 truckloads. Once the SMA liner system and leachate collection system has been installed during Phase 1, the materials present in the TB-9 Area stockpile would be transferred and placed into the SMA. Phase 2 excavation and construction would then follow and include the removal and placement of the TPH affected soil located in the northwestern portion of the TB-9 sump. Excavation activities in Phase 2 would take approximately 60 workdays and would require approximately 4,500 truckloads.

4.2.2 SMA Liner Construction

The proposed liner for the SMA Project would be double composite liner system (primary liner and secondary liner) with a leak detection system between the liners. The primary liner would consist of a geosynthetic clay liner (GCL) overlain by a high density polyethylene (HDPE) geomembrane. The secondary liner would consist of a compacted clay layer overlain by a HDPE geomembrane. The two liners will be

separated by a geocomposite that will act as a leak detection layer. The liner system will be constructed in accordance with the requirements of the CCR Title 27 for Class II municipal landfills. Appendix D contains more detailed figures of the proposed liner system.

Subgrade preparation for the liner would include the grading of clean sand from the SMA footprint or the placement of sand from the E4A Area, Q4 Borrow Area, or other approved clean soil source at the Field. Light grading would be required to create the design subgrade elevations before liner construction. Once prepared, a minimum 1-foot-thick layer of imported, low permeability clay would be placed with off-road haul trucks and a 36,000 lb. bulldozer and compacted using a vibratory compactor. Upon completion of the clay layer, the remainder of the lining system would be installed. Liners would be laid out using all-terrain forklifts. Seams, welds, and stitching would be executed per design specifications with proper overlapping and stitch counts. Wheeled equipment would be used to place aggregate, pipe materials, and geotextiles for the leak detection layer to protect the integrity of the newly installed liner. The aggregate leachate collection layer would be placed on top of the top geotextile layer using a 25,000 lb. low ground pressure bulldozer working from the outside edge toward the center, while always remaining on top of placed aggregate.

A soil operations layer would be placed over the liner. The soils operations layer provides a working surface for placing TPH affected soil in the SMA. The soil operations layer would be a minimum 1-foot thick layer composed of select soil that meets design specifications.

4.2.3 Leachate Collection and Removal System

The leachate collection and removal system (LCRS) would collect leachate that may develop in the SMA. The LCRS would be designed to handle twice the peak leachate generation in accordance with CCR Title 27, Division 2, Subdivision 1, Chapter 3, Subchapter 2, Section 20340 LCRS, and to limit leachate buildup on the liner to a maximum depth of 30 centimeters (approximately 12 inches) or the thickness of the LCRS collection layer, whichever is less. The system would also be designed to withstand deformations of the foundation materials anticipated during the design earthquake so that any permanent displacement of the foundation slopes does not impair the integrity of the liner or LCRS.

The LCRS would include a geotextile bounded gravel drainage layer, leachate piping, collection sump, and riser piping. Specifications for the design of the gravel drainage layer and leachate piping are based on the Hydrologic Evaluation of Landfill Performance (HELP) model developed by the United States Army Corp of Engineers (USACE) for the United States Environmental Protection Agency (USEPA). The leachate collection layer would direct leachate within a 1-ft layer of gravel above the HDPE geomembrane to an 8-inch perforated HDPE leachate collection pipe installed within the leachate collection gravel layer. The pipe would convey leachate to the collection sump. The leachate collection sump would be located at the downgradient end of the SMA. The 8-inch leachate collection pipe would connect to a 12-inch riser pipe within the collection sump. The riser pipe would follow the slope of the SMA and daylight at the ground surface. Leachate would collect in the leachate collection sump and be pumped to the surface with a standard submersible electrical leachate pump.

An electrical control panel would be installed at the surface and use either site power or a solar panel to operate the leachate collection pump. The pump may be operated manually on an identified frequency or a level sensor would be installed in the leachate collection sump. The level sensor would then be tied into the Programmable Logic Controller (PLC) which would engage the leachate collection pump as needed. It would also provide a visual alarm to indicate the fluid level is approaching the regulatory maximum to prompt action by the operator. Design of the leachate recovery system would incorporate the leachability of the treated material placed in the SMA and the capacity of the collection sump. It would

be designed to provide the necessary flow capacity while maintaining the fluid depth over the liner at less than 12 inches. Leachate would be pumped to the water treatment facility at the Guadalupe site.

4.2.4 Leak Detection System

A geocomposite layer between the primary and secondary composite liners would act as a leak detection layer. The leak detection layer would slope toward a perforated HDPE pipe that would be located parallel to the leachate collection pipe. A 6-inch-diameter perforated pipe would be placed between the primary liner and secondary liner in a gravel envelope. Any leachate that leaks through the primary liner would be contained by the secondary liner, captured by the leak detection layer, and flow to the leak detection pipe. The leachate would then be conveyed to the leak detection collection sump, located at the downgradient end of the SMA, adjacent to the LCRS collection sump. A 12-inch riser pipe would extend from the leak detection collection sump up the side of the SMA to the surface. The riser pipe would allow monitoring of the leak detection collection sump and removal of any leachate from the sump using a standard leachate pump.

4.2.5 Soil Amendment, Placement and Air Monitoring

TPH affected soil would be transported from remediation/restoration locations around the Field to the TB-9 Area for amendment and placement within the SMA. The TPH affected material would be generated from the ongoing remediation and restoration activities that are being conducted under the existing permits for the Guadalupe Restoration Project. Table 2 provides an estimated quantity, TPH concentration and source area for the TPH affected soil that would go to the SMA.

These materials would be placed within the SMA and amended with an approved soil remediation reagent (such as monoammonium phosphate) to promote degradation of hydrocarbons. TPH affected soil would be placed in 12-inch lifts into final position within the SMA with a 54,000 lb. bulldozer, or similar. The approved soil remediation amendment would be applied in a liquid form over each lift using water trucks or sprinkler system. Upon treatment completion each lift would be compacted to achieve the desired relative density using vibratory compactors.

A bench study was conducted to evaluate biodegradation of TPH affected soil from crude oil sump and diluent stain excavations conducted throughout the Field and from sump material excavated from beneath the TB-8 Area. Previous bench-scale and field-scale land treatment unit (LTU) studies definitively demonstrated that land treatment of diluent-affected soils from Field excavations resulted in significant biodegradation of diluent range hydrocarbons.

The bench study was used to establish the operational requirements needed to maximize hydrocarbon degradation in sump- affected soil using biological land treatment.

In accordance with the San Luis Obispo County Air Pollution Control District's CEQA Air Quality Handbook Dated April 2012 (updated November 2018) a range of measures would be implemented to minimize fugitive dust emissions.

The monitoring and management of the SMA would be in compliance with the SLO APCD issued Permit to Operate (PTO) and County approved soil stockpiling implementation plan (Padre 2016). Maintenance activities include application of SoilSeal™, or similar type material, for dust control measures, as necessary. Soil sealant would be applied if the working surface is in active for more than 24-hours.

Table 2 Estimated Volume and TPH Concentration of Source Material for the SMA

Source Area	Description	Estimated Volume (cubic yards)	Average TPH Concentration (mg/kg)
TB-8 Area	Complete excavation based on preliminary grading plans	181,580	13,993
TB8 Stockpile	Current Stockpile from PROS IV Excavations	50,000	3,720
TB-9 Area	Complete excavation based on preliminary grading plans	206,000	16,786
TB-9 Stockpile	Current Stockpile Volume from PROS III Excavations and M1 Excavation	85,000	918
B4A	Complete Sump Excavation per Excavation Grading Plan	3,500	11,545
B5 Sump	In-place Sump Material	4,050	158
CP Area	Consistent with PROS Program, 3-acres of surface restoration at 5 ft	25,000	10,000
DT Area	maximum depth	25,000	10,000
PROS V	Consistent with PROS Program, 3-acres of surface restoration at 5 ft maximum depth	10,000	1,954
PROS IV	Excavation of Sumps and Diluent Stains	40,000	3,720
PROS VI	Excavation of Sumps and Diluent Stains Based on Completed PROS	90,000	15,534
PROS VII	Excavation	90,000	6,712
8X	Excavation of Sumps and Diluent Stains Based on Completed PROS Excavation	5,000	11,096
Well Pad Access Roads	Excavation of Sumps and Diluent Stains Based on Completed PROS Excavation	67,500	9,610
Well Pads	Diluent Stain Excavation	142,942	3,210
Main Site Access Roads including Water Plant Area, Q4 Area, Recovery Well Area, South and North Access Areas and, Property Boundaries	Excavate all Roads Except Main road, TB-9 Road, South and North Access	52,155	9,610
	Subtotal	**1,077,727**	**9,871**
	10% Contingency	**107,773**	
	Total with Contingency	**1,185,500**	

PROS-Pads, Roads and Oil Spray. The PROS Program is part of the permitted Guadalupe Restoration Project that involves cleanup and restoration of the pads, roads, and oil spray areas at the Field. The Field as been divided into seven geographical areas that represent PROS I through PROS VII.
Source: Adapted from Golder Associates, 2020.

4.2.6 Final Cover

As the remediation and decommissioning work is completed within the Field and the SMA design capacity is reached, or all onsite environmental work is complete, the area would be capped and covered with at least 4 ft of clean fill. The work would be completed in accordance with CCR Title 27 requirements, graded to tie into the surrounding dune features, and revegetated to meet onsite restoration goals consistent with the surrounding dune scrub habitat.

Specifically, an evapotranspirative (ET) cover is proposed. The ET cover consists of a thick layer of finer-textured soil to provide the storage capacity needed to minimize percolation of surface water through the SMA. The final cover is assumed to be a 2-foot thick foundation layer and 4-foot thick ET soil layer.

The foundation layer may be soil or other material with appropriate engineering properties to be used for a foundation layer. The final cover material would be transported to the SMA with off-road haul trucks and placed using a 54,000 lb. bulldozer.

The ET soil layer would be a blend of onsite clean sand and fine-grained soil. The blend would be determined by an engineering analysis of the onsite soil and available fine-grained soil and be accomplished by bucket mixing with a 70,000 lb. excavator. The ET soil layer thickness would also be determined by the engineering analysis. However, a 4-foot ET soil layer is a common thickness for ET soil layers. A 4-foot thick ET soil layer would also provide enough rooting depth for dune vegetation. Clean cover fill material would be sourced from the E4A Area, Q4 Area, or from an alternative location deemed acceptable for use as clean fill. Surface stabilization would consist of a combination of hydroseed, jute netting, and vegetation. Additionally, appropriate sediment control measures such as straw wattles and silt fence would be used.

4.2.7 Finish Grading

Final contouring would match the finish surface of the SMA with the surrounding undisturbed areas. The finish surface of the SMA would be re-contoured to generally match surrounding topography using a 36,000 lb. bulldozer and small construction equipment. The SMA would be finish-graded to create a broad elongated ridge to resemble the surrounding dune landscape.

4.2.8 Surface Drainage

The SMA would be designed and constructed to limit ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping. Proposed drainage structures for the area may include a top- deck berm, down-drains, and a perimeter v-ditch to convey surface drainage away from the SMA. Collected surface drainage would be conveyed to the wastewater treatment facilities at the Field. The stormwater basin would be sized to handle the peak discharge from a 1,000-year, 24-hour storm as required by Title 27. The stormwater basin would also be sized to prevent offsite stormwater discharge.

The finished surface of the SMA would consist of dune scrub vegetation and sand, which would be similar to the native stabilized back dunes habitat of the Field. The finish grade slopes of the SMA would range from 3 to 1 horizontal to vertical (3H:1V) to 5H:1V. The configuration of the slopes and the construction of concrete-lined v-ditches would allow drainage from all four sides of the SMA feature and direct surface water to natural depressions and low-lying areas in the general vicinity of the SMA. The existing asphalt-paved road constructed along the northeast side of the TB-9 Area would remain in-place to provide access to the leachate collection system and to the vehicle turnaround constructed at the M-15 well pad. The asphalt paved road is constructed along a ridge that separates the SMA from the natural drainage swale

that leads towards the Santa Maria River located approximately 1,200-ft east of the site. During construction, runoff that consists of contact water will be collected, diverted to temporary storage, and subsequently treated at the AWTS. Runoff from areas protected by the final cover system will discharge to the natural drainage system.

4.2.9 Post-Closure Monitoring

A network of four groundwater monitoring wells would be constructed downgradient from the SMA to monitor groundwater conditions. Groundwater monitoring wells would be located to the west, hydrogeologically downgradient from the SMA. Groundwater samples would be collected from the monitoring wells for laboratory analysis to establish baseline concentrations of dissolved-phase TPH in ground water, and potentially the presence of free-phase liquid diluent. The results of annual groundwater monitoring activities would be evaluated using the Mann Kendall Trend Test (M-K test), which is used to analyze data collected over time for consistently increasing or decreasing trends in Y values. The results of the annual groundwater monitoring activities would complement the leak detection system to determine if leachate has been released from the SMA.

4.2.10 Surface Restoration Activities

Surface restoration activities at the SMA would be completed in accordance with the agency- approved Site-Specific Restoration Plan (SSRP). Restoration would consist of a combination of jute netting, hydroseeding, placement of vegetative material, straw wattle, and sand fence BMPs per the Storm Water Pollution Prevention Plan (SWPPP) developed for the property. The steps to be used to implement surface restoration of the SMA site are outlined below.

(a) Soil Stabilization

The SMA would be stabilized in accordance with the SWPPP for the Field. The preferred method of soil stabilization is to establish native vegetation quickly following the completion of excavation activities. However, in many instances the timing may not be appropriate for immediate seeding. Therefore, vegetation clippings/cuttings and sand fences would be placed or installed as necessary to reduce the potential for wind erosion, and straw wattles used on sloped surfaces potentially subject to rain erosion.

If regular monitoring indicates that erosion is increasing, and the installation of additional sand fence and straw wattle is not effective, implementation of the following adaptive management strategies may be employed to minimize erosion and enhance revegetation success in coastal dune scrub areas:

- Installation of temporary silt fencing to decrease sedimentation from the restoration area during winter rains.
- Application of a soil-binding emulsion on predominantly bare sand, unvegetated areas. Soil binders are not used in areas of established vegetation.
- Disking of the surface of the restoration site perpendicular to the slope to minimize the potential for erosion and sedimentation into adjacent low areas or dune swales.

The above measures may be used in combination as dictated by onsite circumstances to maximize slope stability and enhance revegetation efforts.

(b) Seeding and Planting

The finished surface of the SMA would be restored in accordance with the site-specific restoration plan. A draft site-specific restoration plan is provided in Appendix E.

The initial plant material and seed mix placed at the surface are intended to provide a starting point to restore plant diversity in the disturbed area. Revegetation consists primarily of seeding the desired species at the restoration site. Additionally, some species may be out planted from containers of salvaged plants from the disturbed areas or propagated plant material collected elsewhere from the Field.

Seeding and planting would be typically initiated in early winter (November or December) following the season's first heavy rains. If this is not feasible, later in the winter (January or February) is acceptable. Soil stabilization methods would be employed at all sites, with special attention to those sites where there is a lag time between the time the site is completed (e.g., during the dry season) and the start of the rainy season. In some instances where a site is in an area especially prone to wind erosion, soil stabilizers may be used to stabilize the area until it can be seeded/planted.

Locally harvested seeds would be hand broadcast after the planting of any container stock plants. Seeds would be pre-mixed according to the prescribed specifications and bagged in lots. To aid in the even distribution of seed lots, the revegetation areas may be divided into sections and marked in the Field. The seed material would be raked or harrowed into the bare soil areas. An ORV or skid steer could be used to harrow the seed into the sand in areas where appropriate.

4.3 SMA Inspection, Maintenance, and Monitoring

Inspection, maintenance, and monitoring programs would be conducted on a regular basis and designed to minimize potential problems at the SMA site. Some of the key monitoring programs would include:

Ground Water Monitoring - The groundwater monitoring for the SMA would be conducted per Version 5.0 Monitoring Plan and the subsequent revised Water Monitoring Plan for Water Monitoring and Remediation Activities at the Guadalupe Restoration Project. This site-wide program utilizes monitoring wells located throughout the Field. Groundwater monitoring wells will be installed surrounding the SMA and will be monitored as part of the Field's ongoing groundwater monitoring program.

Leachate Monitoring - Leachate sump levels would be monitored and recorded quarterly. If leachate is detected in the sump, it would be removed from the sump using a submersible pump and set to the exiting water treatment facility at the Field. The LCRS would be monitored by periodic observation and sampling of collected leachate. Additionally, the LCRS would be tested annually consistent with 27 CCR §20340(d).

Gas Monitoring - Biodegradation of the hydrocarbons in the TPH-affected soil will result in the production of carbon dioxide (CO2) and methane (CH4), but the rate of generation, and the mass produced, are expected to be minimal. After placement of TPH affected soil soils, air quality monitoring will be performed to determine if carbon dioxide and methane are being produced above air quality standards. Should these gases be detected above the allowable limit a gas collection and control and monitoring system will be installed in the final cover system as required by 27 CCR §21160.

Inspections of the SMA would occur periodically or after significant natural or man-made events. The SMA would be inspected for signs or indications of distress, erosion, leakage, failure, and general integrity. Areas or structures would be repaired/remediated on an as-needed basis. During the active life of the SMA, surface drainage facilities, final cover areas, intermediate fill surfaces, and onsite access roads would be observed routinely, and at least weekly during high-intensity rainfall periods. In the event of damage,

necessary repairs would be performed promptly. Ditches, temporary berms, straw mulch, or other erosion control measures would be used to prevent further erosion damage of soil cover areas until weather conditions permit completion of the necessary repairs.

Regular maintenance would ensure preservation of the soil cover in completed areas by maintaining proper surface drainage and vegetative cover. Routine maintenance would be primarily focused on sealing cracks caused by settlement and repairing erosion damage that has occurred as a result of heavy rainfall.

Maintenance activities would be conducted during the restoration and monitoring periods to ensure success of the restoration. The maintenance program would ensure that the basic functions necessary for restoration success, including watering of installed plants, weed control, replanting/seeding, erosion control, plant protection, pest control, and site protection are performed adequately.

Restoration sites at the Field are regularly monitored for erosion, and qualitatively assessed for vegetative and wildlife success criteria throughout the restoration period. Ongoing monitoring and adaptive management measures are documented in the site SSRPs including quantitative data as needed. Maintenance is conducted until the success criteria are met and the habitats have demonstrated a self-sustaining trend without requiring significant maintenance measures.

The maintenance period is initiated immediately upon completion of the restoration specifications, and continues for 10 years, or until the success criteria have been satisfied in accordance with the Site Specific Restoration Plan.

4.4 Equipment and Personnel Requirements

Table 3 provides a list of the major onsite equipment that would be needed to construct the SMA by task. The excavation of the TB-9 sump would be done as part of the ongoing remediation and restoration activities at the Field that are covered under the existing County CUD/DP.

Most of the staffing for construction of the SMA would be done by existing onsite staff and outside contractors. Work will be conducted during daytime hours (approximately 10 hours/day). There would be a maximum of approximately 30 persons required in any given task for the proposed work activities.

4.5 Permits Required

Table 4 provides a list of permits that would be required to construct and operate the SMA. CalRecycle has issued a letter of exemption for the SMA (see Appendix F). SLO County, as the lead CEQA agency, will act first. CEMC has requested a modification to CDP/DP D890558D for the Guadalupe Restoration Project. This County permit covers all remediation, restoration, and maintenance work at the Field. Once the County has acted on the project, the RWQCB would need to issue permit covering the construction and operation of the SMA. Also, it is likely that the San Luis Obispo County Air Pollution Control District (SLOAPCD) will need to issue a modification to the Authority to Construct/ Permit to Operate (ATC/PTO) for the Guadalupe Restoration Project.

Table 3 Onsite Construction Equipment by Task

Task/Equipment Type	Engine hp	Quantity	Hours / day	Duration (days)
Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1				
Excavator - CAT336 at Q4 Clean OB	315	1	7	29
Excavator - CAT349 at TB-9 Clean OB	430	1	7	29
Dozer - D6N at Q4 Clean OB	173	1	7	29
Off Road Haul Truck - CAT740	445	4	7	29
Off Road Water Truck - CAT740	445	1	7	29
Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1				
Excavator - CAT349 at Q4	430	1	7	17
Dozer - D6N at TB-9 Clean Soil Grading	173	1	7	17
Dozer - D6T at TB-9 Clean Soil Grading	229	1	7	17
Off Road Haul Truck - CAT740	445	6	7	17
Off Road Water Truck - CAT740	445	1	7	17
Compactor	157	1	7	17
Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2				
Excavator - CAT336 at Q4 Clean OB	315	1	7	29
Excavator - CAT349 at TB-9 Clean OB	430	1	7	29
Dozer - D6N at Q4 Clean OB	173	1	7	29
Off Road Haul Truck - CAT740	445	4	7	29
Off Road Water Truck - CAT740	445	1	7	29
Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2				
Excavator - CAT349 at Q4	430	1	7	17
Dozer - D6N at TB-9 Clean Soil Grading	173	1	7	17
Dozer - D6T at TB-9 Clean Soil Grading	229	1	7	17
Off Road Haul Truck - CAT740	445	6	7	17
Off Road Water Truck - CAT740	445	1	7	17
Compactor	157	1	7	17
Import of Materials from Offsite for Liner System-Phase 1				
950 Loader	248	1	7	28
Import of Materials from Sources for Liner System-Phase 2				
950 Loader	248	1	7	27
Subgrade Preparation-Phase 1				
Excavator - CAT349	430	1	7	15
Dozer - D6N	173	1	7	15
Dozer - D6T	229	1	7	15
Off Road Haul Truck - CAT740	445	6	7	15
Off Road Water Truck - CAT740	445	1	7	15
Compactor	157	1	7	15
Subgrade Preparation-Phase 2				
Excavator - CAT349	430	1	7	15
Dozer - D6N	173	1	7	15
Dozer - D6T	229	1	7	15
Off Road Haul Truck - CAT740	445	6	7	15
Off Road Water Truck - CAT740	445	1	7	15
Compactor	157	1	7	15
Liner System Installation-Phase 1				
Excavator - CAT349	430	1	7	18
Dozer - D6N	173	1	7	18
Dozer - D6T	229	1	7	18
Off Road Haul Truck - CAT740	445	4	7	18
Off Road Water Truck - CAT740	445	1	7	18
Loader	230	1	7	18

Table 3 Onsite Construction Equipment by Task

Task/Equipment Type	Engine hp	Quantity	Hours / day	Duration (days)
Water Truck - 4k gallon	230	1	7	18
Pulverizer - Wirtgen WR240i	619	1	7	18
Excavator - CAT315	99.8	1	7	16
Tracked Haul Truck - RT9	220	2	7	16
Loader - 966	274	3	7	16
Manlift - 65'	74	1	7	5
Lull	111	1	4	40
Loader - 966	274	1	7	40
Compactor	157	1	7	17
Liner System Installation-Phase 2				
Excavator - CAT349	430	1	7	18
Dozer - D6N	173	1	7	18
Dozer - D6T	229	1	7	18
Off Road Haul Truck - CAT740	445	4	7	18
Off Road Water Truck - CAT740	445	1	7	18
Loader	230	1	7	18
Water Truck - 4k gallon	230	1	7	18
Pulverizer - Wirtgen WR240i	619	1	7	18
Excavator - CAT315	99.8	1	7	16
Tracked Haul Truck - RT9	220	2	7	16
Loader - 966	274	2	7	16
Manlift - 65'	74	1	7	5
Lull	111	1	4	40
Loader - 966	274	1	7	40
Compactor	157	1	7	17
TPH-Affected Stockpiled Material at TB-9 Transported to SMA-Phase 1				
Excavator - CAT349	430	1	7	75
Dozer - D6K	125	1	7	75
Dozer - D6T	229	1	7	75
Off Road Haul Truck - CAT740	445	3	7	75
Off Road Water Truck - CAT740	445	1	7	75
Compactor	157	1	7	75
TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2				
Excavator - CAT349	430	1	7	34
Dozer - D6K	125	1	7	34
Dozer - D6T	229	1	7	34
Off Road Haul Truck - CAT740	445	3	7	34
Off Road Water Truck - CAT740	445	1	7	34
Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation				
Dozer - D6N	178	1	7	740
Off Road Water Truck - CAT740	445	1	7	740
Evapotranspirative (ET) Cover Construction				
Dozer - D6N	178	1	7	60
Loader - 950	230	1	7	60
Excavator	336	1	7	60
Off Road Haul Truck - CAT740	445	6	7	60
Off Road Water Truck - CAT740	445	1	7	60
Final Restoration (Hydroseeding, Planting, etc..)				
Dozer - D6N	178	1	7	24
Skid Steer	73	1	7	24

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Table 4 List of Permits for the SMA

Agency	Permit/Approval	Regulated Activity
Regional Water Quality Control Board (RWQCB)	Section 401 certification. Waste Discharge Requirements (WDR)	Design/Construction/Operations and Maintenance (O&M) of the SMA.
CalRecycle[1]	Solid Waste Facilities Permit Letter of Exemption per 14 CCR 17362.1	Installation/Operation of SMA.
SLO County Planning and Building	CEQA Lead Agency. CUP/DP Approval Grading Permit	Onshore activities within County lands (Local Coastal Program areas).
San Luis Obispo Air Pollution Control District (SLOAPCD)	Compliance with applicable Federal, State, and local air quality control criteria.	Emissions associated with construction and operation of SMA

1. Appendix F provides the Letter of Exemption from CalRecycle. No permits are required from CalRecycle for the SMA.

5.0 Environmental Analysis

The initial step in the County's environmental evaluation is the completion of an Environmental Checklist (also known as an "Initial Study") to identify known or potential impacts and eliminate environmentally irrelevant issues. After each issue listed on the checklist, the County has marked "Potentially Significant Impact," "Less Than Significant Impact with Mitigation Incorporated," "Less Than Significant Impact," or "No Impact" depending on the potential of the Project to have adverse impacts. The Environmental Checklist prepared for the proposed Project is presented in Appendix A of this environmental document.

Construction and operation of the SMA would be subject to the permit conditions contained in the County CDP/DP D890558D for the Guadalupe Restoration Project. This County permit covers all remediation, restoration, and maintenance work at the Field. The applicable permit conditions that would apply to the SMA in CDP/DP D890558D are provided in Appendix C. In evaluation the environmental impacts of the SMA Project it was assumed that the applicable permit conditions of CDP/DP D890558D would be in place and complied with.

The following discussion provides explanations for the conclusions contained in the Environmental Checklist regarding the proposed Project's environmental impacts.

5.1 Aesthetics

The Guadalupe Field Site is located in southern San Luis Obispo County at the border with Santa Barbara County. State Route 1 is the nearest state highway to the Project site. None of Guadalupe site can be seen from State Route 1. Rancho Guadalupe Dunes Preserve, in Santa Barbara County, is the nearest public park and is just south of the Guadalupe Field Site. The proposed SMA would not be visible from State Route 1, Rancho Guadalupe Dunes Preserve, or the Pacific Ocean. The site is surrounded by vegetated dunes, which make up the majority of the Guadalupe Field Site. Figure 4 show views of the current SMA site. Figure 5 shows a photo simulation of the site once the SMA is completed and revegetated. The SMA has been designed to match the surrounding topography.

Would the Project:

(a) Have a substantial adverse effect on a scenic vista? (No Impact)

The SMA site would not be visible from any public viewing locations including State Route 1, Rancho Guadalupe Dunes Preserve, or the Pacific Ocean. The final topography of the SMA would be similar to the surrounding area and would blend in the surrounding environment. Therefore, the Project will not result in a substantial adverse effect on a scenic vista.

(b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

See response to Item 1(a) above. The Project would not have a significant impact to any scenic resources such as trees, rock outcroppings, or historic buildings. No trees or rock outcroppings would be removed from the property as a result of the Project.

Figure 4 Views of SMA Site

View of SMA Site Facing Northeast

View of SMA Site Facing Southeast

Source: CEMC, Project Description. March 2019.

Figure 5 Simulated View of SMA After Restoration

Source: CEMC, Project Description. March 2019.

The proposed Project would not alter any views in the area. Therefore, the Project will not result in any significant impacts for this topical area.

(c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Less Than Significant Impact)

During construction of the SMA the visual character or quality of the site would be affected since the proposed Project would involve the construction of a new land feature. The SMA site has been used as a stockpile storage area for the past 20 years as part of the ongoing Guadalupe Restoration Project. As can been seen in Figure 4 large piles of sand and soil have been stockpiled at the site as part of the ongoing restoration activities. The current site is heavy disturbed. Further disturbance of the site would not change the existing visual character or quality of the site. Once the SMA is complete and revegetated, the site would have a similar topography and visual character is the surrounding area as shown in Figure 5. Therefore, impacts to visual character and quality would be considered less than significant.

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (No Impact)

No lighting would be installed as part of the SMA project so new sources of light or glare would occur that would affect day or nighttime views in the area. Therefore, no impact would occur.

5.2 Agriculture and Forestry Resources

The Agriculture and Forestry Resources section of this environmental document evaluates the impact the proposed Project would have on farmland or forest resources.

Would the Project:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (No Impact)

The proposed Project does not involve conversion of any farmland. The proposed Project does not call for rezoning of farmland, nor is it currently zoned for agriculture. Therefore, the proposed Project would not have any impacts on agriculture and forest resources.

(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? (No Impact)

See response to Item 2(a) above. The Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. The property is not under a Williamson Act contract. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? (No Impact)

The Project does not involve land that is considered forest land or timberland zoned for timberland production. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

(d) Result in the loss of forest land or conversion of forest land to non-forest use? (No Impact)

The Project does not involve conversion of forest land to nonforest use. Therefore, no impacts to this topical area would occur as a result of the proposed Project.

(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (No Impact)

The proposed Project will not have any impact on farmland or agricultural uses. The Project site is within a former oil field site. Therefore, the Project will not have any impact that could result in the conversion of property to non-agricultural use.

5.3 Air Quality

The information and analysis presented in this section is based on the air emission calculations originally dated August 30, 2019 prepared as part of the Response to Information Hold for DRC2019-00069 submitted to San Luis Obispo County, and updated equipment and schedule data provided by CEMC in November and December 2020. Modifications and refinements were made to the air emission calculations by MRS Environmental, Inc. A copy of the air emission calculations is provided in Appendix G. The analysis presented below considers the requirements of the San Luis Obispo County Air Pollution Control District (SLOCAPCD) and the potential impacts of the Project on local and regional air quality.

As part of CDP/DP D890558D that was issued in 1998 by San Luis Obispo County for the remediation and restoration of the Guadalupe site, CEMC has a number of remaining excavations and remediation activities that still need to be completed. This includes a number of Pad Roads and Oil Spray (PROS) site restoration activities. Under CDP/DP D890558D, TPH-affected material from these remaining excavation and restoration activities would be trucked to the Santa Maria Landfill, in the City of Santa Maria. This has been the historical practice for handing the TPH-affected material from the Guadalupe Restoration Project. The remaining excavations and restoration activities and the trucking of the TPH-affected material to the Santa Maria Landfill are considered the current baseline. The SMA Project would eliminate the need to truck material to the Santa Maria Landfill. The remaining excavations and restoration activities would occur with or without the SMA Project.

The main sources of the emissions from the baseline construction activities include the following:

- Emissions from onsite and offsite trucks used to hauling TPH-affected material to the Santa Maria Landfill;
- Emissions from off-road equipment used for excavating material at various sites;
- Emissions from onsite trucks and off-road equipment used to move TPH-affected material ; and
- Emissions of soil ROG due to soil loading activities.

Table 5 provides an estimate of the baseline emissions assuming no SMA is approved. This includes the emissions associated with the remaining excavations and remediation activities as well as the emissions associated with trucking the remaining TPH-affected material to the Santa Maria Landfill.

Table 5 Baseline Construction Emissions

Project	Peak Day Emissions, lbs/day	
	ROG + NO_x	DPM
Trucking Operations to the Santa Maria Landfill	104.68	0.37
Guadalupe Remediation Activities	67.09	0.29
Total Baseline	118.42	0.52
Previous CEQA Documents	1,075.86	56.35

Project	Peak Quarterly Emissions (tons/qtr)		
	ROG + NO_x	DPM	Fugitive Dust
Trucking Operations to the Santa Maria Landfill	3.19	0.01	1.27
Guadalupe Remediation Activities	2.17	0.01	0.95
Total Baseline	3.80	0.02	2.06
Previous CEQA Documents	*33.49*	*1.78*	*20.60*

Project	Peak Annual Emissions (tons/yr)	
	ROG + NO_x	DPM
Trucking Operations to the Santa Maria Landfill	9.90	0.04
Guadalupe Remediation Activities	7.87	0.04
Total Baseline	14.36	0.07
Previous CEQA Documents	133.97	7.13

Project	Total Baseline Emissions (tons)		
	ROG + NO_x	DPM	Fugitive Dust
Trucking Operations to the Santa Maria Landfill	35.70	0.13	16.62
Guadalupe Remediation Activities	24.08	0.12	11.60
Total Baseline	*59.78*	0.25	*28.22*

See Appendix G for detailed emission calculations.
Total baseline emissions do not add up since peak emissions for each phase occurs in a different quarters and years.
DMP-Diesel Particulate Matter, taken as equipment PM10 emissions. ROG-Reactive Organic Gases. NO_x-Nitrous Oxide Gases
Previous CEQA Documents include the 1998 EIR for onsite remediation activities, and the 2012 Trucking Addendum for trucking activities.

Under the baseline condition there would be operational emissions at the Santa Maria Landfill associated with offgassing of the TPH material that is used for cover material at the landfill. Table 6 provides an estimate of the operational emissions associated with the baseline. All of these emissions would occur at

the Santa Maria Landfill. These operational emissions only include emission that would be directly associated with the Guadalupe TPH material placed at the Santa Maria Landfill.

Table 6 Baseline Operational Emissions

Project	Peak Day Emissions, lbs/day			
	ROG + NO_x	DPM	Fugitive Dust	CO
Peak Day Operational Emissions (lbs/day)	49.84	0.00	0.00	0.00
Annual Operational Emissions (tons/yr)	9.10	0.00	0.00	0.00

See Appendix G for detailed emission calculations.
DPM-Diesel Particulate Matter, ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases
All of the baseline operational emissions would occur at the Santa Maria Landfill.

As per the CEQA Guidelines Appendix G checklist, would the Project:

(a) Conflict with or obstruct implementation of the applicable air quality plan? (Less Than Significant Impact)

San Luis Obispo County is part of the South Central Coast Air Basin, which also includes Santa Barbara and Ventura counties. The Project site is located in the coastal area of San Luis Obispo County. The current status of San Luis Obispo County in regard to attainment with Federal and State air quality standards is provided in Table 7. Only the state standard for Ozone and PM_{10} are classified as nonattainment.

Table 7 San Luis Obispo Air Quality Attainment Status

Pollutant Standard	Federal Status	State Status
8 hour Ozone	Unclassified/Attainment (for coastal areas)	Nonattainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Unclassified/Attainment	Attainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Sulfate	-	Attainment
Hydrogen Sulfide	-	Attainment
Visibility	-	Unclassified

Source: SLOCAPCD.

The SLOCAPCD maintains an air pollution emissions inventory for the County with some data collected from the California Air Resources Board (ARB). The air pollutants tracked by this inventory include: Total Organic Gases (TOG) including its more reactive subset volatile organic gases (VOC), oxides of nitrogen (NOx), carbon monoxide (CO), oxides of sulfur (SO_x) and particulate matter (PM). Sources of air pollution are grouped into the major categories of stationary, mobile, area-wide, and natural sources.

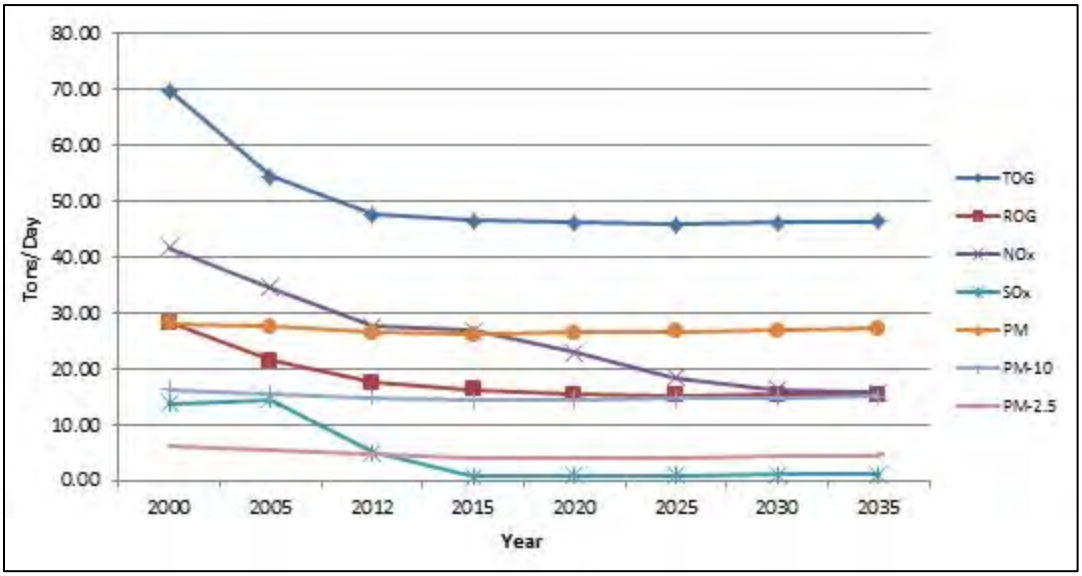
Stationary sources include fixed facilities such as: power plants, wastewater treatment plants, auto body shops, and landfills. Most stationary sources are required to obtain a Permit to Operate from the District, and these facilities submit annual activity reports that are used to estimate their emissions. Emission estimation methods come from: actual emission testing, from the Environmental Protection Agency's AP-42 Compilation of Emission Factors, and other evaluations.

Examples of area sources are residential water heating, consumer products, unpaved roads, and crop tilling. Mobile sources are what are used to transport people and materials and do commerce like ships, planes, trains, and automobiles. Emission Inventory trends for the County are shown in Figure 6 below.

As part of the California Clean Air Act, the SLOCAPCD is required to develop a plan to achieve and maintain the state ozone standard by the earliest practicable date. The Clean Air Plan (CAP) outlines the District's strategies to reduce ozone precursor emissions from a wide variety of stationary and mobile sources. The 2001 CAP contains a number of stationary source control measures, all of which have been codified into the SLOCAPCD Rules and Regulations.

The SLOCAPCD Guidelines specifies that a project proponent should evaluate if the proposed project is consistent with the land use and transportation control measures and strategies outlined in the Clean Air Plan. If the project is consistent with these measures, the project is considered consistent with the Clean Air Plan.

Figure 6 SLO County Emission Inventory Trends and Projections 2000-2035



Source: SLOCAPCD website https://www.slocleanair.org/library/emissions-inventory.php

The CAP measures are codified in the SLOCAPCD Rules and Regulations. Specific Rules applicable to the project are listed below:

- Rule 426, Landfill Gas Emissions: Landfills producing more than 15 tons/year of ROG are required to install landfill gas collection system.
- Various Transportation Control Measures as part of the CAP Land Use and Transportation Strategy to reduce the overall number of trips, vehicle miles traveled (VMT), and congestion with a focus on reducing the number of short trips and limiting the growth of VMT.

If applicable, as part of Rule 426, the Applicant may be required to submit an emissions quantification plan to the SLOCAPCD. Estimates of ROG emissions indicate that ROG emissions would be less than the trigger for the installation of a gas collection system.

As the project would comply with all SLOACPD rules and regulations and would substantially reduce the vehicle miles traveled over the baseline activities, the Project will not conflict with or obstruct implementation of the Clean Air Plan. Therefore, less than significant impacts will occur in this area.

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

The SLOCAPCD has established CEQA thresholds to assess the impacts of a project on air quality. These thresholds have been used to assess the significance of the air quality impacts associated with the Project. Both Project and baseline activities have been included. The baseline activities involve the moving of affected soils to the Santa Maria Landfill at the historical rate of about 52 truck round trips per day.

The construction and operations emissions of the baseline and project are discussed below.

Construction Activity Impacts – Criteria Pollutants

The major sources of emissions from the Project construction activities include the following:

- Emissions from onsite trucks and off-road equipment due to onsite TPH-affected and clean soil movements;
- Emissions associated with on road trucks used to deliver material needed for construction of the SMA;
- Emissions from off-road equipment associated with the SMA site preparation and construction; and
- Emissions of soil ROG due to soil loading and SMA storage activities.

Spreadsheets were utilized to estimate the emissions from the construction task associated with the project, which would last through the year 2026. The construction emission for the proposed Project, including onsite off-road equipment and fugitive dust emissions were estimated based on the emission factors used in the CalEEMod modeling program. Offsite truck emission factors are based on EMFAC17. ROG emissions from impacted soils are based on historical landfarm emissions estimates used for the site. The air emissions calculations are provided in Appendix G.

As the project is composed of multiple tasks that occur over a period of years, the peak daily, quarterly, and annual emissions are composed of a combination of tasks. Figure 7 provides the estimated schedule for the various project tasks by quarter over the proposed construction period.

Table 8 provides a summary of the peak day construction emissions, which occurs during Project Tasks 2-Phase 1 and Task 3-Phase 1 (Import of Materials from Offsite for Liner System-Phase 1 and Subgrade Preparation-Phase 1). These peak day emissions are mainly driven by the offsite truck VMT that are occurring in Task 3-Phase 1 that are needed to deliver material needed for the construction of the SMA subgrade and liner.

Table 9 provides a summary of the peak quarterly construction emissions. The peak quarterly ROG+NO_x emissions occur in the first quarter of 2022 when Task 2-Phase 1, Task 3-Phase 1, and Task 5-Phase 1 are occurring (Import of Materials from Offsite for Liner System-Phase 1, Subgrade Preparation-Phase 1, and TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1). The peak quarterly DPM emissions occur in the fourth quarter of 2021 during Tasks 2-Phase 1 and Task 3-Phase 1 (Import of Materials from Offsite for Liner System-Phase 1 and Subgrade Preparation-Phase 1). The peak quarterly fugitive dust emissions occur in the second quarter of 2026 during Tasks 6 and 7 (Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation and Evapotranspirative (ET) Cover Construction).

Figure 7 SMA Project Schedule by Calendar Quarter

Task	Description	2021		2022				2023				2024				2025				2026		
		3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1																					
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1																					
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2																					
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2																					
2-P1	Import of Materials from Offsite for Liner System-Phase 1																					
2-P2	Import of Materials from Sources for Liner System-Phase 2																					
3-P1	Subgrade Preparation-Phase 1																					
3-P2	Subgrade Preparation-Phase 2																					
4-P1	Liner System Installation-Phase 1																					
4-P2	Liner System Installation-Phase 2																					
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1																					
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2																					
6	Spreading of TPH Affected Soil and Addition of Amendment																					
7	Evapotranspirative (ET) Cover Construction																					
8	Final Restoration (Hydroseeding, Planting, etc..)																					

Adapted from project schedule provided by CEMC December 2020.

The major portion of the fugitive dust is from the grading of the 21.7 acre SMA site that occurs from the construction of the ET cover.

Table 8 Peak Day Construction Emissions

Project	Peak Day Emissions, lbs/day	
	ROG + NO_x	DPM
SMA Project	121.14	1.66
Baseline-Trucking to Santa Maria Landfill	104.68	0.37
Increase in Emissions from SMA Project	16.47	1.29
CEQA Threshold	137	7
Exceed Threshold?	No	No

See Appendix G for detailed emission calculations.
DPM-Diesel Particulate Matter, ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases
Baseline emission would not occur with the SMA Project since no material would be trucked to the Santa Maria Landfill.

Table 9 Peak Quarterly Construction Emissions

Project	Peak Quarter Emissions, tons/quarter		
	ROG + NO_x	DPM	Fugitive Dust
SMA Project	2.71	0.02	1.56
Baseline-Trucking to Santa Maria Landfill	3.19	0.01	1.27
Increase in Emissions from SMA Project	-0.48	0.01	0.29
CEQA Threshold	2.5	0.13	2.5
Exceed Threshold?	No	No	No

See Appendix G for detailed emission calculations.
DPM-Diesel Particulate Matter, ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases
Baseline emission would not occur with the SMA Project since no material would be trucked to the Santa Maria Landfill.

Table 10 provides a summary of the peak annual construction emissions, which occur in calendar year 2023 for ROG+NO_x and calendar year 2022 for DPM. The major contributor to the peak calendar year ROG+NO_x emissions is associated with the spreading of TPH-affected soil at the SMA. The major contributor to the peak calendar year for DPM is the offsite truck VMT that are needed to deliver material for the construction of the SMA subgrade and liner.

Table 10 Peak Year Construction Emissions

Project	Peak Year Emissions, tons/year	
	ROG + NO_x	DPM
SMA Project	6.45	0.04
Baseline-Trucking to Santa Maria Landfill	9.90	0.04
Increase in Emissions from SMA Project	-3.45	0.00
CEQA Threshold	6.3	0.32
Exceed Threshold?	No	No

See Appendix G for detailed emission calculations.
DPM-Diesel Particulate Matter, ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases
Baseline emission would not occur with the SMA Project since no material would be trucked to the Santa Maria Landfill.

Each tables shows the SMA Project emissions levels as well as the baseline emissions that would occur with the trucking of the TPH-affected material to the Santa Maria Landfill. The baseline trucking emissions are then subtracted from the SMA Project emissions to determine the net increase in emission associated with the SMA Project. This is done since the baseline trucking emissions to the Santa Maria Landfill would not occur if the SMA is constructed. This net increase in emissions for the SMA Project is then compared

with the SLOCAPCD thresholds. None of the construction emissions would exceed the SLOCAPCD CEQA construction thresholds.

For the peak day, the SMA Project would have higher emissions than the baseline of trucking to the Santa Maria Landfill due to the higher level of peak construction equipment activity. However, neither of these increases are above the thresholds.

For the peak quarter and annual emissions, the SMA Project would have slightly lower ROG+NO_x emissions due to the elimination of the baseline truck transport to the Santa Maria Landfill and large amount of onsite soil movement associated with the baseline.

Quarterly and annual DPM emissions would be similar for the SMA Project and the baseline trucking to the Santa Maria Landfill. The SMA Project would have slightly higher quarterly and annual DPM emissions than the baseline, due to the large amount of offsite truck miles that would occur with the import of material needed for construction of the SMA. Quarterly fugitive dust emissions would also be similar between the baseline and the SMA Project as there would be an increase in onsite fugitive dust emissions with the SMA Project due to increased grading and disturbed areas, but a decrease in offsite and onsite fugitive dust emissions from the elimination of trucking to the Santa Maria Landfill.

Impacts from construction activities would therefore be less than significant.

Operational Impacts – Criteria Pollutant Emissions

The operational phase of the project includes inspection, maintenance, and monitoring of the SMA. Sources of operational emissions would be the following:

- Emissions for periodic restoration area monitoring activities, including watering trucks; and
- Emissions from soil off gassing at the SMA area.

Soil off gassing assumes a level of off gassing similar to that identified for previous landfarm emissions. This is a conservative estimate as there most likely would be a reduction in emissions due to the implementation of a soil cap layer on the top of the SMA. Equipment emissions are based on CalEEMod emission and load factors and an assumed weekly maintenance of the restoration area.

Table 11 provides a summary of the peak day criteria pollutant emissions associated with the operations and Table 12 presents a summary of the annual operational emissions. The ROG+NO_x emissions are primarily due to the estimated ROG emissions from the SMA area due to soil off gassing. These offgassing emissions would also occur under the baseline but would occur at the Santa Maria Landfill.

Table 11 Peak Day Operational Emissions

Project	Peak Day Emissions, lbs/day			
	ROG + NO_x	DPM	Fugitive Dust	CO
SMA Project	49.97	0.00	0.68	0.01
Baseline-Trucking to Santa Maria Landfill	49.84	0.00	0.00	0.00
Increase in Emissions from SMA Project	0.13	0.00	0.68	0.01
CEQA Threshold	25	1.25	25	550
Exceed Threshold?	No	No	No	No

See Appendix G for detailed emission calculations.

DPM-Diesel Particulate Matter, ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases

Baseline ROG emissions at the Santa Maria Landfill would be due to offgassing. Other criteria pollutants at the Santa Maria Landfill would not be a direct result of the Guadalupe TPH-affected material.

Table 12 Annual Operational Emissions

Project	Annual Emissions, tons/year,	
	ROG + NO_x	Fugitive Dust
SMA Project	9.10	0.02
Baseline-Trucking to Santa Maria Landfill	9.10	0.00
Increase in Emissions from SMA Project	0.00	0.02
CEQA Threshold	25	25
Exceed Threshold?	No	No

See Appendix G for detailed emission calculations.
ROG-Reactive Organic Gases, NO_x-Nitrous Oxide Gases
Baseline ROG emissions at the Santa Maria Landfill would be due to offgassing. Other criteria pollutants at the Santa Maria Landfill would not be a direct result of the Guadalupe TPH-affected material.

Each of the operational emission tables shows the SMA Project emissions levels as well as the baseline emissions that would occur with the trucking of the TPH-affected material to the Santa Maria Landfill. The operational emissions associated with baseline trucking are then subtracted from the SMA Project emissions to determine the net increase in operational emission associated with the SMA Project. This is done since the operational emissions associated with the baseline trucking to the Santa Maria Landfill would not occur if the SMA is constructed. This net increase in operational emissions for the SMA Project is then compared with the SLOCAPCD thresholds. None of the operational emissions would exceed the SLOCAPCD CEQA operational thresholds.

Air Quality Mitigation

Construction activities are not anticipated to cause dust emissions that would exceed CEQA thresholds. Nevertheless, mitigation through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin.

Operational emissions of ROG from the SMA area could exceed the daily threshold for ROG+NO_x. Therefore, mitigation in the form of emissions offsets or other equivalent measures would be required.

Recommended mitigation includes:

Mitigation Measure AQ-1 – During construction activities, the contractor shall ensure that measures are complied with to reduce short-term (construction) air quality impacts associated with the Project: a) controlling fugitive dust by regular watering or other dust control measures (such as covering stock piles with tarps) to ensure that dust does not impact offsite areas and do not exceed the 20% opacity limit identified in SLO County APCD Rule 401 Visible Emissions; b) provide water spray during loading and unloading of earthen materials; c) cover all trucks hauling dirt, sand or loose material or require all trucks to maintain at least two feet of freeboard; and d) sweep streets daily if visible soil material is carried out from construction site.

Mitigation Measure AQ-2 – All off road construction equipment shall meet Tier 4i or Tier 4F emissions standards. To the maximum extent feasible, construction equipment engines shall meet Tier 4F emission standards.

(c) Expose sensitive receptors to substantial pollutant concentrations? (Less Than Significant Impact)

See response to Item 3(b) and 3(d) and recommended mitigation. Based upon the analysis presented for Item 3(b) and 3(d) the proposed Project's impacts on sensitive receptors would be less than significant.

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

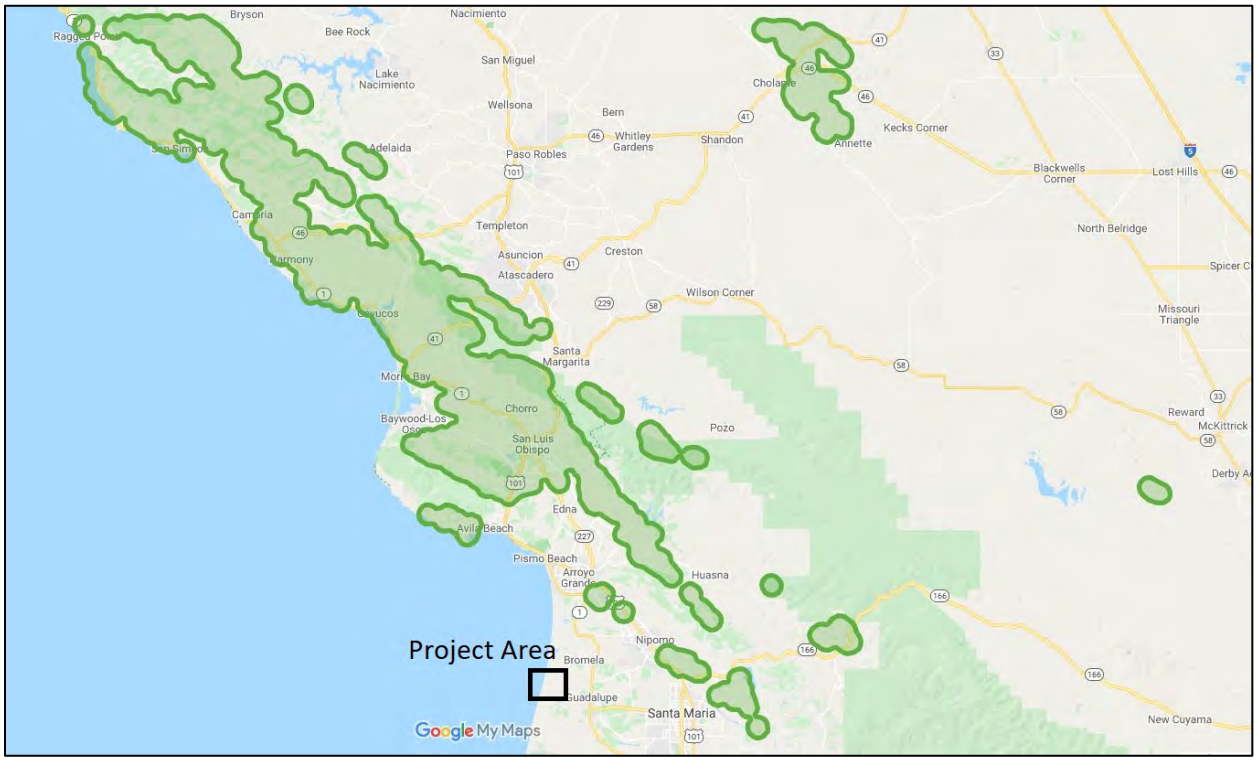
Construction Activity Impacts

As per SLOCAPCD guidance (SLOCAPCD 2019), if a project has the potential to cause an odor problem which could impact a considerable number of people, then it may be considered significant. Odor impacts on residential areas and other sensitive receptors should also include other land uses where people may congregate, such as recreational facilities, work sites and commercial areas. As per the SLOCAPCD Guidance, when making a determination of odor significance, factors such as whether the project would result in an odor source located next to potential receptors within the distances indicated in the SLOCAPCD Guidance (SLOCAPCD 2019, distances of 1 mile for all sources, or 2 miles for a Refinery) are considered. The Project site would be located about 1.9 miles from the closest park in Guadalupe (Jack O'Connell Park), 2 miles from the residences in Guadalupe, and 2.6 miles from the closest school. Therefore, odor impacts would be less than significant.

Construction Activity Impacts – Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) has been identified by the state Air Resources Board as a toxic air contaminant. Serpentine and ultramafic rocks are very common throughout California and may contain naturally occurring asbestos. The SLOCAPCD has identified areas throughout the County where NOA may be present (SLOCAPCD 2019) and these are shown in Figure 8. Under the ARB's Air Toxic Control Measure (ATCM) related to quarrying and surface mining operations, a geologic evaluation is required to determine if NOA is present prior to any grading activities at a project site located in the candidate area. The Project site is not located in a candidate area and therefore emissions of NOA would be less than significant.

Figure 8 Naturally Occurring Asbestos Areas



Source: SLOCAPCD 2020

Construction Activity Impacts – Health Risk Impacts

If a project has the potential to emit toxic or hazardous air pollutants, and is located in close proximity to sensitive receptors, impacts may be considered significant due to increased cancer risk for the affected population, even at a very low level of emissions. Such projects may be required to prepare a risk assessment to determine the potential level of risk associated with their operations. As per the SLOCAPCD guidance, any proposed industrial or commercial project site located within 1,000 feet of a school must be referred to the SLOCAPCD for review.

The Project site would be located within about 0.5 miles from the closest agricultural area, about 1.2 miles from the closest area where agricultural works might congregate, and 2 miles from the closest residences and 2.6 miles from the closest school. CAPCOA Guidance on Land Use projects recommend siting of receptors farther than generally 1,000 feet from projects that may have substantial amount of truck traffic (distribution centers, etc.). As the project would be substantially father than 1,000 feet from any receptors, the health risks would be less than significant.

Operational Impacts – Nuisance Impacts

As the project would be located a substantial distance away from any receptors, as discussed in the construction nuisance section above, nuisance impacts associated with operations would be less than significant.

Operational Impacts – Health Risk Impacts

CAPCOA Guidance on Land Use projects and the SLOCAPCD Guidance recommends siting of receptors farther than generally 1,000 feet from projects that may have substantial amount of truck traffic (distribution centers, etc.). As the project would be substantially father than 1,000 feet from any receptors, the health risks would be less than significant.

Operational Impacts – Carbon Monoxide Impacts

Carbon monoxide is a colorless, odorless, tasteless gas emitted during combustion of carbon-based fuels. While few land use projects result in high emissions of CO, this pollutant is of particular concern when emitted into partially or completely enclosed spaces such as parking structures and garages. Projects which emit more than 550 lbs/day of carbon monoxide (CO) and occur in a confined or semi-confined space (e.g., parking garage or enclosed indoor stadium) must be modeled to determine their significance. As the operational phase of the project would have negligible carbon monoxide emissions and would not discharge into an enclosed area, impacts from carbon monoxide emissions would be less than significant.

5.4 Biological Resources

This section focuses on the proposed project activities that have the potential to affect biological resources as of a result of the SMA Project. Appendix H provides a detailed discussion of the ecological resources present at the SMA Project Site. The site of the proposed SMA is the TB-9 area that contains an existing sump that is required to be excavated as part of the requirements of CDP/DP D890558D that was issued by San Luis Obispo County for the remediation and restoration of the Guadalupe site. Excavation of the sump has been addressed in previous CEQA documents covering the remediation and restoration of the Guadalupe site.

The TB-9 Area is considered an Environmentally Sensitive Habitat Area (ESHA). Approximately, 14.52 acres of the TB-9 Area was previously disturbed by the approved land treatment unit (LTU) pilot studies that were conducted as part of the approved Guadalupe Restoration Project. The sump that is required to be

excavated at the TB-9 site will result in the disturbance of approximately 19.1 acres of coastal dune scrub habitat, much of which has been previously disturbed as discussed in detail in Appendix H. Following the excavation of sump, the SMA will be constructed over 18.2 acres within the TB-9 Area. The vast majority of the SMA Project footprint would be within the sump excavation footprint as shown in Figure 3.

As per the CEQA Guidelines Appendix G checklist, would the Project:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Less Than Significant Impact with Mitigation Incorporated)

State- or Federally Listed Species

There are no State- or federally listed threatened or endangered plant species known or expected to be present within the SMA disturbance footprint, therefore, the Project would not result in any direct impacts on listed plant species. The only listed wildlife species that would be potentially affected by the proposed project is the California red-legged frog (FT, SSC).

The California red-legged frog (CRLF) has been historically observed at the now, non-existent bermed-areas in the TB-9 area. Prior to 2001, CRLFs were regularly observed within the LTU stormwater basin, when standing water was regularly present. In addition, CRLFs were observed on several occasions in the nearby I-11 stockpile stormwater berm when standing water was present (this stockpile has also been removed more than 10 years ago). CRLFs could be expected to occur anywhere throughout the upland habitat on the Field during their annual migration between aquatic habitats. The SMA will be designed and constructed to limit ponding. Proposed drainage structures for the area may include a berm, temporary stormwater retention basins, and a perimeter v-ditch to convey surface drainage away from the SMA during the construction phase of the stockpile. Collected surface drainage would be conveyed to the Water Treatment System at the diluent tank (DT) Area. A plastic-lined, temporary stormwater basin would be installed to store a peak discharge from a 1,000-year, 24-hour storm as required by California Code of Regulations Title 27 (approximately 500,000 gallons).

Mortality to individuals of this species resulting from impacts to upland habitat during the rainy season are expected to be extremely unlikely due to the lack of wetland habitat at the Project site. The potential risks to this species related to potential exposure to toxic conditions in affected stormwater berms, basins, or ponded areas could affect red-legged frogs that might be migrating through the project site area during the rainy season. Implementation of Mitigation Measure BIO-1, requiring the elimination or reduction of potentially affected water on the worksite and regular monitoring of areas most likely to support red-legged frogs, and temporarily halting activities if necessary, would reduce impacts to red-legged frogs to less than significant with mitigation.

Non-listed Special Status Plant Species

Construction of the SMA would not affect any non-listed special status plant species. However, the excavation of the TB-9 sump, which is not part of the SMA Project, would include the removal of suitable habitat for eight special status plant species, and individuals of Blochman's senecio, suffrutescent wallflower, Nuttall's milk-vetch (all CRPR 4.2 species), and dune mint (CRPR 1B.2).

Once constructed, the SMA would be subject to Chevron's approved Habitat Revegetation, Restoration, and Monitoring Plan (CDP/DP D890558D Condition F64). For sites where individuals of special status plant species occur and impacts to these species are unavoidable, individual plants and/or seed would be

salvaged from the site and propagated and incorporated into the onsite restoration after remediation activities are complete (CDP/DP D890558D Condition F64.b.ii). While the impacts to these special status plant species would not occur with construction of the SMA, they would be required to be restored as part of the SMA Project. With the existing requirement for full restoration of the area, the impacts to special status plant species would be less than significant.

Non-listed Special Status Wildlife Species

Construction of the SMA would not be expected to affect any non-listed special status wildlife species. Impacts associated with ground disturbance during the TB-9 sump exaction could result in the mortality to some less-mobile sensitive species including legless lizard and Blainsville's coast horned lizard, both California species of Special Concern and known to be present within Project footprint. Excavation of the TB-9 sump is not part of the SMA Project.

CDP Condition F64.b.iii requires Chevron to conduct wildlife surveys prior to any activity that would impact wildlife or wildlife habitat. The area of disturbance would be searched and monitored with appropriate and proven methods: in upland coastal dune scrub habitat with potential for legless lizards and horned lizards, biologists would inspect the area prior to disturbances and remove and relocate any observed animals, topsoil would be salvaged as feasible, and stockpiled to preserve as many individuals as possible. In addition, wildlife biologists would be present during the topsoil removal to inspect for any detected individual animals. Captured animals would be relocated to the nearest available habitat away from the disturbance zone.

Additional species described as being observed within the SMA Project Area include the loggerhead shrike and American badger (SSC). In addition, several sensitive raptor species could be expected to occasionally forage over the site. The loss of habitat for these species would represent a temporary and less than significant impact due to the temporary nature of the loss of habitat and the other readily available habitat in the area. Prior to 2001 when standing water was regularly present within the LTU stormwater basin, two-striped garter snakes and western spadefoot (both SSC) were observed in the project vicinity on several occasions. However, once the standing water was removed from the project area, these species have not been observed in the Project area. There is a risks to these species related to potential exposure to toxic conditions in affected stormwater berms, basins, or ponded areas. Implementation of mitigation measure BIO-1 would reduce the impact of this potential exposure to less than significant with mitigation.

Mitigation Measure BIO-1 – The Applicant shall eliminate, as feasible, the use of open storm-water retention basins throughout the duration of construction and operation phase; if basins are necessary, basin design shall include wildlife protection measures to reduce all wildlife from being exposed or attracted to open affected water basins. Chevron shall eliminate, as soon as detected, any project-related standing water in berms or low spots that collect and hold water. If berms and low spots do collect water, a qualified wildlife biologist shall conduct regular surveys and remove any individual animals from affected waters.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Less Than Significant Impact with Mitigation Incorporated)

No features subject to the jurisdiction of the US Army Corps of Engineers, CDFW, RWQCB, or wetlands defined under the California Coastal Act (CCA) are present within the Proposed Project. The site of the

SMA does not contain any riparian habitat. Thus, there would be no impacts to federal or state wetlands or riparian habitat.

The location of the SMA Project site is primarily composed of coastal dune scrub habitat and is identified as mapped ESHA by the County and a CDFW sensitive community of concern. 14.33 acres of the SMA Project Site is currently coastal dune scrub ESHA. The current ESHA habitat located onsite is comprised of fully functioning coastal dune scrub habitat. The presence and approximate boundary of ESHA within the Project footprint was confirmed by surveys conducted by Chevron biologists accompanied by the SLO County Independent Biological monitor in 2019. All of the coastal dune scrub habitat (both disturbed and undisturbed habitat) present in the Project site contained features and natural resources that were identified by the County-approved expert as having equivalent characteristics and natural function as other mapped ESHA.

The proposed SMA footprint is located directly over an 180,000 cubic yard sump site which would require full excavation under the current County Permit for the Guadalupe Restoration Project. San Luis Obispo County CDP/DP Condition F.14 states that all sumps discovered as part of excavation activities shall be removed. The vast majority of the SMA disturbance area is located within the sump removal footprint (See Figure 3). Construction of the SMA would not result in any new impacts to coastal dune scrub ESHA.

However, due to the added duration of time to construct and fill the SMA and the uncertainty of successful restoration due to some SMA final cover requirements, the SMA portion of the project activities in this area do increase the potential impacts to sensitive habitat, vegetation, wildlife, and non-sensitive habitat and species.

For the purposes of this analysis, those impacts to biological resources expected from the previously analyzed excavation and restoration of the 180,000 cubic yard DT sump are excluded from this discussion. Only those impacts as they relate to increased time of disturbance due to the construction of the SMA, or specific design features of the SMA that could increase potential impacts to biological resources, and the uncertainty of restoration are discussed in this analysis.

The SMA is designed to be a permanent feature and would be equipped with a clay and HDPE liner but would not have a clay cap. The SMA final surface would be covered with a four-foot evapo-transpirative (ET) layer and would be revegetated with coastal scrub habitat. The revegetation/restoration phase would not be implemented until the completion of the SMA, which would occur when all of the future, proposed excavations on the GRP have been completed (estimated by CEMC to require between three and five years). A Draft Site-Specific Restoration Plan (SSRP) has been prepared by Chevron to detail the restoration process for a final total of 18.1 acres of coastal dune scrub habitat so that the final SMA footprint would be consistent with the surrounding dune landscape (See Appendix E).

Based costal dune scrub restorations at the Guadalupe site would indicate that if environmental conditions are favorable, a healthy, functioning native shrub cover could be established within three to five growing seasons after reseeding. This would mean a minimum temporal loss of habitat value for up to five years during the construction phase activities, plus a minimum of three to five years for restoration of basic habitat function. Assuming restoration is successful, approximately 18.1 acres of sensitive dune scrub habitat would be restored.

As the SMA capacity is reached, or as all onsite excavation and remediation activities are completed in the future, the SMA would be capped and covered with at least a four-foot ET cover of clean fill in accordance with CCR Title 27 requirements. The final (ET) four-foot cover that is currently proposed would consist of a thick layer of finer-textured soil designed to reduce percolation of surface water through the SMA. The final four-foot ET layer is expected to be a blend of onsite clean borrow sand with the addition of fine-

grained soil, potentially utilizing either onsite or offsite material. The final blend and thickness would be determined by an engineering analysis of the onsite soil and available fine-grained soil. This ET layer has the potential to alter the normal soil parameters of the coastal dune scrub community. The plant species present in the natural coastal dune scrub community are accustomed to loose, unconsolidated sand which is porous and does not hold any significant moisture at the immediate surface.

Successful restoration is uncertain with ET soil type. Typical vegetation growth on red-rock pads throughout the site, which have a high percentage of fine-grain soils, typically support a different association of plant species than the surrounding coastal dune scrub plant community. The pad sites that have been allowed to naturally revegetate, without modification, have often had a higher percentage of annual grasses and mesic dune swale herbaceous wetland plant species, such as clustered field sedge and dune rush, as well as coyote brush. These plant species establish on the pads due to the soils being able to retain moisture for a longer duration than the less fine, more loose soils associated with dune sands. Altering the final four-foot ET cover on the slopes of the SMA has the potential to substantially affect the potential for successful restoration of functional coastal dune scrub habitat capable of supporting the assemblage of plant and wildlife species expected to be present in this habitat type.

As stated above, the final ET four-foot cover that is currently proposed would consist of a thick layer of finer-textured soil that is expected to result in a harder cap of material than what is typical of current conditions. Small mammals, snakes, and lizards, including several sensitive wildlife species, such as legless lizard and Blainsville coast horned lizards, both Identified as SSC by the CDFW, require loose sands to burrow within. Many of the wildlife present in the natural coastal dune scrub community are accustomed to loose, unconsolidated sand which is relatively easy to burrow into. In addition, to protect the integrity of the ET layer, landfills are typically designed to restrict or eliminate burrowing species from affecting upper cap layers. The proposed ET layer, and any other potential corrective measures that could be implemented to reduce or eliminate burrowing species, would act to reduce the full functions and value of the restored habitat. The presence of burrowing species such as gophers, moles, legless lizard, horned lizards, deer mice, and kangaroo rats are essential components of a fully functioning coastal dune scrub community. These burrowing species act to turn up soil nutrients, increase species diversity, and attract a full spectrum of predatory species. In addition, eliminating any sensitive species would further reduce the value of this habitat, and furthermore, decrease some of the essential components of ESHA.

Altering soil parameters have often resulted in increased prevalence of annual grasses and other non-native species, including invasive species, which are supported by moister conditions. However, CEMC has been successful in implementing the required Site-Wide Exotic Species Management and Eradication Program (Condition F62.k) to control the spread and reduce the presence of both non-native and invasive plant species Field-wide, as well as implementing site-specific weed control within restoration areas (F64). This Program would be continued at the SMA restoration site and would be expected to successfully eliminate weeds and reduce the weed seed bank in the SMA restoration area. The SMA restoration would be regularly monitored and maintained to ensure it remained relatively weed free.

Mitigation measure BIO-2 would require the addition of three feet of clean cover over the ET layer and is expected to improve the potential for successful habitat restoration and sensitive species recovery and thus, reduce potential impacts to ESHA. Implementation of mitigation measure BIO-2 and the CDP/DP Conditions of Approval designed to protect biological resources, is expected to replace the impacted habitat at a 1:1 replacement ratio and to reduce impacts to sensitive vegetation and wildlife habitats to less than significant with mitigation.

Mitigation Measure BIO-2 – The Applicant shall place a 3-foot layer of clean sand, taken from a known borrow site or clean topsoil stockpile, for a final cap over the proposed ET layer.

(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (No Impact)

No features subject to the jurisdiction of the UA Army Corps of Engineers, CDFW, RWQCB, or wetlands defined under the California Coastal Act (CCA) are present within the Proposed Project. Thus, there would be no impacts to federal or state wetlands or waters.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (Less Than Significant Impact)

The current TB-9 area is used by several wildlife species as a wildlife corridor during regular migration periods and as part of regular home range movements. The proximity of the proposed SMA Project area to the Santa Maria River likely results in wildlife species being directed from the river channel through the relatively unencumbered dunes, back and forth from coastal to riverine resources. Species such as mule deer, coyote, and mountain lion will occasionally, but regularly move through the area foraging and hunting. The construction of the SMA would temporarily restrict some species from moving through the TB-9 area. The construction phase and eventual restoration of the habitat would result in a minimum temporal loss of habitat value for up to five years during the construction phase activities. These species would likely avoid construction activities and use other easily accessible travel routes to the north and south of the proposed SMA footprint. Most resident wildlife would still be expected to move through the area during the night and also, return during the restoration phase of work. Therefore, the potential for the project to interfere with movement of resident or migratory wildlife or otherwise hinder normal wildlife activities is less than significant.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (No Impact)

The Project would not conflict with any local policies or ordinances protecting biological resources. With regards to potential environmentally sensitive habitat area (ESHA), this issue has been discussed above in item b.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

The location of the proposed SMA Project is not part of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact for this issue.

5.5 Cultural Resources

This section addresses archaeological and cultural resources in the vicinity of the proposed Project located at the Chevron Guadalupe Remediation and Restoration Site (GRP).

Information included in the following section utilizes the results of the Phase 1 Archaeology Study prepared by Padre Associates, Inc. (Padre). Padre completed the Phase I archaeological study pursuant to

the California Environmental Quality Act (CEQA) Guidelines. CEQA requires lead agencies to evaluate proposed projects for their potential to impact archaeological resources (Public Resources Code Section 21082, 21083.2, and 21084.1, and California Code of Regulations 15064.5). Padre Staff Archaeologist Christopher Letter completed the pedestrian survey on March 6, 2018 and was overseen by Padre Senior Archaeologist Rachael J. Letter, M.S., RPA. Ms. Letter meets the U.S. Secretary of the Interior's Historic Preservation Professional Qualification Standards as outlined in 36 Code of Federal Regulations (CFR) 61.

Would the Project:

(a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? (No Impact)

No historic resources as defined by Section 15064.5 of the California Code of Regulations are present within the proposed Project footprint, and therefore, no impacts to historical resources are expected.

(b) Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5? (Less Than Significant Impact)

The proposed SMA project within the TB-9 Area is located approximately 0.88 miles east of the culturally sensitive Spanne Valley. The entire SMA project site comprises 18.1 acres. A large portion of the proposed SMA Project footprint (14.52 acres of the 18.1 acre footprint) was previously disturbed during the construction and operations of the Land Treatment Unit (LTU) activities that occurred in 1998. At that time, approximately 14.52 acres of the TB-9 site were graded, additional diluent-affected material was brought into the site, and this material was partially treated. After the LTU pilot study was completed, some of the non-native, affected material was removed and the rest was graded into the relatively flat site. In addition, at that time, a HDPE-lined stormwater containment basin was constructed in the eastern portion of the site. This HDPE-lined basin was later filled with offsite material; the HDPE liner remains in place and the basin is still actively used as a stormwater retention basin. In 2017, a portion of this area was approved as a temporary stockpile for petroleum-affected material and currently contains 86,000 cy of material. In addition, the entire Project area is located over an estimated 180,000 cy of sump material which indicates that previous oil field activities had substantially disturbed the area in the recent past.

In summary, a large portion of the SMA Project site is comprised of a combination of imported, native and non-native affected material, that has been repeatedly disturbed within the last several decades.

During regular Cultural monitoring activities in 2016, fragments of abalone (Haliotis spp.) and oyster (Ostrea spp. and Crassostrea spp.) shell were observed and collected within the proposed SMA project footprint. All shell fragments were determined to be unmodified, minimally weathered, and located within a disturbed context.

On March 6, 2018, Padre Staff Archaeologist, Christopher Letter, completed a Phase I survey of the SMA Proposed Project Area. The entire disturbance area was examined at transect intervals that did not exceed 10 meters (32.8 feet). The entire proposed disturbance area was surveyed except for the northwest portion of the site where the current stockpile is located. No cultural materials were observed during the Phase I survey of the SMA Project footprint.

Surface soils within the SMA Project Site consisted of unconsolidated pale yellowish-brown dune sand, eolian in origin, with no clastic inclusions except along the road and pad edges, where occasional imported red rock aggregate base material and gravel were observed. Local topography within the SMA Project Site consisted of a shallow, depressed area bordered on the northern side by an elevated pad and on the southern side by a low, transverse dune ridge. Surface visibility ranged from 25 to 100 percent, with the

denser patches of vegetation accounting for the areas of 25 percent visibility. Sufficient opportunities for soil assessment were provided by the denuded areas of the Project Site. Padre reports that no previously recorded cultural resources are located within the SMA Project Site and no cultural resources were observed within the area during the survey. Soils were observed to be generally disturbed, although there is a possibility that previous construction activities may have obscured intact, native soils in the area.

Numerous cultural resources are known to exist at the GRP. Potential for cultural resources were described in the Padre Phase I report prepared in support of the Proposed Project. The surface survey conducted included the entire proposed SMA site. No resources were observed on the surface; however, there still is potential for buried cultural resources to be present within the undisturbed portions of the SMA footprint.

Due to the potential for buried cultural resources to be present onsite, it is recommended that a qualified archaeologist and Native American monitor be present during all ground disturbances potentially affecting native soils. Condition 102 of CDP/DP D890558D, requires that all activities at the Guadalupe site requiring ground disturbance shall be monitored by a County-qualified archaeologist and local Native American representative. In the event potentially significant archaeological materials are identified, work shall be temporarily redirected, and a Phase 2 archaeological assessment of the find shall be funded by CEMC. If the materials are determined to be significant under CEQA Appendix K criteria, CEMC shall fund a Phase 3 data recovery mitigation program to collect a representative sample of the materials that would be lost. All investigations shall be performed by a County-qualified archaeologist and local Native American representative retained by CEMC. This condition would apply to construction of the proposed SMA Project. No additional measures are required, and impacts would be less than significant with mitigation.

(c) Disturb any human remains, including those interred outside of dedicated cemeteries? (Less Than Significant Impact with Mitigation Incorporated)

There are no known human remains within the proposed Project site. As discussed above, a majority of the proposed Project site has been previously disturbed and is located within a sand dune area of the site, a context generally considered unsuitable for human burial. Therefore, it is unlikely that the proposed Project would disturb any human remains. Implementation of mitigation measure CR-1 would address the procedures to be followed in the unlikely event that human remains are discovered during the earth moving activities.

Mitigation Measure CR-1 – If human remains are discovered, Health and Safety Code § 7050.5 requires that further disturbances and activities must cease in any area or nearby area suspected to overlie remains, and the County Coroner must be contacted. Pursuant to PRC § 5097.98, if the remains are thought to be Native American, the coroner must notify the Native American Heritage Commission, who must then notify the Most Likely Descendent. At this time, the project archaeologist must contact the Planning and Building Director (or designee) so that the agencies may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 are to be followed as applicable.

5.6 Energy

The proposed SMA Project would use energy for both construction and operations. The main energy use for construction would be diesel fuel for construction equipment and trucks. The energy use for operation would be electrical power and small amount of gasoline fuel for vehicles used to inspect the SMA.

Would the Project:

(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less than Significant Impact)

Most of the equipment needed for construction would use diesel fuel. Construction equipment would meet the Tier 4i and 4F standards, which means the equipment would be more fuel efficient. Condition 84(c) of CDP/DP D890558D requires construction equipment engines be maintained in proper tune which would serve to reduce fuel use. Table 13 provides an estimate of the diesel fuel use for construction of the SMA as well as for trucking of the hydrocarbon affected material to the Santa Maria Landfill, which is the baseline case.

Table 13 Estimated Construction Fuel Use by Task

Task #	Construction Task	Fuel Use (gallons)
Proposed SMA Project		
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	11,165
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	8,092
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	11,165
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	8,092
2-P1	Import of Materials from Offsite for Liner System-Phase 1	32,110
2-P2	Import of Materials from Sources for Liner System-Phase 2	32,075
3-P1	Subgrade Preparation-Phase 1	7,140
3-P2	Subgrade Preparation-Phase 2	7,140
4-P1	Liner System Installation-Phase 1	14,882
4-P2	Liner System Installation-Phase 2	14,882
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	25,725
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	10,710
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	56,980
7	Evapotranspirative (ET) Cover Construction	59,716
8	Final Restoration (Hydroseeding, Planting, etc..)	1,556
	Total Fuel Use Proposed SMA Project	301,431
Baseline-Trucking to the Santa Maria Landfill		
3	Clean Soil Loading, Transportation & Backfilling at TB-9	58,928
4a	TPH-affected Stockpiled Material (TB-8) Transportation to M3 Area	61,740
4b	TPH-affected Stockpiled Material (TB-9) Transportation to M3 Area	25,970
6	Loading and Offsite Disposal	447,676
	Total Fuel Use Trucking to Santa Maria Landfill-Baseline	594,314
	Difference Between Project and Baseline	-292,883

See Appendix I for estimated fuel use calculations.

Construction of the SMA would result in less overall fuel use than transporting the TPH-affected material to the Santa Maria Landfill. This is primarily due to the higher VMT that would be required to move the material to the Santa Maria Landfill and the added onsite handling of the material.

The operational energy use would be negligible since the estimated annual miles traveled on roads within the site would be about 624, which would be an estimated fuel use of about 40 gallons of gasoline per year.

Given all these facts, the proposed Project's impacts on consumption of energy resources would be less than significant.

(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

The proposed Project is to construct a SMA for the permanent disposal of excavated material from the Guadalupe Restoration Project. As such the proposed Project would not obstruct any state or local plan for renewable energy, or energy efficiency.

5.7 Geology/Soils

This section analyzes potential impacts of the Project on geological resources and soils, as well as geotechnical hazards that may adversely affect the Project or that may be amplified by the Project.

The proposed SMA is located in the Coast Range Geomorphic Province of California, an area marked by northwest-trending mountains, valleys, and faults between the Central Valley and Pacific coast. The Project area is dominated by surficial quaternary aeolian dune deposits. These deposits are unconsolidated, well graded, fine to medium grained sand (predominately medium grained sand) and are between 36 to 61.5 feet thick throughout the area (Chevron 2019). Beneath the dune deposits, the area is underlain by Quaternary (the last 2.6 million years) alluvium composed of an upper layer of silt, clay and sand, and a lower layer of coarse-grained material. These Quaternary units have a maximum thickness of 8,000 feet in some parts of the Santa Maria Valley.

Geologic and geotechnical investigations were conducted at the SMA site by Padre Associates, Inc. (Padre 2018) and Golder (Golder 2020) to characterize subsurface conditions at the site and develop design recommendations for the proposed SMA.

Based on the results of the investigations, Golder conducted a slope stability analysis of the proposed final grade, which evaluated global stability and evapotranspiration (ET) cover veneer stability as well as design seismic ground motions. For seismic analyses, the maximum considered event (MCE) required for Class II landfills was used. The analyses show static factors of safety of 1.51 and 1.90 at the SMA site. Golder stated that traditional geotechnical practice recommends a minimum static factor of safety of 1.5 for long-term slope stability of permanent slopes. Accordingly, the SMA site meets this criterion.

Golder also conducted a seismic slope stability analysis for the SMA site to determine the potential for displacement along the critical slopes, using a permanent slope displacement of 6-inches as the maximum acceptable limit, based on the RCRA Subtitle D (Part 258) *Seismic Design Guidance for Municipal Solid Waste Landfill Facilities* (USEPA, 1995). The proposed SMA final slopes are defined by a horizontal distance of 3 times the vertical distance (3H:1V), which do not require a slope stability analysis for final cover based on 27 CCR §21090(a). According to the Report of Waste Discharge report, however, a slope stability analysis of the final cover will be performed after the blend of site sand and imported fine-grained soil is determined.

Would the Project:

(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? (Less than Significant Impact)

Southern California is a seismically active region, dominated by the intersection of the northwest-trending San Andreas fault system and the east-west-trending Transverse Ranges fault system. Figure 9 below

depicts the faults in the vicinity of the SMA, including active and inactive faults. As shown in Figure 9, the most recent activity along the faults near the SMA are identified as the Late Quaternary period (<130,000 years ago).

The California Division of Mines and Geology (CDMG) evaluates the activity rating of a fault in fault evaluation reports and determines the need for a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazards Act. A review of the regulatory required zone of study maps indicates that there are currently no Alquist-Priolo Special Studies Zones that cross the SMA site (CGS 2020). Therefore, implementation of the soil management area would not result in substantial adverse impacts in the event of a rupture of a known earthquake fault and impacts are expected to be less than significant.

(ii) Strong seismic ground shaking? (Less than Significant Impact)

As depicted in Figure 9, there are no known faults that cross the project area; however, given its proximity to the San Andreas, Transverse, and Shoreline fault systems, the SMA site is situated in an area with a high probability for strong seismic ground shaking. As part of the WDR application, a Deterministic Seismic Hazard Analysis was prepared for the SMA (Golder 2020).

The results of the analysis found that the largest estimated median PGA of 0.48 g would arise from an M6.9 earthquake occurring on the Casmalia Fault about 2.8 mi (4.5 km) southwest of the project site. Based on these models, the analysis concluded that there is a relatively moderate level of seismic hazard at the SMA.

Strong seismic ground-shaking could potentially damage temporary structures such as field offices and displace staged construction materials. In addition, strong ground-shaking could potentially compromise the integrity of the graded area and associated slopes.

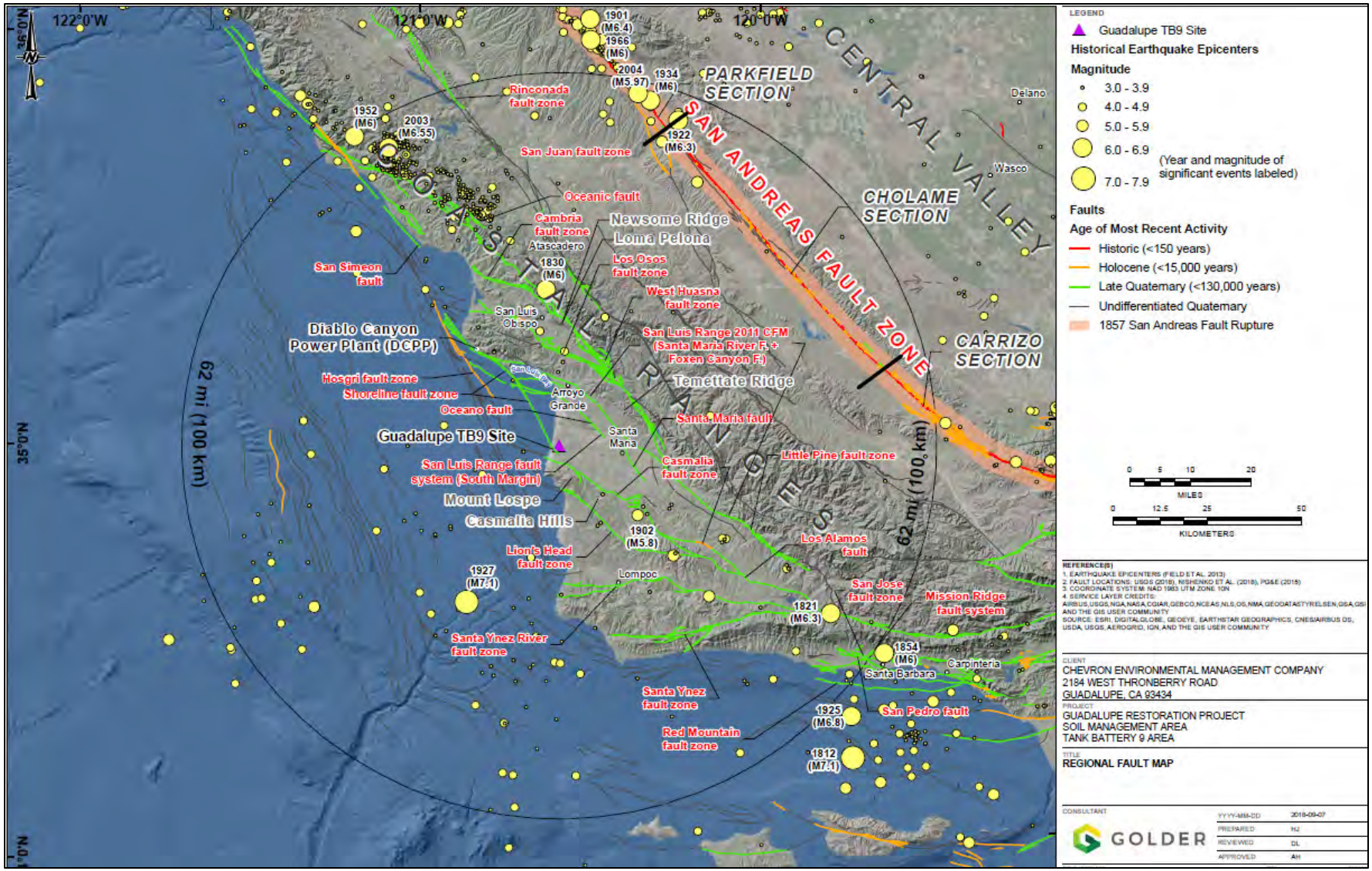
To minimize impacts, excavation activities would be conducted in compliance with applicable seismic safety standards as specified in the construction plan that would be reviewed and approved by the relevant officials. As part of the DSHA, Golder also modeled the attenuation or amplification of ground motions through the overburden soils at the site using the SHAKE91 computer program. The results of the analyses indicated that the estimated seismically induced permanent displacement is significantly less than the maximum acceptable limit of 6 inches (Golder 2020); therefore, impacts are considered less than significant.

(iii) seismic-related ground failure, including liquefaction? (Less than Significant Impact)

The proposed SMA site has been designated as having a potential for seismically induced liquefaction, as shown in Figure 10 (SLOC 1999). As part of the WDR application, a site-specific liquefaction analysis of the sand dune soils at the SMA site was conducted (Golder 2020). The liquefaction analysis was performed using the empirical procedure outlined in the Earthquake Engineering Research Institute's (EERI) monograph MNO-12 (Idriss and Boulanger, 2008) and subsequent updates (Boulanger and Idriss 2014). The liquefaction analysis results predicted a maximum settlement of 1.5 inches, which is relatively small.

In addition, due to the depth to the liquefiable materials below the ground surface and because the liquefaction is unlikely to occur over the entire site, the analysis concluded that the post-liquefaction slope stability risks to the SMA are minor. To demonstrate this, a post-liquefication slope stability analysis was conducted assuming relatively conservative assumptions including a 20-foot uniform thickness of sand dune below the ground water table will liquefy under the entire site.

Figure 9 Faults in the Vicinity of the Proposed Project Site



Source: Golder 2020.

Figure 10 Liquefaction Hazard Zones in Vicinity of Proposed Project Site

Source: SLOC 1999

The result of the post-liquefaction slope stability analysis indicated a factor of safety (FS) of 1.28. A FS of greater than 1.1 is considered acceptable for post-liquefaction stability because it is a temporary condition lasting only a few seconds. Therefore, although the area has been mapped with a high liquefaction potential, site-specific analysis indicates that the potential for adverse effects to occur as a result of liquefaction in the Project area is considered less than significant.

(iv) landslides? (Less than Significant Impact)

The SMA site is situated in an area classified as a low landslide risk zone by San Luis Obispo County as shown in Figure 11 (SLOC 1999). No currently active landslides have been identified adjacent to the proposed SMA, and the Project area is not identified as an area with high landslide potential. Therefore, impacts are considered less than significant.

(b) Result in substantial soil erosion or the loss of topsoil? (Less than Significant Impact)

The proposed SMA site is currently used for stockpiling of petroleum hydrocarbon impacted soil. As the SMA is developed, a liner will be installed, and stockpiled soils will be placed in the SMA. As soils are placed in the excavated area, erosion would be controlled through installation of sand fences, straw wattles, and silt fencing, if needed (Chevron 2019).

Erosion monitoring would be conducted in accordance with the site-specific Stormwater Pollution Prevention Plan (SWPPP) prepared for the Project. Erosion control measures and impact assessment are described at greater length in Section 5.10, Hydrology and Water Quality, where the finding is that the impact is less than significant.

(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse? (Less than Significant Impact)

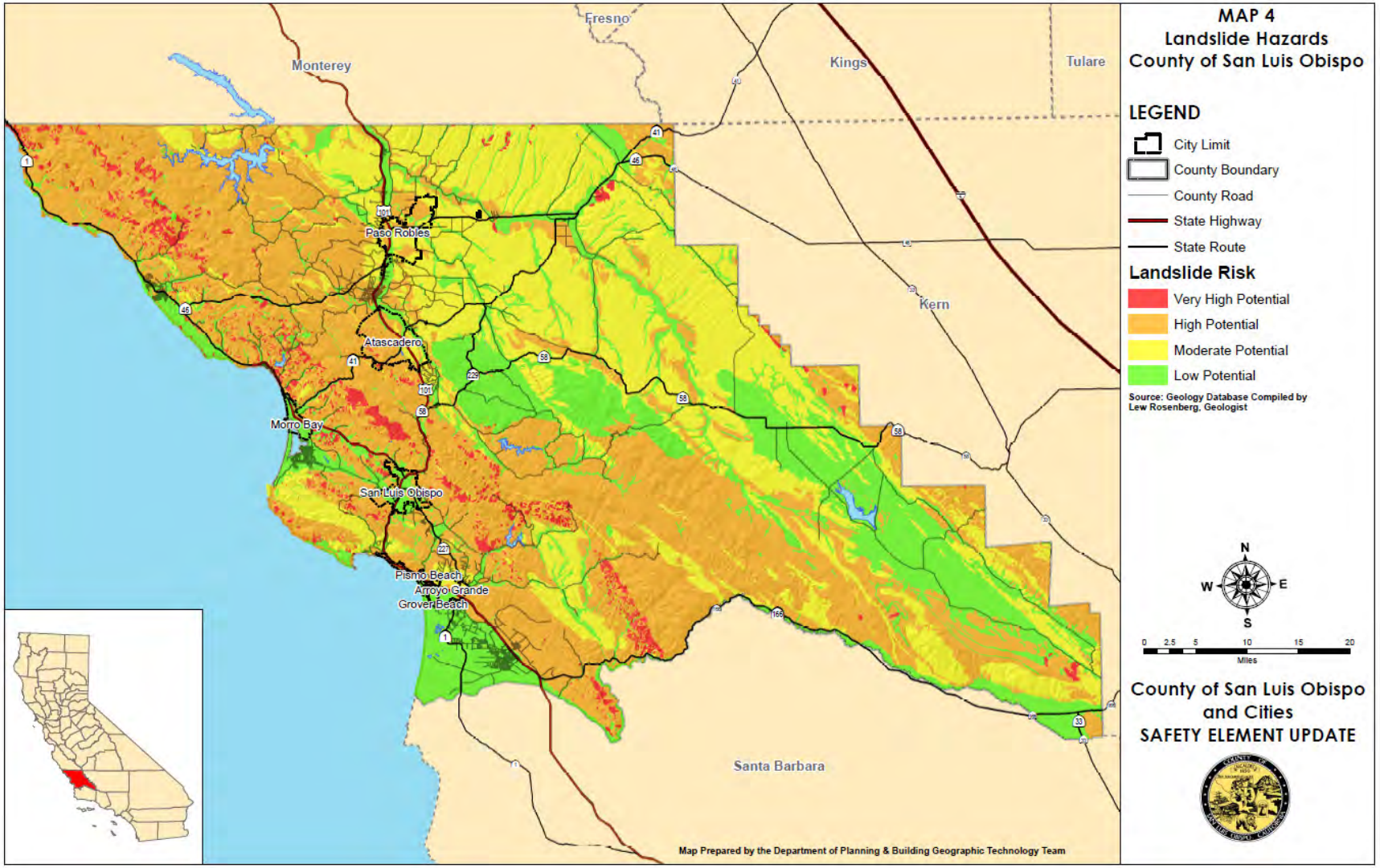
Site-specific geotechnical investigations were conducted in 2018 (Golder 2020) to evaluate the susceptibility of the material underlying the SMA for liquefaction. The study concluded that the potential for liquefaction in the project vicinity is low. There is low potential for liquefaction in saturated sand dunes, however the liquefaction would occur deep enough below the surface that it is unlikely that it will have a significant impact on the SMA. Accordingly, the Project site is not located on a geologic or a soil unit that is currently known to be unstable.

Landslides and liquefaction are addressed above. The risks associated with lateral spreading are similar to landslides in that no currently active landslides or areas of lateral spreading have been identified adjacent to the SMA area (SLOC 1999).

No currently active landslides have been identified adjacent to the SMA area (SLOC 1999) and the Project site is not located on a geologic unit or soil that is known to be unstable. Therefore, following construction, the potential for collapse or structural damage as a result of geological or soil hazards would be less than significant. Further, the introduction of the liner and gradual filling of the SMA with additional soil may provide stability to the slopes of the SMA, reducing the hazard of collapse.

Subsidence is any settling or sinking of the ground surface over a regional area that commonly occurs as a result of excessive groundwater and/or oil extraction. While the Project area is located in an area of oil extraction, no subsidence has been recorded throughout the oil operations duration (SLOC 1999). Therefore, impacts are considered less than significant.

Figure 11 Landslide Hazards in Vicinity of Proposed Project Site



Source: SLOC 1999

(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? (Less than Significant Impact)

Expansive soils shrink and swell in volume as a result of the wetting and drying of fine-grained clay-rich sediments. Development on expansive soils can result in damage to overlying structures over a long period due to continued movement of soil. The area adjacent and upstream of the Project area is characterized as having a "slight" to "moderate" expansive soil rating (Olive 1989). As described in the Project description, site-specific geotechnical testing would be conducted during the design-phase of the Project to identify and address potential hazards associated with expansive soils, if present. Therefore, impacts are considered less than significant.

(e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Project does not involve the use of septic tanks or alternative wastewater disposal systems; therefore, no impact would occur.

(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (No Impact)

Paleontological resources are generally found in sedimentary rock units in which the boundaries of a sedimentary rock unit define the limits of paleontologic sensitivity in a given region. Most fossil material is found where bedrock is exposed on the surface. Fossil material may be exposed by a trench, ditch, or channel caused by construction. The SMA is not located on a unique paleontological resource or geologic feature expected to be fossiliferous, and based on the soil sampling conducted, geologic formations beneath the site are unlikely to contain paleontological resources. Therefore, no impact would occur.

5.8 Greenhouse Gas Emissions

This section of the document analyzes the impact the proposed Project would have on emissions that effect climate change around the world. The Greenhouse Gas (GHG) emissions were analyzed as part of the air emission calculations dated August 30, 2019 prepared as part of the Response to Information Hold for DRC2019-00069 as well the March 2019 Project Description. The air emission calculation spreadsheets are included as Appendix G of this document.

GHG (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "climate change." The principal GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately one-half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

As per the CEQA Guidelines Appendix G checklist, would the Project:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less than Significant Impact)

The construction and operational GHG emissions for the Project are provided in Table 14. As specified by the SLOCAPCD, the construction GHG emissions were amortized over 25 years and added to the annual operating GHG emissions. As shown in Table 14 the GHG emissions from the Project would be below the

CEQA thresholds established by the SLOCAPCD for industrial projects even without accounting for the baseline GHG emissions, which represent trucking of the material to the Santa Maria Landfill. Under the baseline, the operational GHG emissions would occur at the Santa Maria Landfill. Under the proposed SMA Project the GHG emissions would be slightly less than under the baseline, which is trucking to the Santa Maria Landfill. Therefore, GHG emissions impacts would be less than significant.

Construction of the SMA would result in a net reduction of about 3,230 MT CO_2e when compared to the baseline of trucking to the Santa Maria Landfill. This reduction is a result of the elimination of about 74,100 truck trips between the Guadalupe site and the Santa Maria Landfill.

Table 14 Project GHG Emissions (MT/yr)

Project Phase	CO2e
SMA Project	
Construction Phase[1]	207
Operational Phase	5,285
Project Total	5,491
Baseline-Trucking to the Santa Maria Landfill[2]	
Construction Phase[1]	336
Operational Phase[3]	5,284
Baseline Total	5,620
Increase in GHG Emissions from SMA Project	-128
CEQA Threshold	10,000
Exceed Threshold?	*No*

1. Construction emissions are amortized over 25 years as per SLOCAPCD Guidelines. The total GHG construction emissions for the SMA Project would be about 5,163 MT CO_2e. The total GHG construction emissions for the trucking baseline would be about 8,392 MT CO_2e.
2. Baseline is all TPH-affected material trucked to the Santa Maria Landfill, which would not occur with the SMA Project.
3. Baseline operational emissions would occur at the Santa Maria Landfill.

See Appendix G for detailed emission calculations.

(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less than Significant Impact)

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, SB 375, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California's reputation as a "national and international leader on energy conservation and environmental stewardship." It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the programs include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Required immediate "early action" control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California's GHG emissions be reduced to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels;

- Over 1.5 million zero-emission vehicles would be on California roads by 2025
- Reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030;
- The development of Scoping plans to define the specifics of program implementation;
- The development of programs, such as Cap-and-Trade, which address 80% of all industrial sources and all sales of gasoline, jet fuel and diesel fuel within California.

Statewide, the framework for developing the implementing regulations for AB 32 is underway. Additionally, through the California Climate Registry (CCAR) and the Mandatory Report Rule, general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include offsite electricity generation and non-company owned mobile sources.

The San Luis Obispo County has developed an EnergyWise Plan (SLOC 2011) that outlines the County's approach to reducing GHG emissions through a number of goals, measures, and actions that provide a road map to achieving the County's GHG reduction target of 15% below baseline levels by 2020. Some of the recommended measures include energy conservation and reducing transportation emissions.

As discussed above, the proposed SMA Project would result in a slight decrease in GHG emissions over the bassline case, which is trucking the material to the Santa Maria Landfill. The Project would result in GHG emissions below the 10,000-ton threshold for industrial projects. Also, the project would reduce on-road vehicle miles substantially, producing a net reduction of vehicle-related GHG emissions. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

5.9 Hazards and Hazardous Materials

This section of the document evaluates any potential impacts from hazardous substances utilized by the proposed SMA Project. The Project would utilize small quantities of construction-related hazardous materials, such as fuels and oils, as part of the Project construction. The Project would not use any hazardous materials as part of the facility operations. However, the facility would handle hydrocarbon affected soils which, if accidentally released to the environment, could present environmental hazards.

As per the CEQA Guidelines Appendix G checklist, would the Project:

(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less than Significant Impact)

The Project would result in the handling of hydrocarbon affected soils during the construction phase of the project which, under routine construction activities or routine operations of the facility, would not be released to the environment and would not affect the public or nearby receptors. Therefore, impacts associated with routine operations, including construction, would be less than significant. The proposed Project would involve the disposal of hydrocarbon affected soils in the SMA, but this disposal would not routinely be released and affect the environment or nearby receptors. Therefore, impacts would be less than significant.

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less than Significant Impact)

In the unlikely event of an upset or accident during the construction phase, hazardous materials could be released to the environment. The project would utilize small quantities of construction-related hazardous materials, such as fuels and oils, as part of the Project construction and these could be released to the environment during an accident or a failure that causes a release of these construction materials. Permit conditions 38f of CDP/DP D890558D requires that equipment fueling area be located at least 100' away from surface water bodies or inside bermed areas.

Transportation and movement of hydrocarbon affected soils could also be spilled along haul routes. The extent of these releases would be small and be located to the immediate area around the accident site and would therefore not create a significant hazard to the public or the environment. Impacts would be less than significant.

The Project would also eliminate the current trucking of affected soils to the Santa Maria Landfill. This would eliminate the potential hazards associated with a truck accident and spill of hydrocarbon affected soils along the haul route to the Santa Maria Landfill as well as the removal of trucks along area roadways within Guadalupe and Santa Maria.

Since none of the hazards identified for the Project would extend offsite and the existing hazards would be reduced from baseline conditions, the hazard impact from a reasonably foreseeable upset or accident condition involving the release of hazardous materials would be less than significant.

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (No Impact)

There are no schools located with one-quarter of a mile of the Project site. Therefore, there would be no impact under this item.

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (No Impact)

The project site is not listed as a hazardous materials site compiled pursuant to Government Code Section 65962.5 as per the listing located on the EnviroStor website using the Cortese List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database, and, as a result, project implementation would not create a significant hazard to the public or the environment. Therefore, there would be no impact under this item.

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (No Impact)

The project is not located within an airport land use plan or in the vicinity of a public or private airport. The project site is located over 10 miles from the Santa Maria Airport, the closest such site, and is not within the Airport Influence Area as specified in Figure 4-5 in the Santa Maria Airport Land Use Compatibility Plan August 2019 for that facility. Therefore, there would be no impact under this item.

(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (Less than Significant Impact)

The project is required to meet all applicable fire codes and regulations that provide for adequate access to and from the site and will not impair access. The project will not impair the implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impact would be less than significant.

(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less than Significant Impact)

The Project would be located within the existing Guadalupe site in an area that would not be expected to increase the risk of a wildfire in the event of a fire at the facility. The Guadalupe Dunes are located in a State Responsibility Area high fire zone and is not located in a very high fire hazard severity zone in the Local responsibility Area as defined by Cal Fire/County Fire. The project is surrounded mostly by agricultural uses and the Santa Maria River. Therefore, impacts would be less than significant.

5.10 Hydrology/Water Quality

This section describes the potential impacts to surface water and groundwater hydrology and water quality from the proposed SMA Project. The analysis includes an assessment of potential impacts to water quality from storage of the hydrocarbon affected material in the SMA.

Surface Water

The Project is located in the 1,880-acre Santa Maria River Watershed. The Santa Maria River is formed at the confluence of the Cuyama and Sisquoc Rivers and flows from east to west approximately 20 miles to the Pacific Ocean (City of Santa Maria 2010). The Santa Maria River generally consists of a sandy, braided channel with levees protecting urban development in its lower section (City of Santa Maria 2010). Annual precipitation for the basin ranges from 13 to 17 inches. Water quality in the Santa Maria River has moderate total dissolved solids (TDS) values ranging from about 510 to 1,000 mg/L. In the western portion of the Santa Maria Valley closer to the Project area, TDS ranges higher (to 2,300 mg/L) and has areas with elevated nitrate levels and detections of pesticides, primarily pyrethroid insecticides and the organophosphate pesticides, chlorpyrifos and diazinon.

There are no major surface water bodies immediately adjacent to the SMA. Throughout the oil field surface water ponds and wetlands form in low spots of dune topography supported by groundwater; these areas are transient depending on changes in water table elevation.

Groundwater

The Project is located in the Santa Maria groundwater subbasin within the Santa Maria River Valley Groundwater Basin, which extends through the southwestern portion of San Luis Obispo County and the northwestern portion of Santa Barbara County. The groundwater basin extends beyond the shoreline and locally beneath the Pacific Ocean. Groundwater in the Santa Maria Basin is primarily recharged by stream infiltration and subsurface inflow.

Three distinct water bearing units are found beneath the SMA; the Dune Sand Aquifer, the Confining Unit, and the Principal Aquifer. Geologic investigations were conducted at the SMA site by Padre Associates, Inc. (2018) and Golder (2019) to characterize subsurface conditions at the site and support the development of design recommendations for the proposed SMA. The geotechnical site assessment included three hollow stem auger (HSA) borings to depths ranging from 40 (SBTB-9-94) to 61.5 (SBTB-9-

92) feet below ground surface (ft bgs) and 14 cone penetrometer tests (CPTs) pushed to depths from 31.82 (TSMACPT-3) to 59.88 ft bgs (TSMACPT-4). Evidence of petroleum hydrocarbon impacts was detected in all three soil borings, most strongly in the artificial fill. The Confining Unit (clay) was not encountered by the deepest HSA boring (SBTB-9-92), which was drilled to a total depth of 61.5 ft. bgs.

The Dune Sand Aquifer is the shallowest aquifer at the oil field and has been impacted by releases of petroleum during historic oil field operations. Soil and groundwater assessment activities at the oil field indicate that the Dune Sand Aquifer is thickest in the western portion (25-30 feet thick near the Pacific Ocean) decreasing towards the east and southeast (5 feet thick adjacent to the Santa Maria River). Beneath the SMA, the saturated thickness of the Dune Sand Aquifer is approximately 5 feet, with groundwater fluctuating historically between 24.7 and 31.7 ft. bgs. The separation distance between the SMA and groundwater of the Dune Sand Aquifer is a minimum of 8 feet ranging up to more than 30 feet. The SMA is therefore more than five feet above the highest anticipated elevation of underlying ground water as required by landfill siting criteria in 27 CCR section 20240(c). The groundwater gradient in the Dune Sand Aquifer is generally west toward the Pacific Ocean. (Chevron 2019).

The Confining Unit consists of a predominantly clay unit, greater than 100 feet thick, that impedes the flow and contaminant transport between the overlying Dune Sand Aquifer and the underlying Principal Aquifer, which is the zone from which groundwater is regionally extracted for various uses (Chevron 2019). The confining unit (clay) was not encountered by the deepest HSA boring (SBTB-9-92), which was drilled to a total depth of 61.5 ft. bgs.

Since 2002, groundwater levels in both the shallow and deep aquifers of the Santa Maria River subbasin were in a gradually declining trend that became more rapid in 2012. By the Fall of 2017, shallow groundwater levels had recovered substantially, as did groundwater levels within the deep aquifers near the rivers. Along the coast where groundwater levels are well above sea level, indicating seawater intrusion is not an issue. Taken together, the groundwater conditions in the Project vicinity do not meet provisions defining a condition of severe water shortage (City of Santa Maria 2018).

Groundwater Quality

Groundwater in the Dune Sand Aquifer beneath the SMA has been impacted by petroleum hydrocarbons including volatile organic compounds (VOCs) attributed to crude oil sump material and diluent (approximately diesel in composition). Groundwater at the oil field is impacted by both separate-phase (or "free product") and dissolved-phase petroleum hydrocarbons and has been the subject of an on-going remediation program since the 1990s. The results of groundwater samples from the Dune Sand Aquifer collected in 2016 from the TB-9 Area of the oil field are summarized in Table 15.

Table 15 Summary of TB-9 Area Assessment*: BTEX and TPH Analytical Results

Sample Location	Sample Date	Benzene (mg/L)	Ethylbenzene (mg/L)	Toluene (mg/L)	Xylenes (mg/L)	TPH C12-C32 (mg/L)
HPSBTB-9-58	10/17/16	0.0016	0.011	0.00050	0.039	69
HPSBTB-9-59	10/18/16	0.0018	0.0073	<0.00050	<0.0010	2,000
HPSBTB-9-65	10/25/16	<0.50	<0.50	<0.50	<1.0	0.6

Source: Golder 2020.

The analytical results indicate concentrations of total petroleum hydrocarbons (TPH) as diluent ranging from 0.6 mg/L to 2,000 mg/L, benzene concentrations ranging from 0.0016 mg/L to 0.0018 mg/L, and ethylbenzene concentrations ranging from 0.0073 mg/L to 0.011 mg/L. One groundwater sample indicated a toluene concentration of 0.00050 mg/L and a total xylenes concentration of 0.039 mg/L (Table 15).

Historical groundwater in the Dune Sand Aquifer monitoring results associated with eight wells in the vicinity of the TB-9 Area during the period from 1998 through 2017 indicate dissolved phase TPH as diluent is present in six wells at concentrations ranging from 0.081 mg/L to 18 mg/L (Chevron 2019). In addition, separate-phase petroleum hydrocarbons are present in several wells in the TB-9 Area at thicknesses ranging from approximately 0.03 to 2.55 ft.

The presence of separate-phase petroleum on groundwater, and the detected concentrations of TPH and VOCs are well above water quality objectives in the Regional Water Quality Control Board-Central Coast (RWQCB-CC) Basin Plan, including the drinking water standard, and are therefore subject to ongoing cleanup.

Would the Project:

(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less than Significant with Mitigation Incorporated)

With respect to surface water quality during construction, the SMA is greater than 1 acre and construction would therefore require coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity, including development of a stormwater pollution prevention plan (SWPPP), which must identify BMPs that the discharger would use to protect stormwater runoff. CEMC has prepared a SWPPP and Erosion Control and Sedimentation Plan. Therefore, impacts to surface water quality would be less than significant due to operation of the SMA.

With respect to degradation of surface water quality during operation, stormwater controls at the SMA would direct run-off (or a release) to the existing onsite Advance Water Treatment System. Surface drainage will be designed to control erosion and sediment. The following Project design elements would prevent adverse impacts during operation of the SMA to surface water quality:

- No liquid wastes will be placed in the SMA.
- Non-hazardous TPH-affected soil from onsite sources will be placed in the SMA.
- The waste is compacted to decrease its permeability and increase its ability to shed water.
- The cell will be filled as rapidly as possible to allow sheet flow off the filled surface.
- Active measures such as temporary visqueen lined stormwater ponds and pumps will be used to prevent stormwater from ponding and infiltrating into the waste mass before the fill prism has reached the surrounding grade.
- Waste will be graded to promote run-off away from active waste disposal areas to prevent stormwater from entering the waste.
- Cover (compacted soil or alternative daily cover) will be placed on the waste which minimizes water entering the waste.
- Leachate sumps will be emptied as needed to maintain the fluid depth at 12 inches or less.
- Final cover will be placed on the SMA as soon as practical, which will minimize water entering the SMA.

Therefore, impacts to surface water quality would be less than significant due to operation of the SMA.

Methane and carbon dioxide will be produced during the biodegradation of the petroleum compounds managed in the SMA. These gases would migrate towards the surface. No structures will be built on the SMA within which these gases could accumulate, therefore the impact of gas migration is less than significant.

With regard to degradation of groundwater quality, adverse impacts could occur if the SMA liner was damaged during operation, or otherwise allowed liquid (leachate) or gas contained within the liner to be released into the subsurface beneath the SMA. Leachate impacts to groundwater would appear as either separate phase or dissolved phase petroleum hydrocarbons and volatile organic compounds (VOCs).

The Applicant states in its WDR application that such a release would not adversely affect groundwater quality because:

- The groundwater underlying the SMA is already impacted by TPH (both dissolved phase and separate phase) and is the subject of an on-going remediation program.
- The objective of the SMA is to consolidate hydrocarbon affected material from cleanup activity throughout the oil field; as such groundwater quality within the oil field should improve overall irrespective of a hypothetical release from the SMA.
- The SMA is in a climatologically dry area and the generation of leachate is expected to be low; therefore, a release from the SMA is unlikely to occur in volume which would further impair the currently degraded groundwater quality.

Furthermore, the SMA is constructed in compliance with landfill siting, design, and operation regulations provided in Title 27 of the California Code of Regulations:

- The SMA has been designed to provide greater than 5 feet separation from the historic high groundwater table.
- The SMA would be constructed with a double composite liner (primary liner and secondary liner) exceeding 27 CCR regulatory requirements. The primary liner would consist of a geosynthetic clay liner (GCL) overlain by a HDPE geomembrane. The secondary liner would consist of a compacted clay layer overlain by a HDPE geomembrane. The two liners would be separated by a geocomposite that will act as a leak detection layer. The HDPE material would be selected to ensure a high degree of compatibility with petroleum.
- A leachate collection and removal system (LCRS) would be constructed over the primary liner on the landfill base. The leachate collection removal system is designed to collect twice the estimated daily peak quantity of leachate in the SMA and allow it to be removed. The LCRS would include a geotextile bounded gravel drainage layer, leachate piping, collection sump, and riser piping. Specifications for the design of the gravel drainage layer and leachate piping are based on the Hydrologic Evaluation of Landfill Performance (HELP) model developed by the USACE for the USEPA.
- A leak detection system would be installed between the primary and secondary composite liners. This will provide an early determination of any leaks in the primary composite liner. The leak detection system has been designed to allow any leakage to be removed.

However, leachate could be released from the SMA and if so, could further impact groundwater quality in the in the Dune Sand Aquifer, potentially either impeding the ability to clean up the site, or re-contaminating the site after it has been cleaned up. This impact would be potentially significant, but with

application of Mitigation Measures WQ-1 and WQ-2 the impact would be less than significant with mitigation.

Mitigation Measure WQ-1 – Waste materials to be stored in the SMA shall be limited to petroleum hydrocarbon affected soils and sediments generated by cleanup of the former Guadalupe Oil Field only. No wastes from other generators or other sites shall be deposited in the SMA, including no sources of solvents, or materials of a hazardous nature, such as high concentrations of metals, pesticides, or herbicides.

Mitigation Measure WQ-2 – The Applicant shall prepare a Groundwater Monitoring Plan for the SMA. The plan shall require monitoring at the SMA consistent with the requirements of 27 CCR section 20385, including detection monitoring pursuant to 27 CCR section 20420 and, if necessary, based on the results of detection monitoring, evaluation monitoring pursuant to 27 CCR section 20425 and corrective action monitoring pursuant to 27 CCR section 20430. The Plan shall require monitoring in conformance with 27 CCR section 20415. The Groundwater Monitoring Plan shall be approved by the Central Coast Regional Water Quality Control Board (CCRWQCB) in consultation with San Luis Obispo County Building and Planning. Monitoring reports shall be submitted to CCRWQCB and San Luis Obispo County Building and Planning consistent with the requirements specified by the CCRWQCB as part of the WDR permit.

If the CCRWQCB implements more stringent groundwater monitoring in their WDR permit conditions than this mitigation measure, then the WDR permit conditions shall govern.

(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (Less Than Significant)

The Principal Aquifer is the zone from which groundwater is regionally extracted for various uses including agricultural operations directly east and south of the oil field and for municipalities east of the oil field. Although a limited number of onsite wells are completed within the Principal Aquifer, sampling of these wells has not produced any definitive or confirmed detections of dissolved-phase petroleum hydrocarbons characteristic of diluent.

Water for the site is provided by onsite water wells. Historical water use at the site has ranged from between 25 and 36 acre-feet per year. Almost all of the water use at the Guadalupe site is associated with dust control and irrigation. The irrigation water is used for watering restored areas of the site.

The estimated water usage for construction of the SMA is estimated to range between three and five acre-feet per year depending upon the construction activities that would be occurring. Water will be supplied from the existing permitted onsite water well and treated water recycled from the Advanced Water Treatment System.

The well pump is set at 319 feet below ground surface (ft bgs). The well is screened at two separate intervals, from 175 to 195 ft bgs, and from 245 to 365 ft bgs. Both screened intervals are below the water table, with approximately 84 feet between the water table and the top of the upper screened interval. The water level in the well, measured on October 8, 2020, is at 91.4 ft bgs. Over the years the water level has fluctuated but has remained well above the upper screened interval.

With the current well design and configuration, water can be withdrawn at approximately 2,500 GPM from the aquifer at an entrance velocity less than 0.1 ft/sec through the slotted openings in the screen. This pumping rate is equal to 3.6 million gallons per day, or about 4,000 acre-feet per year.

In 2018 and 2019 total annual production was approximately 26 acre-feet per year (8.5 million gallons in each year), or approximately 16.2 GPM on average. During construction of the SMA Project overall water usage at the Guadalupe site would be expected to increase to a high of 31 acre-feet per year (10.1 million gallons per year), or approximately 19.2 GPM on average. Once the SMA is constructed, water usage at the Guadalupe site would be expected to return to about 26 acre-feet per year (8.5 million gallons per year) or approximately 16.2 GPM on average.

Based on estimated water usage during the construction of the SMA as well as the depth of separation between the SMA and groundwater, effects from the Project resulting in a decrease of groundwater supplies or interference with groundwater recharge that may impede sustainable groundwater management of the basin are anticipated to be less than significant.

(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in a substantial erosion or siltation on- or offsite; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows? (Less Than Significant)

The SMA will be designed and constructed to limit ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping. Proposed drainage structures for the area include diversion berms, down-drains, and a perimeter v-ditch to convey surface drainage away from the SMA. Drainage from the surface of the SMA will not be directed, or discharged to, the natural drainage swale that leads towards the Santa Maria River. Collected surface drainage will be conveyed to the Advanced Water Treatment System at the Diluent Tank Area. The stormwater basin will be sized to handle the peak discharge from a 1,000-year, 24-hour storm as required by Title 27 with the addition of approximately 500,000 gallons of temporary storage.

The SMA will introduce water from two additional fluid inputs to the Advance Water Treatment System: 1) leachate collected from the LCRS; and, 2) precipitation run-off from the open working face. As part of the WDR application, Golder (2020) conducted an analysis to evaluate if the Advance Water Treatment System has the capacity to handle these additional fluids. The analysis assumes that once leachate production begins it will be continuous and it will be at the maximum peak flow of 78 gpm. Collectively, then, the combined flow from the remediation wells and remediation area storm water, the leachate collected from the LCRS, and the peak storm water run-off from the entire SMA during a typical wet season is approximately 122 gpm, which is well within the effective maximum flow rate of the Advanced Water Treatment System.

To address run-off from the 1,000-year 24-hour storm, temporary storage capacity will be provided in the form of bladder tanks or lake tanks. The greatest runoff volume from the SMA will be generated following construction of Phase 2 as the waste fill is being brought to the surrounding grade. Those portions of the Phase 1 fill that are permanent slopes will be provided with at least 12-inches of clean cover. Run-off from the remaining areas is assumed to have been impacted and that volume is estimated to be approximately 410,000 gallons. Consequently, 500,000 gallons of temporary storage capacity will be provided during the operational period, which will address extreme inflow conditions.

The closed SMA will be protected against the adverse effects of wind and rain by a combination of measures. Erosion protection such as silt fence, v-ditches, or berms will be installed at the perimeter of

the stockpile area per the plan using small construction equipment. After placement of the final cover, it is anticipated the finished surface of the SMA will consist of dune scrub vegetation and sand, which will be similar to the existing native stabilized dune habitat of the Field. Surface restoration activities at the SMA will be completed in accordance with the Site-Specific Restoration Plan (SSRP). Restoration will consist of a combination of jute netting, hydroseeding, placement of vegetative material, straw wattle, and sand fence BMPs per the Storm Water Pollution Prevention Plan (SWPPP) developed for the property. The dune scrub vegetation in conjunction with the evapotranspirative cover will protect the closed SMA from wind and rain erosion, prevent ponding of rainwater, and generally minimize post-closure maintenance of the cover system. The drainage ditches will be sized to convey the peak runoff from a 1,000-year, 24-hour storm at non-erosive velocities. Drainage ditches on the access road will carry runoff to overside drains and conveyed to the Advance Water Treatment System.

Based on the design elements of the Project and control measures to be implemented during and after the construction of the SMA, no substantial alterations to existing drainage patterns resulting in increased erosion or siltation offsite, increased flooding or surface runoff offsite, exceedance of existing stormwater drainage systems, or redirection of flood flows is anticipated. The proposed Project has developed both a Grading and Erosion Control Plan and a SWPPP in compliance with SLO County's Grading Permit requirements and California's Construction General Permit for Stormwater Discharges that satisfy the objectives of the Santa Barbara County-wide Integrated Stormwater Resource Plan. Therefore, this impact is considered less than significant.

(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (Less than Significant)

The SMA site is located in Zone X, an area outside the 100-year flood plain with minimal flood hazard. Run-on controls will divert storm water around the SMA, and they will be designed to accommodate the 1,000-year return period storm, so it is unlikely that flood waters could affect the SMA.

The Project site is located within the inundation line of the Point Sal Quadrangle portion of the Tsunami Inundation Map for Emergency Planning. The inundation line represents the maximum considered tsunami runup from a number of extreme, yet realistic, tsunami sources. The Project site is not located within an area considered "most vulnerable" to tsunami hazard in the Tsunami Response Plan for San Luis Obispo or the Multi-Jurisdictional Hazard Mitigation Plan for Santa Barbara County, therefore the tsunami risk as it pertains to the Project is less than significant (SLOC 2019, SBC 2017). Therefore, impacts to flood hazard, tsunami, or seiche zones is less than significant.

(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (No Impact)

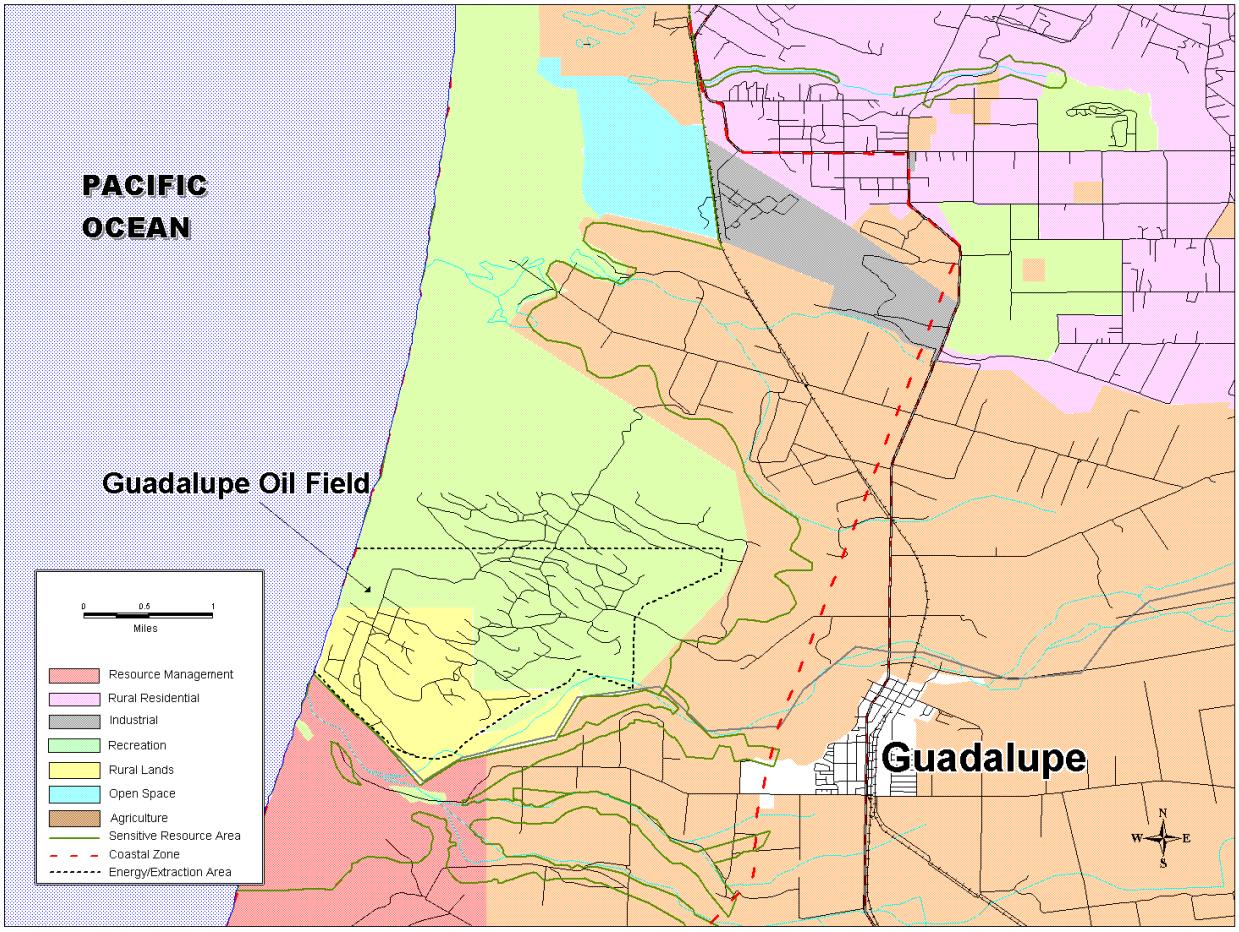
The Project is located within the Santa Maria Subbasin (basin number 3-012.01) within the Santa Maria River Valley Basin and is considered very low priority and thus is not expected to form a GSA or develop a Groundwater Sustainability Plan pursuant to SGMA. Therefore, there would be no impact to these plans.

5.11 Land Use/Planning

The former Guadalupe Oil Field is bounded on the north by the United States Fish and Wildlife Service (USFWS) Refuge, on the south by the Santa Maria River and the County Park, to the east by agricultural lands, and to the west by the Pacific Ocean. The principal uses of land surrounding the Guadalupe Field have been, and continue to be, those related to crop production, cattle grazing, and recreation.

The former Guadalupe Oil Field site is within the Coastal Zone and is located within the South County Coastal Planning Area. The former Guadalupe Oil Field site is composed of parcels that have a land use designation of Recreation (REC) and Rural Lands (RL), and has a combined designation overlay of Energy and Extractive (EX). Figure 12 shows the land use categories and combining designations for the former Guadalupe Oil Field site and surrounding areas.

Figure 12 Land Uses in the Vicinity of the Former Guadalupe Oil Field Site



Source: Adapted from San Luis Obispo County Land Use Maps

The proposed SMA Project would be located in the TB-9 area of the former Guadalupe Oil Field site. Approximately 6 acres of the TB-9 area is currently zoned REC, and approximately 14.17 acres are zoned RL. All of the TB-9 area is within the EX combined designation overlay.

Would the Project:

(a) Physically divide an established community? (No Impact)

Project implementation would not result in a physical division of an established community. Rather, the proposed SMA would be located within the existing former Guadalupe Oil Field Site. Therefore, no impacts would occur as a result of the proposed Project for this item.

(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (No Impact)

The EX combined designation that applies to the proposed SMA Project site allows for the development of oil extraction and energy production facilities as well as the site restoration after termination of the extraction operations. The construction and operation of the proposed SMA is considered part of the overall site restoration for the former Guadalupe Oil Field. Construction of the proposed SMA will result in the restoration of about 18 acres of coastal dune scrub and will allow for the removal of other infrastructure at the site such as roads, pads, sumps, and oil spray area. Also, construction of the SMA would server to avoid and reduce adverse environmental impacts that would be associated with trucking the hydrocarbon impacted material to the Santa Maria Landfill, which represents the baseline conditions.

As discussed in the South County Coastal Area Plan and the Coastal Zone Framework for Planning, the long-range plan for the Former Guadalupe Oil Field site should be for limited recreational activities. The San Luis Obispo County Local Coastal Plan states that a general plan amendment should be initiated to change the land use category for the entire Former Guadalupe Oil Field site to recreation once the oil extraction operations are complete, which would include the restoration of the site. That would reflect the planned ultimate use of this area for limited recreational use.

As required by Condition 110 of CDP/DP D890558D CEMC recorded with the County of San Luis Obispo and offer to dedicate the entire 2,700 acre former Guadalupe Oil Field site to a public agency or private non-profit association that must be approved by the County Planning Director and the Executive Director of the Coastal Commission. The purpose of the easement is to allow for open space, habitat protection and public access easement for the purpose of visual resource protection, habitat protection, and managed public access to the Guadalupe Dunes and to the shoreline (consistent with protecting habitat values, e.g., no public access during the nesting season of the snowy plover).

CEMC has been in discussions with a number of public agencies and private non-profit associations about taking over management of the former Guadalupe Oil Field site. These discussions cannot be finalized until the cleanup, remediation, restoration, and abandonment of the facilities on the site are mostly complete.

Construction and operation of the proposed SMA Project would not preclude the use of the Former Guadalupe Oil Field site for purposes of the easement stated above. The site could still be used for limited recreational activities as envisioned in the San Luis Obispo Local Coastal Plan. This could include passive uses such as a network of walking trails and interpretive centers. The SMA, when complete, will consist of a restored land feature that can serve as a focal point for visitors via a network of trails and interpretive centers detailing the history of the collective response and extensive remediation effort that has been undertaken at the Field. The ultimate types of limited recreational uses will need to be developed once a final land steward is selected and will be subject to approval by the County of San Luis Obispo and the California Coastal Commission as required by Condition 110 of CDP/DP D890558D.

Therefore, the proposed SMA Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project.

5.12 Mineral Resources

Would the Project:

(a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state? (No Impact)

No known mineral resources are located on the proposed Project site other than some remaining oil and gas from the previous oil field operations. The former Guadalupe Oil Field has been shut down, and there are no plans to resume oil and gas production at the site. Therefore, no impacts would occur as a result of the proposed Project.

(b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (No Impact)

Other than possible remaining oil and gas reserves on the site, no known mineral resources are located on the proposed Project site. The loss of known mineral resources of value to the region would not occur as a result of implementation of the proposed SMA Project. Therefore, no impacts would occur as a result of the proposed Project. The project site is not delineated as an important mineral resource recovery site on by San Luis Obispo County or any other local plan.

5.13 Noise

The information and analysis presented in this section is based on a review of the Project Description and project site and surround areas. An assessment is conducted using general noise propagation equations to confirm noise levels at nearby receptors.

As per the CEQA Guidelines Appendix G checklist, would the Project:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less than Significant)

The proposed Project would generate noise during construction and operation. The noise associated with each of these phases is discussed below.

San Luis Obispo County has adopted noise policies in its Noise Element (SLOC 1992) to provide a policy framework for addressing potential noise impacts in the County and minimize future noise conflicts. The maximum sound level exposure from stationary sources is 70 dBA during the daytime (7:00 AM to 10:00 PM) and 65 dBA during the nighttime (10:00 PM to 7:00 AM). The San Luis Obispo County Code Section 23.06.042 exempts construction noise from 7:00 AM to 9:00 PM Monday through Friday and between 8:00 AM and 5:00 PM on Saturday and Sunday.

Construction Noise

The introduction of construction in this area would generate noise from construction equipment used to build the SMA. Construction equipment noise levels are estimated using the reference noise levels for construction from the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). Table 16 shows the equipment and the resulting noise levels at the closest receptors.

Table 16 Construction Noise Levels

Equipment	Number of Equipment	Noise Level at 50 feet
Dozer	1	85
Compactor	1	80
Grader/Excavator	2	85
Loader	2	80
Manlift and other misc.	3	85
Haul Truck	5	84
Receptors	**Distance, ft**	**Combined Construction Equipment Noise Level, dBA**
Closest Ag Field	2,640	60.9
Closest Ag Worker Area	6,348	53.3
Guadalupe Park	10,032	49.3
Guadalupe Residences	10,560	48.9
Guadalupe School	13,728	46.6

Notes: Using FHWA Construction Noise Manual Table 1 noise levels. Assumes worst case peak hour 100% of equipment use factor. Noise levels listed are for a single piece of equipment.

Peak noise levels would occur during system liner installation at the SMA site, which is when greatest amount of equipment is being used. Construction equipment during equipment liner installation would include dozers, loaders, excavators, compactors, graders, off highway trucks, and other miscellaneous equipment.

Although the increase in noise in the Project area would most likely be greater than that which currently exists for the closest receptors, it would be temporary in nature and would only occur during normal working hours. The nearest residence would be about 2.0 miles from the construction site and noise levels would be low at that distance even with the worst case hourly operating assumptions.

San Luis Obispo County exempts construction activities from adhering to noise standards as long as construction is limited to the hours of 7:00 AM to 9:00 PM Monday through Friday and between 8:00 AM and 5:00 PM on Saturday and Sunday. As the Project operating hours would be within these time ranges, noise impacts would be less than significant.

Operational Noise

Equipment associated with the proposed Project operations would be nominal and would only involve periodic maintenance of the SMA and the restoration activities. Equipment use would be limited to weekly truck visits. Noise levels from the operation of a single truck would be below 50 dBA at the closest agricultural area and would therefore be acceptable and less than significant.

(b) Generation of excessive groundborne vibration or groundborne noise levels? (Less Than Significant)

The project would involve the use of construction equipment for construction of the SMA area. Data on vibration annoyance criteria from CalTrans indicates that vibration below 0.01 inches/second produces vibration that are barely perceptible. This value corresponds with the perceptible level and defines the significance threshold for vibration impacts.

The project would not involve the use of pile drivers or other equipment that typically generate large amounts of ground borne vibration or noise. Table 17 provides estimated vibration levels for construction equipment as a function of distance from the source.

Based on threshold for vibration of 0.01 in/sec vibration velocity, construction equipment used for the Project would not exceed the vibration threshold beyond about 190 feet which is well within the property boundary.

Table 17 Estimated Construction Equipment Vibration Levels

Equipment	Vibration Level (in/sec)		
	at 25-feet	at 100-feet	at 200-feet
Large Hydraulic Excavator	0.089	0.0111	0.0039
Backhoe	0.089	0.0111	0.0039
Auger	0.022	0.0028	0.0010
Large Bulldozer	0.089	0.0111	0.0039
Vibratory Roller	0.210	0.0263	0.0093
Tamper	0.210	0.0263	0.0093
Crane	0.008	0.0010	0.0004
Large Truck	0.076	0.0095	0.0034

Source: Adapted from USFTA 2020 and Caltrans 2020.

Operational activities would not be expected to exceed the construction levels of vibrations as no large equipment would be used for operations. Based on the type of proposed activity and construction and operations that would occur, no excessive ground borne vibration would be generated that would reach nearby receptors. Therefore, ground borne vibration impacts resulting from construction and operational activities would be less than significant.

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)

The project is not located within an airport land use plan or in the vicinity of a public or private airport. The project site is located approximately 8.5 miles south of Oceano Airport, and over 10 miles from the Santa Maria Airport, the closest such site, and is not within the Airport Influence Area as specified in Figure 4-5 in the Santa Maria Airport Land Use Compatibility Plan August 2019 or Oceano Airport Master Plan for that facility. Therefore, no impact would occur.

5.14 Population/Housing

The construction workers would be drawn from the local workforce with the majority of the workers coming from the existing field construction work force. Construction of the proposed SMA Project would take approximately three to five years, with a maximum work force of 30 employees. No new workers would be required to operate the SMA. The existing maintenance staff at the Guadalupe site would be adequate for the operational tasks associated with the SMA.

Would the Project:

(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

Given the limited staffing needs for the proposed SMA Project, all required works would be drawn from the local workforce, with the majority of the workforce coming from the existing contractors currently

working at the Guadalupe site. As such, the proposed Project would not generate any population growth. Therefore, no impact to the local population levels would occur.

(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

The project would not displace existing housing as no housing exists on the proposed SMA Project site or at the Guadalupe site. The project would not displace substantial numbers of people since it does not propose demolition of residential units. All construction and operational activities would occur within the existing former Guadalupe Oil Field. Therefore, there would be no impact to housing from the proposed Project.

5.15 Public Services

Would the Project:

(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: (i) Fire protection? (ii) Police protection? (iii) Schools? (iv) Parks? (v) Other public facilities? (No Impact)

Project implementation would not result in the need for any new or physically altered governmental facilities for public services. The proposed SMA Project would be constructed with the boundaries of the former Guadalupe Oil Field site and would not affect the current response times for fire or police protection to the site. Therefore, no impacts would occur as a result of the proposed Project.

5.16 Recreation

Would the Project:

(a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (No Impact)

The proposed Project involves the construction and operation of a SMA within the former Guadalupe Oil Field site. Operation of the SMA would not require any new full-time workers and would not result in any increase in demand for housing. Therefore, the proposed SMA Project would not increase the use of existing neighborhood or regional parks or other recreational facilities. Therefore, no impacts would occur as a result of the proposed Project.

(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (No Impact)

The proposed Project does not include any recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impacts would occur as a result of the proposed Project.

5.17 Transportation

The proposed SMA Project would generate offsite traffic due to the delivery of materials and supplies needed for the construction of the SMA. This includes delivering clay for the liner and cap, gravel for the liner, the liner material, and cement. All of this material would be delivered via truck to the Guadalupe

site. Table 18 provides the projected offsite truck trips for the proposed SMA Project as well as the truck trips that would be needed to move the hydrocarbon affected material to the Santa Maria Landfill, which represents the baseline conditions.

Table 18 Construction Truck Trips

Task	Vehicle Type	Material	# Trips	Miles per Round Trip	Total VMT
Proposed SMA Project					
2-P1	15L Semi Trailer Truck	Clay for Liner	1,048	150	157,200
	15L Semi Trailer Truck	Gravel for Liner	474	220	104,280
	15L Semi Trailer Truck	Liner Material	14	340	5,054
Total Task 2-P1			*1,536*		***266,534***
2-P2	15L Semi Trailer Truck	Clay for Liner	1,048	150	157,200
	15L Semi Trailer Truck	Gravel for Liner	474	220	104,280
	15L Semi Trailer Truck	Liner Material	14	340	5,054
Total Task 2-P2			*1,536*		***266,534***
7	15L Semi Trailer Truck	Clay for Cap	1,866	150	279,900
Total Proposed Project			4,386		812,968
Baseline-Haul Hydrocarbon Effected Material to Santa Maria Landfill					
Hauling	15L Semi Trailer Truck	Impacted Soil	74,094	36	2,630,337
Difference Between Project and Baseline			-69,708		-1,817,369

Source: Chevron 2020.

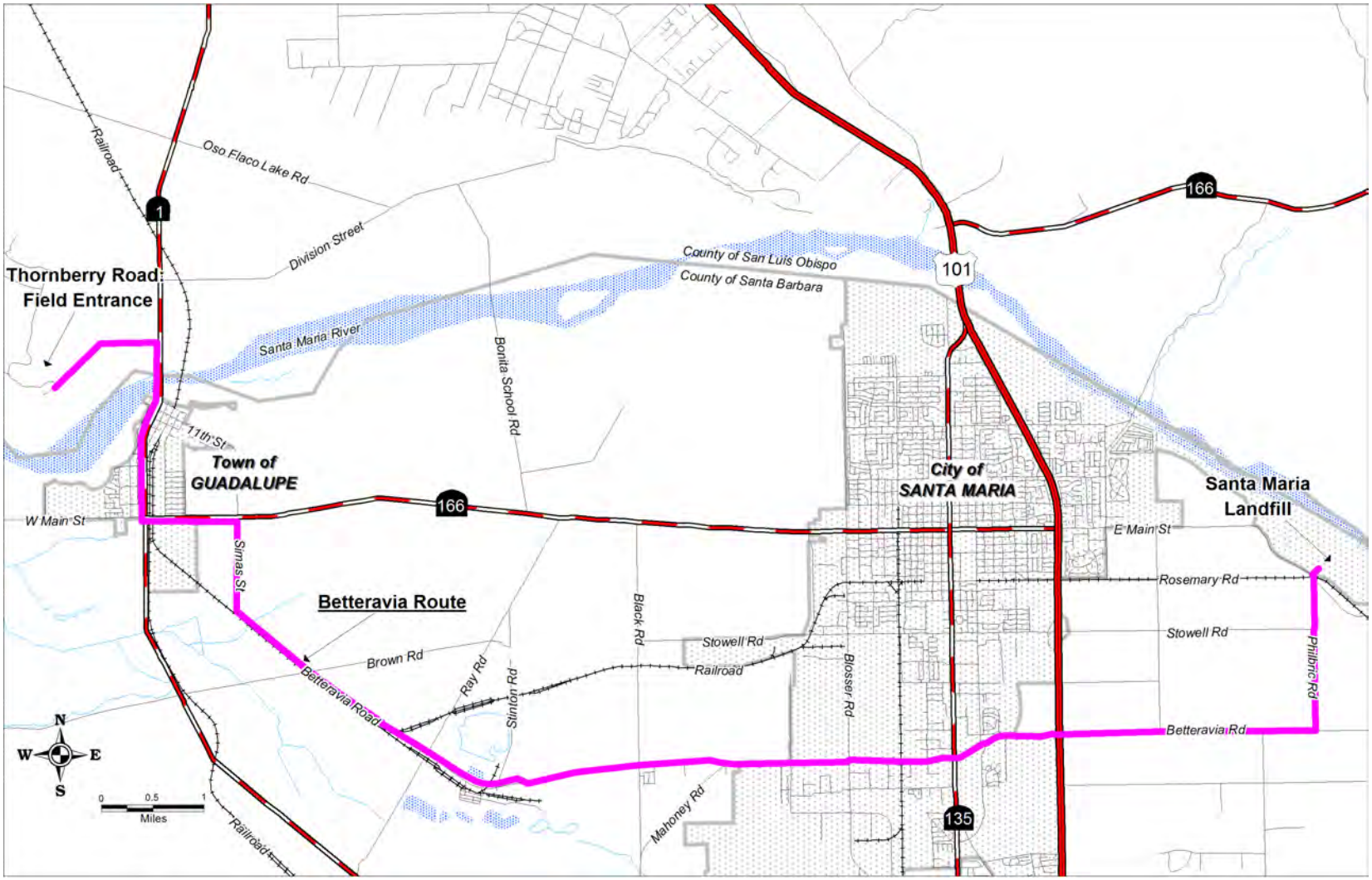
Access to the Guadalupe site is via State Route 1 to Thornberry Road in Southern San Luis Obispo County. The historical travel route for trucks going to the Guadalupe site has been from US Highway 101 via Betteravia Road as shown in Figure 13. This is also the truck route that has been used for transporting hydrocarbon affected material to the Santa Maria Landfill.

in December 2018, the California Natural Resources Agency certified and adopted CEQA Guideline updates that implement changes to the methodology used to assess traffic impacts in CEQA documents. The Guidelines require an alternative to level of service (LOS) for evaluating transportation impacts by enhancing or replacing the typical LOS analysis with a vehicle miles traveled (VMT) analysis. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. The CEQA Guidelines update states that "Beginning on July 1, 2020, the provisions of this section shall apply statewide." (CEQA Guidelines §15064.3 (d)). As such, the transportation analysis is based upon VMT.

Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impact in CEQA with the new VMT requirement states the following; "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (COPR 2018). Heavy duty trucks, such as the trucks that would be used for delivering material and supplies would not be considered in the evaluation of VMT impacts under the requirements of CEQA Guidelines §15064.3.

However, the analysis below discussed the VMT for the trucks and compares these to what would occur under the baseline conditions of transporting all of the hydrocarbon affected material to the Santa Maria Landfill.

Figure 13 Betteravia Truck Route to the Guadalupe Site and to the Santa Maria Landfill



Source: MRS Environmental

Would the Project:

(a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (No Impact)

As discussed above, the proposed SMA Project would reduce overall VMT when compared the baseline (a 72% reduction). The proposed Project would also reduce overall truck trips by 94% when compared to the baseline conditions, which would substantially reduce the number of truck trips that would occur through the Cities of Guadalupe and Santa Maria.

Peak daily truck trips for the proposed SMA Project would occur in Task 2-Phase 1 and 2 at about 54 round trips per day, which compares with the baseline of about 52 round trips per day to the Santa Maria Landfill. Based upon Caltrans data for 2018, State Route 1 in the Guadalupe area has an Average Annual Daily Traffic (AADT) of about 7,500 vehicles, of which about 15% was truck traffic (Caltrans 2020a). The proposed Project would add an additional 2 round trips to be baseline during the two months associated with Task 2-Phase 1 and Phase 2.

Given that the project would result in a net reduction of both truck trips and VMT compared with the baseline, the proposed project would not conflict with any applicable traffic program, plan, or ordinance. Therefore, there would be no impact for this item.

(b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)? (No Impact)

CEQA Guidelines § 15064.3, subdivision (b) discussed the criteria for analyzing transportation impact using VMT. As discussed above, This section of the CEQA guidelines would not apply to truck transport based upon the guidance issued by the Governor's Office of Planning and Research. However, the MND contains an analysis of VMT for the trucks associated with the proposed SMA Project

Table 18 provides an estimate of the VMT for the proposed SMA Project as well as for the baseline conditions, which is transporting the hydrocarbon affected material to the Santa Maria Landfill. The proposed Project would result in a net reduction of VMT when compared to the baseline. Therefore, the proposed SMA Project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b). Therefore, there would be no impact under this item.

(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

The proposed SMA project would not require the construction of any new public roads or create any new incompatible uses for local roadways. The proposed Project would eliminate the baseline trucking of hydrocarbon affected material to the Santa Maria Landfill. Therefore, there would be no impact for this item.

(d) Result in inadequate emergency access? (No Impact)

Construction and operation of the proposed SMA Project would not present an increased fire or hazard risk as the Guadalupe site. The proposed Project would not affect the existing emergency access to the Guadalupe site. Therefore, there would be no impact to emergency access.

5.18 Tribal Cultural Resources

Would the Project:

(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). (Less Than Significant)

Information included in this section utilizes the result of a Phase I Archaeological Study prepared by Padre Associates, Inc. (Padre). Padre completed the Phase I archaeological study pursuant to the California Environmental Quality Act (CEQA) Guidelines. CEQA requires lead agencies to evaluate proposed projects for their potential to impact archaeological resources (Public Resources Code Section 21082, 21083.2, and 21084.1, and California Code of Regulations 15064.5). According to the CEQA Guidelines, "historical resources" include buildings, structures, objects, districts, or sites that may possess prehistoric or historical archaeological, architectural, cultural, or scientific importance. CEQA states that if a project will have a significant effect on important cultural resources, then alternative plans or mitigation measures need to be developed. However, only important cultural resources need to be considered in the mitigation plans. The Phase I Archaeological Study contains a detailed discussion of the archeology and ethnographic context of the of the former Guadalupe Oil Field site.

The results of the Phase I assessment found that no previously recorded cultural resources are located within the proposed SMP Project site. The physical survey of the site found no cultural resources in the area. Soils were observed to be generally disturbed, although there is a possibility that previous construction activities may have obscured intact, native soils in the area. However, given the culturally sensitive nature of the former Guadalupe Oil Field site and the surrounding areas, Native American monitors should be present for all ground disturbance activities as required by Condition 103 of CDP/DP D890558D.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (Less Than Significant)

For purposes of impact analysis, a tribal cultural resource is considered a site, feature, place, cultural landscape, sacred place, or object which is of cultural value to a California Native American Tribe and is either on or eligible for the California Register or a local historic register.

San Luis Obispo County sent notification letters on May 4, 2020 to the California Native American Tribes that requested inclusion on the County's AB 52 notification list. As of the end of August 2020, the County had received one written response and one phone call to these notification letters. The letter was from the Salinan Tribe of Monterey and San Luis Obispo County. The phone call was from the yak titʸu yak tiłhini (ytt) a tribe of indigenous Northern Chumash people from the San Luis Obispo County region. Both the e-mail and the phone call requested that a Native American monitor be present for all ground disturbance activities.

The ytt tribe has been providing Native American motoring services at the former Guadalupe Oil Field as part of the ongoing Guadalupe Restoration Project.

Given the culturally sensitive nature of the former Guadalupe Oil Field site and the surrounding areas, Native American monitors should be present for all ground disturbance activities as required by Condition 103 of CDP/DP D890558D.

5.19 Utilities/Service Systems

The Former Guadalupe Oil Field is served by Pacific Gas and Electric (PG&E) for electrical power. The site does not have access to utility gas, and water for the site is provide by onsite water wells. Wastewater from the Guadalupe Restoration Project is handled onsite via wastewater treatment facility. Construction and operation of the SMA would require small amount of electrical power from PG&E for running various pumps and other ancillary equipment. The construction and operations of the proposed SMA Project would generate runoff wastewater that would be collected and processed in the existing wastewater treatment facility.

Would the Project:

(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (No Impact)

The proposed SMA Project would have an integral wastewater runoff collection system that would collect runoff from the SMA and send it to the existing wastewater treatment facility located at the Guadalupe site. No new water or wastewater treatment facilities would need to be constructed for the Proposed Project. There would be no new or expanded natural gas facilities. Therefore, no impacts would occur as a result of the proposed Project.

(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)

Water would be needed for construction and operation of the proposed SMA Project. Water for construction would be needed for dust control and soil compaction. For operations, water would be need for vegetation restoration activities. Once the vegetation has established, no operational water would be needed.

There would be sufficient water supplies available to serve the proposed Project from existing onsite water wells as discussed in the Section 5.10(b), Hydrology/Water Quality. No new or expanded water production facilities would be needed for the proposed SMA Project. Therefore, no impacts would occur as a result of the proposed Project.

(c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)

The former Guadalupe Oil Field is served by their own wastewater treatment facility, that has been permitted by the CCRWQCB and the County of San Luis Obispo. None of the runoff from the SMA Project would be sent to an outside wastewater treatment provider. The proposed SMA Project would introduce water from two additional fluid inputs to the onsite water treatment facility: 1) leachate collected from the LCRS; and, 2) precipitation run-off from the open working face. As part of the WDR application Golder (Golder 2020), conducted an analysis to evaluate if the water treatment facility has the capacity to handle

these additional fluids. The analysis assumes that once leachate production begins it would be continuous and it would be at the maximum peak flow of 78 gpm. Collectively, then, the combined flow from the remediation wells and remediation area storm water, the leachate collected from the LCRS, and the peak storm water run-off from the entire SMA during a typical wet season would be approximately 122 gpm, which is well within the effective maximum flow rate of the water treatment facility.

Therefore, no impacts would occur as a result of the proposed Project.

(d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (No Impact)

No solid waste would be generated as part of the proposed SMA Project. All of the hydrocarbon affected material would remain at the SMA site. Therefore, no impacts would occur as a result of the proposed Project.

(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

All local, state, and federal guidelines regarding solid waste will be complied with during project construction and operation. Therefore, no impacts would occur as a result of the proposed Project.

5.20 Wildfire

Wildfire risk in California is evaluated on a three-tier scale based on fire hazard severity potential: very high, high, and moderate. The California Department of Forestry and Fire Protection (CALFIRE) maps all areas in the state that could fall under any tier of this scale and divides these areas into zones. This Plan is concerned with the location of Very High Fire Hazard Severity Zones (VHFHSZ). The former Guadalupe Oil Field site is located in a State Responsibility Area high fire zone and is not located in a VHFHSZ in the Local responsibility Area as defined by Cal Fire/County Fire.

Would the Project:

(a) Substantially impair an adopted emergency response plan or emergency evacuation plan? (No Impact)

The project is required to meet all applicable fire codes and County regulations that provide for adequate access to and from the site and would not impair the current emergency access to the site. The project would not impair the implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impacts would occur as a result of the proposed Project.

(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (No Impact)

The proposed SMA Project would involve the construction of new vegetated slopes within the former Guadalupe Oil Field site. The proposed site of the SMA already contains costal dune scrub vegetation, and the area surrounding the proposed Project site is primarily coastal dune scrub. As such, the construction of the SMA Project would not exacerbate wildfire risk at the former Guadalupe Oil Field site.

(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)

No new roads, fuel breaks, emergency water sources, power lines or other utilities would need to be installed as part of the proposed SMA Project. All required roads and associated utility connections for the proposed SMA Project are currently located at the proposed Project site. Maintenance of the existing roads, power lines and other utilities at the former Guadalupe Oil Field site would remain that same as the current operations. Therefore, no impacts would occur as a result of the proposed Project.

(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (No Impact)

The project site is surrounded by coastal dunes with the nearest development being agricultural fields. In the unlikely event of a fire, the area around the proposed SMA Project would not pose a significant risk to people or structures due to runoff, post-fire slope instability or drainage changes due to the isolated nature of the site. Therefore, no impacts would occur as a result of the proposed Project.

5.21 Mandatory Findings of Significance

(a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (No Impact)

Based on the preceding analysis, the proposed SMA Project does not have the potential to substantially degrade the quality of the environment, nor reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Specifically, the proposed Project involves the construction and operation of a SMA that would restore about 18 acres of coastal dune scrub habitat at the former Guadalupe Oil Field site. Therefore, no impacts would occur as a result of the proposed Project.

(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) (No Impact)

The proposed Project involves the construction and operation of a SMA that would restore about 18 acres of coastal dune scrub habitat at the former Guadalupe Oil Field site. Implementation of the SMA Project would eliminate the need to truck hydrocarbon affected material to the Santa Maria Landfill, which would reduce overall GHG emissions and eliminate a substantial amount of trucking along public roads, and through the Cities of Guadalupe and Santa Maria. Therefore, the proposed Project would not directly result in impacts that would be individually limited, but cumulatively considerable.

(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (Less than Significant with Mitigation Incorporated)

The proposed Project involves the construction and operation of a SMA that would restore about 18 acres of coastal dune scrub habitat at the former Guadalupe Oil Field site. Based upon the analysis presented above, the proposed Project would not have a substantial adverse effect on human beings either directly or indirectly with the incorporation of the recommended mitigation measures.

In view of the above analysis, it is determined that the proposed Project would not have a significant impact on the environment and an environmental impact report is not required.

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7.0 List of Contacts

Mr. Jordan Haserot, Central Coast Regional Water Quality Control Board

Mr. Greg Bishop, Central Coast Regional Water Quality Control Board

Mr. Daniel Pelikan, Central Coast Regional Water Quality Control Board

Ms. Melissa Boggs, California Department of Fish and Wildlife

Ms. Alison Dettmer, California Coastal Commission

Mr. Tim Fuhs, San Luis Obispo County Air Pollution Control District

Ms. Kate B. Shea, San Luis Obispo County Planning and Building

Mr. Young L. Choi, San Luis Obispo County Planning and Building

Mr. Ercan Candan, Trihydro

Ms. Danielle Wold, Chevron Environmental Management Company

Mr. Owen Ranta, Chevron Environmental Management Company

Appendix A

Developer's Statement

DEVELOPER'S STATEMENT FOR GUADALUPE RESTORATION SOIL MANAGEMENT AREA DEVELOPMENT PLAN/COASTAL DEVELOPMENT PERMIT DRC2019-00069

The applicant agrees to incorporate the following measures into the project. These measures become a part of the project description and therefore become a part of the record of action upon which the environmental determination is based. All development activity must occur in strict compliance with the following mitigation measures. These measures shall be perpetual and run with the land. These measures are binding on all successors in interest of the subject property.

> **Note:** The items contained in the boxes labeled "Monitoring" describe the County procedures to be used to ensure compliance with the mitigation measures.

The following mitigation measures address impacts that may occur as a result of the development of the project.

Air Quality

Mitigation Measure AQ-1 – During construction activities, the contractor shall ensure that measures are complied with to reduce short-term (construction) air quality impacts associated with the Project: a) controlling fugitive dust by regular watering or other dust control measures (such as covering stock piles with tarps) to ensure that dust does not impact offsite areas and do not exceed the 20% opacity limit identified in SLO County APCD Rule 401 Visible Emissions; b) provide water spray during loading and unloading of earthen materials; c) cover all trucks hauling dirt, sand or loose material or require all trucks to maintain at least two feet of freeboard; and d) sweep streets daily if visible soil material is carried out from construction site.

Mitigation Measure AQ-2 – All off road construction equipment shall meet Tier 4i or Tier 4F emissions standards. To the maximum extent feasible, construction equipment engines shall meet Tier 4F emission standards.

> **Monitoring (AQ-1 & AQ-2)** Compliance will be verified during on-site inspection by a County-approved environmental monitor.

Biological Resources

Mitigation Measure BIO-1 – The Applicant shall eliminate, as feasible, the use of open storm-water retention basins throughout the duration of construction and operation phase; if basins are necessary, basin design shall include wildlife protection measures to reduce all wildlife from being exposed or attracted to open affected water basins. Chevron shall eliminate, as soon as detected, any project-related standing water in berms or low spots that collect and hold water. If berms and low spots do collect water, a qualified wildlife biologist shall conduct regular surveys and remove any individual animals from affected waters.

Mitigation Measure BIO-2 – The Applicant shall place a 3-foot layer of clean sand, taken from a known borrow site or clean topsoil stockpile, for a final cap over the proposed ET layer.

Monitoring (BIO-1) Compliance will be verified during on-site inspection by a County-approved environmental monitor.

Compliance (BIO-2) Prior to the issuance of a construction permit, the applicant shall show the above measure on all applicable construction drawings and/or submit proof to the County for review and approval.

Cultural Resources

Mitigation Measure CR-1 – If human remains are discovered, Health and Safety Code § 7050.5 requires that further disturbances and activities must cease in any area or nearby area suspected to overlie remains, and the County Coroner must be contacted. Pursuant to PRC § 5097.98, if the remains are thought to be Native American, the coroner must notify the Native American Heritage Commission, who must then notify the Most Likely Descendent. At this time, the project archaeologist must contact the Planning and Building Director (or designee) so that the agencies may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 are to be followed as applicable.

Monitoring & Compliance (CR-1) Prior to the issuance of a construction permit, the applicant shall show the above measure on all applicable construction drawings and/or submit proof to the County for review and approval,

Water Quality

Mitigation Measure WQ-1 – Waste materials to be stored in the SMA shall be limited to petroleum hydrocarbon affected soils and sediments generated by cleanup of the former Guadalupe Oil Field only. No wastes from other generators or other sites shall be deposited in the SMA, including no sources of solvents, or materials of a hazardous nature, such as high concentrations of metals, pesticides, or herbicides.

Mitigation Measure WQ-2 – The Applicant shall prepare a Groundwater Monitoring Plan for the SMA. The plan shall require monitoring at the SMA consistent with the requirements of 27 CCR section 20385, including detection monitoring pursuant to 27 CCR section 20420 and, if necessary, based on the results of detection monitoring, evaluation monitoring pursuant to 27 CCR section 20425 and corrective action monitoring pursuant to 27 CCR section 20430. The Plan shall require monitoring in conformance with 27 CCR section 20415. The Groundwater Monitoring Plan shall be approved by the Central Coast Regional Water Quality Control Board (CCRWQCB) in consultation with San Luis Obispo County Building and Planning. Monitoring reports shall be submitted to CCRWQCB and San Luis Obispo County Building and Planning consistent with the requirements specified by the CCRWQCB as part of the WDR permit.

If the CCRWQCB implements more stringent groundwater monitoring in their WDR permit conditions than this mitigation measure, then the WDR permit conditions shall govern.

Monitoring (WQ-1) Compliance will be verified during on-site inspection by a County-approved environmental monitor.

Monitoring & Compliance (WQ-2) At the time of construction permit, applicant shall provide Groundwater Monitoring Plan for the SMA. Monitoring Plan shall be reviewed, and approved by Central Coast Regional Water Quality Control Board, in consultation with San Luis Obispo County Building and Planning Department.

The applicant understands that any changes made to the project description subsequent to this environmental determination must be reviewed by the Environmental Coordinator and may require a new environmental determination for the project. By signing this agreement, the owner(s) agrees to and accepts the incorporation of the above measures into the proposed project description.

Owen Ranta, as Environmental Compliance Officer for Chevron Environmental Management Company — January 11, 2021

Signature of Agent(s) Date

Owen Ranta

Name (Print)

Appendix B

Mitigation Monitoring Program

MITIGATION MONITORING PROGRAM CHECKLIST

Project Name.: Guadalupe SMA Project **Applicant: Chevron Environmental Management Company**

Initial Study/MND Approved by: Young Choi **Date: September 21, 2020**

Mitigation Measures No. / Implementing Action	Action Required by Applicant	Party Responsible for Verification	Method of Verification	Verification Timing
AQ-1 – During construction activities, the contractor shall ensure that measures are complied with to reduce short-term (construction) air quality impacts associated with the Project: a) controlling fugitive dust by regular watering or other dust control measures (such as covering stock piles with tarps) to ensure that dust does not impact offsite areas and do not exceed the 20% opacity limit identified in SLO County APCD Rule 401 Visible Emissions; b) provide water spray during loading and unloading of earthen materials; c) cover all trucks hauling dirt, sand or loose material or require all trucks to maintain at least two feet of freeboard; and d) sweep streets daily if visible soil material is carried out from construction site.	Implement identified measures throughout construction of SMA.	County Planning & Building	Onsite Inspection	Throughout Construction
AQ-2 – All off road construction equipment shall meet Tier 4i or Tier 4F emissions standards. To the maximum extent feasible, construction equipment engines shall meet Tier 4F emission standards.	Obtain engine certifications from CARB for each piece of off road construction equipment.	County Planning & Building	Verify certifications are for Tier 4i or 4F engines and conduct onsite Inspection of construction equipment	Throughout Construction
BIO-1 – The Applicant shall eliminate, as feasible, the use of open storm-water retention basins throughout the duration of construction and operation phase; if basins are necessary, basin design shall include wildlife protection measures to reduce all wildlife from being exposed or attracted to open affected water basins. Chevron shall eliminate, as soon as detected, any project-related standing water in berms or low spots that collect and hold water. If berms and low spots do collect water wildlife biologists shall conduct regular surveys and remove any individual animals from affected waters.	Eliminate to the extent feasible, the use of open storm-water retention basins. Design any basins to include wildlife protection measures. Conduct regular surveys and remove any individual animals from affected waters.	County Planning & Building	Onsite Inspection	Throughout Construction and Operation
BIO-2 – The Applicant shall place a 3-foot layer of clean sand, taken from a known borrow site or clean topsoil stockpile, for a final cap over the proposed ET layer.	Include three-feet of clean sand cover in final engineering drawings. Place three-feet of clean sand as cap over the ET layer.	County Planning & Building	Review and approval of final engineering drawings Onsite Inspection	Prior to Issuance of Grading Permit

Mitigation Measures No. / Implementing Action	Action Required by Applicant	Party Responsible for Verification	Method of Verification	Verification Timing
				Upon Completion of SMA Cover
CR-1 - If human remains are discovered, Health and Safety Code § 7050.5 requires that further disturbances and activities must cease in any area or nearby area suspected to overlie remains, and the County Coroner must be contacted. Pursuant to PRC § 5097.98, if the remains are thought to be Native American, the coroner must notify the Native American Heritage Commission, who must then notify the Most Likely Descendent. At this time, the project archaeologist must contact the Planning and Building Director (or designee) so that the agencies may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 are to be followed as applicable.	Applicant responsible for having a County approved Archeologist and Native American Monitor present during ground disturbance activities. Notify County Coroner, County Planning & Building, and Native American Heritage Commission in human remains are found.	SLO County Coroner County Planning & Building	Prior to Issuance of Building Permits During Construction	During Ground Disturbance Activities
WQ-1 - Waste materials to be stored in the SMA shall be limited to petroleum hydrocarbon affected soils and sediments generated by cleanup of the former Guadalupe Oil Field only. No wastes from other generators or other sites shall be deposited in the SMA, including no sources of solvents, or materials of a hazardous nature, such as high concentrations of metals, pesticides, or herbicides.	Documentation of material that is placed into the SMA.	County Planning & Building	During Construction	Throughout Construction
WQ-2 - The Applicant shall prepare a Groundwater Monitoring Plan for the SMA. The plan shall require monitoring at the SMA consistent with the requirements of 27 CCR section 20385, including detection monitoring pursuant to 27 CCR section 20420 and, if necessary, based on the results of detection monitoring, evaluation monitoring pursuant to 27 CCR section 20425 and corrective action monitoring pursuant to 27 CCR section 20430. The Plan shall require monitoring in conformance with 27 CCR section 20415. The Groundwater Monitoring Plan shall be approved by the Central Coast Regional Water Quality Control Board (CCRWQCB) in consultation with San Luis Obispo County Building and Planning. Monitoring reports shall be submitted to CCRWQCB and San Luis Obispo County Building and Planning consistent with the requirements specified by the CCRWQCB as part of the WDR permit. If the CCRWQCB implements more stringent groundwater monitoring in their WDR permit conditions than this mitigation measure, then the WDR permit conditions shall govern.	Applicant prepares the Groundwater Monitoring Plan to meet the requirements of the measure.	CCRWQCB County Planning & Building	Review and Approval of Plan Review of quarterly reports	Prior to Issuance of Grading Permit Throughout Operations

Appendix C

LIST OF EXISTING CDP/DP D890558D PERMIT CONDITIONS APPLICABLE TO THE SMA PROJECT

LIST OF EXISTING CDP/DP D890558D PERMIT CONDITIONS APPLICABLE TO THE SMA PROJECT

7.1.1 Approved Project

1. This Coastal Development Permit/Development Plan (CDP/DP) approval authorizes Unocal to conduct remediation and site characterization activities at the Guadalupe oil field consistent with the California Regional Water Quality Control Board's (RWQCB) **Cleanup or Abatement Order No 98-38** adopted by the RWQCB on April 3, 1998 and as amended on July 13, 1998 and November 6, 1998, and incorporated herein as though set forth in full. Specifically, this approval authorizes the following remediation project elements:

6. Post excavation groundwater monitoring shall be conducted pursuant to the requirements and direction of the RWQCB. Locations of monitoring wells shall be approved by County Department of Planning and Building for compliance with these conditions of approval.

9. Prior to the commencement of each stage Unocal shall submit to the County Department of Planning and Building for review and approval a time schedule and plan of excavation site sequencing. To reduce the length of exposure time of the excavated and soil storage areas, the clean overburden shall be used to immediately fill the cavity or clean sediment from a similar site shall be used to replace the excavated soil.

10. Unocal shall stockpile clean top soil and clean overburden soil in previously disturbed areas, altered areas, or future excavation areas or in unvegetated areas to minimize impacts to erosion/sedimentation patterns. Proposed clean soil and clean overburden soil storage areas shall be prepared in a similar manner as the excavated area. This preparation shall include perimeter staking, brush raking, top soil removal and stockpiling, and protective measures to prevent erosion of the topsoil stockpile. All proposed stockpile areas and erosion control measures shall be reviewed and approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission.

11. Unocal may stockpile contaminated soil at TB-9 or TB-8 pursuant to the *Former Guadalupe Oil Field Implementation Plan, May 15, 1998* (with subsequent amendments June 15, 1998 and October 27, 1998).

7.1.2 Sumps

14. All sumps discovered as part of excavation activities shall be removed. CAO No. 98-38 requires Unocal to submit a report on all sumps and other waste management units located between the B Road and the ocean. Proposed sump remediation plans are to be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission for review and approval. Sump remediation plans shall also be submitted to the Santa Barbara County Energy Division for review and approval if any sumps are located within Santa Barbara County's permitting jurisdiction. Additional environmental review and coastal land use permitting may be required prior to removal of any sump.

7.1.3 Permit Time Limits

15. This Coastal Development Permit/Development Plan approval is valid for a period of 24 months from the effective date of the decision. At the end of such time period, this Coastal Development Permit/Development Plan shall expire and become void unless:
    a. Substantial site work toward establishing the authorized use has been performed pursuant to section 23.02.042 of the Coastal Zone Land Use Ordinance; or

7.1.4 Title 19 Requirements

16. All excavation projects approved as part of this permit are subject to the provisions of Title 19 of the County Code. Excavation projects shall not proceed until construction and/or grading permits are issued by the County Department of Planning & Building.

17. Unocal shall submit construction permit applications to the County Building Division for new electrical services to pumps, compressors, wells, and other equipment for review and approval.

7.1.5 Permitting

18. **Prior to issuance of a construction and/or grading permit** for remediation activities for any stage, Unocal shall submit evidence to the County Department of Planning and Building that permits from all regulatory agencies have been received for that stage of activities. These agencies include but are not limited to:
    a. Regional Water Quality Control Board
    b. California Dept. Of Fish & Game
    c. U.S. Army Corps of Engineers
    d. U.S. Fish & Wildlife Service
    e. California Coastal Commission
    f. State Lands Commission
    g. Air Pollution Control District
    h. Division of Oil & Gas and Geothermal Resources

7.1.6 Project Monitoring

19. **Prior to the issuance of a construction and/or grading permit for Stage 1**, Unocal shall fund the hiring of an independent project monitor(s) to be selected by the County Department of Planning and Building, the RWQCB and the Executive Director of the Coastal Commission after consultation with Unocal and other permitting agencies. The monitor(s) shall be under contract with the County, to act as project monitor(s) and condition compliance inspector(s) for the County of San Luis Obispo, the RWQCB, the Coastal Commission and other permitting agencies. The monitor(s) shall prepare a specific mitigation tracking monitoring plan and submit it to the County Department of Planning and Building, the RWQCB, the Executive Director of the Coastal Commission and other permitting agencies for review and approval.

7.1.7 Changes to the Approved Project

20. To make changes to the approved project described above, Unocal shall submit to the County Department of Planning and Building a written request with supporting materials pursuant to 23.02.038 of the Coastal Zone Land Use Ordinance. The County Planning Director may approve a requested change upon verification of its conformity with Title 23, provided that such approval shall not modify the effective date of the land use permit. Major changes to the project, as determined by the County Planning Director, in consultation with the Executive Director of the Coastal Commission, shall be requested through a CDP/DP modification application for Planning Commission consideration. Unocal shall send a copy of all proposed project amendments to the Executive Director of the Coastal Commission concurrent with its submittal to the County. This condition shall be implemented by Unocal throughout the project.

7.1.8 Single Point of Contact

21. **Prior to issuance of a grading permit for each stage**, Unocal shall designate a single point of contact to address compliance with these conditions. The County Department of Planning and Building shall also designate a single point of contact and will request the same from other regulatory agencies.

7.1.9 Indemnification

22. Unocal shall, as a condition of approval of this Coastal Development Permit/ Development Plan defend, at its sole expense, any action brought against the County of San Luis Obispo, its present or former officers, agents, or employees, by a third party challenging either its decision to approve and issue this Coastal Development Permit/Development Plan or the manner in which the County is interpreting or enforcing the conditions of this Development Plan, or any other action by a third party relating to approval or implementation of this Development Plan. Unocal shall reimburse the County for any court costs and attorney's fees which the County may be required by a court to pay as a result of such action, but such participation shall not relieve Unocal of its obligation under this condition.

7.1.10 Geology

23. At a minimum, Unocal shall implement some or all of the following measures at any time when sustained wind speeds exceed 20 knots (25 mph) and when the independent Onsite Environmental Coordinator or SLOAPCD determines that an excessive amount of wind erosion is occurring to stockpiles or borrow sites, disturbed areas or other portions of the work site:

    a. Water shall be applied to areas generating eroding areas.

    b. Activities that increase erosion shall cease until conditions change.

    c. Other anti-erosive measures approved by the SLOAPCD are implemented.

7.1.11 Marine, Surface, and Groundwater Quality

30. As part of design review and prior **to issuance of a grading permit for each excavation project**, Unocal shall obtain a NPDES Construction Storm Water Activity Permit from the RWQCB. Unocal's Pollution Prevention Plan shall specify Best Management Practices (BMP) to reduce erosion of disturbed soils within construction staging areas. These may include but are not limited to:

utilization of hay bales, silt fences, sediment traps, coffer dams, and containment berms. Chemical soil stabilizers shall not be used unless specifically authorized by the RWQCB and SLOAPCD.

35. Compounds designed to enhance biological degradation of remaining hydrocarbons, such as nutrients and oxygen-releasing substances, shall be added to the excavations before backfilling. The types and amounts of such compounds to be added shall be determined on a general site wide basis by Unocal and approved by the RWQCB before excavation.

38. Prior to conducting any remediation or abandonment activities, Unocal shall submit to the County Department of Planning and Building and the Executive Director of the Coastal Commission a CDFG/OSPR-approved final oil and fuel spill contingency plan that includes but is not necessarily limited to the following provisions:

    a. Identification of HAZWOPER-certified personnel to deploy emergency response equipment;

    b. Adequate oil spill cleanup and containment equipment maintained onsite to respond to the first two hours of a spill until Clean Seas Cooperative reaches the site;

    c. Secondary containment for parked construction equipment and fuel storage vessels. Proper containment techniques including plastic sheeting, sorbent pads and booms, and vacuum trucks shall be used when cutting or draining pipelines. All purge water and waste oil shall be disposed at a NPDES or other type of permitted facility. All storage vessels used for temporary containment of contaminated ground water or recovered product shall have adequate containment structures in place so that potentially spilled materials will not impact adjacent water resources;

    d. A wildlife contingency plan that specifies measures to deter animals from the remediation/abandonment sites and provide care for animals that became oiled or injured during remediation/abandonment activities;

    e. Offshore emergency oil spill cleanup equipment, including skimmers and boom, staged onsite during remediation/abandonment activities at sites 5X, A2A, A5A, 8X, A8, C7 and C8;

    f. Staging, fueling, equipment and materials storage areas and soil stockpiles shall be located at least 100’ away from surface water bodies or inside bermed areas to prevent releases into surface waters;

    g. Immediate notification to the CDFG/OSPR, the County Department of Planning and Building, the RWQCB, the USFWS and the Executive Director of the Coastal Commission if any sheen, foam or other contaminated material is detected in the Santa Maria River or ocean. Containment boom shall be stockpiled in close proximity and ready for immediate deployment if directed by the CDFG/OSPR or the USFWS. The foam and visible film shall be removed regularly if feasible (2–4 times per day) and contained for disposal.

40. Prior to issuance of any grading permit for excavation, or Notice To Proceed for any control and/or treatment system Unocal shall submit to the County Department of Planning and Building and the RWQCB for review and approval a comprehensive **Inspection and Maintenance (I and M) Program** for all control and treatment systems. Monitoring systems shall be installed on any critical process that, in the event of a failure, would result in the loss of hydraulic control of the separate-phase

plumes or a shut down of a biosparge system. As with the existing extraction wells at the 5X site, these monitoring systems shall be checked daily.

7.1.12 Onshore Biological Resources

The U.S. Fish & Wildlife Service (USFWS) will issue a Biological Opinion pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA), for Stage 1 of the proposed remediation project. Additionally, Unocal has applied for an incidental take permit under Section 10 of the ESA for all activities not covered in the Biological Opinion. In order to obtain an incidental take permit, Unocal must develop a Habitat Conservation Plan (HCP). The California Department of Fish and Game will issue a permit under Section 2081 of the California Fish and Game Code. It is the intent of these conditions to not be in conflict with the approved permits issued by these two agencies. However, in instances where these conditions or the provisions of the permits are more stringent, the more stringent conditions shall apply. If these conditions are found to be in conflict with the approved Section 7 or 10 permits or the California Department of Fish and Game's (CDFG) 2081 permit, then the approved Section 7 or Section 10 permits or the 2081 permit shall prevail over these conditions of approval.

7.1.13 Field-Wide Biological Conditions

62. Prior to September 1, 1999, a **Comprehensive Management and Coordination Plan** shall be developed by Unocal and submitted for review and approval by the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies. The purpose of this Plan is to coordinate site characterization, oil spill remediation, oil field abandonment, and infrastructure removal activities with ecological restoration efforts so as to avoid conflict and redundancy, and increase efficiency. It is also intended to coordinate site-specific activities with field-wide restoration efforts (e.g., managing sensitive species, restoring the same species at various sites, and establishing a weed-control program). In order to accomplish these goals, the Comprehensive Management and Coordination Plan shall be coordinated with the Surface Restoration and Revegetation Plan (Exhibit G, Condition 6), the Soil Stabilization and Erosion Control Plan (Exhibit F, Condition 63), and the site-specific requirements of the Habitat Restoration, Revegetation, and Monitoring Plan (Exhibit F, Condition 64). The Management and Coordination Plan must include, but not necessarily be limited to, the following requirements:

    a. Create a Unocal Management and Coordination Team and describe its organizational structure, including personnel, methods of contact, and responsibilities for coordinating site characterization, oil spill remediation, oil field abandonment, and infrastructure removal with surface restoration, soil stabilization and ecological restoration activities, including, but not necessarily limited to, habitat enhancement, restoration, and creation, revegetation, sensitive species management, and exotic species control.

    b. Incorporating the requirements of Condition F68, create a protocol for surveying, delineating, and marking construction sites and access corridors with special provisions for areas where construction activities have the potential for impacting wetlands or sensitive species. In order to minimize delays in construction, these protective activities will be conducted by qualified biologists selected by Unocal and approved by the County Department of Planning and Building, the Executive Director of the Coastal Commission, and appropriate resource agencies. However, in order to insure adequate oversight, Unocal will notify the Onsite Environmental Coordinator in a timely fashion prior to

conducting surveying, delineating or marking activities. At the discretion of the Onsite Environmental Coordinator, an independent biological monitor under the Onsite Environmental Coordinator's direction may participate in these activities. The Onsite Environmental Coordinator, in cooperation with Unocal, may alter access corridors as appropriate to insure resource protection.

g. Remove equipment and foreign materials, such as asphalt, concrete, gravel, diatomaceous shale, and imported soil. Crude oil used to stabilize slopes may be left in place where a thriving, predominately native plant community has established through the dried oil. In sites severely infested with invasive exotic species, the dried oil shall be removed as part of abandonment activities, except for good cause (e.g., steep slopes or other areas particularly susceptible to soil erosion) and with the approval of the County Department of Planning and Building and the Executive Director of the Coastal Commission. The determination of which sites need to be remediated shall be determined by a qualified biologist under the direction of the Onsite Environmental Coordinator and in cooperation with Unocal. Following oil spill remediation, erosion control measures shall be immediately implemented and the site shall be included in the Habitat Restoration, Revegetation, and Monitoring Plan described in Condition 64 in Exhibit F.

h. As soon as practicable, restore all remediated or abandoned sites not needed for use during the continuing remediation effort.

k. Establish an oilfield-wide exotic species management and eradication program. Using the Habitat Inventory described above, assign priority categories to each weed species and geographic area and establish a matrix of weed control methods and priorities by species and location. Isolated areas or small colonies of beach grass shall be included in the high priority group of species to be treated because of the direct relationship between colony size and difficulty in eradication. Initial efforts shall target isolated occurrences (e.g., pampas grass) and beginning populations (e.g., Senecio sp., veldt grass), and conicosia wherever encountered. This shall be followed by treatment of denser, more established populations of weeds such as veldtgrass and iceplant. Exotic species control activities shall be continued field-wide throughout the period of site characterization, remediation, abandonment, and infrastructure removal and performance monitoring.

m. Develop and implement a field-wide management plan for each sensitive species which is potentially impacted by site characterization, oil spill remediation, oil field abandonment, infrastructure removal or other project-related activities. The program plan shall be developed in consultation with, and be approved by, the appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission. Sensitive species are defined as (a) species which are listed by state or federal agencies as threatened or endangered or which are designated as candidates for such listing, (b) California species of special concern, (c) fully protected or "special animal" species in California, (d) plants considered rare, endangered, or of limited distribution by the California Native Plant Society, and (e) other species which were not recorded on the oilfield prior to January 1, 1999, and for which there is substantial scientific evidence of rarity or endangerment. Potentially impacted sensitive species within the Guadalupe Oil Field include, but are not necessarily limited to, La Graciosa thistle (Cirsium loncholepis), surf thistle (Cirsium rhothophilum), beach spectacle-pod (Dithyrea maritima), dune mint (Monardella crispa), dundelion

(Malacothrix incana), California least tern (Sterna antillarum), western snowy plover (Charadrius alexandrinus), California red-legged frog (Rana aurora draytonii), tidewater goby (Eucyclogobius newberryi), and silvery legless lizard (Anniella pulchra pulchra).

n. Provide a schedule of planned activities.

o. Provide quarterly progress reports to the County Department of Planning and Building and the Executive Director of the Coastal Commission and appropriate resource agencies.

63. Prior to September 1, 1999, a **Soil Stabilization and Erosion Control Plan** shall be developed by Unocal and submitted for review and approval by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The purpose of this plan is to create an oilfield-wide soil stabilization and erosion control program that will integrate efforts at particular sites in the context of larger scale natural processes. The Plan shall be compatible with the Habitat Restoration, Revegetation, and Monitoring Plan objectives. Any soil stabilizers identified for erosion control shall be compatible with native plant recruitment and establishment. The erosion control plan shall include temporary soil stabilization methods to prevent the loss or movement of soil from clean or contaminated soil stockpiles.

64. Prior to September 1, 1999, a **Habitat Restoration, Revegetation, and Monitoring Plan** shall be developed for all but Stage 1 activities by Unocal and submitted for review and approval by the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies. Upon submittal and prior to approval, the Habitat, Revegetation, and Monitoring Plan shall be available for public review and comment for 30 calendar days. For Stage 1 activities, a site specific plan as described herein and which includes the protective provisions of Conditions F62, F66, F67, and F68 will be developed by Unocal and approved by the County Department of Planning and Building and the Executive Director of the California Coastal Commission prior to any ground disturbance.

In compliance with other conditions in Exhibits E, F, and G, additional sites may be added to the Habitat Restoration, Revegetation, and Monitoring Plan after initial approval. Within 90 days after the criteria for inclusion are met, Unocal will develop a site-specific habitat restoration, revegetation, and monitoring plan and submit it to the County Department of Planning and Building and the Executive Director of the Coastal Commission for approval. The overall goal of the activities described in this Plan is to establish healthy, self-sustaining, communities similar in species composition, abundance, and dispersion to undisturbed local natural communities of the same type. The purpose of this Plan is to provide site-specific instructions for achieving this goal at sites impacted by site characterization, oil spill remediation, oil field abandonment, and infrastructure removal activities. Although each site will have unique requirements that must be addressed in this Plan, it is recognized that habitat restoration is not an isolated endeavor, but rather takes place within a larger context. For that reason, the site-specific activities in this plan shall be coordinated through the Comprehensive Management and Coordination Plan (Exhibit F, Condition 62). The Habitat Restoration, Revegetation, and Monitoring Plan shall apply to sites affected by site characterization, oil spill remediation, oil field abandonment and infrastructure removal activities and shall include, but not necessarily be limited to, the following requirements:

a. Each site shall have a specific restoration, revegetation, and monitoring plan. Plan elements that are general or apply to multiple sites may be contained in an appendix and included by reference. Each site-specific plan shall include, but not necessarily be limited to, the following elements:

i Prior to any remediation, abandonment, or infrastructure removal activities, a pre-disturbance biological survey shall be completed. The survey shall identify all species occupying or using the site, estimate the abundance (density or percentage ground cover), size or age structure, and condition of resident species, and the intensity of use (e.g., time spent foraging or loafing) of non-resident species. Wildlife surveys must be conducted within 24 months of the disturbance and must include the seasons during which disturbances will occur. Vegetative surveys must be conducted within 6 months of the disturbance. Surveys of sensitive species must be conducted within 30 days of the disturbance. Ground level photographs shall be taken within 30 days of the disturbance and a high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less will be taken within 3 months before the disturbance.

ii A map shall be prepared with a polygon representing the geographic limits of disturbance and the geographic boundary of restoration and revegetation activities. The disturbance boundary will be physically delineated in the field. The boundary of restoration activities may be larger.

iii Prior remediation, abandonment, infrastructure removal activities and other known disturbances (including grazing) shall be summarized.

iv Prior to issuance of a grading permit for any excavation project, a construction monitoring plan shall be designed by Unocal and approved by the County Planning and Building Department and the Executive Director of the Coastal Commission. This plan shall include, but not necessarily be limited to, the following elements:

(a) Pre-construction topographic survey information.

(b) Specifications for soil compaction, for grading and contouring, for quantity and physical/chemical characteristics of replacement soils and fill, for top soil maintenance or replacement, for erosion control procedures, and other development activities. Upon completion of an excavation, ground surface shall be restored to its pre-construction topographic profile and any temporary sheetpile shall be removed. The area surveyed must include the entire limits of work including access corridors, staging areas, overburden storage areas and topsoil storage areas.

(c) Protocols to determine quantitatively, following physical restoration and grading, whether the physical habitat has been built-to-plan. The post-construction monitoring report must be approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission, prior to revegetation efforts within the area physically restored. This does not preclude early restoration and revegetation activities in portions of the site not subject to construction activities.

vi. A Dune Stabilization Plan which must include, but not necessarily be limited to, (a) monthly monitoring for erosion during the annual rainy season (including the period November through March), until biological performance criteria have been met, (b) remedial measures in the event of erosion, and (c) ongoing dune

stabilization measures which may include appropriate physical measures (e.g., installation of jute netting) and revegetation activities.

vii. The habitat restoration and revegetation plan shall include a description of the habitat and revegetation goals in terms of abundance (e.g., density or ground cover), height or other growth characteristics, recruitment and survival, and general dispersion of particular plant species and the population characteristics (density, age or size structure, etc.) and habitat use by wildlife species. The habitat restoration and revegetation plan will include technical details of collecting seeds and other propagules, propagation, planting, routine monitoring and maintenance (including irrigation), wildlife introductions, and a time schedule. Facilities and staff will be identified.

viii. The restoration and revegetation monitoring plan shall include specific erosion control and ecological performance criteria which relate logically to the local restoration and revegetation goals. Where there is sufficient information to provide a strong scientific rationale, the performance criteria shall be absolute (e.g., a specified percentage ground cover or a specified average height within a specified time for a species). Where absolute performance criteria cannot reasonably be formulated, clear relative performance criteria will be specified. Relative criteria are those that require a comparison of the restoration site with reference sites. Reference sites may be located on the oilfield property or in other areas of the Guadalupe–Nipomo Dunes complex. In the case of relative performance criteria, the rationale for the selection of reference sites, the comparison procedure, and the basis for judging differences to be significant will be specified. If the comparison requires a statistical test, the test will be described, including the desired magnitude of difference to be detected, the desired statistical power of the test, and the alpha level at which the test will be conducted. The design of the sampling program shall relate logically to the performance criteria and chosen methods of comparison. The sampling program shall be described in sufficient detail to enable an independent scientist to duplicate it. Frequency of monitoring and sampling shall be specified for each parameter to be monitored. Sample sizes shall be specified and their rationale explained. Using the desired statistical power and an estimate of the appropriate sampling variability, the necessary sample size will be estimated for various alpha levels, including 0.05 and 0.10.

ix. The performance monitors will coordinate their activities with the Management and Coordination Team and with the revegetation contractors. The performance monitors and revegetation contractors are encouraged to cooperate in field sampling, but the performance monitors shall direct the performance monitoring activities. Performance monitoring shall commence one year following the completion of habitat restoration and revegetation and continue until performance standards have been met for two consecutive years after the end of maintenance or bioremediation activities (watering, replanting etc.) or for 10 years, whichever is shorter. If performance standards are not met in ten years, or if prior to that time Unocal concludes that restoration and revegetation will not meet performance standards, within 180 days Unocal shall apply to the County Department of Planning and Building for an amendment to the Coastal Development Permit which will include alternative mitigation.

b. Within 30 days before excavation, construction, installation of equipment, pipeline removal or any other activity associated with site characterization, oil spill remediation, oil field abandonment or infrastructure removal, qualified biologists in cooperation with the Onsite Environmental Coordinator, shall survey all proposed construction, staging, and access areas for presence of sensitive species that might reasonably be expected to occur based on known habitat requirements or previous sightings. Sensitive species are defined as (a) species which are listed by state or federal agencies as threatened or endangered or which are designated as candidates for such listing, (b) California species of special concern, (c) fully protected or "special animal" species in California, (d) plants considered rare, endangered, or of limited distribution by the California Native Plant Society, and (e) other species which were not recorded on the oilfield prior to January 1, 1999 and for which there is substantial scientific evidence of rarity or endangerment. Individuals and colonies shall be mapped and clearly marked, their condition shall be determined and numbers of individuals or percentage of ground coverage or other appropriate measure of abundance shall be determined and recorded. If sensitive species are present, Unocal will implement the following requirements:

i Adjust or limit construction areas and access routes and construction timing to avoid impact to individuals or colonies of sensitive species.

ii Where impacts to sensitive plant species are unavoidable, develop and implement a salvage, propagation, and replanting program that will utilize both seed and salvaged (excavated) plants which constitute an ample and representative sample of each colony of the species that would be impacted. The program plan shall include measures to perpetuate to the greatest extent possible the genetic lines represented on the impacted sites by obtaining an adequate sample prior to construction, propagating them and using them in the restoration of that site. The salvage, propagation, and replanting program shall be approved by the appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission before any activities that could potentially impact sensitive plant species or a separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (e.g., growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission within one year following habitat restoration at the site.

iii Where impacts to sensitive animal species or their habitats are unavoidable, develop and implement a capture and relocation program. Prior to construction, the site and the surrounding area for a minimum distance of 200 feet beyond the disturbance polygon will be searched and individuals captured using techniques appropriate to the species of concern (e.g., visual examination, baiting, night lighting, netting, trapping, etc.) and approved by the appropriate resource agencies. Appropriate barriers to movement will be erected to minimize movement back into the construction area and the area will be periodically searched and immigrants removed. All captured individuals will be released as soon as possible into suitable habitat that has previously been identified or will be maintained in captivity and released where captured after restoration and revegetation is completed. The size or age-class, location of capture, and the

relocation site shall be recorded for each individual relocated from the site. The program plan shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission. A separate mitigation plan that compensates for direct impacts (including mortality, decreased fitness (e.g., growth or breeding success) and loss of habitat) and temporal losses shall be developed in consultation with, and be approved by, appropriate resource agencies, the County Department of Planning and Building, and the Executive Director of the Coastal Commission within one year following habitat restoration at the site. The mitigation plan shall include provisions for (a) yearly surveys for sensitive species during the suitable season to determine relative population sizes, evidence of breeding, and distribution throughout the oil field; (b) reassessment of the suitability and effectiveness of proposed mitigation; and, (c) if needed, implementation of additional mitigation.

c. For areas where vegetation and soil are to be removed, salvage and replace topsoil that is reasonably weed-free. In consultation with the resource agencies and revegetation specialists, develop a plan for removing the topsoil that will maximize, to the extent feasible, salvage of the seed bank. This plan must be approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission.

d. Include soil stabilization and erosion control measures that are compatible with the revegetation objectives. Any soil stabilizers identified for erosion control must be compatible with native plant recruitment and establishment. Erosion control shall include temporary soil stabilization techniques to prevent the loss or movement of soil from clean or contaminated soil stockpiles.

e. Replant with native species propagated from seed or cuttings collected locally and, where feasible, from within the oil field. Include any sensitive species that would be impacted during construction activities.

f. A post-construction high resolution, vertical ortho rectified aerial photograph at a scale of 1:6000 or less will be taken of each site 3 years following the completion of revegetation. A report including the pre-construction and post-construction aerial photographs and a map with overlays containing vegetation polygons from the two aerial photographs shall be submitted to the County Department of Planning and Building and the Executive Director of the Coastal Commission within 90 days of the date the post-construction photograph is taken.

68. For all activities associated with site characterization oil spill remediation, oil field abandonment, and infrastructure removal, Unocal shall take all feasible steps to avoid or minimize environmental impacts including, but not necessarily limited to, the following actions:

    a. The duration of time each site is disturbed and the total area of disturbance shall be minimized to the extent feasible.

    b. Unocal shall maintain a current database of state or federally listed rare, threatened or endangered species and other sensitive species present in the oil field and seasonal or year round access restrictions or closures required for sensitive species protection. Unocal shall keep closure information posted in the field office and contractor trailers and notify all personnel of closed areas and penalties that Unocal will exact from its contractors and employees for non-compliance.

c. In cooperation with the Onsite Environmental Coordinator in the field, Unocal shall clearly mark any potentially impacted locations of sensitive species in the oil field to exclude vehicles or pedestrians (e.g., with traffic cones, t-bar and caution/DO NOT ENTER tape, t-bar and orange construction fence).

d. Unocal shall confine all off-road vehicular use to designated construction areas and access corridors. These shall be surveyed by qualified biologists in cooperation with the Onsite Environmental Coordinator and routed to avoid impacts to sensitive plant and wildlife species and minimize impacts on native vegetation and soils. The corridors shall be clearly designated in the field using durable and conspicuous markers that can be removed before they degrade or that will degrade completely into environmentally harmless materials. Locations shall also be marked on maps. All personnel operating vehicles capable of off-pavement travel shall be informed of the restrictions on off-pavement travel and made responsible for adhering to them.

e. Unocal shall minimize ATV use and confine it to designated corridors with restrictions on top speed and noise generation. Access to monitoring wells shall be by the route employed to install them unless an ecologically preferable route is identified and approved by the independent Onsite Environmental Coordinator. Access routes to sites not accessible by designated corridors shall first be surveyed by a qualified biologist in cooperation with the Onsite Environmental Coordinator. An up-to-date sign-in log shall be maintained by Unocal (and its contractors) of all ATV use (including names of operators and passengers, routes traveled, dates and times in and out, and purpose). Access corridors shall be periodically surveyed, at a frequency determined by Unocal and the Onsite Environmental Coordinator in consultation with the appropriate resource agencies, by a qualified biologist in cooperation with the Onsite Environmental Coordinator to monitor their condition, including exotic species establishment, and presence of sensitive species (e.g., new establishment of beach spectacle pod). Eradication efforts shall be implemented if the corridor is facilitating spread of invasive exotic species into areas where they are not already well-established.

f. Prior to the issuance of a construction permit for each Stage, an exclusion plan shall be prepared by Unocal in cooperation with the Onsite Environmental Coordinator and approved by the County Department of Planning and Building and the Executive Director of the Coastal Commission. The plan shall identify and map all exclusion zones that shall not be disturbed or disrupted by any element of the proposed projects. Exclusion zones shall include sensitive habitats such as wetlands, riparian vegetation, important terrestrial habitat and other biological resources.

g. Unocal shall restrict construction activities and equipment to existing roads, pads or otherwise disturbed areas as much as possible.

h. Where access to sites or pipeline abandonment must be through native habitats, a qualified biologist in cooperation with the Onsite Environmental Coordinator shall determine the most suitable and least environmentally damaging access route to the site. This access route shall be clearly marked and will be considered part of the construction zone.

i. Limits of the construction zone shall be clearly marked and delineated by Unocal in the field and approved by the Onsite Environmental Coordinator prior to issuance of grading permit for each excavation project. No unauthorized personnel or equipment shall be allowed in native habitats outside the construction limits.

j. Unocal shall clearly mark biologically sensitive areas on grading plans and onsite and ensure that they are avoided by personnel and equipment.

k. At oil spill remediation sites, oil field abandonment activities shall be completed prior to or concurrent with remediation, avoiding any redisturbance following the completion of remediation. Following on-site remediation activities, foreign material (rock fragments, asphalt, abandoned equipment and debris) shall be removed from surface soils, except with the approval of the County Department of Planning and Building and the Executive Director of the Coastal Commission. Original topography shall be restored to the extent possible, and stabilized if necessary by physical means such as jute netting.

l. For sites where ongoing access is required (such as for monitoring or maintenance), a qualified biologist in cooperation with the Onsite Environmental Coordinator shall determine the most suitable access route. Access routes shall be clearly marked and off-road travel shall be confined to designated routes. Periodic surveys of the access routes, at a frequency determined by Unocal and the Onsite Environmental Coordinator in consultation with the appropriate resource agencies, shall be conducted by a qualified biologist in cooperation with Onsite Environmental Coordinator to determine the presence of sensitive species and need for remedial action for environmental impacts, including weed establishment on the disturbed corridor. If the Onsite Environmental Coordinator determines that a more suitable route is present, then the new route shall be clearly marked and the old route shall be restored to preexisting conditions and clearly marked to preclude entry. Once the access routes are no longer required, they shall be included in the Habitat Restoration, Revegetation and Monitoring Plan described in Condition 65.

m. Lighting shall be shielded and directed away from the beach or sensitive wildlife habitat, to the extent feasible, unless otherwise approved by the Onsite Environmental Coordinator.

n. Traffic shall be confined to existing roads and defined work areas. No equipment, vehicles, or personnel shall enter any designated exclusion area or area designated by the Onsite Environmental Coordinator as sensitive species habitat. Sensitive species habitat may be traversed only on foot with the permission of the Onsite Environmental Coordinator.

o. Prior to the startup of oil spill remediation activities, and as needed for new personnel, a qualified biologist approved by the County Department of Planning and Building, the Executive Director of the Coastal Commission and appropriate resource agencies shall conduct a brief training session for all personnel working on the oil field. Training shall include a brief description of all sensitive species potentially occurring on or near sites, details on each species habitat, the protective measures to be implemented for each species, a description of the role of the Onsite Environmental Coordinator and Biological Monitors, and the responsibilities of those onsite to protect resources. A video may be produced to satisfy this requirement.

p. Unocal shall enable an Onsite Environmental Coordinator (OEC) to be present at the oil field at anytime, day or night, that ground-disturbing activities associated with site characterization, oil spill remediation, oil field abandonment, or infrastructure removal activities are taking place. Unocal shall notify the Onsite Environmental Coordinator of any such activities in a timely fashion. If sensitive species could potentially be affected, at the discretion of the OEC a Biological Monitor under the OEC's direction will be physically present at the site of site characterization, oil spill remediation, oil field abandonment, or

infrastructure removal when these activities are occurring and shall monitor the construction zone and suitable sensitive species habitat within the project vicinity. The monitor shall be notified immediately if any sensitive species is observed inside the construction work area or within 200 feet of the zone. Only the Biological Monitor, or other qualified biologists approved by the resource agencies, shall handle or approach any sensitive species, except where lack of action would endanger the health of an individual animal. If construction operations threaten to injure individuals of a sensitive species, the Biological Monitor shall request the construction personnel to alter their activities so as to avoid such injury and shall immediately notify a designated Unocal representative and the Onsite Environmental Coordinator who will notify the County Department of Planning and Building and the Executive Director of the Coastal Commission as appropriate.

7.1.14 Backdune Areas

73. To the extent feasible, wildlife including California horned lizard, silvery legless lizard, and other sensitive species shall be removed from these areas and relocated to suitable habitat as directed by the appropriate resource agencies.

7.1.15 Dune Swales

75. At sites where red-legged frog habitat is present, the following requirements will be implemented unless otherwise directed by the U.S. Fish and Wildlife Service.

    a. No site characterization, oil spill remediation, oil field abandonment or infrastructure removal activities shall occur within 200 feet of suitable California red-legged frog breeding habitat from January 1 to September 15 or as determined by USFWS.

    b. Pre-project surveys of California red-legged frogs shall be conducted by an independent qualified biologist under the direction of the independent Onsite Environmental Coordinator and in cooperation with Unocal. The survey shall be conducted according to USFWS guidelines, throughout the proposed area of disturbance and within suitable habitat up to 500 feet away from the remediation area.

    c. Unocal shall fence remediation sites within 500 feet of California red-legged frog habitat to exclude California red-legged frogs from the disturbance zone and the provisions of Condition 64 shall be implemented. Captured red-legged frogs shall be relocated to predetermined suitable habitat outside of the construction zone. All non-native predators to the red-legged frog, including crayfish and bullfrogs captured during the relocation efforts, shall be destroyed.

    d. Nighttime surveys for California red-legged frogs shall be conducted at least twice per week or as directed by USFWS for the duration of construction activities in the vicinity of California red-legged frog habitat to ensure that red-legged frogs are not entering the work area.

7.1.16 Public Safety

77. All areas with hazards associated with mechanical equipment, physical barriers, excavation, and soil/water treatment shall be clearly marked, warning the public of the hazards, and informing the public of the activities that are taking place. Adequate fencing shall be constructed around these

areas to prevent trespassing and vandalism throughout the remedial and restoration period. During active remediation activities that take place near points of public access at the beach, Unocal shall station a worker at the beach to keep the public at a safe distance from active remediation hazards.

78. Physical barriers that extend above ground level, or that have the potential to extend above ground level due to erosional events, shall be removed within the four year duration of the cleanup project.

79. Unocal shall implement erosion control and sand augmentation programs where physical barriers extend above ground level, or have the potential to extend above ground level due to erosional events, until the barriers are removed pursuant to Condition 78.

7.1.17 Air Quality

The San Luis Obispo APCD is directly addressing project related air quality mitigation measures through its own permitting process. Final mitigation measures will be established through the SLOAPCD permit process.

83. A Dust Control Plan shall be submitted to the SLOAPCD for approval prior to the start of each stage of remediation. The plan shall include measures for watering of disturbed areas stabilization of stockpiles, limitations of vehicle speeds, limiting of activities on high-wind days, watering and cleaning of paved roads and entry/exit roads, tire cleaning on entry and exit, and inspection of heavy duty equipment to reduce particulate emissions.

84. An Emission Reduction Plan designed to reduce emissions from sources not covered by District permits shall be submitted to the San Luis Obispo Air Pollution Control District for approval prior to the initiation of remediation or abandonment activities. The plan shall specifically target onsite and offsite emissions from sources such as diesel powered mobile construction equipment, and heavy-duty on-road trucks. The Plan shall include at a minimum the following components:

    a. NOx reduction strategies for off-road construction equipment, including possible implementation of injection timing retard (2–4 degrees) in conjunction with the installation of high pressure injectors or use of ceramic coated combustion chamber components, or equivalent low emission engine technologies, on all applicable heavy-duty diesel powered construction equipment to the fullest extent feasible. Unocal shall use CARB-approved diesel fuel for all diesel powered equipment.

    b. NOx and ROG reduction strategies for on-road heavy-duty trucks and other equipment. Potential strategies could include conversion of some equipment to use compressed natural gas (CNG) or other clean fuel; providing incentives to encourage subcontractors to use haul trucks that meet or exceed the 1994 or 1998 California on-road heavy-duty truck certification standard when bidding on contracts to haul contaminated material from Guadalupe; or other similar strategies. Use CARB-approved diesel fuel for all diesel powered equipment.

    c. All construction equipment not modified to reduce NOx and ROG emissions shall be properly maintained to manufacturers specifications.

85. Exposed hydrocarbon areas associated with excavation shall be kept to a minimum and excavated material handled a little as possible in order to reduce the emissions of ROG due to off-gassing.

86. Unocal shall develop an Emission Reduction Program to be approved by SLOAPCD. Potential emission reduction projects should be located as close to the former Guadalupe Oil field site as

possible including potential emission reduction projects in northern Santa Barbara County in the vicinity of Santa Maria and the City of Guadalupe.

88. Unocal shall implement an employee trip reduction program designed to reduce emission from employee commute trips including, but not limited to, incentives to facilitate car pooling and a shuttle bus system.

89. Unocal shall use vapor recovery and carbon canisters or other applicable devices to reduce emissions associated with waste water, line draining, purging and abandonment. These may include covering of waste water collection systems and venting to a vapor recovery and control system. In addition, cover, as soon as possible and to the greatest extent possible, all exposed contaminated soils with appropriate covers.

90. **Prior to issuance of a construction permit for any Stage**, Unocal shall prepare an Odor Control Plan to be approved by the SLOAPCD. The plan shall include at a minimum, the identification and characterization of potentially odorous compounds (especially the highly odorous sulfur based compounds that can be associated with petroleum products) likely to be emitted during remedial activities, mechanisms of odorous compound release, location and characteristics of potential receptors, the identification of control measures and procedures to be implemented to reduce or abate potential odor nuisance conditions, and procedures for odor complaint response and SLOAPCD notification. This condition shall be included in construction plans submitted to the County Department of Planning and Building and implemented by Unocal prior to the issuance of construction permits.

91. Unocal shall prepare an Ambient Air Monitoring Plan to be implemented during remedial activities. The Plan shall identify, at a minimum, the target compounds to be monitored, sampling and analytical methods to be employed, location and frequency of sample collection, collection of supporting meteorological information, appropriate QA/QC measures, health effect criteria upon which to evaluate the significance of findings, and agency review of data. Due to the somewhat remote location of the site with respect to potential receptors, a tiered monitoring plan is suggested that provides greater monitoring and control should high levels of ambient air contaminants be found at "primary" sampling points situated near areas of active excavation, contaminated stockpiles, or land farm areas. **The Air Monitoring Plan shall be submitted to SLOAPCD and County Health Department for review and approval prior to issuance of construction permits.**

7.1.18 Transportation/Circulation

92. All project-related traffic shall be restricted from travel on Route 166 between the hours of 4:30 p.m. and 5:30 p.m. Possible alternative routes are presented in Table 5.9.2 of the Final EIR.

93. Unocal shall prepare a Traffic Control Plan to detail specific commuter and truck trip vehicle routes, peak hour and route restrictions; road surface maintenance; and traffic safety. The Traffic Control Plan shall be approved by the County Engineering Department in consultation with the Santa Barbara County Public Works Department, Roads/Traffics Division.

7.1.19 Noise Controls

95. All construction activities involving motorized equipment shall be conducted between the hours of 7:00 A.M. and 9:00 P.M. to the extent practical.

97. An 800 telephone number shall be established for receiving complaints and procedures shall be developed for responding. The number shall be included in the notification (N-2).

98. Mufflers on all internal combustion and vehicle engines shall be maintained to reduce noise to the maximum extent feasible.

99. Noise attenuation barriers shall be installed, as necessary.

100. All back-up beepers on equipment shall be turned down to the minimum allowed by OSHA.

7.1.20 Cultural Resources

102. Remediation technology activities requiring ground disturbance shall be monitored by a County-qualified archaeologist and local Native American representative. In the event potentially significant archaeological materials are identified, work shall be temporarily redirected and a Phase 2 archaeological assessment of the find shall be funded by Unocal. If the materials are determined to be significant under CEQA Appendix K criteria, Unocal shall fund a Phase 3 data recovery mitigation program to collect a representative sample of the materials that would be lost. All investigations shall be performed by a County-qualified archaeologist and local Native American representative retained by Unocal.

7.1.21 Public Services

103. **Prior to issuance of a construction permit for Stage 1 remediation activities**, Unocal shall submit to the County Department of Planning and Building for review and approval a detailed recycling plan for all materials leaving the site. The plan shall include (a) the destination of recycled materials, (b) the amount of materials to be recycled and (c) the amount of materials disposed of as solid waste.

104. Emergency response providers shall be notified of remediation and abandonment activities, locations, and dates prior to implementation.

7.1.22 Enforcement

111. Failure to satisfy the requirements of any condition of this permit shall constitute a violation under the Coastal Act enforceable by all appropriate means including but not limited to, a cease and desist or a restoration order issued by the Coastal Commission.

7.1.23 Reimbursement of Costs for Permit Oversight

112. Unocal shall fund all necessary costs for condition compliance and the enforcement of this permit by San Luis Obispo County and the California Coastal Commission. These costs will include staff salaries, equipment, travel, and associated operating costs incurred by San Luis Obispo County and

the Coastal Commission to monitor compliance with and enforce the conditions of this permit. San Luis Obispo County holds the majority of the responsibility for compliance and enforcement of this permit and holds an ongoing reimbursement agreement with Unocal.

The Executive Director of the Coastal Commission will determine the form and manner of payment by Unocal for the Coastal Commission staff's involvement consistent with requirements of State law and which will ensure efficiency and reasonable costs to Unocal. The Executive Director of the Coastal Commission will prepare a budget and work program specifying all needed funding for the Coastal Commission's involvement in the team effort with San Luis Obispo County to implement this coastal permit.

113. In accepting this permit, Unocal agrees to waive any and all rights to challenge this permit under any legal theory.

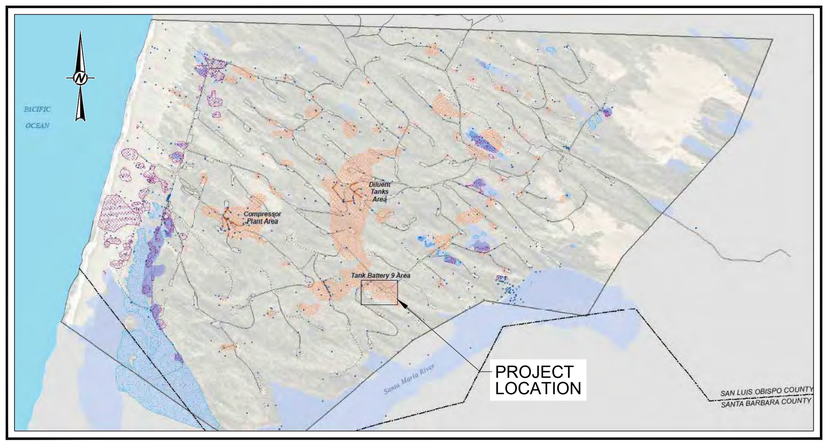
114. All plans by Unocal pursuant to this permit shall be submitted to the County Planning and Building Department, the Coastal Commission, and other regulatory agencies in hard copy and electronic form so that the information can be made readily available to the public including via the Coastal Commission's and other agency's internet web pages. Unocal shall work with Cal Poly and University of California Santa Barbara to establish a depository of Guadalupe Oil Field ecological and geological information for use by the public and the universities.

Appendix D

SMA Project Drawings

GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

GUADALUPE, CALIFORNIA
REVISION D



LOCATION MAP

FIGURE NO.	TITLE
1	TITLE SHEET
2	SITE LOCATION MAP
3	PROPOSED IMPACTED SOIL EXCAVATION GRADING PLAN
4	PROPOSED BASE GRADING PLAN
5	PROPOSED FINAL COVER GRADING PLAN
6	SECTIONS
7	DETAILS (1 of 3)
8	DETAILS (2 of 3)
9	DETAILS (3 of 3)

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
TITLE SHEET

PROJECT NO. 1783552 | REV. D | 1 of 9 | DRAWING 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
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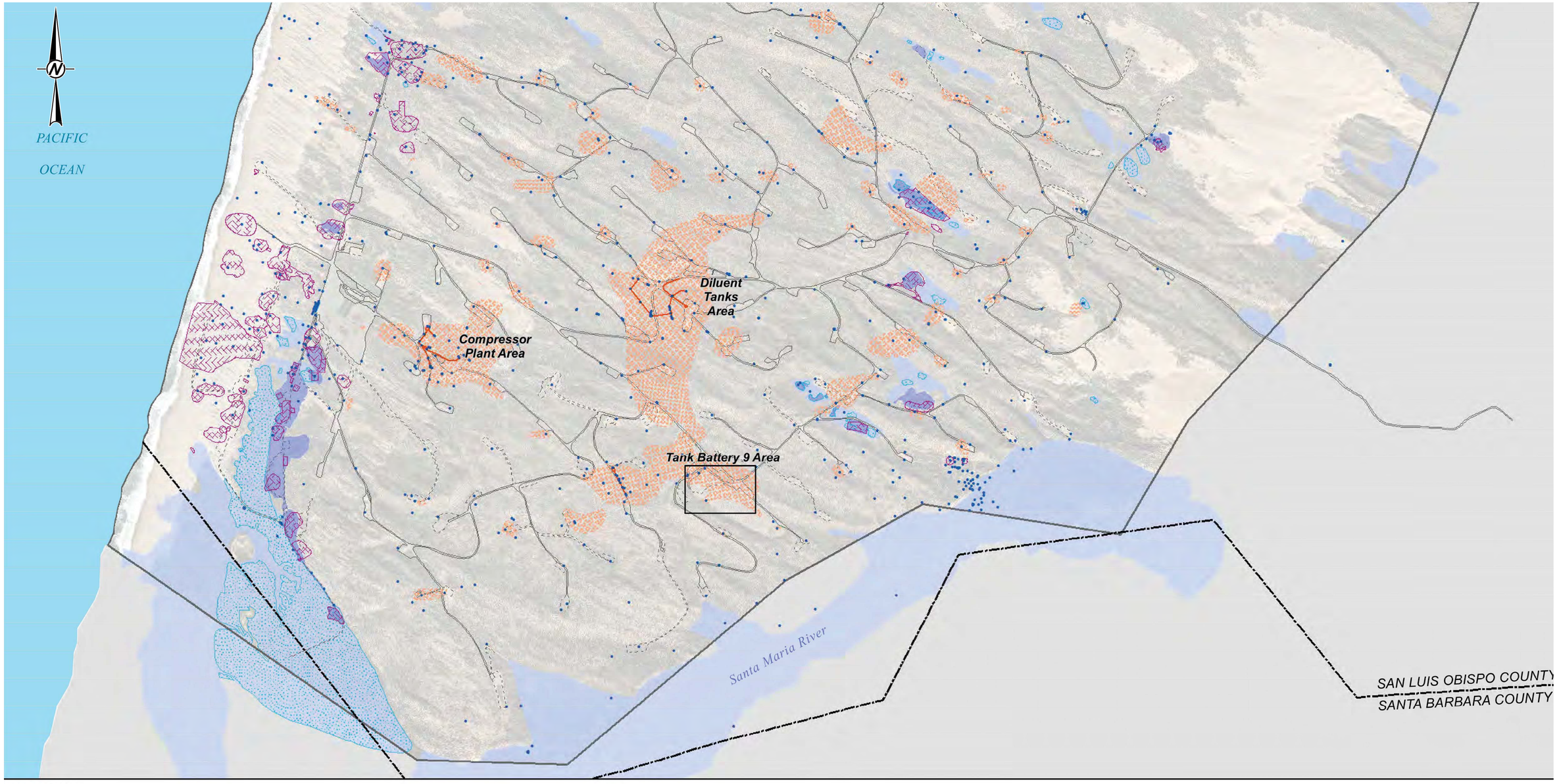

LEGEND:

- Groundwater Monitoring Well
- County Line
- Property Boundary
- Active LNAPL Recovery System Infrastructure
- Existing Roadway or Well Pad Feature
- Former Roadway or Well Pad Feature
- Excavated LNAPL Source Area or Sump
- LNAPL Source Zone
- Federal Wetland (June 2004)
- Restored Wetland (Not Formally Designated)
- State Wetland (June 2003)

NOTE(S)

1. SOURCE: PADRE ASSOCIATES, INC CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY GUADALUPE RESTORATION PROJECT DECEMBER 2016

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PROJECT
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TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
SITE LOCATION MAP

PROJECT NO. 1783552 | REV. D | 2 of 9 | DRAWING 2

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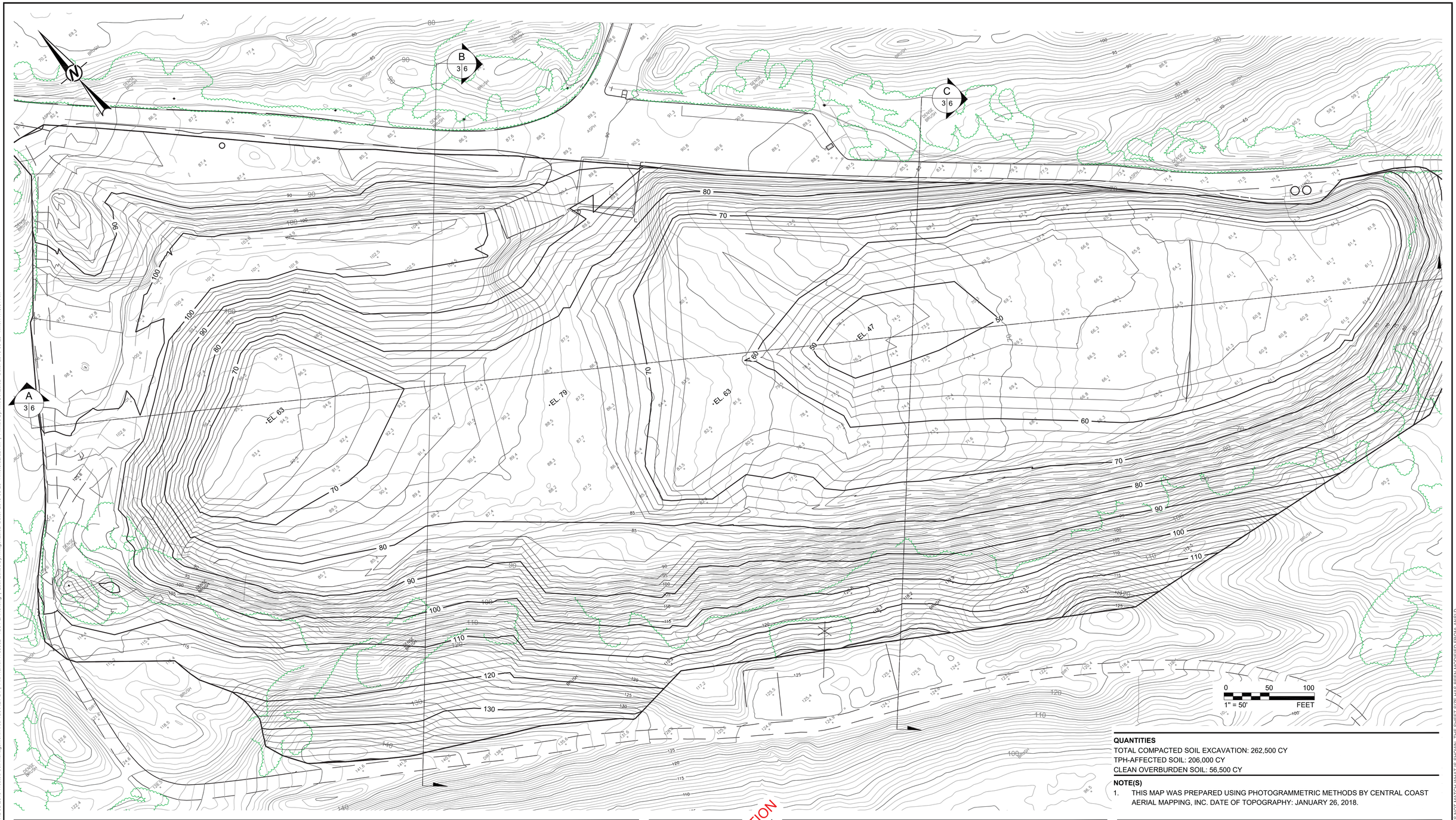

QUANTITIES

TOTAL COMPACTED SOIL EXCAVATION: 262,500 CY
TPH-AFFECTED SOIL: 206,000 CY
CLEAN OVERBURDEN SOIL: 56,500 CY

NOTE(S)

1. THIS MAP WAS PREPARED USING PHOTOGRAMMETRIC METHODS BY CENTRAL COAST AERIAL MAPPING, INC. DATE OF TOPOGRAPHY: JANUARY 26, 2018.

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
PROPOSED IMPACTED SOIL EXCAVATION GRADING PLAN

PROJECT NO. 1783552 | REV. D | 3 of 9 | DRAWING 3

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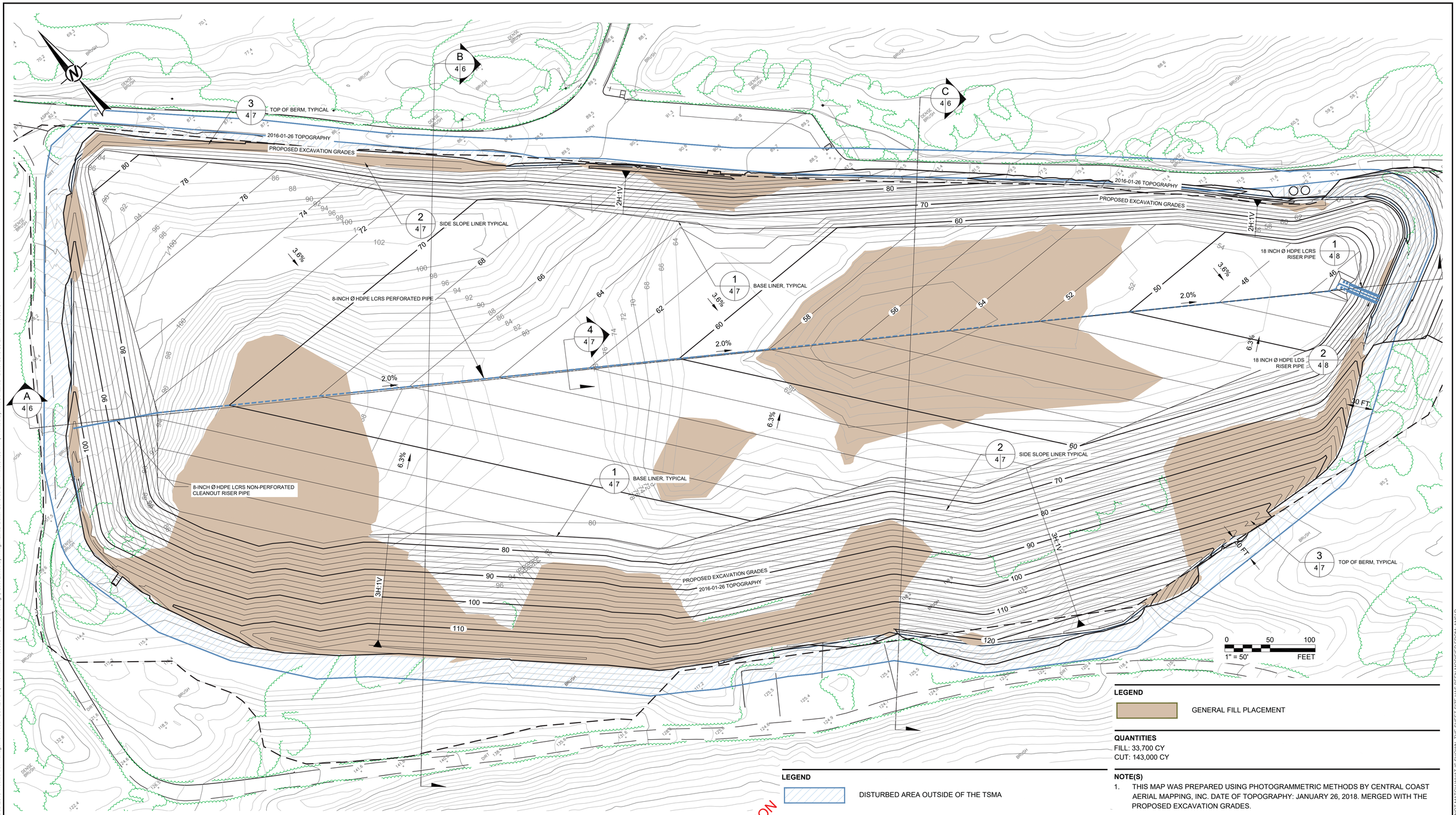

LEGEND

GENERAL FILL PLACEMENT

QUANTITIES

FILL: 33,700 CY
CUT: 143,000 CY

LEGEND

DISTURBED AREA OUTSIDE OF THE TSMA

NOTE(S)

1. THIS MAP WAS PREPARED USING PHOTOGRAMMETRIC METHODS BY CENTRAL COAST AERIAL MAPPING, INC. DATE OF TOPOGRAPHY: JANUARY 26, 2018. MERGED WITH THE PROPOSED EXCAVATION GRADES.

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
PROPOSED BASE GRADING PLAN

PROJECT NO. 1783552 | REV. D | 4 of 9 | DRAWING 4

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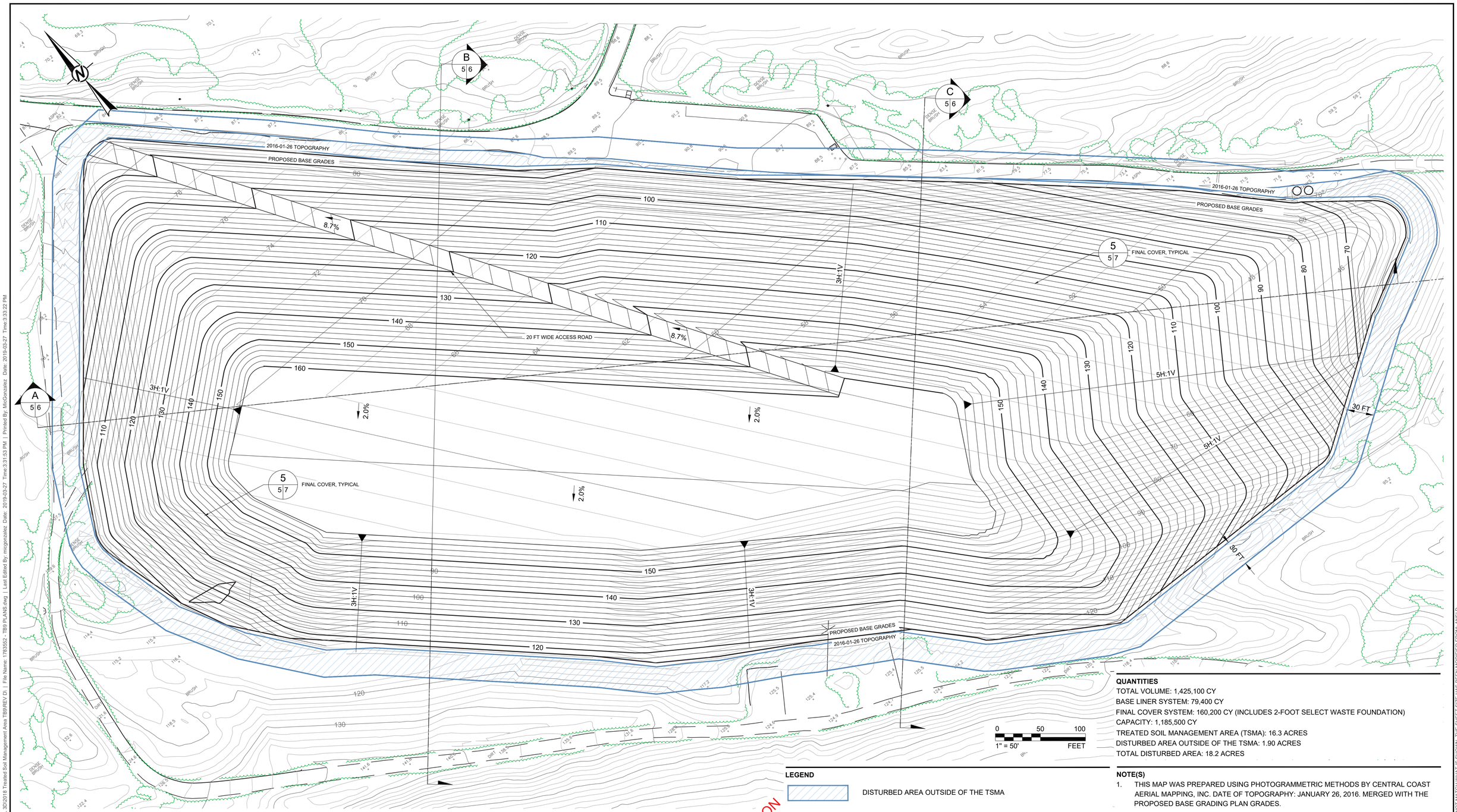

QUANTITIES

TOTAL VOLUME: 1,425,100 CY
BASE LINER SYSTEM: 79,400 CY
FINAL COVER SYSTEM: 160,200 CY (INCLUDES 2-FOOT SELECT WASTE FOUNDATION)
CAPACITY: 1,185,500 CY
TREATED SOIL MANAGEMENT AREA (TSMA): 16.3 ACRES
DISTURBED AREA OUTSIDE OF THE TSMA: 1.90 ACRES
TOTAL DISTURBED AREA: 18.2 ACRES

LEGEND

DISTURBED AREA OUTSIDE OF THE TSMA

NOTE(S)

1. THIS MAP WAS PREPARED USING PHOTOGRAMMETRIC METHODS BY CENTRAL COAST AERIAL MAPPING, INC. DATE OF TOPOGRAPHY: JANUARY 26, 2016. MERGED WITH THE PROPOSED BASE GRADING PLAN GRADES.

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
PROPOSED FINAL COVER GRADING PLAN

PROJECT NO. 1783552 | REV. D | 5 of 9 | DRAWING 5

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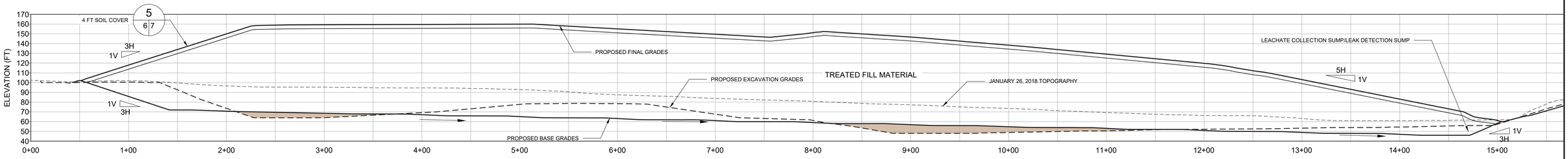
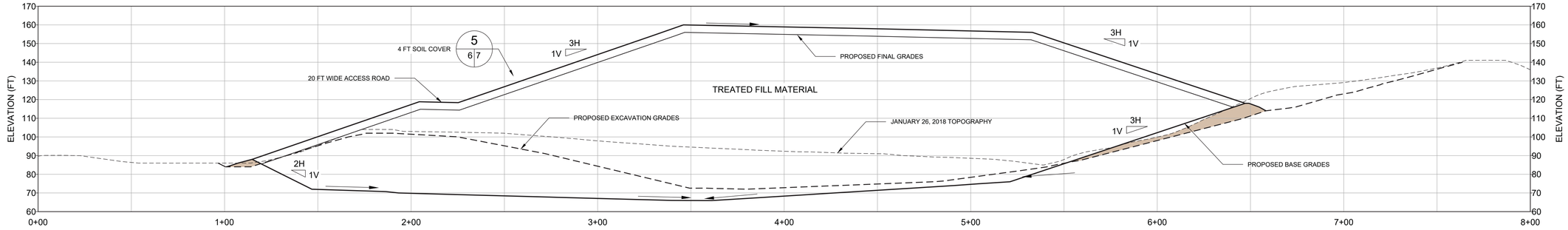


SCALE 1" = 50' A 3,4 5 6

CROSS-SECTION A-A'

0 50 100

1" = 50' FEET

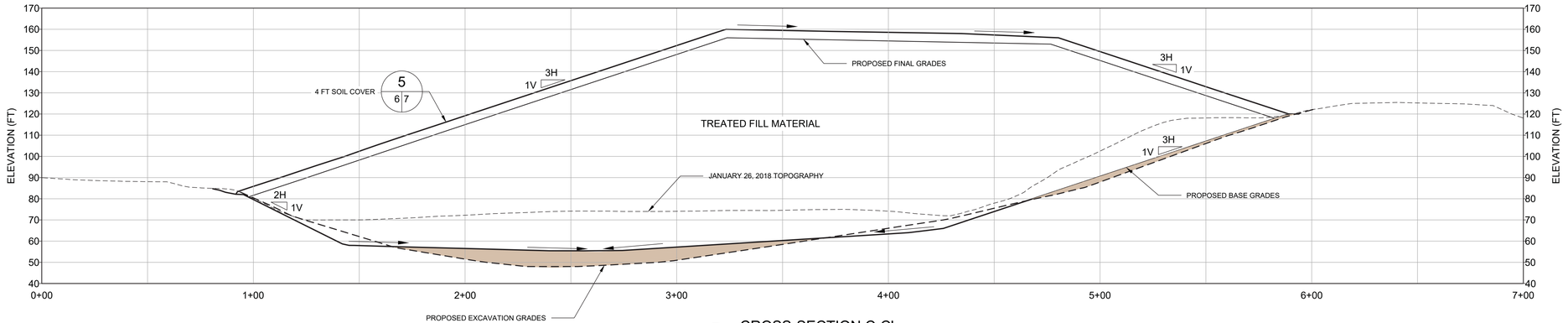


SCALE 1" = 30' B 3,4 5 6

CROSS-SECTION B-B'

0 50 100

1" = 50' FEET



SCALE 1" = 30' C 3,4 5 6

CROSS-SECTION C-C'

0 50 100

1" = 50' FEET

LEGEND

GENERAL FILL PLACEMENT

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
SECTIONS

PROJECT NO. 1783552 | REV. D | 6 of 9 | DRAWING 6

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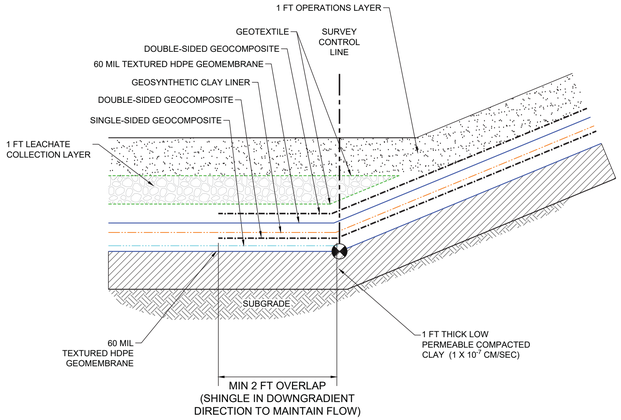
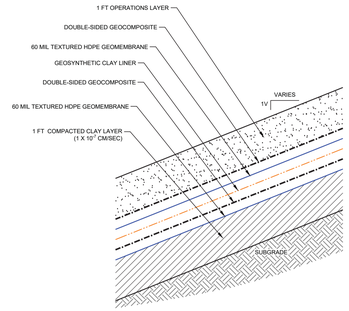
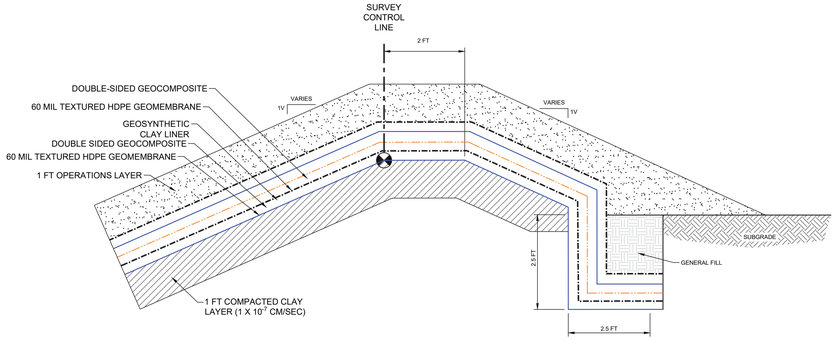


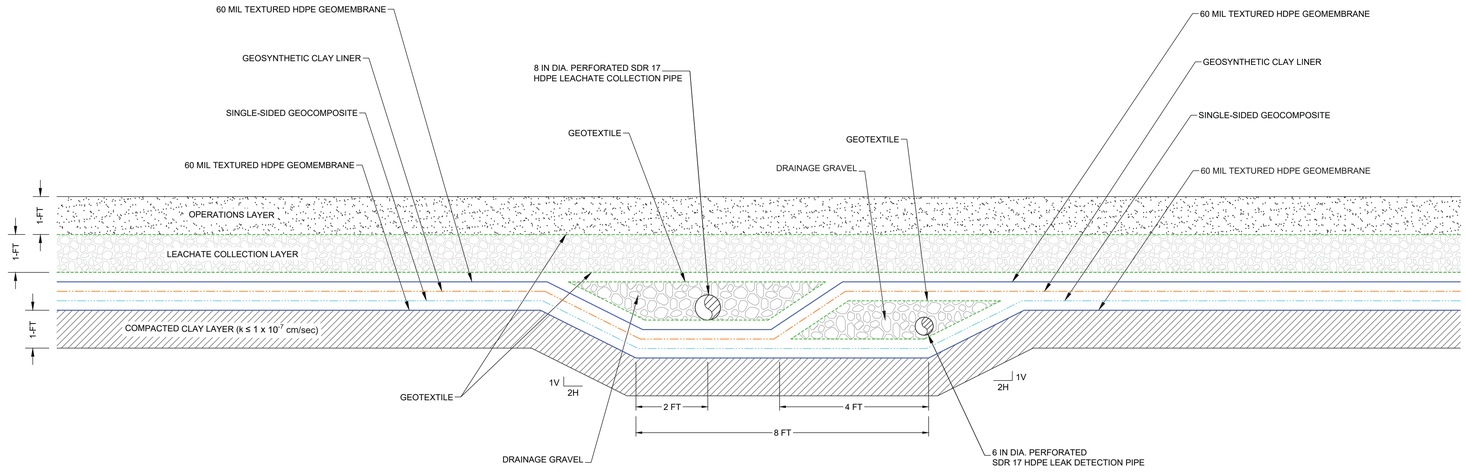
SCALE A 1 (4|7) BASE LINER SYSTEM



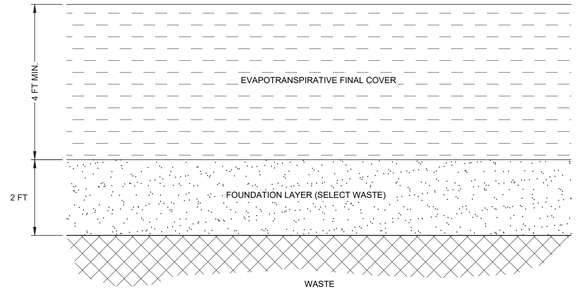
SCALE A 2 (4|7) SIDE SLOPE LINER SYSTEM DETAIL



SCALE A 3 (4|7) TOP BERM DETAIL



SCALE A 4 (4|7) TYPICAL LEACHATE COLLECTION PIPE AND LEAK DETECTION PIPE



SCALE A 5 (4,6|7) TYPICAL FINAL COVER

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1" = 2' SCALE A FEET

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
DETAILS (1 OF 3)

PROJECT NO. 1783552 | REV. D | 7 of 9 | DRAWING 7

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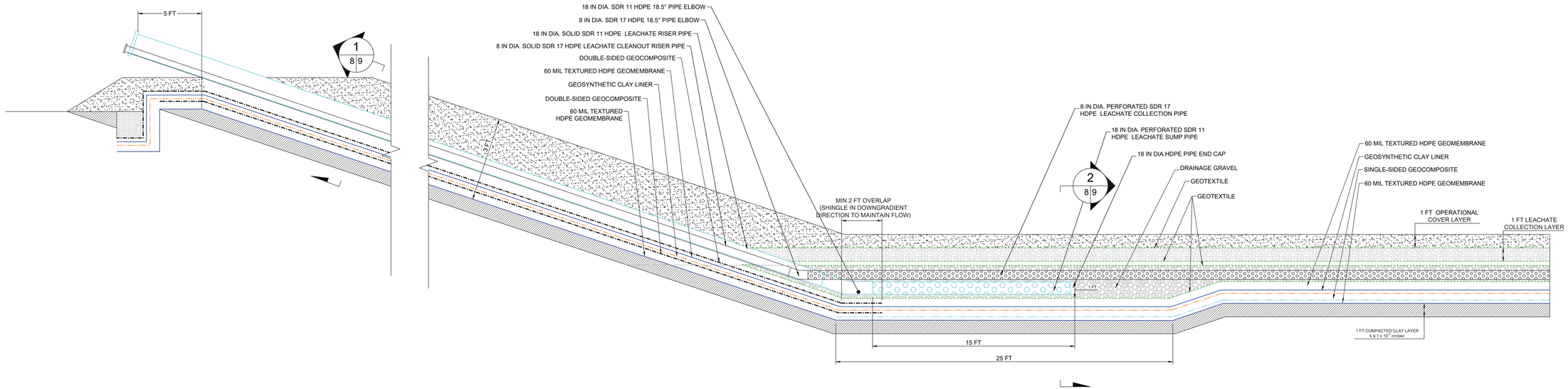
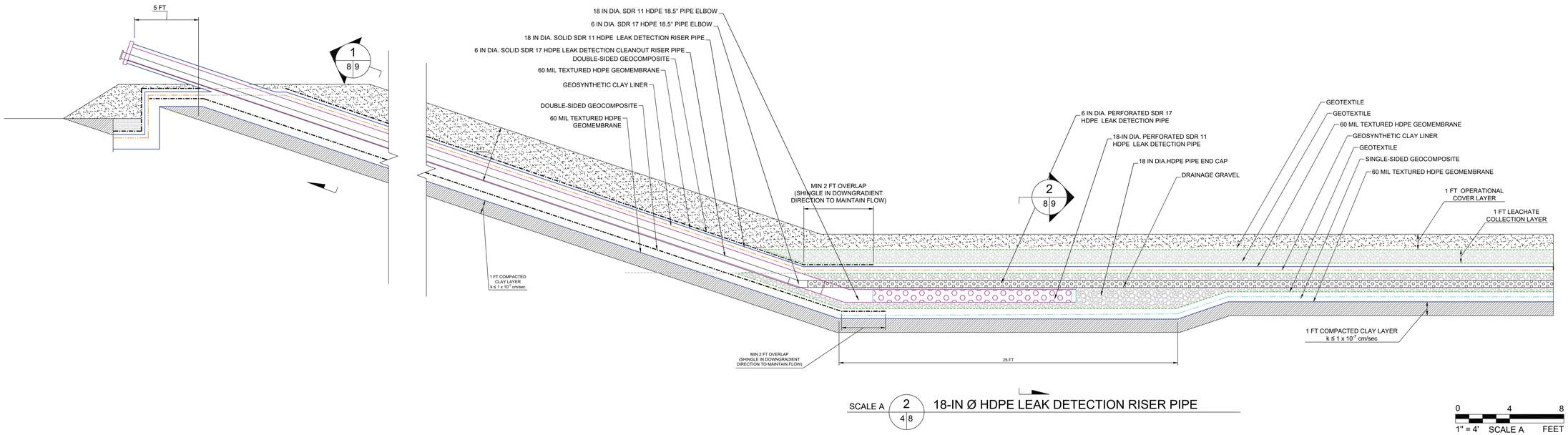


SCALE A 1/4 8 — 18-IN Ø HDPE LEACHATE COLLECTION RISER PIPE



SCALE A 2/4 8 — 18-IN Ø HDPE LEAK DETECTION RISER PIPE

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1" = 4' SCALE A FEET

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TANK BATTERY 9 AREA

TITLE
DETAILS (2 OF 3)

PROJECT NO. 1783552 | REV. D | 8 of 9 | DRAWING 8

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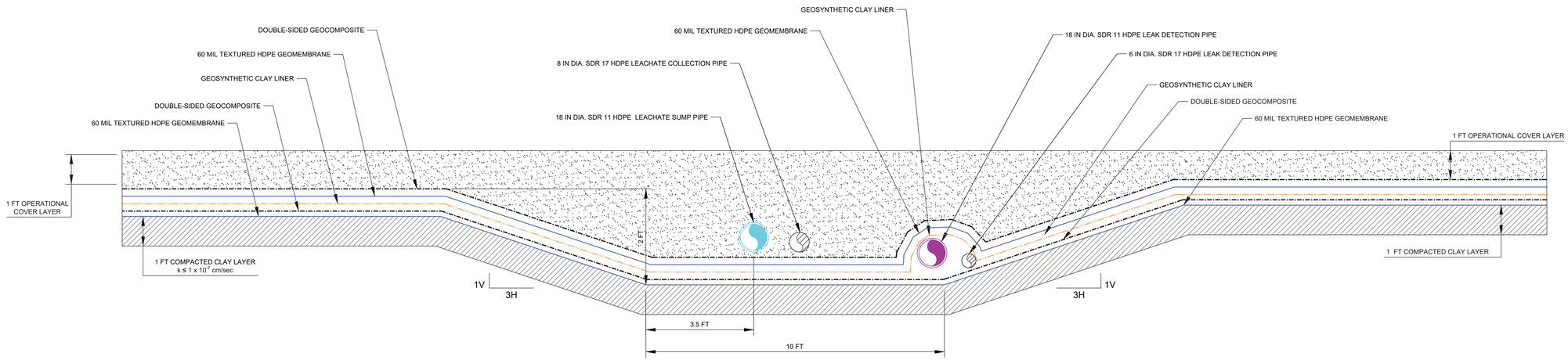
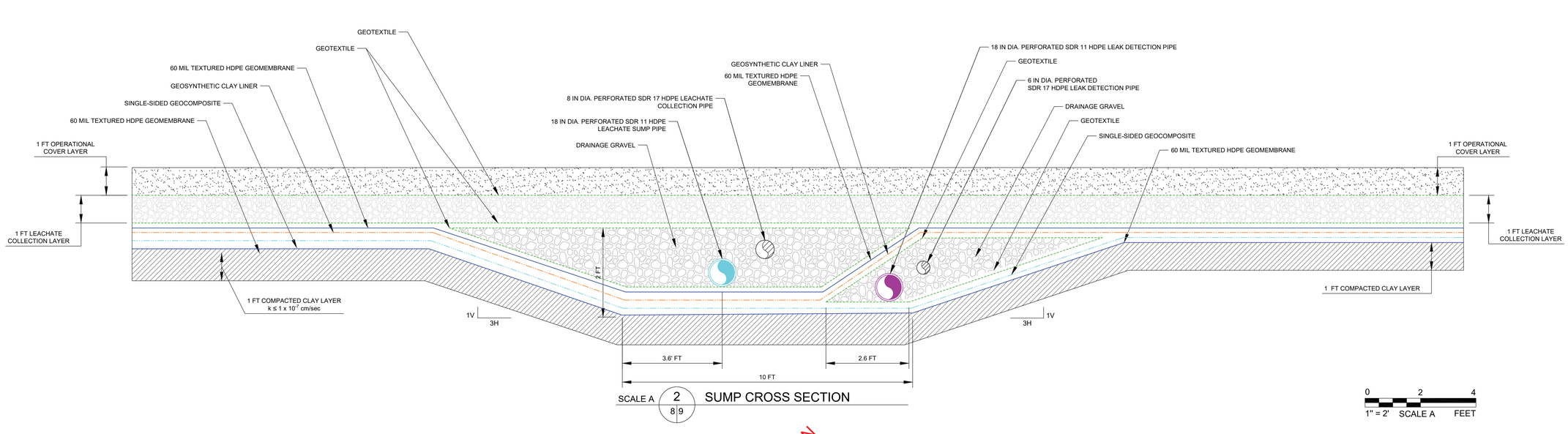


SCALE A 1/8 9 SIDESLOPE RISER PIPE TRENCH



SCALE A 2/8 9 SUMP CROSS SECTION

0 2 4
1" = 2' SCALE A FEET

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PROJECT
GUADALUPE RESTORATION PROJECT
TREATED SOIL MANAGEMENT AREA
TANK BATTERY 9 AREA

TITLE
DETAILS (3 OF 3)

PROJECT NO. 1783552 | REV. D | 9 of 9 | DRAWING 9

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Appendix E

Draft Site Specific Restoration Plan

SITE SPECIFIC RESTORATION PLAN

TREATED SOIL MANAGEMENT AREA
TB-9 AREA RESTORATION
GUADALUPE RESTORATION PROJECT

GUADALUPE OIL FIELD
2184 WEST THORNBERRY ROAD, GUADALUPE
SAN LUIS OBISPO COUNTY, CALIFORNIA

Project No. 1801-2191

Prepared for:

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AUGUST 2018

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1.0 EXECUTIVE SUMMARY

The following is the Site-Specific Restoration Plan (SSRP) for the Tank Battery 9 Area (TB-9 Area) Treated Soil Management Area. Restoration success criteria follow those approved in the Pads, Roads, and Oil Spray (PROS) Program, Appendix A, Restoration and Monitoring Procedure Plan (Padre, 2016).

This TB-9 Area SSRP is intended to provide the appropriate level of detail necessary to guide the restoration and subsequent monitoring of the TB-9 Area upon completion of remediation activities. It first provides the Project history and then presents background information regarding the site, such as the ecological setting and existing biological resources, followed by an overview of remediation activities and an overview of restoration procedures for the control of non-native species, revegetation, and erosion control. Monitoring and maintenance activities for the revegetation areas include success criteria, monitoring methods, and suggested adaptive management measures. Specific and detailed information regarding the restoration of TB-9 Area is provided on the TB-9 Area Site Specific Restoration Plan Template (Section 2.0 of this document).

The remediation of the TB-9 Area will impact approximately 16.4 acres of coastal dune scrub habitat and includes all areas within the limits of the restoration boundary in the vicinity of the TB-9 Area, as well as related areas specifically prepared for staging, stockpiling, and other TSMA Project activities.

1.1 PROJECT HISTORY

The Chevron Environmental Management Company (Chevron) Guadalupe Restoration Project (GRP) is located within the Guadalupe-Nipomo Dunes in southern San Luis Obispo County (Project Site, or Field). The Project Site comprises approximately 2,830 acres and is bordered on the west by the Pacific Ocean, on the south by the Santa Maria River, to the north by the Guadalupe Nipomo Dunes National Wildlife Refuge, and to the east by agricultural lands on the western margin of the Santa Maria Valley.

The principal land use at the Field, from 1946 to March 1994, was the production of oil and natural gas. On April 3, 1998, the Central Coast Region of the California Regional Water Quality Control Board (RWQCB) issued Cleanup or Abatement Order (CAO) No. 98-38. Additionally, On December 10, 1998, the County of San Luis Obispo (SLO County) issued Coastal Development Permit/Development Plan (CDP/DP) D890558D for the remediation and restoration project (SLO County, 1998). CDP/DP Condition G.6 states: “all man-made features established on the Guadalupe oilfield for oil field purposes shall be removed and the areas recontoured, restored and revegetated, unless Chevron demonstrates to the reviewing agencies’ satisfaction that justification exists to allow any features to remain in place.”

1.2 OVERVIEW OF THE TB-9 AREA

The TB-9 Area is in the south-central portion of the Project Site, approximately 1.25 miles east of the Pacific Ocean and 0.4 miles north of the Santa Maria River (Plate 1 – Site Location Map). At the TB-9 Area, the elevation ranges from approximately 65 feet to 105 feet mean sea level (MSL). The TB-9 Area was decommissioned and dismantled in the early 2000s, which included removal of the concrete-lined basins. The area was later used for temporary soil stockpiling and was constructed with land treatment unit cells as part of the bioremediation pilot study. The TB-9 Area is currently used for stockpiling soil excavated from sumps and diluent stains. The eastern portion is constructed with a High-Density Polyethylene (HDPE) lined basin that supports the Project Site's water handling system.

The TB-9 Area has not been actively restored but has passively restored without management activities such as seeding or planting. The site has received weed control to prevent the spread of non-native plants into the adjacent undisturbed area.

The vegetation at the TB-9 Area can be described as coastal dune scrub but is different in species composition from the adjacent undisturbed coastal dune scrub habitat. This may be a result of the age of the community or because of the difference in substrate and the presence of the underlying HDPE lined containment.

The eastern portion of the TB-9 Area has a hard and more impermeable soil surface than in the western portion. The eastern portion also has lower vegetative cover than the western area and is dominated by coyote bush (*Baccharis pilularis*) with some clustered field sedge (*Carex praegracilis*) and spreading rush (*Juncus lescurii*) present in the understory. These species, though more commonly occurring near wetland areas, are also found less commonly in the coastal dune scrub. The western portion of the site has more sandy soils and species more common of the coastal dune scrub. The dominant shrub species was mock heather (*Ericameria ericoides*), with coastal buckwheat (*Eriogonum parvifolium*) and California aster (*Corethrogyne filaginifolia*) common.

There were 29 plant species observed within the coastal dune scrub at TB-9, with a total absolute cover of approximately 40 percent. Of these 29 species, 16 were native perennial species with a combined estimated absolute cover of 30 percent. Four native annual species were observed with approximately five percent absolute cover. Nine non-native plant species were observed, three of which were also invasive. Non-native species contributed approximately five percent absolute cover

Three sensitive plant species occur within the TB-9 Area. One of these three species is crisp dune mint (*Monardella undulata* spp. *crispa*) which has a California Rare Plant Rank (CRPR) 1B.2. The remaining two species: Nuttall's milkvetch (*Astragalus nuttallii*) and Blochman's groundsel (*Senecio blochmaniae*) have a CRPR 4.2. Plants with a CRPR of 1B are rare throughout their range with most of them endemic to California (CNPS 2018). Most of the plants that are ranked 1B have declined significantly over the last century. Plants with a CRPR 4 are of limited distribution or infrequent throughout a broader area in California. The ".2" is the threat ranking and indicates that these species are "moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)."

During the site surveys, no sensitive wildlife species were observed within the proposed limits of disturbance. Silvery legless lizard (*Anniella pulchra*), Western spadefoot (*Spea hammondii*), and Blainville's horned lizard (*Phrynosoma blainvillii*) are state species of special concern with potential to occur at the site. However, during previous surveys and assessment work Blainville's horned lizards and slivery legless lizards were observed within the TSMA Project area. There is no breeding habitat for the California red-legged frog (*Rana draytonii*, CRLF, federal threatened, state species of special concern) at the TB-9 Area but CRLF had previously been observed in the TB-9 Stockpile's concrete drainages that were removed in 2010.

A list of wildlife species identified at or adjacent to the site is provided in Table 1-1 - List of Wildlife Species Observed at or Adjacent to the TB-9 Area. Table 1-1 includes species identified through both direct (i.e. sight or sound) and indirect (i.e. some form of sign, such as tracks, scat, burrows, etc.) methods of observation.

Table 1-1. List of Wildlife Species Observed at or Adjacent to the TB-9 Area

Reptiles	
western fence lizard	*Sceloporus occidentalis*
Birds	
turkey vulture	*Cathartes aura*
bushtit	*Psaltriparus minimus*
white-crowned sparrow	*Zonotrichia leucophrys*
house finch	*Haemorhous mexicanus*
lesser goldfinch	*Carduelis psaltria*
American goldfinch	*Carduelis tristis*
Mammals	
coyote	*Canis latrans*
mule deer	*Odocoileus hemionus*
Heermann's kangaroo rat	*Dipodomys heermannii*
brush rabbit	*Sylvilagus bachmani*
black-tailed jackrabbit	*Lepus californicus*

Wildlife functions within the TB-9 Area include:

- Amphibian Cover/Refuge & Foraging Habitat
- Lizard Cover/Refuge & Foraging Habitat
- Terrestrial Snake Cover/Refuge & Foraging Habitat
- Raptor/Owl Hunting Habitat
- Ground Nesting Bird Habitat

- Songbird Foraging, Cover/Refuge, & Nesting Habitat
- Insectivorous Mammal Foraging, Cover/Refuge, & Breeding Habitat
- Carnivore Denning, Hunting, & Cover Habitat
- Herbivore Foraging & Cover Habitat
- Rodent Cover, Foraging, & Breeding Habitat

A list of the wildlife functions currently provided by the Site is presented in Wildlife Habitat Element Matrix provided in this SSRP.

1.3 OVERVIEW OF REMEDIATION ACTIVITIES

The following sections describe the remediation activities that will be undertaken at the TB-9 Area. Additional information and details pertaining to these activities are contained in the Project description of the TB-9 Area – Treated Soil Management Area Work Plan.

1.3.1 Pre-Construction Activities

Construction sites will be initially treated for weeds with a 20-foot buffer zone beyond the limits of disturbance around the site, at least one growing season in advance of any construction activities, if feasible. Treatment will include both hand-removal and selective herbicide application.

Within 30 days before construction, all TSMA Project locations (i.e., excavation areas, stockpiles, personnel and vehicle access routes, and staging areas) will be delineated with construction fencing consisting of T-posts and rope, and/or other delineators. A sensitive species survey will then be conducted. Any sensitive plant species that occurs within or adjacent to the disturbance area shall be identified. These include dune mint, Nuttall's milkvetch, and Blochman's groundsel. The percentage of ground coverage or other appropriate measures of presence shall be determined and recorded. Sensitive plant species or populations in proximity to the construction site will be flagged and/or fenced in consultation with the Onsite Environmental Coordinator (OEC). If any sensitive plant species may be impacted by TSMA Project activities, such impacts shall be mitigated by salvaging, or propagating the impacted species and planting them either in the impacted area or in other suitable habitat upon completion of the TSMA Project. Additionally, in consultation with the OEC, adjustments to the planned boundary may be made in the field to provide adequate protection to adjacent areas and/or sensitive resources.

Also prior to and during removal of vegetated overburden, wildlife monitor will survey the area for the presence of any wildlife. Any wildlife species found within or immediately adjacent to the excavation site that could be impacted by construction activities will be captured and relocated. Protocols used to protect wildlife, including capture and relocation are presented in the *Ecological Monitoring Program* (EMP; Unocal 2006). All capture and relocation activities will be documented on the Daily Field Reports and published in the Quarterly Ecological Progress Report (QEPR).

All baseline surveys will be updated as necessary during the sensitive species surveys (30 days prior to site disturbance) to reflect any ecological changes, with results documented in the QEPR.

1.3.2 Construction Activities

The scope of work includes removal of 180,000 CY of TPH-affected soil and construction of a lined engineered containment unit with imported clay material. A leachate collection system for managing infiltrated surface water will be installed as part of the onsite water handling system. The finished soil pile would be covered with at least four feet of clean fill, graded to match the surrounding dune features. The site will be re-contoured as specified in the approved post-construction plans (Plate 2 – Post Construction Plans).

1.4 OVERVIEW OF SITE RESTORATION ACTIVITIES

Upon completion of construction activities, the site will be restored in accordance with this SSRP. The SSRP contains the details of the methodologies that will be employed to restore the sites and monitor their restoration progress.

After remediation activities are complete, the area will be graded according to the restoration grading plans. To prevent slope failure, slopes will be less than 25 degrees whenever possible. The rough grading will be targeted to an elevation of one foot below the final grade to allow the application of retained vegetated overburden, if available, after approval of the pre-restoration contouring.

Stockpiled vegetated overburden (if available) will be returned to the area to be restored as needed to implement planned site-specific contouring. The vegetated overburden will be deposited from haul trucks and spread with a skidsteer. The goal is to cover the entire deposit area to a typical depth of six to twelve inches (dependent on material available) with an uneven finish grade. The use of an excavator or backhoe bucket may be used for spreading of material.

The plant material and densities specified in this SSRP are intended to provide a starting point to restore plant diversity in the disturbed areas. This approach identifies the plant species that are best suited to the specific conditions at specific sites and focuses on facilitating the best chance for successful restoration. Planting will occur after the disturbed upland areas have been filled, compacted, and graded to the planned elevations.

Revegetation target specifications are presented in the TB-9 Area SSRP Summary. The target species are based upon the species composition of each restoration site as documented in the pre-disturbance surveys, as well as on their likely rate of establishment and their erosion control functions. The species, collection and planting times, and the quantities to be planted may be adjusted, as necessary, depending on project-specific or environmental constraints.

Restoration activities include initial seeding and planting in early winter (November or December) following the first heavy rains. If this is not feasible, later in the winter (January or February) is acceptable. Both seeds originating from the Field and possibly container stock will be used. Native seeds will be collected by a seed collector/supplier with experience in site-specific, native seed collections; then dried, cleaned, and properly stored. The seed will hand-broadcast preferably in November or December after the first rains when the soils surface is damp. The seeds will then either be gently raked or harrowed in to the top half-inch of soil to ensure good seed-to-soil contact and a good seedbank.

Brush that has been harvested from the site prior to disturbance will then be placed at the site. The placement of this brush serves two purposes: 1) provides a beneficial micro-habitat for

seedling development and 2) prevents wind erosion of the soil. Additionally, if necessary, sand fence may be installed to prevent soil destabilization. Weeds will be removed through manual techniques or selective herbicide application on a regular basis to ensure successful establishment of the native plants.

1.5 OVERVIEW OF SUCCESS CRITERIA

Restoration programs require the development of criteria to evaluate the progress and success of restoration activities, and to guide the implementation of remedial measures or contingency actions when the criteria are not being met. A general description of success criteria for coastal dune scrub is provided in the Restoration and Monitoring Procedure Plan of the *PROS Program* (Padre, 2016).

1.5.1 Erosion Control and Soil Stabilization

- Topsoil at the restoration sites should be stable and not subject to water and wind erosion.
- No gullying or blowouts should persist.
- All erosion control and soil stabilization treatments should be effective until revegetation results in adequate protective cover.

1.5.2 Non-Native Plant Species Control

Within the Restoration Area, the mean absolute cover of non-native species, excluding specified invasive species will be less than five percent. This will be determined by the upper bound of the 80 percent confidence interval of the mean cover of non-native species. To meet the criteria, the upper bound of the 80 percent confidence interval of the mean must be less than five percent. The absolute cover of specified non-native invasive species within the TB-9 Area shall be zero. For purposes of this criterion, the non-native invasive species are: European beachgrass (*Ammophila arena*), iceplant (*Carpobrotus* spp.), slender-leaved iceplant (*Conicosia pugioniformis*), pampas grass (*Cortaderia* spp.), Sahara mustard (*Brassica tournefortii*), veldt grass, and sweet fennel (*Foeniculum vulgare*), or newly introduced invasive species rated by the California Invasive Plant Council (Cal-IPC) as high. Plants with a "High" listing are "…have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically (Cal-IPC, 2018)."

1.5.3 Revegetation

- The native perennial species richness (number of native perennial species) at each restoration site shall be equal to or greater than the native perennial species richness of the Coastal Dune Scrub (CDS) Reference Sites or newly established reference transects. This determination will be made by comparing the number of species in areas of equal size at the restoration and reference sites.
- The mean cover of the native perennial species at the TB-9 Restoration Area should not be significantly less than the CDS Reference Site mean from the same year of data. To determine if the mean of the SSRP Area is significantly less than the mean of the CDS Reference Sites, a one-tailed two-sample t-test will be used.

1.5.4 Sensitive Plant Species

1.5.4.1 Intermediate Success Criteria

Intermediate success criteria have been established to function as thresholds for remedial activities. These intermediate guidelines are based on qualitative measures and not specific quantitative values.

The intermediate success criteria include:

- No weed interference with establishment of the sensitive plant species.
- Growth, vigor, and establishment of seedlings or transplanted plants.
- Survival of the initial generation of seedlings or transplanted plants.
- Additional qualitative measures determined by experience.

1.5.4.2 Final Success Criteria

Each sensitive plant species impacted due to remediation activities will be restored to densities or absolute cover equal to, or greater than pre-impact levels.

1.5.5 Wildlife

To meet the site-specific success criteria for wildlife a site must possess all of the functions and values associated with the vegetation association as measured by the presence of the essential wildlife habitat elements as shown on the attached Wildlife Functions and Habitat Elements Matrix.

If a specific function or value has been recorded as being present at a restored site but not all of the associated habitat elements are present, it will be concluded that the function or value has been replaced at the site and restoring the missing elements will not be required.

To be successful in meeting the site-specific wildlife success criteria, a site must possess either; (a) documented presence for 2 years of 100 percent of the wildlife habitat elements identified as being essential and 50 percent of those elements identified as being beneficial, or (b) documented presence for 2 years of the actual function or value.

1.6 MONITORING SCHEDULE

Monitoring will consist of qualitative and quantitative evaluations of vegetation development over a period of 10 years. The success criteria will not be considered met until all maintenance activities other than weed control have ceased at the restored sites for a minimum period of two years. If the criteria are not met after two years of no maintenance, remedial actions will be taken and monitoring will be extended as necessary to meet the success standards.

If the restoration monitoring indicates interim progress is substantially different from the interim success criteria, then the restoration approach may need to be reassessed. Depending on the situation, an adaptive management strategy may be necessary to take remedial actions and/or adjust the approach or methodology. Remedial measures to be evaluated and implemented as part of the adaptive management process could include but are not limited to: changes in plant selection, propagation and/or planting techniques, replanting or reseeding, or irrigation during establishment period.

Once Chevron determines that the TB-9 Area SSRP success criteria have been met, an Agency approved Independent Performance Monitor shall direct the final performance monitoring activities. Final performance monitoring shall be conducted for two consecutive years without maintenance or remediation activities other than weed control. When the County of San Luis Obispo Department of Planning and Building (Planning Department) and the Executive Director of the California Coastal Commission have determined that the success criteria have been met, no further performance monitoring shall be required.

If performance standards are not met in 10 years, or if prior to that time Chevron concludes that restoration and revegetation will not meet performance standards, within 180 days of the end of the 10-year period Chevron shall apply to the Planning Department for an amendment to the Coastal Development Permit which will include alternative mitigation.

2.0 TB-9 AREA SITE SPECIFIC RESTORATION PLAN TEMPLATE

Table 2-1 provides an overview of the TSMA Project and proposed SSRP.

Table 2-1. Site Specific Restoration Plan Reference Table

TSMA Project Description	
Location	Zone 2, TB-9 Section
Current Activity	Removal of TPH-affected soil and construction of a lined engineered containment unit with imported clay material. A leachate collection system for managing infiltrated surface water will be installed as part of the onsite water handling system. The finished soil pile would be covered with at least four feet of clean fill, graded to match the surrounding dune features.
Past Activity	Tank Battery / Land Treatment Unit / Stockpile
Time of Disturbance	2020
Area of Disturbance	Total Area: 16.4 acres
Topography	
Site Description	The TB-9 Area was decommissioned and dismantled in the early 2000s, which included removal of the concrete-lined basins. The area was later used for temporary soil stockpiling and was constructed with land treatment unit cells as part of the bioremediation pilot study. The TB-9 Area is currently used for stockpiling soil excavated from sumps and diluent stains. The eastern portion is constructed with a HDPE lined basin that supports the site water handling system.
Site Elevations	The elevation ranges from approximately 65 feet to 105 feet mean sea level (MSL).
Unique Natural Features	None. The TB-9 Area is a developed area. Upon completion, the TSMA Project site will be graded to match the surrounding dune features.
Pre-Disturbance Baseline Vegetation Survey	
Date(s) and Monitor	August 2016 (JL/MH); January 2018 (JL/LB)
Plant Community	Coastal Dune Scrub
Habitat Condition	Low cover of native perennial species and non-native species in comparison to undisturbed coastal dune scrub habitat.
Vegetative Cover - Absolute	Total cover: 40%; native perennial: 30%; native annual 5%; non-native: 5%
Dominant Native Species	Coyote brush, mock heather, coastal buckwheat and California aster
Special Status Plants	Dune mint < 1 percent Blochman's groundsel < 1 percent Nuttall's milkvetch < 1 percent

Non-Native Plant Species	Ripgut brome, red brome, iceplant, tocalote, slender-leaved iceplant, veldt grass, red-stemmed filaree, rattail fescue, golden-top grass veldt grass, slender-leaved iceplant.
Construction Monitoring	Botanical monitoring not required at this time.
Pre-Disturbance Wildlife Survey	
Date(s) and Monitor	July 2018 (VBT)
Potential Habitat - Special Status Species	Silvery legless lizard, western spadefoot, and Blainville's horned lizard
Special Status Species - Observed	None
Other Species - Observed	Coyote, mule deer, brush rabbit, black-tailed jack rabbit, Heermann's kangaroo rat, western fence lizard, turkey vulture, bushtit, white-crowned sparrow, house finch, lesser goldfinch, American goldfinch
Wildlife Functions (refer to Attachment 4 - Wildlife Survey Report for the TB-9 Area Site-Specific Restoration Plan, Table 2)	Amphibian Cover/Refuge & Foraging Habitat
	Lizard Cover/Refuge & Foraging Habitat
	Terrestrial Snake Cover/Refuge & Foraging Habitat
	Legless Lizard Habitat
	Raptor/Owl Hunting Habitat
	Ground Nesting Bird Habitat
	Songbird Foraging, Cover/Refuge, & Nesting Habitat
	Insectivorous Mammal Foraging, Cover/Refuge, & Breeding Habitat
	Carnivore Denning, Hunting, & Cover Habitat
	Herbivore Foraging & Cover Habitat
	Rodent Cover, Foraging, & Breeding Habitat
Pre-Disturbance Cultural / Archaeological Survey	
Date(s) and Monitor	March 6, 2018 (CL)
Cultural Resources Observed	None
Construction Monitoring	Cultural monitor for all soil removal activities. Cultural clearance for all treatment activities.
Pre-Disturbance Weed Control	
Date(s)	TBD
Treatment No. and Control Method	The disturbance areas will be treated with selective herbicide application prior to the initiation of construction activities.

Disturbance Expected Impacts			
Direct Impacts	Temporary removal of previously disturbed coastal dune scrub."		
Indirect Impacts	Low amount of sand migration following sand placement until area stabilizes, potential increase in weed species following sand placement.		
Proposed Soil/Vegetation Salvage			
Top Soil Quantities	None		
Salvaged Seed Species and Quantities	None; seed will be collected from native plants at the Field		
Species of Propagules Collected	None		
Salvaged Plant Species	None		
Proposed Erosion Control and Soil Stabilization			
Type of Erosion Control/Soil Stabilization	Surface of the restoration site will be disked perpendicular to the slope; installation of sand fences for wind erosion, straw wattles or silt fencing if needed.		
Revegetation			
Timing of Restoration Initiation	Winter 2021/2022		
Seed Mix / Planting Palette	**coastal dune scrub**	**Plant Material**	**Seed: lb/acre**
	Achillea millefolium	Seed	0.5
	Ambrosia chamissonis	Seed	7.0
	Astragalus nuttallii	Seed	0.5
	Camissoniopsis cheiranthifolia	Seed	0.5
	Ericameria ericoides	Seed	5.0
	Erigeron blochmaniae	Seed	0.5
	Eriogonum parvifolium	Seed	2.0
	Senecio blochmaniae	Seed	1.0
Plant Cuttings	None necessary		
Container Plants	Container plants of coastal dune scrub species may be planted after the initiation of restoration activities if monitoring indicates that species cover and diversity is lacking.		
Sensitive Plant Species	Nuttall's milkvetch and Blochman's groundsel will be included in the seed mix.		
Exotics Control			
Method of Control	Herbicide spray and/or mechanical removal of invasive exotics		
Control Schedule	Twice a year in Spring/Fall		

Table 2-2. Success Criteria and Evaluation Criteria TB-9 Area

Category	Success Criteria	Monitoring Frequency	Monitoring Finding	Action
Revegetation of coastal dune scrub (in accordance with the approved PROS Program)	Erosion control: Top soil shall be stable and not subject to water and wind erosion. No gullying, washouts or blowouts shall persist.	Erosion monitoring in accordance with the SWPPP.	Criteria met	Continue monitoring
			Criteria not met	Implement appropriate maintenance/remedial actions.
	Native Perennial Cover: The mean cover of the native perennial species at the FESSRP Area should not be significantly less than the CDS Reference Site mean from the same year of data. Native Perennial Richness The native perennial species richness (number of native perennial species) at each restoration site shall be equal to or greater than the native perennial species richness of the CDS Reference Sites or newly established reference transects.	Qualitative Monitoring in spring until the restoration area has reached success criteria.	Criteria Met	Restoration will be considered complete and final performance monitoring will be conducted.
		Quantitative Monitoring, when restoration area has reached success criteria; two years of quantitative monitoring will be conducted to confirm restoration completion.	Criteria not met	Implement appropriate maintenance/remedial actions.
	Non-Native Plant Cover: The mean absolute cover of non-native species, excluding specified invasive species will be less than five percent. The absolute cover of specified non-native invasive species within the FESSRP Area shall be zero.	Qualitative Monitoring in spring until the restoration area has reached success criteria. Quantitative Monitoring, when restoration area has reached success criteria; two years of quantitative monitoring will be conducted to confirm restoration completion.	Criteria Met	Restoration will be considered complete and final performance monitoring will be conducted.
			Criteria not met	Implement appropriate maintenance/remedial actions
Sensitive Plant Species Mitigation	Each sensitive plant species impacted due to remediation activities will be restored to densities or absolute cover equal to, or greater than pre-impact levels.	Qualitative Monitoring in spring until the restoration area has reached success criteria. Quantitative Monitoring, when restoration area has reached success criteria; two years of quantitative monitoring will be conducted to confirm restoration completion.	Criteria Met	Sensitive Species mitigation will be considered.
			Criteria Not Met	Assess cause; implement appropriate maintenance/remedial actions.
Wildlife Habitat Restoration	Site must possess either (a) documented presence for two years of 100% of the wildlife habitat elements identified as being essential and 50% of those elements identified as being beneficial or (b) documented presence for two years of the actual function or value. (Refer to the following Wildlife Element Matrix)	Annual wildlife habitat element survey	Criteria met	Continue monitoring until all criteria met
			Criteria not met	Continue monitoring until all functions have found to be present for at least two years

3.0 GUIDE TO THE WILDLIFE FUNCTIONS AND HABITAT ELEMENTS MATRIX

Table 3-1 provides the *Wildlife Functions and Habitat Elements Matrix,* which is used to identify those Wildlife Functions and related Wildlife Habitat Elements that are expected to be restored at a specific site based upon the Plant Association(s). Prior to site restoration, the Baseline Wildlife Functions and Habitat Elements Matrix is used to characterize the site. This Matrix is then used when conducting post restoration wildlife surveys. This guide will assist in the interpretation of the information presented in the Matrix.

Each individual Plant Association has certain Wildlife Functions that are associated with it. Each of these Wildlife Functions requires a suite of *essential* and *beneficial* Wildlife Habitat Elements to be present. A Plant Association that has been restored will have Wildlife Functions that may be provided by that type of habitat (i.e., Coastal Dune Scrub provides the Habitat Element suitable for rodent cover/refuge). For each of the Wildlife Functions to occur, multiple Wildlife Habitat Elements need to be present (i.e., for the Wildlife function raptor/owl hunting, certain vegetation, geologic, and animal diet elements must be present).

The Site name and Plant Associations to be restored are identified in the upper left-hand corner of the Matrix. Columns at the top of the Matrix represent all potential Wildlife Functions that could be provided by Plant Associations located at the Field. Rows along the left side of the Matrix represent all the potential Wildlife Habitat Elements that could be present. The Habitat Elements are grouped into seven categories:

- Vegetation Layers
- Vegetation Characteristics
- Geologic Elements
- Aquatic Elements
- Animal Diet Elements
- Plant Diet Elements
- Miscellaneous Elements

Columns highlighted in blue on the Matrix are Wildlife Functions that are expected to be restored at the Site. Wildlife Habitat Elements that are bolded in the left-hand column of the Matrix are those that are expected to be restored at the Site.

Boxes in the Matrix highlighted in green indicate a *beneficial* element and/or habitat for a given Wildlife Function. Boxes highlighted in pink indicate an *essential* element and/or habitat for a given Wildlife Function. These *essential* elements must be present for the corresponding Wildlife Function to occur at the site. In addition, certain Wildlife Habitat Element group headings are highlighted in pink**.** This indicates that two or more of the Wildlife Habitat Elements listed under that group heading are *essential* to the Wildlife Function in that column.

Table 3-1. Wildlife Functions and Habitat Elements Matrix

TB-9 Area 07/24/18 **Existing Plant Associations:** **coastal dune scrub**		Wildlife Functions																	
		AMPHIBIAN/REPTILES					AVIAN					MAMMALS							
		amphibian cover	amphibian foraging	lizards	terrestrial snakes	legless lizards	raptor/owl hunting	ground nesting birds	songbird nesting	songbird foraging	songbird cover	insectivorous mammals	bat foraging	carnivore denning	carnivore cover	carnivore hunting	herbivore foraging	herbivore cover	rodents
Habitat Elements	**Vegetation Layers**																		
	tree																		
	shrub	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X
	tall herbaceous																		
	short herbaceous	X	X	X	X		X			X		X		X		X	X	X	X
	tall emergent aquatic																		
	short emergent aquatic																		
	floating mat																		
	submerged aquatic																		
	Vegetation Characteristics																		
	mature forest																		
	loose bark																		
	tree hollows/cavities																		
	snag/stump																		
	duff/litter	X	X	X	X	X	X			X		X							X
	woody debris																		
	logs																		
	brush pile/wood rat nest																		
	dead vegetation mat																		
	Geologic Elements																		
	bank/berm			X	X									X	X	X			X
	small mammal burrows	X		X	X		X					X		X		X			X

TB-9 Area 07/24/18 **Existing Plant Associations:** **coastal dune scrub**		**Wildlife Functions**																	
		AMPHIBIAN/REPTILES					**AVIAN**					**MAMMALS**							
		amphibian cover	amphibian foraging	lizards	terrestrial snakes	legless lizards	raptor/owl hunting	ground nesting birds	songbird nesting	songbird foraging	songbird cover	insectivorous mammals	bat foraging	carnivore denning	carnivore cover	carnivore hunting	herbivore foraging	herbivore cover	rodents
	friable soil																		
	loose soil	X		X		X						X							
	damp soil																		
	Aquatic Elements																		
	open water																		
	muddy bottom																		
	permanent surface water																		
	long term seasonal surface water																		
	short term seasonal surface water																		
	deep surface water																		
Habitat Elements	**Animal Diet Elements**																		
	invertebrates, terrestrial		X	X	X	X	X	X		X		X	X			X			X
	invertebrates, flying		X	X			X			X			X			X			X
	invertebrates, aquatic																		
	eggs																		
	fish																		
	amphibians																		
	reptiles		X		X		X					X				X			
	small birds (song)				X		X									X			
	large birds (raptors)						X									X			
	small mammals (rodents, lags)		X		X		X									X			
	large mammals (deer)															X			
	Plant Diet Elements																		
	fungi																		

TB-9 Area 07/24/18 **Existing Plant Associations:** **coastal dune scrub**	**Wildlife Functions**																	
	AMPHIBIAN/REPTILES					**AVIAN**					**MAMMALS**							
	amphibian cover	amphibian foraging	lizards	terrestrial snakes	legless lizards	raptor/owl hunting	ground nesting birds	songbird nesting	songbird foraging	songbird cover	insectivorous mammals	bat foraging	carnivore denning	carnivore cover	carnivore hunting	herbivore foraging	herbivore cover	rodents
algae																		
graminoids																X		X
forbs																X		X
shrub/tree leaves																X		X
twigs																X		X
seeds							X		X		X					X		X
berries																		
fruits																		
flowers/nectar									X							X		X
aquatic plants																		
Misc. Elements																		
aquatic basking sites																		
terrestrial basking sites			X	X														
perchsites						X			X									
roost sites																		

X Habitat Element present at or near the time of the baseline survey

Habitat Elements that are beneficial to a wildlife function

Habitat Elements that are essential to a wildlife function

Wildlife Function present at or near the time of the baseline survey

4.0 REFERENCES

California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants. http://www.rareplants.cnps.org/index.html

Cal-IPC. 2018. The Cal-IPC Inventory. https://www.cal-ipc.org/plants/inventory/

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Padre. 2016. Pads, Roads, and Oil Spray (PROS) Program, Restoration and Monitoring Procedure Plan. November 2016.

Unocal. 2006. Ecological Monitoring Program (EMP). Prepared by Jordan Environmental Services, JENESIS, SPECI and LFR-Levine Fricke.

PLATES

ATTACHMENT 1

PRE-DISTURBANCE PHOTO

TB-9 Photo-station 1: View of TB-9 facing northeast

TB-9 Photo-station 2: View of TB-9 facing southeast

Appendix F

CalRecycle Exemption Letter

California Environmental Protection Agency

Gavin Newsom
California Governor

Jared Blumenfeld
Secretary for Environmental Protection

Department of Resources Recycling and Recovery

Ken DaRosa
CalRecycle Acting Director

April 16, 2020

Robert Van Hyning, PE
Golder Associates Inc.
7 Corporate Park, Suite 260
Irvine CA, 92606

SUBJECT: Nonhazardous Petroleum Contaminated Soil Exclusion for the Proposed Class II Landfill at the Guadalupe Oil Field, San Luis Obispo County

Mr. Van Hyning:

Department of Resources Recycling and Recovery (CalRecycle) staff, as the solid waste Enforcement Agency (EA) for San Luis Obispo County, have reviewed the Submittal of Information Documenting Proposed Class II Landfill at the Guadalupe Oil Field as a Contaminated Soil Excluded Operation (Request) for the subject facility, dated April 6, 2020. The Request was received by CalRecycle on April 7, 2020.

CalRecycle staff has determined the proposed Operation meets the requirements of Title 14, California Code of Regulations (14 CCR), Section 17362.1 and is excluded from the regulatory requirements of 14 CCR 17360 et seq. Staff made this determination based on the following:

- the proposed waste meets the definition of contaminated soil per 14 CCR 17361(b);
- the disposal of the contaminated soil will be from a single Petroleum Exploration and Production Company, its parent, or subsidiary to property owned or leased by the same Petroleum Exploration and Production Company, its parent, or subsidiary (Unocal Corporation); and
- pursuant to Water Code 13263 (a), the waste will be regulated by the Central Coast Regional Water Quality Control Board (RWQCB; confirmed in an email by RWQCB staff dated April 13, 2020). The RWQCB received a Report of Waste Discharge and the Operation will be regulated under site specific Waste Discharge Requirements.

Note that nothing precludes CalRecycle from inspecting an excluded operation or facility to verify that the operation or facility is being conducted in a manner that qualifies as an excluded operation or facility or from taking any appropriate enforcement action. Should operations change, CalRecycle reserves the right to review the changes to determine if the Operation continues to meet the exclusion or is subject to CalRecycle regulatory requirements.

If you have any questions or comments regarding this letter, please contact Cody Oquendo at 916.341.6719 or Cody.Oquendo@calrecycle.ca.gov.

Sincerely,

Jeff Hackett, Manager
Permits & Assistance South Section
Permitting & Assistance Branch

cc via email: Jordan.Haserot@Waterboards.ca.gov – RWQCB
Candice.Houghton@CalRecycle.ca.gov – CalRecycle
Cody.Oquendo@CalRecycle.ca.gov - CalRecycle
Benjamin.Escotto@CalRecycle.ca.gov - CalRecycle

Appendix G

Air Quality and GHG Emission Calculations

Table of Contents

Proposed Soil Management Area (SMA) Project

Key SMA Project Construction Inputs

Task #	Phase Description	Task Duration (Workdays)	Start Date	End Date	Working Days between Start and End Date	# Quarters in a Year	Workdays per Year	Total Material Moved (CY)		Hydrocarbon Impacted Material Moved (CY)		Disturbed Area due to Grading		Notes for Total Material Moved
								Total	Per Workday	Total	Per Workday	Acres	Basis	
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	29	7/12/2021	8/19/2021	29	1	29	143,000	4,931	0	0	10.85	1/2 area of TB9 in Phase 1	71,500 CY cut, 43,250 fill, and 28,250 CY clean soil transported to Q4 stockpile.
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	17	10/18/2021	11/9/2021	17	1	17	40,100	2,359	0	0	10.85	1/2 area of TB9 in Phase 1	20,050 CY fill and 20,050 CY clean soil transported from Q4 to SMA site.
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	29	8/5/2022	9/15/2022	30	1	29	143,000	4,931	0	0	10.85	1/2 area of TB9 in Phase 2	71,500 CY cut, 43,250 fill, and 28,250 CY clean soil transported to Q4 stockpile.
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	17	11/11/2022	12/7/2022	19	1	17	40,100	2,359	0	0	10.85	1/2 area of TB9 in Phase 2	20,050 CY fill and 20,050 CY clean soil transported from Q4 to SMA site.
2-P1	Import of Materials from Offsite for Liner System-Phase 1	28	11/10/2021	1/4/2022	40	1	28	0	0	0	0		No grading	
2-P2	Import of Materials from Sources for Liner System-Phase 2	27	12/8/2022	1/27/2023	37	1	27	0	0	0	0		No grading	
3-P1	Subgrade Preparation-Phase 1	15	11/10/2021	12/2/2021	17	1	15	24,071	1,605	0	0	10.85	1/2 area of TB9 in Phase 1	24,071 CY of red rock transported to SMA site from various PROS sites.
3-P2	Subgrade Preparation-Phase 2	15	12/8/2022	1/11/2023	25	1	15	24,071	1,605	0	0	10.85	1/2 area of TB9 in Phase 2	24,071 CY of red rock transported to SMA site from various PROS sites.
4-P1	Liner System Installation-Phase 1	60	12/3/2021	3/10/2022	70	2	60	43,670	728	0	0	10.85	1/2 area of TB9 in Phase 1	17,810 CY of clay liner material stockpiled at M3, 17,810 CY of clay liner material moved from M3 to
4-P2	Liner System Installation-Phase 2	60	1/12/2023	4/5/2023	60	1	60	43,670	728	0	0	10.85	1/2 area of TB9 in Phase 2	17,810 CY of clay liner material stockpiled at M3, 17,810 CY of clay liner material moved from M3 to
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	75	3/11/2022	6/24/2022	76	2	75	188,000	2,507	188,000	2,507	10.85	1/2 area of TB9 in Phase 1	188,000 CY TB9 stockpile moved to SMA.
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	34	4/6/2023	5/23/2023	34	1	34	65,000	1,912	65,000	1,912	10.85	1/2 area of TB9 in Phase 2	65,000 CY TB8 stockpile moved to SMA.
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	740	4/6/2023	4/7/2026	784	4	260	1,185,500	1,602	1,185,500	1,602	10.85	1/2 area of TB9 at one time.	1,185,500 CY of material from various sites that is spread out to fill the SMA.
7	Evapotranspirative (ET) Cover Construction	60	4/8/2026	6/30/2026	60	1	60	105,700	1,762	0	0	21.7	Entire SMA area	105,700 CY Material moved from Q4 to SMA site.
8	Final Restoration (Hydroseeding, Planting, etc..)	24	7/1/2026	8/3/2026	24	1	24	0	0	0	0		No grading	

1. Task duration used to calculate total task emissions.
2. Workdays per year used to calculate annual emissions.
3. # quarters per year used to calculate quarterly emissions from annual emissions.
4. Material moved per workday used to calculate fugitive dust emission from loading and dumping activities
5. Hydrocarbon impacted material moved per workday used to calculate fugitive soil emissions
6. Start date and end date used to determine which calendar quarters to place daily and quarterly emissions
7. Disturbed area due to grading are used to calculate fugitive dust emissions from grading activities
8. Workdays based upon five days per week 52 weeks per year.
9. Data from Chevron update on schedule and equipment (December 2020).
10. Values for task duration and material moved are based upon construction engineering estimates based upon engineering for the SMA Project.

Proposed Soil Management Area (SMA) Project

List of Project Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	Hours / day	Duration (days)
1a-P1	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1**					
	Excavator - CAT336 at Q4 Clean OB	315	Tier 4i	0.38	7	29
	Excavator - CAT349 at TB9 Clean OB	430	Tier 4F	0.38	7	29
	Dozer - D6N at Q4 Clean OB	173	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	29
	Fuel Delivery Truck	280				
1b-P1	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1**					
	Excavator - CAT349 at Q4	430	Tier 4F	0.38	7	17
	Dozer - D6N at TB9 Clean Soil Grading	173	Tier 4i	0.41	7	17
	Dozer - D6T at TB9 Clean Soil Grading	229	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	17
	Compactor	157	Tier 4i	0.44	7	17
	Fuel Delivery Truck	280				
1a-P2	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2**					
	Excavator - CAT336 at Q4 Clean OB	315	Tier 4i	0.38	7	29
	Excavator - CAT349 at TB9 Clean OB	430	Tier 4F	0.38	7	29
	Dozer - D6N at Q4 Clean OB	173	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	29
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	29
	Fuel Delivery Truck	280				
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**					
	Excavator - CAT349 at Q4	430	Tier 4F	0.38	7	17
	Dozer - D6N at TB9 Clean Soil Grading	173	Tier 4i	0.41	7	17
	Dozer - D6T at TB9 Clean Soil Grading	229	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	17
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	17
	Compactor	157	Tier 4i	0.44	7	17
	Fuel Delivery Truck	280				
2-P1	**Import of Materials from Offsite for Liner System-Phase 1**					
	15L Semi Trailer Truck	485				
	950 Loader	248	Tier 4i	0.33	7	28
	Fuel Delivery Truck	280				
2-P2	**Import of Materials from Sources for Liner System-Phase 2**					
	15L Semi Trailer Truck	485				
	950 Loader	248	Tier 4i	0.33	7	27
	Fuel Delivery Truck	280				

Proposed Soil Management Area (SMA) Project

List of Project Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	Hours / day	Duration (days)
3-P1	**Subgrade Preparation-Phase 1**					
	Excavator - CAT349	430	Tier 4F	0.38	7	15
	Dozer - D6N	173	Tier 4i	0.41	7	15
	Dozer - D6T	229	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	15
	Compactor	157	Tier 4i	0.44	7	15
	Fuel Delivery Truck	280				
3-P2	**Subgrade Preparation-Phase 2**					
	Excavator - CAT349	430	Tier 4F	0.38	7	15
	Dozer - D6N	173	Tier 4i	0.41	7	15
	Dozer - D6T	229	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	15
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	15
	Compactor	157	Tier 4i	0.44	7	15
	Fuel Delivery Truck	280				
4-P1	**Liner System Installation-Phase 1**					
	Excavator - CAT349	430	Tier 4F	0.38	7	18
	Dozer - D6N	173	Tier 4i	0.41	7	18
	Dozer - D6T	229	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	7	18
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	18
	Loader	230	Tier 4i	0.33	7	18
	Water Truck - 4k gallon	230			7	18
	Pulverizer - Wirtgen WR240i	619	Tier 4F	0.40	7	18
	Excavator - CAT315	99.8	Tier 4F	0.30	7	16
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	7	16
	Loader - 966	274	Tier 4i	0.33	7	16
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	7	16
	Loader - 966	274	Tier 4F	0.33	7	15
	Manlift - 65'	74	Tier 4f	0.30	7	5
	Lull	111	Tier 4F	0.40	4	40
	Loader - 966	274	Tier 4i	0.33	7	40
	Compactor	157	Tier 4i	0.44	7	17
	Fuel Delivery Truck	280				

Proposed Soil Management Area (SMA) Project

List of Project Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	Hours / day	Duration (days)
4-P2	**Liner System Installation-Phase 2**					
	Excavator - CAT349	430	Tier 4F	0.38	7	18
	Dozer - D6N	173	Tier 4i	0.41	7	18
	Dozer - D6T	229	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	7	18
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	7	18
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	18
	Loader	230	Tier 4i	0.33	7	18
	Water Truck - 4k gallon	230			7	18
	Pulverizer - Wirtgen WR240i	619	Tier 4F	0.40	7	18
	Excavator - CAT315	99.8	Tier 4F	0.30	7	16
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	7	16
	Loader - 966	274	Tier 4i	0.33	7	16
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	7	16
	Loader - 966	274	Tier 4F	0.33	7	15
	Manlift - 65'	74	Tier 4f	0.30	7	5
	Lull	111	Tier 4F	0.40	4	40
	Loader - 966	274	Tier 4i	0.33	7	40
	Compactor	157	Tier 4i	0.44	7	17
	Fuel Delivery Truck	280				
5-P1	**TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1**					
	Excavator - CAT349	430	Tier 4F	0.38	7	75
	Dozer - D6K	125	Tier 4i	0.41	7	75
	Dozer - D6T	229	Tier 4i	0.41	7	75
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	75
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	75
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	75
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	75
	Compactor	157	Tier 4i	0.44	7	75
	Fuel Delivery Truck	280				
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**					
	Excavator - CAT349	430	Tier 4F	0.38	7	34
	Dozer - D6K	125	Tier 4i	0.41	7	34
	Dozer - D6T	229	Tier 4i	0.41	7	34
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	34
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	34
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	34
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	34
	Fuel Delivery Truck	280				
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**					
	Dozer - D6N	178	Tier 4i	0.41	7	740
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	740
	Fuel Delivery Truck	280				

Proposed Soil Management Area (SMA) Project

List of Project Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	Hours / day	Duration (days)
7	**Evapotranspirative (ET) Cover Construction**					
	15L Semi Trailer Truck	485				
	Dozer - D6N	178	Tier 4i	0.41	7	60
	Loader - 950	230	Tier 4i	0.33	7	60
	Excavator	336	Tier 4i	0.38	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	60
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	60
	Fuel Delivery Truck	280				
8	**Final Restoration (Hydroseeding, Planting, etc..)**					
	Dozer - D6N	178	Tier 4i	0.41	7	24
	Skid Steer	73	Tier 4i	0.34	7	24
	Hydroseed Truck	225				
	Fuel Delivery Truck	280				

Proposed Soil Management Area (SMA) Project

Input Data for Offroad Material Haul Trucks by Task

Task #	Equipment	Average Load/Truck (CY)	Miles RT	Trips/truck-day	# Days	Total Onsite Miles/truck	# Trucks	Total Material Transported	Comments
1a-P1	Off Road Haul Truck - CAT740	24.4	4.0	10	29	1,160	4	28,250	Material To Q4 Stockpile
1b-P1	Off Road Haul Truck - CAT740	24.6	4.0	8	17	544	6	20,050	Material from Q4 to SMA
1a-P2	Off Road Haul Truck - CAT740	24.4	4.0	10	29	1,160	4	28,250	Material To Q4 Stockpile
1b-P2	Off Road Haul Truck - CAT740	24.6	4.0	8	17	544	6	20,050	Material from Q4 to SMA
3-P1	Off Road Haul Truck - CAT740	22.3	2.0	12	15	360	6	24,071	Hauling of Red Rock from various PROS sites.
3-P2	Off Road Haul Truck - CAT740	22.3	2.0	12	15	360	6	24,072	Hauling of Red Rock from various PROS sites.
4-P1	Off Road Haul Truck - CAT740 (1)	24.7	0.25	20	18	90	2	17,810	Stockpiling of clay liner material.
	Off Road Haul Truck - CAT740 (2)	20.8	2.00	10	18	360	2	7,500	Transport clay liner material to TB9
	Tracked Haul Truck - RT9	13.9	0.25	40	16	160	2	17,810	Transport clay liner material to SMA
4-P2	Off Road Haul Truck - CAT740 (1)	24.7	0.25	20	18	90	2	17,810	Stockpiling of gravel material.
	Off Road Haul Truck - CAT740 (2)	20.8	2.00	10	18	360	2	7,500	Transport gravel material to TB9
	Tracked Haul Truck - RT9	13.9	0.25	40	16	160	2	17,810	Transport gravel material to SMA
5-P1	Off Road Haul Truck - CAT740	24.6	0.5	34	75	1,275	3	188,000	Material from TB9 Stockpile
5-P2	Off Road Haul Truck - CAT740	18.7	0.5	34	34	578	3	65,000	Material from TB8 Stockpile
7	Off Road Haul Truck - CAT740	24.5	2.0	12	60	1,440	6	105,700	Material from Q4 and Stockpiled Material

Input Data for Offroad Water Trucks by Task

Task #	Equipment	Miles/hr	Hours/day	# Days	Total Onsite Miles/Truck	# Trucks
1a-P1	Off Road Water Truck - CAT740	1.0	7	29	203	1
1b-P1	Off Road Water Truck - CAT740	1.0	7	17	119	1
1a-P2	Off Road Water Truck - CAT740	1.0	7	29	203	1
1b-P2	Off Road Water Truck - CAT740	1.0	7	17	119	1
3-P1	Off Road Water Truck - CAT740	0.5	7	15	53	1
3-P2	Off Road Water Truck - CAT740	0.5	7	15	53	1
4-P1	Off Road Water Truck - CAT740	0.5	7	18	63	1
4-P2	Off Road Water Truck - CAT740	0.5	7	18	63	1
5-P1	Off Road Water Truck - CAT740	0.5	7	75	263	1
5-P2	Off Road Water Truck - CAT740	0.5	7	34	119	1
6	Off Road Water Truck - CAT740	1.0	7	740	5,180	1
7	Off Road Water Truck - CAT740	0.5	7	60	210	1

Proposed Soil Management Area (SMA) Project

On Road Material Delivery Truck Trips

Task	Vehicle Type	Material	Volume of Material		# Trips	Miles per Round Trip Offsite	Miles per Round Trip Onsite	Total Vehicle Miles Traveled	
			Quantity	Unit				Offsite	Onsite
2-P1	15L Semi Trailer Truck	Clay for Liner	17,810	cy	1,048	150	3.4	157,200	3,563
	15L Semi Trailer Truck	Gravel for Liner	7,500	cy	442	220	3.4	97,240	1,503
	15L Semi Trailer Truck	Liner Material	10	rolls	14	361	3.4	5,054	48
							Total Task 2-P1	***259,494***	***5,114***
2-P2	15L Semi Trailer Truck	Clay for Liner	17,810	cy	1,048	150	3.4	157,200	3,563
	15L Semi Trailer Truck	Gravel for Liner	7,500	cy	442	220	3.4	97,240	1,503
	15L Semi Trailer Truck	Liner Material	10	rolls	14	361	3.4	5,054	48
							Total Task 2-P2	***259,494***	***5,114***
7	15L Semi Trailer Truck	Clay for Cap	31,710	cy	1,866	150	3.4	279,900	6,344
8	Hydroseed Truck	Seed for Cap	--	--	8	40	6.5	320	52

Truck Volume for Clay (cy/truck)	17
Truck Volume for Gravel (cy/truck)	17
Truck Volume to SMLF (cy/truck)	16

1,504 Total Tips per Phase
28 Phase Duration (days)
54 Round Trips per Day

On Road Water Trucks

Task	Vehicle Type	Material	Miles/hr	Hrs/day	Total Days	Total Vehicle Miles Traveled	
						Offsite	Onsite
4-P1	Water Truck - 4k gallon	Water	0.3	7	18	0	37.8
4-P2	Water Truck - 4k gallon	Water	0.3	7	18	0	37.8

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors [1]	On-site mileage	Off-site mileage	Hours / day	Duration (days)	Duration (hrs)	Included in Peak Day	Notes		Emissions (Total Tons) ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
1a-P1	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1**							**29**														
	Excavator - CAT336 at Q4 Clean OB	315	Tier 4i	0.38			7	29	203	y			1.85E-03	6.96E-02	3.48E-02	1.34E-04	2.41E-04	2.41E-04	3.40E-03	4.07E-03	1.26E+01	1.37E+01
	Excavator - CAT349 at TB9 Clean OB	430	Tier 4F	0.38			7	29	203	y			2.05E-03	8.04E-02	9.58E-03	1.83E-04	3.29E-04	3.29E-04	4.64E-03	5.56E-03	1.72E+01	1.87E+01
	Dozer - D6N at Q4 Clean OB	173	Tier 4i	0.41			7	29	203	y			1.10E-03	4.13E-02	2.06E-02	7.94E-05	1.43E-04	1.43E-04	2.02E-03	2.41E-03	7.46E+00	8.13E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y	See Off Road Haul Truck Data Worksheet for details.		2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	203		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Fuel Delivery Truck	280			28	160				y	See Fuel Use Worksheet for details.		4.17E-05	1.60E-04	1.08E-03	3.07E-06	1.28E-05	1.22E-05	5.11E-05	1.94E-06	3.25E-01	3.40E-01
												task tons	0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.59	145.40
1b-P1	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1**							**17**														
	Excavator - CAT349 at Q4	430	Tier 4F	0.38			7	17	119	y			1.20E-03	4.72E-02	5.62E-03	1.07E-04	1.93E-04	1.93E-04	2.72E-03	3.26E-03	1.01E+01	1.10E+01
	Dozer - D6N at TB9 Clean Soil Grading	173	Tier 4i	0.41			7	17	119	y			6.42E-04	2.42E-02	1.21E-02	4.65E-05	8.37E-05	8.37E-05	1.18E-03	1.41E-03	4.38E+00	4.76E+00
	Dozer - D6T at TB9 Clean Soil Grading	229	Tier 4i	0.41			7	17	119	y			8.50E-04	3.20E-02	1.60E-02	6.16E-05	1.11E-04	1.11E-04	1.56E-03	1.87E-03	5.79E+00	6.31E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y	See Off Road Haul Truck Data Worksheet for details.		1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	119		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Compactor	157	Tier 4i	0.44			7	17	119	y			6.25E-04	2.36E-02	1.18E-02	4.53E-05	8.16E-05	8.16E-05	1.15E-03	1.38E-03	4.26E+00	4.64E+00
	Fuel Delivery Truck	280			21	120				y	See Fuel Use Worksheet for details.		3.13E-05	1.20E-04	8.13E-04	2.30E-06	9.58E-06	9.17E-06	3.83E-05	1.45E-06	2.44E-01	2.55E-01
												task tons	0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.70
1a-P2	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2**							**29**														
	Excavator - CAT336 at Q4 Clean OB	315	Tier 4i	0.38			7	29	203	y			1.85E-03	6.96E-02	3.48E-02	1.34E-04	2.41E-04	2.41E-04	3.40E-03	4.07E-03	1.26E+01	1.37E+01
	Excavator - CAT349 at TB9 Clean OB	430	Tier 4F	0.38			7	29	203	y			2.05E-03	8.04E-02	9.58E-03	1.83E-04	3.29E-04	3.29E-04	4.64E-03	5.56E-03	1.72E+01	1.87E+01
	Dozer - D6N at Q4 Clean OB	173	Tier 4i	0.41			7	29	203	y			1.10E-03	4.13E-02	2.06E-02	7.94E-05	1.43E-04	1.43E-04	2.02E-03	2.41E-03	7.46E+00	8.13E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y	See Off Road Haul Truck Data Worksheet for details.		2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,160		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	203		7	29	203	y			2.82E-03	1.06E-01	5.30E-02	2.04E-04	3.67E-04	3.67E-04	5.18E-03	6.21E-03	1.92E+01	2.09E+01
	Fuel Delivery Truck	280			28	160				y	See Fuel Use Worksheet for details.		2.30E-05	1.02E-04	8.90E-04	2.97E-06	5.38E-06	5.15E-06	4.94E-05	1.07E-06	3.15E-01	3.29E-01
												task tons	0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.58	145.39
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**							**17**														
	Excavator - CAT349 at Q4	430	Tier 4F	0.38			7	17	119	y			1.20E-03	4.72E-02	5.62E-03	1.07E-04	1.93E-04	1.93E-04	2.72E-03	3.26E-03	1.01E+01	1.10E+01
	Dozer - D6N at TB9 Clean Soil Grading	173	Tier 4i	0.41			7	17	119	y			6.42E-04	2.42E-02	1.21E-02	4.65E-05	8.37E-05	8.37E-05	1.18E-03	1.41E-03	4.38E+00	4.76E+00
	Dozer - D6T at TB9 Clean Soil Grading	229	Tier 4i	0.41			7	17	119	y			8.50E-04	3.20E-02	1.60E-02	6.16E-05	1.11E-04	1.11E-04	1.56E-03	1.87E-03	5.79E+00	6.31E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y	See Off Road Haul Truck Data Worksheet for details.		1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	544		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	119		7	17	119	y			1.65E-03	6.22E-02	3.11E-02	1.20E-04	2.15E-04	2.15E-04	3.04E-03	3.64E-03	1.13E+01	1.23E+01
	Compactor	157	Tier 4i	0.44			7	17	119	y			6.25E-04	2.36E-02	1.18E-02	4.53E-05	8.16E-05	8.16E-05	1.15E-03	1.38E-03	4.26E+00	4.64E+00
	Fuel Delivery Truck	280			21	120				y	See Fuel Use Worksheet for details.		1.72E-05	7.68E-05	6.68E-04	2.23E-06	4.04E-06	3.86E-06	3.71E-05	8.01E-07	2.36E-01	2.47E-01
												task tons	0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.69

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

												Emissions (Total Tons)										
Task #	**Task Equipment**	**Engine hp**	**Engine Tier**	**Off-Road Diesel Engine Default Load Factors (1)**	**On-site mileage**	**Off-site mileage**	**Hours / day**	**Duration (days)**	**Duration (hrs)**	**Included in Peak Day**	**Notes**		**ROG**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**N_2O**	**CH_4**	**CO_2**	**CO_2e**
	Import of Materials from Offsite for Liner System-Phase 1							**28**														
	15L Semi Trailer Truck	485			5,114	259,494				y	See On Road Truck Data Worksheet for details.		3.79E-02	1.54E-01	1.17E+00	3.72E-03	1.94E-02	1.85E-02	6.19E-02	1.76E-03	3.94E+02	4.12E+02
2-P1	950 Loader	248	Tier 4i	0.33			7	28	196	y			1.22E-03	4.60E-02	2.30E-02	8.84E-05	1.59E-04	1.59E-04	2.25E-03	2.69E-03	8.32E+00	9.05E+00
	Fuel Delivery Truck	280			4	20				y	See Fuel Use Worksheet for details.		5.21E-06	2.00E-05	1.35E-04	3.84E-07	1.60E-06	1.53E-06	6.39E-06	2.42E-07	4.06E-02	4.26E-02
												task tons	0.04	0.20	1.20	0.00	0.02	0.02	0.06	0.00	401.93	421.15
	Import of Materials from Sources for Liner System-Phase 2							**27**														
	15L Semi Trailer Truck	485			5,114	259,494				y	See On Road Truck Data Worksheet for details.		1.93E-02	8.19E-02	8.96E-01	3.57E-03	8.55E-03	8.18E-03	5.94E-02	8.95E-04	3.78E+02	3.96E+02
2-P2	950 Loader	248	Tier 4i	0.33			7	27	189	y			1.18E-03	4.43E-02	2.21E-02	8.53E-05	1.53E-04	1.53E-04	2.17E-03	2.59E-03	8.02E+00	8.73E+00
	Fuel Delivery Truck	280			4	20				y	See Fuel Use Worksheet for details.		2.87E-06	1.28E-05	1.11E-04	3.71E-07	6.73E-07	6.43E-07	6.18E-06	1.34E-07	3.93E-02	4.12E-02
												task tons	0.02	0.13	0.92	0.00	0.01	0.01	0.06	0.00	386.16	404.61
	Subgrade Preparation-Phase 1							**15**														
	Excavator - CAT349	430	Tier 4F	0.38			7	15	105	y			1.06E-03	4.16E-02	4.96E-03	9.46E-05	1.70E-04	1.70E-04	2.40E-03	2.87E-03	8.89E+00	9.68E+00
	Dozer - D6N	173	Tier 4i	0.41			7	15	105	y			5.66E-04	2.13E-02	1.07E-02	4.10E-05	7.39E-05	7.39E-05	1.04E-03	1.25E-03	3.86E+00	4.20E+00
	Dozer - D6T	229	Tier 4i	0.41			7	15	105	y			7.50E-04	2.83E-02	1.41E-02	5.43E-05	9.78E-05	9.78E-05	1.38E-03	1.65E-03	5.11E+00	5.56E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
3-P1	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y	See Off Road Haul Truck Data Worksheet for details.		1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	53		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Compactor	157	Tier 4i	0.44			7	15	105	y			5.52E-04	2.08E-02	1.04E-02	4.00E-05	7.20E-05	7.20E-05	1.02E-03	1.22E-03	3.76E+00	4.09E+00
	Fuel Delivery Truck	280			18	100				y	See Fuel Use Worksheet for details.		2.61E-05	1.00E-04	6.77E-04	1.92E-06	7.98E-06	7.64E-06	3.19E-05	1.21E-06	2.03E-01	2.13E-01
												task tons	0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.35	99.43
	Subgrade Preparation-Phase 2							**15**														
	Excavator - CAT349	430	Tier 4F	0.38			7	15	105	y			1.06E-03	4.16E-02	4.96E-03	9.46E-05	1.70E-04	1.70E-04	2.40E-03	2.87E-03	8.89E+00	9.68E+00
	Dozer - D6N	173	Tier 4i	0.41			7	15	105	y			5.66E-04	2.13E-02	1.07E-02	4.10E-05	7.39E-05	7.39E-05	1.04E-03	1.25E-03	3.86E+00	4.20E+00
	Dozer - D6T	229	Tier 4i	0.41			7	15	105	y			7.50E-04	2.83E-02	1.41E-02	5.43E-05	9.78E-05	9.78E-05	1.38E-03	1.65E-03	5.11E+00	5.56E+00
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
3-P2	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	360		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	53		7	15	105	y			1.46E-03	5.49E-02	2.74E-02	1.06E-04	1.90E-04	1.90E-04	2.68E-03	3.21E-03	9.93E+00	1.08E+01
	Compactor	157	Tier 4i	0.44			7	15	105	y			5.52E-04	2.08E-02	1.04E-02	4.00E-05	7.20E-05	7.20E-05	1.02E-03	1.22E-03	3.76E+00	4.09E+00
	Fuel Delivery Truck	280			18	100				y	See Fuel Use Worksheet for details.		1.44E-05	6.40E-05	5.56E-04	1.86E-06	3.36E-06	3.22E-06	3.09E-05	6.68E-07	1.97E-01	2.06E-01
												task tons	0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.34	99.42

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors [1]	On-site mileage	Off-site mileage	Hours / day	Duration (days)	Duration (hrs)	Included in Peak Day	Notes		Emissions (Total Tons) ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
4-P1	**Liner System Installation-Phase 1**							**60**														
	Excavator - CAT349	430	Tier 4F	0.38			7	18	126	y			1.27E-03	4.99E-02	5.95E-03	1.13E-04	2.04E-04	2.04E-04	2.88E-03	3.45E-03	1.07E+01	1.16E+01
	Dozer - D6N	173	Tier 4i	0.41			7	18	126	y			6.80E-04	2.56E-02	1.28E-02	4.93E-05	8.87E-05	8.87E-05	1.25E-03	1.50E-03	4.63E+00	5.04E+00
	Dozer - D6T	229	Tier 4i	0.41			7	18	126	y			9.00E-04	3.39E-02	1.69E-02	6.52E-05	1.17E-04	1.17E-04	1.66E-03	1.98E-03	6.13E+00	6.68E+00
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	90		7	18	126	y			2.92E-05	1.08E-04	6.77E-04	1.75E-06	6.75E-06	6.46E-06	2.91E-05	1.35E-06	1.85E-01	1.94E-01
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	90		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	360		7	18	126	y	See Off Road Haul Truck Data Worksheet for details.		1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	360		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	63		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Loader	230	Tier 4i	0.33			7	18	126	y			7.27E-04	2.74E-02	1.37E-02	5.27E-05	9.49E-05	9.49E-05	1.34E-03	1.60E-03	4.96E+00	5.40E+00
	Water Truck - 4k gallon	230			38		7	18	126	y	See On Road Truck Data Worksheet for details.		1.22E-05	4.53E-05	2.84E-04	7.35E-07	2.84E-06	2.71E-06	1.22E-05	5.69E-07	7.78E-02	8.15E-02
	Pulverizer - Wirtgen WR240i	619	Tier 4F	0.40			7	18	126	y			1.93E-03	7.57E-02	9.01E-03	1.72E-04	3.10E-04	3.10E-04	4.37E-03	5.23E-03	1.62E+01	1.76E+01
	Excavator - CAT315	99.8	Tier 4F	0.30			7	16	112	y			2.07E-04	8.13E-03	9.68E-04	1.85E-05	3.33E-05	3.33E-05	4.69E-04	5.62E-04	1.74E+00	1.89E+00
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	160		7	16	112	y	See Off Road Haul Truck Data Worksheet for details.		5.78E-04	2.27E-02	2.70E-03	5.16E-05	9.29E-05	9.29E-05	1.31E-03	1.57E-03	4.85E+00	5.28E+00
	Loader - 966	274	Tier 4i	0.33			7	16	112	y			7.70E-04	2.90E-02	1.45E-02	5.58E-05	1.00E-04	1.00E-04	1.42E-03	1.70E-03	5.25E+00	5.71E+00
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	160		7	16	112	y	See Off Road Haul Truck Data Worksheet for details.		5.78E-04	2.27E-02	2.70E-03	5.16E-05	9.29E-05	9.29E-05	1.31E-03	1.57E-03	4.85E+00	5.28E+00
	Loader - 966	274	Tier 4F	0.33			7	15	105	y			5.86E-04	2.30E-02	2.74E-03	5.23E-05	9.42E-05	9.42E-05	1.33E-03	1.59E-03	4.92E+00	5.36E+00
	Manlift - 65'	74	Tier 4f	0.30			7	5	35	y			4.80E-05	1.88E-03	2.24E-04	4.28E-06	7.71E-06	7.71E-06	1.09E-04	1.30E-04	4.03E-01	4.38E-01
	Lull	111	Tier 4F	0.40			4	40	160	y			4.39E-04	1.72E-02	2.05E-03	3.92E-05	7.05E-05	7.05E-05	9.95E-04	1.19E-03	3.68E+00	4.01E+00
	Loader - 966	274	Tier 4i	0.33			7	40	280	y			1.93E-03	7.26E-02	3.63E-02	1.40E-04	2.51E-04	2.51E-04	3.54E-03	4.24E-03	1.31E+01	1.43E+01
	Compactor	157	Tier 4i	0.44			7	17	119	y	See Fuel Use Worksheet for details.		6.25E-04	2.36E-02	1.18E-02	4.53E-05	8.16E-05	8.16E-05	1.15E-03	1.38E-03	4.26E+00	4.64E+00
	Fuel Delivery Truck	280			35	200				y			5.21E-05	2.00E-04	1.35E-03	3.84E-06	1.60E-05	1.53E-05	6.39E-05	2.42E-06	4.06E-01	4.26E-01
												task tons	0.02	0.70	0.27	0.00	0.00	0.00	0.04	0.04	134.00	145.84
4-P2	**Liner System Installation-Phase 2**							**60**														
	Excavator - CAT349	430	Tier 4F	0.38			7	18	126	y			1.27E-03	4.99E-02	5.95E-03	1.13E-04	2.04E-04	2.04E-04	2.88E-03	3.45E-03	1.07E+01	1.16E+01
	Dozer - D6N	173	Tier 4i	0.41			7	18	126	y			6.80E-04	2.56E-02	1.28E-02	4.93E-05	8.87E-05	8.87E-05	1.25E-03	1.50E-03	4.63E+00	5.04E+00
	Dozer - D6T	229	Tier 4i	0.41			7	18	126	y			9.00E-04	3.39E-02	1.69E-02	6.52E-05	1.17E-04	1.17E-04	1.66E-03	1.98E-03	6.13E+00	6.68E+00
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	90		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Haul Truck - CAT740 (1)	445	Tier 4i	0.41	90		7	18	126	y	See Off Road Haul Truck Data Worksheet for details.		1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	360		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Haul Truck - CAT740 (2)	445	Tier 4i	0.41	360		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	63		7	18	126	y			1.75E-03	6.59E-02	3.29E-02	1.27E-04	2.28E-04	2.28E-04	3.22E-03	3.85E-03	1.19E+01	1.30E+01
	Loader	230	Tier 4i	0.33			7	18	126	y			7.27E-04	2.74E-02	1.37E-02	5.27E-05	9.49E-05	9.49E-05	1.34E-03	1.60E-03	4.96E+00	5.40E+00
	Water Truck - 4k gallon	230			38		7	18	126	y	See On Road Truck Data Worksheet for details.		1.18E-06	1.62E-05	2.03E-04	6.74E-07	3.40E-07	3.25E-07	1.12E-05	5.47E-08	7.13E-02	7.47E-02
	Pulverizer - Wirtgen WR240i	619	Tier 4F	0.4			7	18	126	y			1.93E-03	7.57E-02	9.01E-03	1.72E-04	3.10E-04	3.10E-04	4.37E-03	5.23E-03	1.62E+01	1.76E+01
	Excavator - CAT315	99.8	Tier 4F	0.3			7	16	112	y			2.07E-04	8.13E-03	9.68E-04	1.85E-05	3.33E-05	3.33E-05	4.69E-04	5.62E-04	1.74E+00	1.89E+00
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	160		7	16	112	y	See Off Road Haul Truck Data Worksheet for details.		5.78E-04	2.27E-02	2.70E-03	5.16E-05	9.29E-05	9.29E-05	1.31E-03	1.57E-03	4.85E+00	5.28E+00
	Loader - 966	274	Tier 4i	0.33			7	16	112	y			7.70E-04	2.90E-02	1.45E-02	5.58E-05	1.00E-04	1.00E-04	1.42E-03	1.70E-03	5.25E+00	5.71E+00
	Tracked Haul Truck - RT9	220	Tier 4F	0.38	160		7	16	112	y	See Off Road Haul Truck Data Worksheet for details.		5.78E-04	2.27E-02	2.70E-03	5.16E-05	9.29E-05	9.29E-05	1.31E-03	1.57E-03	4.85E+00	5.28E+00
	Loader - 966	274	Tier 4F	0.33			7	15	105	y			5.86E-04	2.30E-02	2.74E-03	5.23E-05	9.42E-05	9.42E-05	1.33E-03	1.59E-03	4.92E+00	5.36E+00
	Manlift - 65'	74	Tier 4f	0.3			7	5	35	y			4.80E-05	1.88E-03	2.24E-04	4.28E-06	7.71E-06	7.71E-06	1.09E-04	1.30E-04	4.03E-01	4.38E-01
	Lull	111	Tier 4F	0.4			4	40	160	y			4.39E-04	1.72E-02	2.05E-03	3.92E-05	7.05E-05	7.05E-05	9.95E-04	1.19E-03	3.68E+00	4.01E+00
	Loader - 966	274	Tier 4i	0.33			7	40	280	y			1.93E-03	7.26E-02	3.63E-02	1.40E-04	2.51E-04	2.51E-04	3.54E-03	4.24E-03	1.31E+01	1.43E+01
	Compactor	157	Tier 4i	0.44			7	17	119	y			6.25E-04	2.36E-02	1.18E-02	4.53E-05	8.16E-05	8.16E-05	1.15E-03	1.38E-03	4.26E+00	4.64E+00
	Fuel Delivery Truck	280			35	200				y	See Fuel Use Worksheet for details.		5.21E-06	6.50E-05	7.98E-04	3.43E-06	2.54E-06	2.43E-06	5.70E-05	2.42E-07	3.63E-01	3.80E-01
												task tons	0.02	0.76	0.30	0.00	0.00	0.00	0.04	0.05	145.68	158.57

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

												Emissions (Total Tons)										
Task #	**Task Equipment**	**Engine hp**	**Engine Tier**	**Off-Road Diesel Engine Default Load Factors (1)**	**On-site mileage**	**Off-site mileage**	**Hours / day**	**Duration (days)**	**Duration (hrs)**	**Included in Peak Day**	**Notes**		**ROG**	**CO**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**N_2O**	**CH_4**	**CO_2**	**CO_2e**
	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1							**75**														
	Excavator - CAT349	430	Tier 4F	0.38			7	75	525	y			5.30E-03	2.08E-01	2.48E-02	4.73E-04	8.51E-04	8.51E-04	1.20E-02	1.44E-02	4.45E+01	4.84E+01
	Dozer - D6K	125	Tier 4i	0.41			7	75	525	y			2.05E-03	7.71E-02	3.85E-02	1.48E-04	2.67E-04	2.67E-04	3.77E-03	4.51E-03	1.39E+01	1.52E+01
	Dozer - D6T	229	Tier 4i	0.41			7	75	525	y			3.75E-03	1.41E-01	7.06E-02	2.72E-04	4.89E-04	4.89E-04	6.90E-03	8.26E-03	2.56E+01	2.78E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,275		7	75	525	y			7.29E-03	2.75E-01	1.37E-01	5.28E-04	9.50E-04	9.50E-04	1.34E-02	1.60E-02	4.97E+01	5.41E+01
5-P1	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,275		7	75	525	y	See Off Road Haul Truck Data Worksheet for details.		7.29E-03	2.75E-01	1.37E-01	5.28E-04	9.50E-04	9.50E-04	1.34E-02	1.60E-02	4.97E+01	5.41E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,275		7	75	525	y			7.29E-03	2.75E-01	1.37E-01	5.28E-04	9.50E-04	9.50E-04	1.34E-02	1.60E-02	4.97E+01	5.41E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	263		7	75	525	y			7.29E-03	2.75E-01	1.37E-01	5.28E-04	9.50E-04	9.50E-04	1.34E-02	1.60E-02	4.97E+01	5.41E+01
	Compactor	157	Tier 4i	0.44			7	75	525	y			2.76E-03	1.04E-01	5.19E-02	2.00E-04	3.60E-04	3.60E-04	5.08E-03	6.08E-03	1.88E+01	2.05E+01
	Fuel Delivery Truck	280			60	340				y	See Fuel Use Worksheet for details.		4.89E-05	2.18E-04	1.89E-03	6.31E-06	1.14E-05	1.09E-05	1.05E-04	2.27E-06	6.68E-01	7.00E-01
												task tons	0.04	1.63	0.74	0.00	0.01	0.01	0.08	0.10	302.07	328.80
	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2							**34**														
	Excavator - CAT349	430	Tier 4F	0.38			7	34	238	y			2.40E-03	9.43E-02	1.12E-02	2.14E-04	3.86E-04	3.86E-04	5.44E-03	6.52E-03	2.02E+01	2.19E+01
	Dozer - D6K	125	Tier 4i	0.41			7	34	238	y			9.28E-04	3.50E-02	1.75E-02	6.72E-05	1.21E-04	1.21E-04	1.71E-03	2.04E-03	6.32E+00	6.88E+00
	Dozer - D6T	229	Tier 4i	0.41			7	34	238	y			1.70E-03	6.40E-02	3.20E-02	1.23E-04	2.22E-04	2.22E-04	3.13E-03	3.74E-03	1.16E+01	1.26E+01
5-P2	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	578		7	34	238	y			3.30E-03	1.24E-01	6.22E-02	2.39E-04	4.31E-04	4.31E-04	6.08E-03	7.28E-03	2.25E+01	2.45E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	578		7	34	238	y	See Off Road Haul Truck Data Worksheet for details.		3.30E-03	1.24E-01	6.22E-02	2.39E-04	4.31E-04	4.31E-04	6.08E-03	7.28E-03	2.25E+01	2.45E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	578		7	34	238	y			3.30E-03	1.24E-01	6.22E-02	2.39E-04	4.31E-04	4.31E-04	6.08E-03	7.28E-03	2.25E+01	2.45E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	119		7	34	238	y			3.30E-03	1.24E-01	6.22E-02	2.39E-04	4.31E-04	4.31E-04	6.08E-03	7.28E-03	2.25E+01	2.45E+01
	Fuel Delivery Truck	280			25	140				y	See Fuel Use Worksheet for details.		3.65E-06	4.55E-05	5.59E-04	2.40E-06	1.78E-06	1.70E-06	3.99E-05	1.69E-07	2.54E-01	2.66E-01
												task tons	0.02	0.69	0.31	0.00	0.00	0.00	0.03	0.04	128.37	139.72
	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation							**740**														
	Dozer - D6N	178	Tier 4i	0.41			7	740	5,180	y			2.88E-02	1.08E+00	5.41E-01	2.08E-03	3.75E-03	3.75E-03	5.29E-02	6.33E-02	1.96E+02	2.13E+02
6	Off Road Water Truck - CAT740	445	Tier 4i	0.41	5,180		7	740	5,180	y	See Off Road Haul Truck Data Worksheet for details.		7.19E-02	2.71E+00	1.35E+00	5.21E-03	9.38E-03	9.38E-03	1.32E-01	1.58E-01	4.90E+02	5.33E+02
	Fuel Delivery Truck	280			130	740				y			4.09E-05	8.42E-05	7.53E-04	1.76E-05	1.71E-05	1.70E-05	5.39E-05	1.57E-05	2.46E-01	2.63E-01
											See Fuel Use Worksheet for details.											
												task tons	0.10	3.79	1.90	0.01	0.01	0.01	0.19	0.22	686.18	746.94
	Evapotranspirative (ET) Cover Construction							**60**														
	15L Semi Trailer Truck	485			6,344	279,900				y			4.53E-03	4.35E-02	5.36E-01	3.41E-03	5.10E-03	4.88E-03	5.67E-02	2.10E-04	3.61E+02	3.77E+02
	Dozer - D6N	178	Tier 4i	0.41			7	60	420	y	See On Road Truck Data Worksheet for details.		2.33E-03	8.78E-02	4.39E-02	1.69E-04	3.04E-04	3.04E-04	4.29E-03	5.14E-03	1.59E+01	1.73E+01
	Loader - 950	230	Tier 4i	0.33			7	60	420	y			2.42E-03	9.14E-02	4.56E-02	1.76E-04	3.16E-04	3.16E-04	4.46E-03	5.34E-03	1.65E+01	1.80E+01
	Excavator	336	Tier 4i	0.38			7	60	420	y			4.08E-03	1.54E-01	7.68E-02	2.96E-04	5.32E-04	5.32E-04	7.51E-03	8.99E-03	2.78E+01	3.03E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
7	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y	See Off Road Haul Truck Data Worksheet for details.		5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	1,440		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	210		7	60	420	y			5.83E-03	2.20E-01	1.10E-01	4.22E-04	7.60E-04	7.60E-04	1.07E-02	1.28E-02	3.97E+01	4.32E+01
	Fuel Delivery Truck	280			60	340				y	See Fuel Use Worksheet for details.		8.52E-06	1.11E-04	1.37E-03	5.63E-06	4.30E-06	4.11E-06	9.36E-05	3.96E-07	5.95E-01	6.23E-01
												tons	0.05	1.91	1.47	0.01	0.01	0.01	0.15	0.11	699.41	746.29
	Final Restoration (Hydroseeding, Planting, etc..)							**24**														
	Dozer - D6N	178	Tier 4i	0.41			7	24	168	y			9.33E-04	3.51E-02	1.76E-02	6.76E-05	1.22E-04	1.22E-04	1.72E-03	2.05E-03	6.36E+00	6.92E+00
8	Skid Steer	73	Tier 4i	0.34			7	24	168	y			3.17E-04	1.20E-02	5.97E-03	2.30E-05	4.14E-05	4.14E-05	5.84E-04	6.99E-04	2.16E+00	2.35E+00
	Hydroseed Truck	225			52	320				y			7.90E-06	1.03E-04	1.27E-03	5.23E-06	4.01E-06	3.84E-06	8.69E-05	3.67E-07	5.53E-01	5.79E-01
	Fuel Delivery Truck	280			4	20				y	See Fuel Use Worksheet for details.		5.01E-07	6.55E-06	8.05E-05	3.31E-07	2.53E-07	2.42E-07	5.51E-06	2.33E-08	3.50E-02	3.67E-02
												tons	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	9.11	9.89

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment		Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)										
Task #	Task Equipment		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1																						
	Excavator - CAT336 at Q4 Clean OB		0.13	4.80	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.69		0.13	4.80	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.69
	Excavator - CAT349 at TB9 Clean OB		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N at Q4 Clean OB		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
1a-P1	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Fuel Delivery Truck		0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	22.43	23.48		0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	22.43	23.48
		lb/day	1.32	49.81	22.84	0.10	0.18	0.18	2.49	2.97	9,212.89	10,027.78	lb/day	1.32	49.81	22.84	0.10	0.18	0.18	2.49	2.97	9,212.89	10,027.78
	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1																						
	Excavator - CAT349 at Q4		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N at TB9 Clean Soil Grading		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T at TB9 Clean Soil Grading		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
1b-P1	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Compactor		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	28.69	30.04		0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	28.69	30.04
		lb/day	1.75	66.19	31.05	0.13	0.23	0.23	3.29	3.93	12,181.59	13,259.10	lb/day	1.75	66.19	31.05	0.13	0.23	0.23	3.29	3.93	12,181.59	13,259.10
	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2																						
	Excavator - CAT336 at Q4 Clean OB		0.13	4.80	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.69		0.13	4.80	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.69
	Excavator - CAT349 at TB9 Clean OB		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N at Q4 Clean OB		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
1a-P2	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Fuel Delivery Truck		0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	21.69	22.71		0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	21.69	22.71
		lb/day	1.32	49.81	22.83	0.10	0.18	0.18	2.49	2.97	9,212.15	10,027.00	lb/day	1.32	49.81	22.83	0.10	0.18	0.18	2.49	2.97	9,212.15	10,027.00
	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2																						
	Excavator - CAT349 at Q4		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N at TB9 Clean Soil Grading		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T at TB9 Clean Soil Grading		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
1b-P2	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Compactor		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	27.75	29.05		0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	27.75	29.05
		lb/day	1.75	66.19	31.03	0.13	0.23	0.23	3.29	3.93	12,180.65	13,258.11	lb/day	1.75	66.19	31.03	0.13	0.23	0.23	3.29	3.93	12,180.65	13,258.11

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment		Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)										
Task #	Task Equipment		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
2-P1	**Import of Materials from Offsite for Liner System-Phase 1**																						
	15L Semi Trailer Truck		2.71	10.97	83.91	0.27	1.38	1.32	4.42	0.13	28,112.21	29,432.17		2.71	10.97	83.91	0.27	1.38	1.32	4.42	0.13	28,112.21	29,432.17
	950 Loader		0.09	3.28	1.64	0.01	0.01	0.01	0.16	0.19	593.98	646.58		0.09	3.28	1.64	0.01	0.01	0.01	0.16	0.19	593.98	646.58
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.90	3.04		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.90	3.04
		lb/day	2.79	14.26	85.56	0.27	1.40	1.34	4.58	0.32	28,709.09	30,081.79	lb/day	2.79	14.26	85.56	0.27	1.40	1.34	4.58	0.32	28,709.09	30,081.79
2-P2	**Import of Materials from Sources for Liner System-Phase 2**																						
	15L Semi Trailer Truck		1.43	6.06	66.38	0.26	0.63	0.61	4.40	0.07	28,007.79	29,321.38		1.43	6.06	66.38	0.26	0.63	0.61	4.40	0.07	28,007.79	29,321.38
	950 Loader		0.09	3.28	1.64	0.01	0.01	0.01	0.16	0.19	593.98	646.58		0.09	3.28	1.64	0.01	0.01	0.01	0.16	0.19	593.98	646.58
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.91	3.05		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.91	3.05
		lb/day	1.51	9.35	68.02	0.27	0.65	0.62	4.56	0.26	28,604.69	29,971.00	lb/day	1.51	9.35	68.02	0.27	0.65	0.62	4.56	0.26	28,604.69	29,971.00
3-P1	**Subgrade Preparation-Phase 1**																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Compactor		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	27.10	28.37		0.00	0.01	0.09	0.00	0.00	0.00	0.00	0.00	27.10	28.37
		lb/day	1.75	66.19	31.04	0.13	0.23	0.23	3.29	3.93	12,180.00	13,257.43	lb/day	1.75	66.19	31.04	0.13	0.23	0.23	3.29	3.93	12,180.00	13,257.43
3-P2	**Subgrade Preparation-Phase 2**																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Compactor		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	26.21	27.44		0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	26.21	27.44
		lb/day	1.75	66.19	31.03	0.13	0.23	0.23	3.29	3.93	12,179.11	13,256.50	lb/day	1.75	66.19	31.03	0.13	0.23	0.23	3.29	3.93	12,179.11	13,256.50

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment		Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)										
Task #	Task Equipment		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
4-P1	**Liner System Installation-Phase 1**																						
	Excavator - CAT349		0.04	1.66	0.20	0.00	0.01	0.01	0.10	0.11	355.78	387.28		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N		0.02	0.85	0.43	0.00	0.00	0.00	0.04	0.05	154.44	168.12		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T		0.03	1.13	0.56	0.00	0.00	0.00	0.06	0.07	204.43	222.53		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740 (1)		0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	6.18	6.47		0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	20.59	21.56
	Off Road Haul Truck - CAT740 (1)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740 (2)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740 (2)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Loader		0.02	0.91	0.46	0.00	0.00	0.00	0.04	0.05	165.26	179.90		0.08	3.05	1.52	0.01	0.01	0.01	0.15	0.18	550.87	599.65
	Water Truck - 4k gallon		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.59	2.72		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.59	2.72
	Pulverizer - Wirtgen WR240i		0.06	2.52	0.30	0.01	0.01	0.01	0.15	0.17	539.11	586.85		0.21	8.41	1.00	0.02	0.03	0.03	0.49	0.58	1,797.04	1,956.17
	Excavator - CAT315		0.01	0.27	0.03	0.00	0.00	0.00	0.02	0.02	57.95	63.08		0.03	1.02	0.12	0.00	0.00	0.00	0.06	0.07	217.30	236.54
	Tracked Haul Truck - RT9		0.02	0.76	0.09	0.00	0.00	0.00	0.04	0.05	161.80	176.13		0.07	2.84	0.34	0.01	0.01	0.01	0.16	0.20	606.76	660.49
	Loader - 966		0.03	0.97	0.48	0.00	0.00	0.00	0.05	0.06	175.00	190.50		0.10	3.63	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Tracked Haul Truck - RT9		0.02	0.76	0.09	0.00	0.00	0.00	0.04	0.05	161.80	176.13		0.07	2.84	0.34	0.01	0.01	0.01	0.16	0.20	606.76	660.49
	Loader - 966		0.02	0.77	0.09	0.00	0.00	0.00	0.04	0.05	164.06	178.59		0.08	3.07	0.37	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Manlift - 65'		0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	13.43	14.62		0.02	0.75	0.09	0.00	0.00	0.00	0.04	0.05	161.12	175.39
	Lull		0.01	0.57	0.07	0.00	0.00	0.00	0.03	0.04	122.76	133.63		0.02	0.86	0.10	0.00	0.00	0.00	0.05	0.06	184.14	200.45
	Loader - 966		0.06	2.42	1.21	0.00	0.01	0.01	0.12	0.14	437.50	476.24		0.10	3.63	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Compactor		0.02	0.79	0.39	0.00	0.00	0.00	0.04	0.05	142.06	154.63		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	13.55	14.19
	Fuel Delivery Truck		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	13.55	14.19		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	13.55	14.19
		lb/day	0.61	23.24	8.88	0.05	0.09	0.09	1.20	1.44	4,466.74	4,861.35	lb/day	1.88	71.56	26.27	0.15	0.27	0.27	3.73	4.45	13,821.98	15,043.86
4-P2	**Liner System Installation-Phase 2**																						
	Excavator - CAT349		0.04	1.66	0.20	0.00	0.01	0.01	0.10	0.11	355.78	387.28		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6N		0.02	0.85	0.43	0.00	0.00	0.00	0.04	0.05	154.44	168.12		0.08	2.85	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.39
	Dozer - D6T		0.03	1.13	0.56	0.00	0.00	0.00	0.06	0.07	204.43	222.53		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740 (1)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740 (1)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740 (2)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740 (2)		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.06	2.20	1.10	0.00	0.01	0.01	0.11	0.13	397.26	432.44		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Loader		0.02	0.91	0.46	0.00	0.00	0.00	0.04	0.05	165.26	179.90		0.08	3.05	1.52	0.01	0.01	0.01	0.15	0.18	550.87	599.65
	Water Truck - 4k gallon		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.38	2.49		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.38	2.49
	Pulverizer - Wirtgen WR240i		0.06	2.52	0.30	0.01	0.01	0.01	0.15	0.17	539.11	586.85		0.21	8.41	1.00	0.02	0.03	0.03	0.49	0.58	1,797.04	1,956.17
	Excavator - CAT315		0.01	0.27	0.03	0.00	0.00	0.00	0.02	0.02	57.95	63.08		0.03	1.02	0.12	0.00	0.00	0.00	0.06	0.07	217.30	236.54
	Tracked Haul Truck - RT9		0.02	0.76	0.09	0.00	0.00	0.00	0.04	0.05	161.80	176.13		0.07	2.84	0.34	0.01	0.01	0.01	0.16	0.20	606.76	660.49
	Loader - 966		0.03	0.97	0.48	0.00	0.00	0.00	0.05	0.06	175.00	190.50		0.10	3.63	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Tracked Haul Truck - RT9		0.02	0.76	0.09	0.00	0.00	0.00	0.04	0.05	161.80	176.13		0.07	2.84	0.34	0.01	0.01	0.01	0.16	0.20	606.76	660.49
	Loader - 966		0.02	0.77	0.09	0.00	0.00	0.00	0.04	0.05	164.06	178.59		0.08	3.07	0.37	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Manlift - 65'		0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	13.43	14.62		0.02	0.75	0.09	0.00	0.00	0.00	0.04	0.05	161.12	175.39
	Lull		0.01	0.57	0.07	0.00	0.00	0.00	0.03	0.04	122.76	133.63		0.02	0.86	0.10	0.00	0.00	0.00	0.05	0.06	184.14	200.45
	Loader - 966		0.06	2.42	1.21	0.00	0.01	0.01	0.12	0.14	437.50	476.24		0.10	3.63	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.37
	Compactor		0.02	0.79	0.39	0.00	0.00	0.00	0.04	0.05	142.06	154.63		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	12.09	12.66		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	12.09	12.66
		lb/day	0.67	25.43	9.93	0.05	0.09	0.09	1.31	1.56	4,856.15	5,285.56	lb/day	2.14	81.62	31.17	0.17	0.30	0.30	4.21	5.04	15,611.73	16,993.58

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
5-P1	**TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1**																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1185.93	1290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6K		0.05	2.06	1.03	0.00	0.01	0.01	0.10	0.12	371.96	404.90		0.05	2.06	1.03	0.00	0.01	0.01	0.10	0.12	371.96	404.90
	Dozer - D6T		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1324.19	1441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1324.19	1441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1324.19	1441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1324.19	1441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Compactor		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77		0.07	2.77	1.38	0.01	0.01	0.01	0.14	0.16	501.37	545.77
	Fuel Delivery Truck		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	17.82	18.66		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	17.82	18.66
		lb/day	1.15	43.43	19.64	0.09	0.15	0.15	2.17	2.60	8,055.30	8,767.87	lb/day	1.15	43.43	19.64	0.09	0.15	0.15	2.17	2.60	8,055.30	8,767.87
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.95
	Dozer - D6K		0.05	2.06	1.03	0.00	0.01	0.01	0.10	0.12	371.96	404.90		0.05	2.06	1.03	0.00	0.01	0.01	0.10	0.12	371.96	404.90
	Dozer - D6T		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78		0.10	3.77	1.88	0.01	0.01	0.01	0.18	0.22	681.44	741.78
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Fuel Delivery Truck		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	14.94	15.64		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	14.94	15.64
		lb/day	1.07	40.66	18.23	0.08	0.14	0.14	2.04	2.44	7,551.05	8,219.09	lb/day	1.07	40.66	18.23	0.08	0.14	0.14	2.04	2.44	7,551.05	8,219.09
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**																						
	Dozer - D6N		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.71		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.71
		lb/day	0.27	10.25	5.12	0.02	0.04	0.04	0.50	0.60	1,854.54	2,018.75	lb/day	0.27	10.25	5.12	0.02	0.04	0.04	0.50	0.60	1,854.54	2,018.75
7	**Evapotranspirative (ET) Cover Construction**																						
	15L Semi Trailer Truck		0.15	1.45	17.86	0.11	0.17	0.16	1.89	0.01	12,017.30	12,580.38		0.15	1.45	17.86	0.11	0.17	0.16	1.89	0.01	12,017.30	12,580.38
	Dozer - D6N		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58
	Loader - 950		0.08	3.05	1.52	0.01	0.01	0.01	0.15	0.18	550.87	599.65		0.08	3.05	1.52	0.01	0.01	0.01	0.15	0.18	550.87	599.65
	Excavator		0.14	5.12	2.56	0.01	0.02	0.02	0.25	0.30	926.68	1,008.74		0.14	5.12	2.56	0.01	0.02	0.02	0.25	0.30	926.68	1,008.74
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Haul Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Off Road Water Truck - CAT740		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45		0.19	7.32	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.45
	Fuel Delivery Truck		0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	19.85	20.78		0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	19.85	20.78
		lb/day	1.81	63.79	49.05	0.23	0.39	0.38	4.94	3.65	23,313.74	24,876.31	lb/day	1.81	63.79	49.05	0.23	0.39	0.38	4.94	3.65	23,313.74	24,876.31
8	**Final Restoration (Hydroseeding, Planting, etc..)**																						
	Dozer - D6N		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58		0.08	2.93	1.46	0.01	0.01	0.01	0.14	0.17	529.68	576.58
	Skid Steer		0.03	1.00	0.50	0.00	0.00	0.00	0.05	0.06	180.14	196.09		0.03	1.00	0.50	0.00	0.00	0.00	0.05	0.06	180.14	196.09
	Hydroseed Truck		0.00	0.01	0.11	0.00	0.00	0.00	0.01	0.00	46.09	48.25		0.00	0.01	0.11	0.00	0.00	0.00	0.01	0.00	46.09	48.25
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.92	3.06		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.92	3.06
		lb/day	0.10	3.93	2.07	0.01	0.01	0.01	0.20	0.23	758.83	823.98	lb/day	0.10	3.93	2.07	0.01	0.01	0.01	0.20	0.23	758.83	823.98

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
1a-P1	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1**	29	Days per Year										1	Quarters per year									
	Excavator - CAT336 at Q4 Clean OB		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	12.60	13.71		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	12.60	13.71
	Excavator - CAT349 at TB9 Clean OB		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	17.20	18.72		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	17.20	18.72
	Dozer - D6N at Q4 Clean OB		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	7.46	8.13		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	7.46	8.13
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Water Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.34		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.34
		tons/yr	0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.59	145.40	tons/qtr	0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.59	145.40
1b-P1	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1**	17	Days per Year										1	Quarters per year									
	Excavator - CAT349 at Q4		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.08	10.97		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.08	10.97
	Dozer - D6N at TB9 Clean Soil Grading		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.38	4.76		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.38	4.76
	Dozer - D6T at TB9 Clean Soil Grading		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.79	6.31		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.79	6.31
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Water Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.26		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.26
		tons/yr	0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.70		0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.70
1a-P2	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2**	29	Days per Year										1	Quarters per year									
	Excavator - CAT336 at Q4 Clean OB		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	12.60	13.71		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	12.60	13.71
	Excavator - CAT349 at TB9 Clean OB		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	17.20	18.72		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	17.20	18.72
	Dozer - D6N at Q4 Clean OB		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	7.46	8.13		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	7.46	8.13
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Haul Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Off Road Water Truck - CAT740		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90		0.00	0.11	0.05	0.00	0.00	0.00	0.01	0.01	19.20	20.90
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.33		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.33
		tons/yr	0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.58	145.39		0.02	0.72	0.33	0.00	0.00	0.00	0.04	0.04	133.58	145.39
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**	17	Days per Year										1	Quarters per year									
	Excavator - CAT349 at Q4		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.08	10.97		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.08	10.97
	Dozer - D6N at TB9 Clean Soil Grading		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.38	4.76		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.38	4.76
	Dozer - D6T at TB9 Clean Soil Grading		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.79	6.31		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.79	6.31
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Haul Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Off Road Water Truck - CAT740		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.26	12.25
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.25		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.25
		tons/yr	0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.69		0.01	0.56	0.26	0.00	0.00	0.00	0.03	0.03	103.54	112.69

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
	Import of Materials from Offsite for Liner System-Phase 1	28	Days per Year										1	Quarters per year									
	15L Semi Trailer Truck		0.04	0.15	1.17	0.00	0.02	0.02	0.06	0.00	393.57	412.05		0.04	0.15	1.17	0.00	0.02	0.02	0.06	0.00	393.57	412.05
2-P1	950 Loader		0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	8.32	9.05		0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	8.32	9.05
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
		tons/yr	0.04	0.20	1.20	0.00	0.02	0.02	0.06	0.00	401.93	421.15	tons/qtr	0.04	0.20	1.20	0.00	0.02	0.02	0.06	0.00	401.93	421.15
	Import of Materials from Sources for Liner System-Phase 2	27	Days per Year										1	Quarters per year									
	15L Semi Trailer Truck		0.02	0.08	0.90	0.00	0.01	0.01	0.06	0.00	378.11	395.84		0.02	0.08	0.90	0.00	0.01	0.01	0.06	0.00	378.11	395.84
2-P2	950 Loader		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	8.02	8.73		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	8.02	8.73
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
		tons/yr	0.02	0.13	0.92	0.00	0.01	0.01	0.06	0.00	386.16	404.61		0.02	0.13	0.92	0.00	0.01	0.01	0.06	0.00	386.16	404.61
	Subgrade Preparation-Phase 1	15	Days per Year										1	Quarters per year									
	Excavator - CAT349		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	8.89	9.68		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	8.89	9.68
	Dozer - D6N		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.86	4.20		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.86	4.20
	Dozer - D6T		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.11	5.56		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.11	5.56
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
3-P1	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Water Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.76	4.09		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.76	4.09
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.21		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.21
		tons/yr	0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.35	99.43	tons/qtr	0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.35	99.43
	Subgrade Preparation-Phase 2	15	Days per Year										1	Quarters per year									
	Excavator - CAT349		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	8.89	9.68		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	8.89	9.68
	Dozer - D6N		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.86	4.20		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.86	4.20
	Dozer - D6T		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.11	5.56		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.11	5.56
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
3-P2	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Haul Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Off Road Water Truck - CAT740		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.93	10.81
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.76	4.09		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.76	4.09
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.21		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.21
		tons/yr	0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.34	99.42		0.01	0.50	0.23	0.00	0.00	0.00	0.02	0.03	91.34	99.42

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment		Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
Task #	Task Equipment		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
4-P1	**Liner System Installation-Phase 1**	60	Days per Year										2	Quarters per year									
	Excavator - CAT349		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.67	11.62		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	5.34	5.81
	Dozer - D6N		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.63	5.04		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.32	2.52
	Dozer - D6T		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.13	6.68		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	3.07	3.34
	Off Road Haul Truck - CAT740 (1)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.19		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.10
	Off Road Haul Truck - CAT740 (1)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.96	6.49
	Off Road Haul Truck - CAT740 (2)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.96	6.49
	Off Road Haul Truck - CAT740 (2)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.96	6.49
	Off Road Water Truck - CAT740		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	5.96	6.49
	Loader		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.96	5.40		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.48	2.70
	Water Truck - 4k gallon		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
	Pulverizer - Wirtgen WR240i		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	16.17	17.61		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	8.09	8.80
	Excavator - CAT315		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.74	1.89		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.95
	Tracked Haul Truck - RT9		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.43	2.64
	Loader - 966		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.25	5.71		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.63	2.86
	Tracked Haul Truck - RT9		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.43	2.64
	Loader - 966		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.92	5.36		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.46	2.68
	Manlift - 65'		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.44		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.22
	Lull		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	3.68	4.01		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.84	2.00
	Loader - 966		0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	13.13	14.29		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	6.56	7.14
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.13	2.32
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.43		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.21
		tons/yr	0.02	0.70	0.27	0.00	0.00	0.00	0.04	0.04	134.00	145.84	tons/qtr	0.01	0.35	0.13	0.00	0.00	0.00	0.02	0.02	67.00	72.92
4-P2	**Liner System Installation-Phase 2**	60	Days per Year										1	Quarters per year									
	Excavator - CAT349		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.67	11.62		0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	10.67	11.62
	Dozer - D6N		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.63	5.04		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.63	5.04
	Dozer - D6T		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.13	6.68		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.13	6.68
	Off Road Haul Truck - CAT740 (1)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97
	Off Road Haul Truck - CAT740 (1)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97
	Off Road Haul Truck - CAT740 (2)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97
	Off Road Haul Truck - CAT740 (2)		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97
	Off Road Water Truck - CAT740		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97		0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	11.92	12.97
	Loader		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.96	5.40		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	4.96	5.40
	Water Truck - 4k gallon		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
	Pulverizer - Wirtgen WR240i		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	16.17	17.61		0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.01	16.17	17.61
	Excavator - CAT315		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.74	1.89		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.74	1.89
	Tracked Haul Truck - RT9		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28
	Loader - 966		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.25	5.71		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	5.25	5.71
	Tracked Haul Truck - RT9		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.85	5.28
	Loader - 966		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.92	5.36		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	4.92	5.36
	Manlift - 65'		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.44		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.44
	Lull		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	3.68	4.01		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	3.68	4.01
	Loader - 966		0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	13.13	14.29		0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	13.13	14.29
	Compactor		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.26	4.64
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.38		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.38
		tons/yr	0.02	0.76	0.30	0.00	0.00	0.00	0.04	0.05	145.68	158.57		0.02	0.76	0.30	0.00	0.00	0.00	0.04	0.05	145.68	158.57

Proposed Soil Management Area (SMA) Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
5-P1	**TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1**	75	Days per Year										2	Quarters per year									
	Excavator - CAT349		0.01	0.21	0.02	0.00	0.00	0.00	0.01	0.01	44.47	48.41		0.00	0.10	0.01	0.00	0.00	0.00	0.01	0.01	22.24	24.21
	Dozer - D6K		0.00	0.08	0.04	0.00	0.00	0.00	0.00	0.00	13.95	15.18		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	6.97	7.59
	Dozer - D6T		0.00	0.14	0.07	0.00	0.00	0.00	0.01	0.01	25.55	27.82		0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	12.78	13.91
	Off Road Haul Truck - CAT740		0.01	0.27	0.14	0.00	0.00	0.00	0.01	0.02	49.66	54.05		0.00	0.14	0.07	0.00	0.00	0.00	0.01	0.01	24.83	27.03
	Off Road Haul Truck - CAT740		0.01	0.27	0.14	0.00	0.00	0.00	0.01	0.02	49.66	54.05		0.00	0.14	0.07	0.00	0.00	0.00	0.01	0.01	24.83	27.03
	Off Road Haul Truck - CAT740		0.01	0.27	0.14	0.00	0.00	0.00	0.01	0.02	49.66	54.05		0.00	0.14	0.07	0.00	0.00	0.00	0.01	0.01	24.83	27.03
	Off Road Water Truck - CAT740		0.01	0.27	0.14	0.00	0.00	0.00	0.01	0.02	49.66	54.05		0.00	0.14	0.07	0.00	0.00	0.00	0.01	0.01	24.83	27.03
	Compactor		0.00	0.10	0.05	0.00	0.00	0.00	0.01	0.01	18.80	20.47		0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	9.40	10.23
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.70		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.35
		tons/yr	0.04	1.63	0.74	0.00	0.01	0.01	0.08	0.10	302.07	328.80		0.02	0.81	0.37	0.00	0.00	0.00	0.04	0.05	151.04	164.40
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**	34	Days per Year										1	Quarters per year									
	Excavator - CAT349		0.00	0.09	0.01	0.00	0.00	0.00	0.01	0.01	20.16	21.95		0.00	0.09	0.01	0.00	0.00	0.00	0.01	0.01	20.16	21.95
	Dozer - D6K		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.32	6.88		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.32	6.88
	Dozer - D6T		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.58	12.61		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.58	12.61
	Off Road Haul Truck - CAT740		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50
	Off Road Haul Truck - CAT740		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50
	Off Road Haul Truck - CAT740		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50
	Off Road Water Truck - CAT740		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50		0.00	0.12	0.06	0.00	0.00	0.00	0.01	0.01	22.51	24.50
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.27		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.27
		tons/yr	0.02	0.69	0.31	0.00	0.00	0.00	0.03	0.04	128.37	139.72	tons/qtr	0.02	0.69	0.31	0.00	0.00	0.00	0.03	0.04	128.37	139.72
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**	260	Days per Year										4	Quarters per year									
	Dozer - D6N		0.01	0.38	0.19	0.00	0.00	0.00	0.02	0.02	68.86	74.96		0.00	0.10	0.05	0.00	0.00	0.00	0.00	0.01	17.21	18.74
	Off Road Water Truck - CAT740		0.03	0.95	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.39		0.01	0.24	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.85
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
		tons/yr	0.04	1.33	0.67	0.00	0.00	0.00	0.07	0.08	241.09	262.44	tons/qtr	0.01	0.33	0.17	0.00	0.00	0.00	0.02	0.02	60.27	65.61
7	**Evapotranspirative (ET) Cover Construction**	60	Days per Year										1	Quarters per year									
	15L Semi Trailer Truck		0.00	0.04	0.54	0.00	0.01	0.00	0.06	0.00	360.52	377.41		0.00	0.04	0.54	0.00	0.01	0.00	0.06	0.00	360.52	377.41
	Dozer - D6N		0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.01	15.89	17.30		0.00	0.09	0.04	0.00	0.00	0.00	0.00	0.01	15.89	17.30
	Loader - 950		0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.01	16.53	17.99		0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.01	16.53	17.99
	Excavator		0.00	0.15	0.08	0.00	0.00	0.00	0.01	0.01	27.80	30.26		0.00	0.15	0.08	0.00	0.00	0.00	0.01	0.01	27.80	30.26
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Haul Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Off Road Water Truck - CAT740		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24		0.01	0.22	0.11	0.00	0.00	0.00	0.01	0.01	39.73	43.24
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.62		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.62
		tons/yr	0.05	1.87	0.94	0.00	0.01	0.01	0.09	0.11	338.89	368.88	tons/qtr	0.05	1.87	0.94	0.00	0.01	0.01	0.09	0.11	338.89	368.88
8	**Final Restoration (Hydroseeding, Planting, etc..)**	24	Days per Year										1	Quarters per year									
	Dozer - D6N		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	6.36	6.92		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	6.36	6.92
	Skid Steer		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.16	2.35		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.16	2.35
	Hydroseed Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.58		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.58
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
		tons/yr	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	9.11	9.89	tons/qtr	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	9.11	9.89

Proposed Soil Management Area (SMA) Project

Summary of Emissions by Task and Phase

Task #	Task Description	Duration (Workdays)	Start Date	End Date	# Quarters per Year	Workdays/ Year	Material Moved		Fugitive Emissions from Handling Hydrocarbon Impacted Soils									
							Total (CY)	Prod Rate (CY/Day)	TPH (mg/kg)	Fug ROG EF (lb/CY)	Fug ROG (lb/day)	Fug ROG (ton/yr)	Fug ROG (ton/qtr)	Fug CH_4 (lb/day)	Fug CH_4 (ton/yr)	Fug CH_4 (ton/qtr)	Fug CO_2e (MT/yr)	Fug CO_2e (MT/qtr)
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	29	7/12/2021	8/19/2021	1	29	143,000	4,931	-	-	-	-	-	-	-	-	-	-
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	17	10/18/2021	11/9/2021	1	17	40,100	2,359	-	-	-	-	-	-	-	-	-	-
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	29	8/5/2022	9/15/2022	1	29	143,000	4,931	-	-	-	-	-	-	-	-	-	-
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	17	11/11/2022	12/7/2022	1	17	40,100	2,359	-	-	-	-	-	-	-	-	-	-
2-P1	Import of Materials from Offsite for Liner System-Phase 1	28	11/10/2021	1/4/2022	1	28	0	0	-	-	-	-	-	-	-	-	-	-
2-P2	Import of Materials from Sources for Liner System-Phase 2	27	12/8/2022	1/27/2023	1	27	0	0	-	-	-	-	-	-	-	-	-	-
3-P1	Subgrade Preparation-Phase 1	15	11/10/2021	12/2/2021	1	15	24,071	1,605	-	-	-	-	-	-	-	-	-	-
3-P2	Subgrade Preparation-Phase 2	15	12/8/2022	1/11/2023	1	15	24,071	1,605	-	-	-	-	-	-	-	-	-	-
4-P1	Liner System Installation-Phase 1	60	12/3/2021	3/10/2022	2	60	43,670	728	-	-	-	-	-	-	-	-	-	-
4-P2	Liner System Installation-Phase 2	60	1/12/2023	4/5/2023	1	60	43,670	728	-	-	-	-	-	-	-	-	-	-
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	75	3/11/2022	6/24/2022	2	75	188,000	2,507	9,871	0.02	50.13	1.88	0.94	130.35	4.89	2.44	111.20	55.60
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	34	4/6/2023	5/23/2023	1	34	65,000	1,912	9,871	0.02	38.24	0.65	0.65	99.41	1.69	1.69	38.45	38.45
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	740	4/6/2023	4/7/2026	4	260	1,185,500	1,602	9,871	0.02	32.04	4.17	1.04	83.31	10.83	2.71	246.38	61.59
7	Evapotranspirative (ET) Cover Construction	60	4/8/2026	6/30/2026	1	60	105,700	1,762	-	-	-	-	-	-	-	-	-	-
8	Final Restoration (Hydroseeding, Planting, etc..)	24	7/1/2026	8/3/2026	1	24	0	0	-	-	-	-	-	-	-	-	-	-

Proposed Soil Management Area (SMA) Project

Summary of Emissions by Task and Phase

Task #	Task Description	Construction Equipment Emissions															
		ROG (lb/day)	ROG (ton/yr)	ROG (ton/qtr)	CO (lb/day)	CO (ton/yr)	NO_X (lb/day)	NO_X (ton/yr)	NO_X (ton/qtr)	SO_2 (lb/day)	SO_2 (ton/yr)	PM_{10} (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	$PM_{2.5}$ (lb/day)	$PM_{2.5}$ (ton/yr)	N_2O (lb/day)	N_2O (ton/yr)
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	1.32	0.02	0.02	49.81	0.72	22.84	0.33	0.33	0.10	0.00	0.18	0.00	0.00	0.18	0.00	2.49	0.04
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	1.75	0.01	0.01	66.19	0.56	31.05	0.26	0.26	0.13	0.00	0.23	0.00	0.00	0.23	0.00	3.29	0.03
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	1.32	0.02	0.02	49.81	0.72	22.83	0.33	0.33	0.10	0.00	0.18	0.00	0.00	0.18	0.00	2.49	0.04
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	1.75	0.01	0.01	66.19	0.56	31.03	0.26	0.26	0.13	0.00	0.23	0.00	0.00	0.23	0.00	3.29	0.03
2-P1	Import of Materials from Offsite for Liner System-Phase 1	2.79	0.04	0.04	14.26	0.20	85.56	1.20	1.20	0.27	0.00	1.40	0.02	0.02	1.34	0.02	4.58	0.06
2-P2	Import of Materials from Sources for Liner System-Phase 2	1.51	0.02	0.02	9.35	0.13	68.02	0.92	0.92	0.27	0.00	0.65	0.01	0.01	0.62	0.01	4.56	0.06
3-P1	Subgrade Preparation-Phase 1	1.75	0.01	0.01	66.19	0.50	31.04	0.23	0.23	0.13	0.00	0.23	0.00	0.00	0.23	0.00	3.29	0.02
3-P2	Subgrade Preparation-Phase 2	1.75	0.01	0.01	66.19	0.50	31.03	0.23	0.23	0.13	0.00	0.23	0.00	0.00	0.23	0.00	3.29	0.02
4-P1	Liner System Installation-Phase 1	1.88	0.02	0.01	71.56	0.70	26.27	0.27	0.13	0.15	0.00	0.27	0.00	0.00	0.27	0.00	3.73	0.04
4-P2	Liner System Installation-Phase 2	2.14	0.02	0.02	81.62	0.76	31.17	0.30	0.30	0.17	0.00	0.30	0.00	0.00	0.30	0.00	4.21	0.04
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	1.15	0.04	0.02	43.43	1.63	19.64	0.74	0.37	0.09	0.00	0.15	0.01	0.00	0.15	0.01	2.17	0.08
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	1.07	0.02	0.02	40.66	0.69	18.23	0.31	0.31	0.08	0.00	0.14	0.00	0.00	0.14	0.00	2.04	0.03
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	0.27	0.04	0.01	10.25	1.33	5.12	0.67	0.17	0.02	0.00	0.04	0.00	0.00	0.04	0.00	0.50	0.07
7	Evapotranspirative (ET) Cover Construction	1.81	0.05	0.05	63.79	1.87	49.05	0.94	0.94	0.23	0.00	0.39	0.01	0.01	0.38	0.01	4.94	0.09
8	Final Restoration (Hydroseeding, Planting, etc..)	0.10	0.00	0.00	3.93	0.05	2.07	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.20	0.00

Proposed Soil Management Area (SMA) Project

Summary of Emissions by Task and Phase

Task #	Task Description	Construction Equipment Emissions								Fugitive Dust PM_{10} Emissions								
										Paved + Unpaved Road			Excavation and Material Movements			Total		
		CH_4 (lb/day)	CH_4 (ton/yr)	CO_2 (lb/day)	CO_2 (ton/yr)	CO_2e (lb/day)	CO_2e (ton/yr)	CO_2e (MT ton/yr)	CO_2e (MT ton/qtr)	PM_{10} (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	PM_{10} (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	PM_{10} (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	2.97	0.04	9,212.89	133.59	10,027.78	145.40	132.32	132.32	9.55	0.14	0.14	34.92	0.51	0.51	44.47	0.64	0.64
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	3.93	0.03	12,181.59	103.54	13,259.10	112.70	102.56	102.56	11.39	0.10	0.10	16.43	0.14	0.14	27.82	0.24	0.24
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	2.97	0.04	9,212.15	133.58	10,027.00	145.39	132.31	132.31	9.55	0.14	0.14	34.35	0.50	0.50	43.90	0.64	0.64
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	3.93	0.03	12,180.65	103.54	13,258.11	112.69	102.55	102.55	11.39	0.10	0.10	17.00	0.14	0.14	28.39	0.24	0.24
2-P1	Import of Materials from Offsite for Liner System-Phase 1	0.32	0.00	28,709.09	401.93	30,081.79	421.15	383.24	383.24	32.60	0.46	0.46	0.00	0.00	0.00	32.60	0.46	0.46
2-P2	Import of Materials from Sources for Liner System-Phase 2	0.26	0.00	28,604.69	386.16	29,971.00	404.61	368.19	368.19	33.81	0.46	0.46	0.00	0.00	0.00	33.81	0.46	0.46
3-P1	Subgrade Preparation-Phase 1	3.93	0.03	12,180.00	91.35	13,257.43	99.43	90.48	90.48	8.46	0.06	0.06	11.18	0.08	0.08	19.63	0.15	0.15
3-P2	Subgrade Preparation-Phase 2	3.93	0.03	12,179.11	91.34	13,256.50	99.42	90.48	90.48	8.46	0.06	0.06	11.18	0.08	0.08	19.63	0.15	0.15
4-P1	Liner System Installation-Phase 1	4.45	0.04	13,821.98	134.00	15,043.86	145.84	132.71	66.36	1.29	0.04	0.02	5.64	0.17	0.08	6.93	0.21	0.10
4-P2	Liner System Installation-Phase 2	5.04	0.05	15,611.73	145.68	16,993.58	158.57	144.30	144.30	1.29	0.04	0.04	5.64	0.17	0.17	6.93	0.21	0.21
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	2.60	0.10	8,055.30	302.07	8,767.87	328.80	299.20	149.60	3.15	0.12	0.06	18.03	0.68	0.34	21.18	0.79	0.40
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	2.44	0.04	7,551.05	128.37	8,219.09	139.72	127.15	127.15	3.15	0.05	0.05	13.89	0.24	0.24	17.03	0.29	0.29
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	0.60	0.08	1,854.54	241.09	2,018.75	262.44	238.82	59.70	0.41	0.05	0.01	11.73	1.52	0.38	12.14	1.58	0.39
7	Evapotranspirative (ET) Cover Construction	3.65	0.11	23,313.74	338.89	24,876.31	368.88	335.68	335.68	25.38	0.76	0.76	13.41	0.40	0.40	38.79	1.16	1.16
8	Final Restoration (Hydroseeding, Planting, etc..)	0.23	0.00	758.83	9.11	823.98	9.89	9.00	9.00	0.17	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00

SMA Project Work Quarters for Each Task by Calendar Quarter

Task #	Task Description	2021		2022				2023				2024				2025				2026			Total Quarters
		6/1/2021	10/01/21	01/01/22	04/01/22	07/01/22	10/01/22	01/01/23	04/01/23	07/01/23	10/01/23	01/01/24	04/01/24	07/01/24	10/01/24	01/01/25	04/01/25	07/01/25	10/01/25	01/01/26	04/01/26	07/01/26	
		9/30/2021	12/31/21	03/31/22	06/30/22	09/30/22	12/31/22	03/31/23	06/30/23	09/30/23	12/31/23	03/31/24	06/30/24	09/30/24	12/31/24	03/31/25	06/30/25	09/30/25	12/31/25	03/31/26	06/30/26	09/30/26	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	1																					1
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1		1																				1
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2					1																	1
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2						1																1
2-P1	Import of Materials from Offsite for Liner System-Phase 1		1	1																			2
2-P2	Import of Materials from Sources for Liner System-Phase 2						1	1															2
3-P1	Subgrade Preparation-Phase 1		1																				1
3-P2	Subgrade Preparation-Phase 2						1	1															2
4-P1	Liner System Installation-Phase 1		1	1																			2
4-P2	Liner System Installation-Phase 2							1	1														2
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1			1	1																		2
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2								1														1
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation								1	1	1	1	1	1	1	1	1	1	1	1	1		13
7	Evapotranspirative (ET) Cover Construction																				1		1
8	Final Restoration (Hydroseeding, Planting, etc..)																					1	1

SMA Project Peak Daily Overlaps

Task #	Task Description	Start Date	End Date	2021		2022				2023				2024				2025				2026		
				6/1/2021	10/01/21	01/01/22	04/01/22	07/01/22	10/01/22	01/01/23	04/01/23	07/01/23	10/01/23	01/01/24	04/01/24	07/01/24	10/01/24	01/01/25	04/01/25	07/01/25	10/01/25	01/01/26	04/01/26	07/01/26
				9/30/2021	12/31/21	03/31/22	06/30/22	09/30/22	12/31/22	03/31/23	06/30/23	09/30/23	12/31/23	03/31/24	06/30/24	09/30/24	12/31/24	03/31/25	06/30/25	09/30/25	12/31/25	03/31/26	06/30/26	09/30/26
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	7/12/2021	8/19/2021	1																				
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	10/18/2021	11/9/2021																					
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	8/5/2022	9/15/2022					1																
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	11/11/2022	12/7/2022																					
2-P1	Import of Materials from Offsite for Liner System-Phase 1	11/10/2021	1/4/2022		1	1																		
2-P2	Import of Materials from Sources for Liner System-Phase 2	12/8/2022	1/27/2023						1	1														
3-P1	Subgrade Preparation-Phase 1	11/10/2021	12/2/2021		1																			
3-P2	Subgrade Preparation-Phase 2	12/8/2022	1/11/2023						1															
4-P1	Liner System Installation-Phase 1	12/3/2021	3/10/2022			1																		
4-P2	Liner System Installation-Phase 2	1/12/2023	4/5/2023							1														
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	3/11/2022	6/24/2022				1																	
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	4/6/2023	5/23/2023								1													
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	4/6/2023	4/7/2026								1	1	1	1	1	1	1	1	1	1	1	1		
7	Evapotranspirative (ET) Cover Construction	4/8/2026	6/30/2026																				1	
8	Final Restoration (Hydroseeding, Planting, etc..)	7/1/2026	8/3/2026																					1

Total SMA Project Construction Equipment Emissions by Calendar Quarter

Construction Equipment Emission Type	2021		2022				2023				2024				2025				2026		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Equipment ROG Emissions (LB/DAY)	1.32	4.55	4.67	1.15	1.32	3.27	3.65	1.35	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	1.81	0.10
Equipment ROG Emissions (TONS/QTR)	0.02	0.08	0.07	0.02	0.02	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.00
Equipment NO_X Emissions (LB/DAY)	22.84	116.60	111.83	19.64	22.83	99.05	99.20	23.36	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	49.05	2.07
Equipment NO_X Emissions (TONS/QTR)	0.33	1.83	1.70	0.37	0.33	1.41	1.45	0.77	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	1.10	0.02
Equipment (ROG + NO_X) Emissions (LB/DAY)	24.16	121.14	116.50	20.78	24.15	102.32	102.85	24.70	5.39	5.39	5.39	5.39	5.39	5.39	5.39	5.39	5.39	5.39	5.39	50.86	2.18
Equipment (ROG + NO_X) Emissions (TONS/QTR)	0.35	1.90	1.77	0.39	0.35	1.46	1.50	0.82	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	1.17	0.03
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.18	1.63	1.66	0.15	0.18	0.88	0.94	0.18	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.39	0.01
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Total PM_{10} Fugitive Dust (Uncontrolled) (LB/DAY)	44.47	52.24	39.54	21.18	43.90	53.45	40.75	29.17	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	38.79	0.17
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.64	0.94	0.96	0.40	0.64	0.85	0.81	0.89	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	1.56	0.00
Equipment CO_2e Emissions (MT/QTR)	132.32	642.64	599.20	149.60	132.31	561.22	602.97	331.15	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	395.38	9.00

Total SMA Project Construction Soil Fugitive Emissions by Calendar Quarter

Soil Fugitive Emission Type	2021		2022				2023				2024				2025				2026		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Fugitive ROG Total Daily Emissions (LB/DAY)	0.00	0.00	0.00	50.13	0.00	0.00	0.00	70.28	32.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	32.04	0.00	0.00
Fugitive ROG Total Quarterly Emissions (TONS/QTR)	0.00	0.00	0.94	0.94	0.00	0.00	0.00	1.69	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.00
Fugitive CO_2e Total Quarterly Emissions (MT/QTR)	0.00	0.00	55.60	55.60	0.00	0.00	0.00	100.04	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	61.59	0.00

Total SMA Project Emissions

Total SMA Project Construction Emissions by Calendar Quarter

Total Construction Emission Type	2021		2022				2023				2024				2025				2026			Max
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	24.16	121.14	116.50	70.92	24.15	102.32	102.85	94.98	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	50.86	2.18	121.14
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.18	1.63	1.66	0.15	0.18	0.88	0.94	0.18	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.39	0.01	1.66
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.35	1.90	2.71	1.33	0.35	1.46	1.50	2.51	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	2.21	0.03	2.71
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.64	0.94	0.96	0.40	0.64	0.85	0.81	0.89	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	1.56	0.00	1.56
Equipment + Soil Fugitive CO_2e Emissions (MT/QTR)	132.32	642.64	654.80	205.20	132.31	561.22	602.97	431.19	121.30	121.30	121.30	121.30	121.30	121.30	121.30	121.30	121.30	121.30	121.30	456.98	9.00	654.80
CUMULATIVE RUNNING ANNUAL NO_X+ROG (TONS/4 QTRS)	0.35	1.90	4.61	5.94	6.29	5.85	4.65	5.83	6.70	6.45	6.16	4.87	4.87	4.87	4.87	4.87	4.87	4.87	4.87	5.86	4.67	6.70

Total SMA Project Annual Construction Emissions by Calendar Year

Emission Type	2021	2022	2023	2024	2025	2026	Max
Equipment + Soil Fugitive Emissions,ROG+NO_X (TON/YEAR)	2.25	5.85	6.45	4.87	4.87	3.45	6.45
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/YR)	0.03	0.04	0.02	0.00	0.00	0.01	0.04
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/YEAR)	1.59	2.84	2.49	1.58	1.58	1.95	2.84
CO_2e Total Emissions (MT/YEAR)	774.96	1,553.53	1,276.75	485.19	485.19	587.27	1,553.53

Total SMA Project Construction Emissions

Emission Type	Total
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS)	27.74
Equipment PM_{10} treated as Diesel Particulate Matter (TONS)	0.11
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/YEAR)	12.03
CO_2e Total Emissions (MT)	5,162.90

Proposed Soil Management Area (SMA) Project

Total Construction Emissions by Calendar Quarter and Task

	Emission Type	2021		2022				2023				2024				2025				2026			Max
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
1a-P1	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	24.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.16
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
1b-P1	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.80
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
1a-P2	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	24.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.15
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	32.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.78
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
2-P1	**Import of Materials from Offsite for Liner System-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	88.35	88.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.35
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	1.40	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	1.24	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.46	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
2-P2	**Import of Materials from Sources for Liner System-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	69.54	69.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.54
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.65	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.46	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
3-P1	**Subgrade Preparation-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	32.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.80
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
3-P2	**Subgrade Preparation-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	32.78	32.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.78
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
4-P1	**Liner System Installation-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	28.15	28.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.15
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.27	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10

Proposed Soil Management Area (SMA) Project

Total Construction Emissions by Calendar Quarter and Task

	Emission Type	2021		2022				2023				2024				2025				2026			Max
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
4-P2	**Liner System Installation-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	33.31	33.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.31
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
5-P1	**TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	70.92	70.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.92
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	1.33	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.54
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	0.00	37.44
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.04
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	0.00	1.22
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.00	0.39
7	**Evapotranspirative (ET) Cover Construction**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.86	0.00	50.86
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.39
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.99
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	0.00	1.16
8	**Final Restoration (Hydroseeding, Planting, etc..)**																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18	2.18
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total																						
	Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	24.16	121.14	116.50	70.92	24.15	102.32	102.85	94.98	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	37.44	50.86	2.18	121.14
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.18	2.13	1.82	0.15	0.18	1.11	1.18	0.48	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.42	0.01	2.13
	Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	0.35	1.90	2.71	1.33	0.35	1.46	1.50	2.51	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	2.21	0.03	2.71
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.64	0.94	0.96	0.40	0.64	0.85	0.81	0.89	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	1.56	0.00	1.56

Total peak day emissions based upon the tasks that have overlapping days in each quarter. As such, the total may be less than the sum of each task.

Proposed Soil Management Area (SMA) Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description/Equipment	On-site Mileage	Off-site Mileage	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb PM_{10}/day)	Total Roadway PM_{10} (ton PM_{10}/year)	Total Roadway PM_{10} (ton PM_{10}/qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
1a-P1	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1**			**29**		**29**	**1**	**9.55**	**0.14**	**0.14**			
	Excavator - CAT336 at Q4 Clean OB			29	203								
	Excavator - CAT349 at TB9 Clean OB			29	203								
	Dozer - D6N at Q4 Clean OB			29	203								
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Water Truck - CAT740	203		29	203							6.95	4.58
	Fuel Delivery Truck	28	160								0.44	0.96	0.63
1b-P1	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1**			**17**		**17**	**1**	**11.39**	**0.10**	**0.10**			
	Excavator - CAT349 at Q4			17	119								
	Dozer - D6N at TB9 Clean Soil Grading			17	119								
	Dozer - D6T at TB9 Clean Soil Grading			17	119								
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Water Truck - CAT740	119		17	119							4.07	2.68
	Compactor			17	119								
	Fuel Delivery Truck	21	120								0.33	0.72	0.47
1a-P2	**Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2**			**29**		**29**	**1**	**9.55**	**0.14**	**0.14**			
	Excavator - CAT336 at Q4 Clean OB			29	203								
	Excavator - CAT349 at TB9 Clean OB			29	203								
	Dozer - D6N at Q4 Clean OB			29	203								
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Haul Truck - CAT740	1,160		29	203							39.71	26.14
	Off Road Water Truck - CAT740	203		29	203							6.95	4.58
	Fuel Delivery Truck	28	160								0.44	0.96	0.63

Proposed Soil Management Area (SMA) Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description/Equipment	On-site Mileage	Off-site Mileage	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb PM_{10}/day)	Total Roadway PM_{10} (ton PM_{10}/year)	Total Roadway PM_{10} (ton PM_{10}/qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**			**17**		**17**	**1**	**11.39**	**0.10**	**0.10**			
	Excavator - CAT349 at Q4			17	119								
	Dozer - D6N at TB9 Clean Soil Grading			17	119								
	Dozer - D6T at TB9 Clean Soil Grading			17	119								
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Haul Truck - CAT740	544		17	119							18.62	12.26
	Off Road Water Truck - CAT740	119		17	119							4.07	2.68
	Compactor			17	119								
	Fuel Delivery Truck	21	120								0.33	0.72	0.47
2-P1	**Import of Materials from Offsite for Liner System-Phase 1**			**28**		**28**	**1**	**32.60**	**0.46**	**0.46**			
	15L Semi Trailer Truck	5,114	259,494								718.17	194.48	
	950 Loader			28	196								
	Fuel Delivery Truck	4	20								0.06	0.12	0.08
2-P2	**Import of Materials from Sources for Liner System-Phase 2**			**27**		**27**	**1**	**33.81**	**0.46**	**0.46**			
	15L Semi Trailer Truck	5,114	259,494								718.17	194.48	
	950 Loader			27	189								
	Fuel Delivery Truck	4	20								0.06	0.12	0.08
3-P1	**Subgrade Preparation-Phase 1**			**15**		**15**	**1**	**8.46**	**0.06**	**0.06**			
	Excavator - CAT349			15	105								
	Dozer - D6N			15	105								
	Dozer - D6T			15	105								
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Water Truck - CAT740	53		15	105							1.80	1.18
	Compactor			15	105								
	Fuel Delivery Truck	18	100								0.28	0.60	0.39

Proposed Soil Management Area (SMA) Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description/Equipment	On-site Mileage	Off-site Mileage	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb PM_{10}/day)	Total Roadway PM_{10} (ton PM_{10}/year)	Total Roadway PM_{10} (ton PM_{10}/qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
3-P2	**Subgrade Preparation-Phase 2**			**15**		**15**	**1**	**8.46**	**0.06**	**0.06**			
	Excavator - CAT349			15	105								
	Dozer - D6N			15	105								
	Dozer - D6T			15	105								
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Haul Truck - CAT740	360		15	105							12.32	8.11
	Off Road Water Truck - CAT740	53		15	105							1.80	1.18
	Compactor			15	105								
	Fuel Delivery Truck	18	100								0.28	0.60	0.39
4-P1	**Liner System Installation-Phase 1**			**60**		**60**	**2**	**1.29**	**0.04**	**0.02**			
	Excavator - CAT349			18	126								
	Dozer - D6N			18	126								
	Dozer - D6T			18	126								
	Off Road Haul Truck - CAT740 (1)	90		18	126							3.08	2.03
	Off Road Haul Truck - CAT740 (1)	90		18	126							3.08	2.03
	Off Road Haul Truck - CAT740 (2)	360		18	126							12.32	8.11
	Off Road Haul Truck - CAT740 (2)	360		18	126							12.32	8.11
	Off Road Water Truck - CAT740	63		18	126							2.16	1.42
	Loader			18	126								
	Water Truck - 4k gallon	38		18	126							1.29	0.85
	Pulverizer - Wirtgen WR240i			18	126								
	Excavator - CAT315			16	112								
	Tracked Haul Truck - RT9	160		16	112							5.48	3.61
	Loader - 966			16	112								
	Tracked Haul Truck - RT9	160		16	112							5.48	3.61
	Loader - 966			15	105								
	Manlift - 65'			5	35								
	Lull			40	160								
	Loader - 966			40	280								
	Compactor			17	119								
	Fuel Delivery Truck	35	200								0.55	1.20	0.79

Proposed Soil Management Area (SMA) Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description/Equipment	On-site Mileage	Off-site Mileage	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb PM_{10}/day)	Total Roadway PM_{10} (ton PM_{10}/year)	Total Roadway PM_{10} (ton PM_{10}/qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
4-P2	**Liner System Installation-Phase 2**			**60**		**60**	**1**	**1.29**	**0.04**	**0.04**			
	Excavator - CAT349			18	126								
	Dozer - D6N			18	126								
	Dozer - D6T			18	126								
	Off Road Haul Truck - CAT740 (1)	90		18	126							3.08	2.03
	Off Road Haul Truck - CAT740 (1)	90		18	126							3.08	2.03
	Off Road Haul Truck - CAT740 (2)	360		18	126							12.32	8.11
	Off Road Haul Truck - CAT740 (2)	360		18	126							12.32	8.11
	Off Road Water Truck - CAT740	63		18	126							2.16	1.42
	Loader			18	126								
	Water Truck - 4k gallon	38		18	126							1.29	0.85
	Pulverizer - Wirtgen WR240i			18	126								
	Excavator - CAT315			16	112								
	Tracked Haul Truck - RT9	160		16	112							5.48	3.61
	Loader - 966			16	112								
	Tracked Haul Truck - RT9	160		16	112							5.48	3.61
	Loader - 966			15	105								
	Manlift - 65'			5	35								
	Lull			40	160								
	Loader - 966			40	280								
	Compactor			17	119								
	Fuel Delivery Truck	35	200								0.55	1.20	0.79
5-P1	**TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1**			**75**		**75**	**2**	**3.15**	**0.12**	**0.06**			
	Excavator - CAT349			75	525								
	Dozer - D6K			75	525								
	Dozer - D6T			75	525								
	Off Road Haul Truck - CAT740	1,275		75	525							43.64	28.74
	Off Road Haul Truck - CAT740	1,275		75	525							43.64	28.74
	Off Road Haul Truck - CAT740	1,275		75	525							43.64	28.74
	Off Road Water Truck - CAT740	263		75	525							8.99	5.92
	Compactor			75	525								
	Fuel Delivery Truck	60	340								0.94	2.04	1.34

Proposed Soil Management Area (SMA) Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description/Equipment	On-site Mileage	Off-site Mileage	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb PM_{10}/day)	Total Roadway PM_{10} (ton PM_{10}/year)	Total Roadway PM_{10} (ton PM_{10}/qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**			**34**		**34**	**1**	**3.15**	**0.05**	**0.05**			
	Excavator - CAT349			34	238								
	Dozer - D6K			34	238								
	Dozer - D6T			34	238								
	Off Road Haul Truck - CAT740	578		34	238							19.78	13.03
	Off Road Haul Truck - CAT740	578		34	238							19.78	13.03
	Off Road Haul Truck - CAT740	578		34	238							19.78	13.03
	Off Road Water Truck - CAT740	119		34	238							4.07	2.68
	Fuel Delivery Truck	25	140								0.39	0.84	0.55
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**			**740**		**260**	**4**	**0.41**	**0.05**	**0.01**			
	Dozer - D6N			740	5,180								
	Off Road Water Truck - CAT740	5,180		740	5,180							177.31	116.74
	Fuel Delivery Truck	130	740								2.05	4.43	2.92
7	**Evapotranspirative (ET) Cover Construction**			**60**		**60**	**1**	**25.38**	**0.76**	**0.76**			
	15L Semi Trailer Truck	6,344	279,900								774.65	241.29	
	Dozer - D6N			60	420								
	Loader - 950			60	420								
	Excavator			60	420								
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Haul Truck - CAT740	1,440		60	420							49.29	32.45
	Off Road Water Truck - CAT740	210		60	420							7.19	4.73
	Fuel Delivery Truck	60	340								0.94	2.04	1.34
8	**Final Restoration (Hydroseeding, Planting, etc..)**			**24**		**24**	**1**	**0.17**	**0.00**	**0.00**			
	Dozer - D6N			24	168								
	Skid Steer			24	168								
	Hydroseed Truck	52	320								0.89	1.78	1.17
	Fuel Delivery Truck	4	20								0.06	0.12	0.08

The Semi Trailer Trucks for Tasks 3b and 7 only operate on onsite paved roads only.

0.2254 PM10 fugitive dust emission factor (lbs/VMT) for onsite unpaved roads (See Note 4)

0.0380 PM10 fugitive dust emission factor (lbs/VMT) for onsite paved roads (See Note 4)

0.0028 PM10 fugitive dust emission factor (lbs/VMT) for offsite paved roads (See Note 4)

Proposed Soil Management Area (SMA) Project

Excavation and Soil Movement PM10 Fugitive Dust Emissions

Task #	Task Description	Areas Graded (acres)	Material Moved (CY/day)	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	PM10 from Loading Operations			PM10 from Drop Operations			PM10 from Grading Operations			Total Excavation/Movement PM10		
								lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1	10.9	4,931	29	7	29	1	33.73	0.49	0.49	0.61	0.01	0.01	0.57	0.01	0.01	34.92	0.51	0.51
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1	10.9	2,359	17	0	17	1	16.14	0.14	0.14	0.29	0.00	0.00	0.00	0.00	0.00	16.43	0.14	0.14
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2	10.9	4,931	29	0	29	1	33.73	0.49	0.49	0.61	0.01	0.01	0.00	0.00	0.00	34.35	0.50	0.50
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2	10.9	2,359	17	7	17	1	16.14	0.14	0.14	0.29	0.00	0.00	0.57	0.00	0.00	17.00	0.14	0.14
2-P1	Import of Materials from Offsite for Liner System-Phase 1	0.0	0	28	7	28	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-P2	Import of Materials from Sources for Liner System-Phase 2	0.0	0	27	0	27	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-P1	Subgrade Preparation-Phase 1	10.9	1,605	15	0	15	1	10.98	0.08	0.08	0.20	0.00	0.00	0.00	0.00	0.00	11.18	0.08	0.08
3-P2	Subgrade Preparation-Phase 2	10.9	1,605	15	0	15	1	10.98	0.08	0.08	0.20	0.00	0.00	0.00	0.00	0.00	11.18	0.08	0.08
4-P1	Liner System Installation-Phase 1	10.9	728	60	7	60	2	4.98	0.15	0.07	0.09	0.00	0.00	0.57	0.02	0.01	5.64	0.17	0.08
4-P2	Liner System Installation-Phase 2	10.9	728	60	7	60	1	4.98	0.15	0.15	0.09	0.00	0.00	0.57	0.02	0.02	5.64	0.17	0.17
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1	10.9	2,507	75	7	75	2	17.15	0.64	0.32	0.31	0.01	0.01	0.57	0.02	0.01	18.03	0.68	0.34
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2	10.9	1,912	34	7	34	1	13.08	0.22	0.22	0.24	0.00	0.00	0.57	0.01	0.01	13.89	0.24	0.24
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation	10.9	1,602	740	7	260	4	10.96	1.42	0.36	0.20	0.03	0.01	0.57	0.07	0.02	11.73	1.52	0.38
7	Evapotranspirative (ET) Cover Construction	21.7	1,762	60	7	60	1	12.05	0.36	0.36	0.22	0.01	0.01	1.14	0.03	0.03	13.41	0.40	0.40
8	Final Restoration (Hydroseeding, Planting, etc..)	0.0	0	24	7	24	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6.84	lbs PM10/1,000 cubic yards material moved for loading operations ((Guadalupe ATC, Appendix E, pages E-2 through E-5) (see Note 5)
1.25E-04	lbs PM10/cubic yard of moved material for drop operations (Guadalupe ATC, Appendix E, pages E-6 and E-7) (see Note 5)
0.0075	lbs PM10/acre-work-hour for grading operations (Guadalupe ATC, Appendix E, pages E-2 through E-5) (see Note 5)

Proposed Soil Management Area (SMA) Project

SMA Operational Offgassing Emissions

Item	Value	Operational Mitigation Threshold
Total contained soil surface area (square feet)	792,792	-
Average TPH concentration in soil (mg/kg)	9,871	-
ROG Emission Factor (Based on LTU with no tilling) (lbs/day)	49.8	-
ROG Emissions (tons/yr)	9.1	25
CH_4 Emissions (tons/yr)	23.6	-
CO_2 Emissions MT/year)	4,746	-
GHG CO_2e Emissions - 1st Year of Operation (MT/yr)	5,284	10,000

ROG Emission Factor Derivation Notes

1. May 21, 1998 ATC Appendix F, Table F-4, Page 2, Unocal Guadalupe Full-Scale Landfarm Emissions, Yearly Emissions = 3.80 tons/year.

2. Adjusted 3.8 tons/year to account for SMA's larger surface area and higher average TPH concentration.

3.80	ROG tons/yr	Land Treatment Unit ROG Emissions from ATC
20.82	ROG lbs/day	Land Treatment Unit ROG Emissions from ATC
305,000	ft2	Land Treatment Unit Surface Area
792,792	ft2	SMA Surface Area
54.12	lbs/day	Adjusted SMA ROG Emissions for larger area
5,000	mg/kg	Average TPH in LTU soil
9,871	mg/kg	Average TPH in SMA
106.85	lbs/day	Adjusted SMA ROG Emissions for higher TPH
0.47		Reduction Factor for no tilling (Agronomy Research 12(1), 115-120, 2014, Table 1)
0.00		Cap reduction efficiency, fraction reduction, for CH4 and CO2
49.84	lbs/day	Adjusted SMA ROG Emissions for no tilling
5,215	tons/day CO_2	Taken from EPA's LandGEM adjusted for soil TPH.

Proposed Soil Management Area (SMA) Project

SMA Operational Equipment Use

Equipment	Mileage	ROG	CO	NOx	SO2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
On Road Water Truck (lbs/day)	12	0.00	0.01	0.13	0.00	0.00	0.00	0.01	0.00	43.74	45.79
On Road Water Truck (tons/yr)	624	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.07
Fugitive Dust (lbs/day)		-	-	-	-	0.68	-	-	-	-	-
Fugitive Dust (tons/yr)		-	-	-	-	0.02	-	-	-	-	-

Notes: Assumes 3 miles per trips, 4 trips per day, one day per week for 52 weeks per year

Proposed Soil Management Area (SMA) Project

Off-Road Emission Factors

Emission Category	Code	Off-Road Diesel Engines - Emission Factor (g/bhp-hr)									
		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_{2e}
Tier 4i	Tier 4i	0.069	2.600	1.299	0.005	0.009	0.009	0.127	0.152	470.30	511.95
Tier 4F	Tier 4F	0.056	2.200	0.262	0.005	0.009	0.009	0.127	0.152	470.30	511.95

Inputs to Select Off-Road Emission Factors

Emission Category	Code	Off-Road Diesel Engines - Emission Factor (g/bhp-hr) and Deterioration Rates (g/bhp-hr-hr)							
		ROG		NO_X		PM_{10}		$PM_{2.5}$	
		EF	DR	EF	DR	EF	DR	EF	DR
Tier 4i	Tier 4i	0.06	1.70E-05	1.29	1.70E-05	0.009	3.00E-07	0.009	3.00E-07
Tier 4F	Tier 4F	0.05	1.10E-05	0.26	4.00E-06	0.009	3.00E-07	0.009	3.00E-07

Notes:

Emissions Factors and Deterioration Rates for ROG, NOx and PM10 taken from The Carl Moyer Program Guidelines 2017 Table D-9 of equipment 300-750 hp.

Assumed Equipment Hours: 500 hours *(NO_x EF+DR; assuming 500 hours: 1.30, assuming 5,000 hours: 1.38, assuming 50,000 hours: 2.14)*

CO EF from Cal EE Mod Appendix D Table 3.5 OFFROAD Equipment Emission Factors on Engine Tier

SO_2 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

N_2O EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors (assume N2O EF = 0.8333*CH4 EF per EMFAC EFs)

CH_4 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

CO_2 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

Carbon Dioxide Equivalent (CO_{2e}) is calculated using N_2O, CH_4 and CO_2 values and their Global Warming Potential (GWP)

Carbon Dioxide (CO_2) GWP	1	times the amount of warming caused by CO_2
Methane (CH_4) GWP	25	times the amount of warming caused by CO_2
Nitrous Oxide (N_2O) GWP	298	times the amount of warming caused by CO_2

Proposed Soil Management Area (SMA) Project

Onroad Emission Factors by Task

Task #	Start Calendar Year	End Calendar Year	Speed	ROG	CO	NOx	SO2	PM10	PM2.5	N2O	CH4	CO2
1a-P1	2021	2021	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2021	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2021	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
1b-P1	2021	2021	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2021	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2021	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
1a-P2	2022	2022	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2022	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2022	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
1b-P2	2022	2022	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2022	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2022	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
2-P1	2021	2022	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2022	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2022	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
2-P2	2022	2023	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2023	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2023	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
3-P1	2021	2021	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2021	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2021	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
3-P2	2022	2023	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2023	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2023	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
4-P1	2021	2022	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2022	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2022	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
4-P2	2023	2023	25	0.028283033	0.388902921	4.864774154	0.016168803	0.008150066	0.007797497	0.269013984	0.001313674	1711.436498
	2023	2023	35	0.018682608	0.226624468	2.768680821	0.012717296	0.010076398	0.009640497	0.211588359	0.000867759	1346.101173
	2023	2023	45	0.014510399	0.131980233	1.671317231	0.011072516	0.016025201	0.015331958	0.184222758	0.00067397	1172.004321
5-P1	2022	2022	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2022	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2022	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
5-P2	2023	2023	25	0.028283033	0.388902921	4.864774154	0.016168803	0.008150066	0.007797497	0.269013984	0.001313674	1711.436498
	2023	2023	35	0.018682608	0.226624468	2.768680821	0.012717296	0.010076398	0.009640497	0.211588359	0.000867759	1346.101173
	2023	2023	45	0.014510399	0.131980233	1.671317231	0.011072516	0.016025201	0.015331958	0.184222758	0.00067397	1172.004321
6	2023	2026	25	0.063819609	0.482841255	5.165318923	0.016294927	0.013159445	0.012590173	0.271112406	0.002964256	1724.786416
	2023	2026	35	0.038926275	0.018682608	0.018682608	0.018682608	0.018682608	0.018682608	0.018682608	0.018682608	0.018682608
	2023	2026	45	0.026763046	0.131980233	1.671317231	0.011072516	0.016025201	0.015331958	0.184222758	0.00067397	1172.004321
7	2026	2026	25	0.027150662	0.392919231	4.972346996	0.015619229	0.007906678	0.007564638	0.25987026	0.001261078	1653.265157
	2026	2026	35	0.017986379	0.228133351	2.783220132	0.012276696	0.010081287	0.009645175	0.204257717	0.000835421	1299.464459
	2026	2026	45	0.014052207	0.132067889	1.623848527	0.010685169	0.016365767	0.015657791	0.177778148	0.000652689	1131.00444
8	2026	2026	25	0.027150662	0.392919231	4.972346996	0.015619229	0.007906678	0.007564638	0.25987026	0.001261078	1653.265157
	2026	2026	35	0.017986379	0.228133351	2.783220132	0.012276696	0.010081287	0.009645175	0.204257717	0.000835421	1299.464459
	2026	2026	45	0.014052207	0.132067889	1.623848527	0.010685169	0.016365767	0.015657791	0.177778148	0.000652689	1131.00444

Proposed Soil Management Area (SMA) Project

Notes for Emission Spreadsheets

1 Emissions Factors and Deterioration Rates for ROG, NOx and PM10 taken from The Carl Moyer Program Guidelines 2017 Table D-9 of equipment 300-750 hp.

Assumed Equipment Hours:	500	hours	*(NO_x EF+DR; assuming 500 hours: 1.30, assuming 5,000 hours: 1.38, assuming 50,000 hours: 2.14)*

2 Carbon Dioxide Equivalent (CO_{2e}) is calculated using N_2O, CH_4 and CO_2 values and their Global Warming Potential (GWP)

Carbon Dioxide (CO_2) GWP	1	times the amount of warming caused by CO_2
Methane (CH_4) GWP	25	times the amount of warming caused by CO_2
Nitrous Oxide (N_2O) GWP	298	times the amount of warming caused by CO_2

3 **Unpaved Road Fugitive Dust Calculations**

The following equation was used to calculate the emissions factor for unpaved roads for PM10 (taken from AP-42, Section 13.2.2 Unpaved Roads)

$E = k\ (SL/12)^a * (W/3)^b$

Where	E	**0.2254**	lb/VMT (VMT is vehicle mile traveled)
	k	1.5	empirical constant provided by Table 13.2.2-2 in AP-42
	SL	0.4	surface material silt constant (%) taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	a	0.9	empirical constant provided by Table 13.2.2-2 in AP-42
	W	40	mean vehicle weight (tons)
	b	0.45	empirical constant provided by Table 13.2.2-2 in AP-42

Assumed portion of Onsite unpaved road traveled 10%

Onsite Paved Roads Fugitive Dust Calculation

$E=k(SL)^{0.91}*W^{1.02}$ CARB Miscellaneous Process Methodology, Entrained Road Travel (CARB 2018)

Where	E	**0.0380**	lbs/VMT
	k	0.0022	constant for particle size taken for PM10 (lbs/vmt)(CARB 2018)
	SL	0.32	Silt Loading (gr/m^2) (used local roadway) (CARB 2018)
	W	45	vehicle weight (tons) Taken as maximum for project

Average onsite paved road vehicle weight based upon prorated VMT

	Weight	VMT
Construction Equipment	50	43,414
Delivery Trucks	27	11,510
Average Weight (tons)	45	

Offsite Paved Roads Fugitive Dust Calculations

$E=k(SL)^{0.91}*W^{1.02}$ CARB Miscellaneous Process Methodology, Entrained Road Travel (CARB 2018)

Where	E	**0.0028**	lbs/VMT
	k	0.0022	constant for particle size taken for PM10 (lbs/vmt)(CARB 2018)
	SL	0.032	Silt Loading (gr/m^2) (used major/collector roadway) (CARB 2018)
	W	27	vehicle weight (tons) CalTrans WIM Data

Proposed Soil Management Area (SMA) Project

Notes for Emission Spreadsheets

4 **Excavation and Soil Handling Fugitive Dust Calculations**

Loading Operations

		118	lb/1000 CY at silt content of 6.9% ((Guadalupe ATC, Appendix E, pages E-2 through E-5)
	=SF1/SF2	0.058	Conversion from silt factor of 6.9% to 0.4%
	SF1	0.004	
			(Taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	SF2	0.069	
		6.84	lb/1000 CY at silt content of 0.4%

Drop Operations (Guadalupe ATC, Appendix E, pages E-6 and E-7)

$EF=k(0.0032)*(U/5)^{1.3}*(M/2)^{1.4}*D$

Where	EF	2.49E-04	Lbs/cubic yards dropped
	k	0.35	constant for PM10
	U	7	Mean Wind Speed at Guadalupe (from ATC, Appendix E, page E-7)
	M	8	Moisture content % (from ATC, Appendix E, page E-7)
	D	1.18	ton/cubic yards

Assumes material is dropped once in each task

Most of material to be dropped is hydrocarbon impacted material that would reduce fugitive drop emissions by 50% (Guadalupe ATC, Appendix E, page E-7)

Adjusted $EF_{adj}=EF*0.5$ **1.25E-04** Lbs/cubic yards dropped

Grading Operations

		0.1300	lbs PM10/acre-work-hour for grading operations at silt content of 6.9% (Guadalupe ATC, Appendix E, pages E-2 through E-5)
Conversion from silt factor of 6.9% to 0.4%	=SF1/SF2	0.058	
	SF1	0.004	
			(Taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	SF2	0.069	
		0.0075	lbs PM10/acre-work-hour for grading operations at silt content of 0.4% (Guadalupe ATC, Appendix E, pages E-2 through E-5)

5 EMFAC rates taken from EMFAC2017 Web Database

6 Fugitive CH_4/Fugitive ROG 2.6 This values is from SBCAPCD and is based upon oil field gas analysis to compare CH_4 content to ROG content.

7 **Fugitive ROG from TPH Soil**

Base Emission Factor	0.01	lbs/CY	1998 ENSR Study at Guadalupe for soil with TPH of 5,000 mg/kg)
SMA TPH	9,871	mg/kg	
SMA Emission Factor	0.02	lbs/CY	

8 **Vehicle Travel Speeds on Roadways**

Onsite vehicle travel on roads assumed to be 25 mph.

Offsite Vehicle travel on roads assumed to be average of 35 mph for trucks traveling on local roads only.

Offsite Vehicle travel on roads assumed to be average of 45 mph for trucks traveling on local roads and highways.

Proposed Soil Management Area (SMA) Project

Project Schedule Chart

Task	Description	2021		2022				2023				2024				2025				2026		
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
1a-P1	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1																					
1b-P1	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1																					
1a-P2	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2																					
1b-P2	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2																					
2-P1	Import of Materials from Offsite for Liner System-Phase 1																					
2-P2	Import of Materials from Sources for Liner System-Phase 2																					
3-P1	Subgrade Preparation-Phase 1																					
3-P2	Subgrade Preparation-Phase 2																					
4-P1	Liner System Installation-Phase 1																					
4-P2	Liner System Installation-Phase 2																					
5-P1	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1																					
5-P2	TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2																					
6	Spreading of TPH Affected Soil and Addition of Amendment to Enhance																					
7	Evapotranspirative (ET) Cover Construction																					
8	Final Restoration (Hydroseeding, Planting, etc..)																					

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Key SMA Project Construction Inputs

Task #	Phase Description	Task Duration (Workdays)	Start Date	End Date	Working Days between Start and End Date	# Quarters in a Year	Workdays per Year	Material Moved (CY)		Hydrocarbon Impacted Material Moved (CY)		Disturbed Area due to Grading	
								Total	Per Workday	Total	Per Workday	Acres	Basis
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	47	11/1/2022	1/4/2023	47	1	47	56,500	1,202	0	0	10.85	Area of TB9 that needs to be cleared of vegetation.
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	258	1/5/2023	1/1/2024	258	4	258	206,000	798	206,000	798	1	Area of stockpile at M3.
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	232	1/16/2024	12/4/2024	232	4	232	206,000	888	0	0	21.7	Area of TB9 that will be backfilled.
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	294	6/1/2021	7/15/2022	294	4	260	206,000	701	206,000	701	0	No grading
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	106	7/18/2022	12/12/2022	106	2	106	85,000	802	85,000	802	1	Area of stockpile at M3.
5a	Excavation and Transportation of Material	700	1/9/2024	9/14/2026	700	4	260	700,000	1,000	700,000	1,000	0	No grading. Excavations done with excavator.
5b	Clean Soil Loading, Transportation and Backfilling of Excavations	560	4/16/2024	6/8/2026	560	4	260	560,000	1,000	0	0	5	Average area of remediation area.
6	Loading and Offsite Transport to Santa Maria Landfill	1425	6/26/2021	12/14/2026	1426	4	260	1,185,500	832	1,185,500	832	1	Area of stockpile at M3.

1. Task duration used to calculate total and hourly task emissions.
2. Workdays per year used to calculate annual emissions.
3. # quarters per year used to calculate quarterly emissions from annual emissions.
4. Material moved per workday used to calculate fugitive dust emission from loading and dumping activities.
5. Hydrocarbon impacted material moved per workday used to calculate fugitive soil emissions.
6. Start date and end date used to determine which calendar quarters to place hourly and quarterly emissions.
7. Disturbed area due to grading are used to calculate fugitive dust emissions from grading activities.
8. Workdays based upon five days per week 52 weeks per year.
9. Values for task duration and material moved are based upon construction engineering estimates for remaining remediation and restoration work, and are based upon the historical work done at the Guadalupe site.

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

List of Baseline Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors [(1)]	Hours/day	Duration (days)
1	**Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9**					
	Excavator, 336	315	Tier 4i	0.38	7	47
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	47
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	47
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	47
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	47
	Fuel Delivery Truck	280				
2	**Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area**					
	Excavator - CAT349	430	Tier 4F	0.38	7	258
	Excavator - CAT349	430	Tier 4F	0.38	3.5	258
	Excavator - CAT349	430	Tier 4F	0.38	3.5	258
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	258
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	258
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	258
	Skid Steer	73	Tier 4i	0.37	2.5	258
	Dozer - D6N	173	Tier 4i	0.41	7	258
	Fuel Delivery Truck	280				
3	**Clean Soil Loading, Transportation and Backfilling of TB9 Excavation**					
	Dozer - D6N	173	Tier 4i	0.41	7	232
	Excavator - CAT349	430	Tier 4F	0.38	7	232
	Skid Steer	73	Tier 4i	0.37	5	232
	Dozer - D6N	173	Tier 4	0.41	5	232
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5	232
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5	232
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	5	232
	Fuel Delivery Truck	280				
4a	**TPH-affected Stockpiled Material (TB8) Transportation to M3 Area**					
	Loader - 966	274	Tier 4i	0.33	7	294
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	294
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	294
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	294
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	294
	Fuel Delivery Truck	280				

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

List of Baseline Equipment by Task

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors [1]	Hours/day	Duration (days)
	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area					
4b	Dozer - D6N	173	Tier 4i	0.41	7	106
	Loader - 966	274	Tier 4i	0.33	7	106
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	106
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	106
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	106
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	106
	Fuel Delivery Truck	280				
	Excavation and Transportation of Material					
5a	Excavator - CAT349	430	Tier 4F	0.38	7	700
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	700
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	700
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	700
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	700
	Fuel Delivery Truck	280				
	Clean Soil Loading, Transportation and Backfilling of Excavations					
5b	Dozer - D6N	173	Tier 4i	0.41	7	560
	Excavator - CAT349	430	Tier 4F	0.38	7	560
	Skid Steer	73	Tier 4i	0.37	7	560
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	560
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	560
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	560
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	7	560
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7	560
	Fuel Delivery Truck	280				
	Loading and Offsite Transport to Santa Maria Landfill					
6	Offsite 15L Semi Trailer Truck-Material Truck	485		0.38		
	Loader - 966	274	Tier 4i	0.33	7	1425
	Dozer - D6N	173	Tier 4i	0.41	5	1425
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	5	1425
	Fuel Delivery Truck	280				

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Input Data for Off Road Haul Trucks by Task

Task #	Equipment	Average Load/Truck (CY)	Miles RT	Trips/truck-day	# Days	Total Onsite Miles/truck	# Trucks	Total Material Moved
1	Off Road Haul Truck - CAT740	17.4	3	23	47	3,243	3	56,500
2	Off Road Haul Truck - CAT740	25.0	2.5	16	258	10,320	2	206,000
3	Off Road Haul Truck - CAT740	24.7	3	18	232	12,528	2	206,000
4a	Off Road Haul Truck - CAT740	17.5	2	10	294	5,880	4	206,000
4b	Off Road Haul Truck - CAT740	19.1	4	14	106	5,936	3	85,000
5a	Off Road Haul Truck - CAT740	25.0	3	10	700	21,000	4	700,000
5b	Off Road Haul Truck - CAT740	25.0	4	10	560	22,400	4	560,000

Input Data for Off Road Water Trucks by Task

Task #	Equipment	Miles/hr	Hours/day	# Days	Total Onsite Miles/Truck	# Trucks
1	Off Road Water Truck - CAT740	1.0	**7**	47	329	1
2	Off Road Water Truck - CAT740	1.0	7	258	1806	1
3	Off Road Water Truck - CAT740	1.0	5	232	1160	1
4b	Off Road Water Truck - CAT740	1.0	7	106	742	1
5b	Off Road Water Truck - CAT740	1.0	7	560	3920	1
6	Off Road Water Truck - CAT740	1.0	5	1425	7125	1

Input Data for On Road Haul Trucks by Task

						Onsite		Offsite	
Task #	Equipment	Average Load/Truck (CY)	Truck Trips/Day	# Days	Total Material Moved	Miles RT	Total Miles	Miles RT	Total Miles
6	Offsite 15L Semi Trailer Truck-Material Truck	16	52	1425	1,185,500	3.5	259,329	35.5	2,630,337

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Estimated Emissions by Task and Equipment

												Emissions (Total Tons)										
Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	On-site mileage	Off-site mileage	Hours / day	Duration (days)	Duration (hrs)	Included in Peak Day	Notes		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9							**47**														
	Excavator, 336	315	Tier 4i	0.38			7	47	329	y			2.97E-03	9.55E-02	5.64E-02	2.17E-04	3.97E-04	3.97E-04	5.50E-03	6.60E-03	2.04E+01	2.22E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	3,243		7	47	329	y			4.53E-03	1.46E-01	8.59E-02	3.31E-04	6.05E-04	6.05E-04	8.38E-03	1.01E-02	3.11E+01	3.39E+01
1	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	3,243		7	47	329	y	See Haul Truck Data Worksheet for details .		4.53E-03	1.46E-01	8.59E-02	3.31E-04	6.05E-04	6.05E-04	8.38E-03	1.01E-02	3.11E+01	3.39E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	3,243		7	47	329	y			4.53E-03	1.46E-01	8.59E-02	3.31E-04	6.05E-04	6.05E-04	8.38E-03	1.01E-02	3.11E+01	3.39E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	329		7	47	329	y			4.53E-03	1.46E-01	8.59E-02	3.31E-04	6.05E-04	6.05E-04	8.38E-03	1.01E-02	3.11E+01	3.39E+01
	Fuel Delivery Truck	280			25	140				y			2.01E-05	8.96E-05	7.79E-04	2.60E-06	4.71E-06	4.50E-06	4.33E-05	9.35E-07	2.75E-01	2.88E-01
												task tons	0.02	0.68	0.40	0.00	0.00	0.00	0.04	0.05	145.17	157.97
	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area							**258**														
	Excavator - CAT349	430	Tier 4F	0.38			7	258	1,806	y			1.81E-02	7.16E-01	8.52E-02	1.63E-03	2.98E-03	2.98E-03	4.12E-02	4.94E-02	1.53E+02	1.66E+02
	Excavator - CAT349	430	Tier 4F	0.38			3.5	258	903	y			9.03E-03	3.58E-01	4.26E-02	8.13E-04	1.49E-03	1.49E-03	2.06E-02	2.47E-02	7.65E+01	8.32E+01
	Excavator - CAT349	430	Tier 4F	0.38			3.5	258	903	y			9.03E-03	3.58E-01	4.26E-02	8.13E-04	1.49E-03	1.49E-03	2.06E-02	2.47E-02	7.65E+01	8.32E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	10,320		7	258	1,806	y			2.49E-02	7.99E-01	4.72E-01	1.82E-03	3.32E-03	3.32E-03	4.60E-02	5.52E-02	1.71E+02	1.86E+02
2	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	10,320		7	258	1,806	y	See Haul Truck Data Worksheet for details.		2.49E-02	7.99E-01	4.72E-01	1.82E-03	3.32E-03	3.32E-03	4.60E-02	5.52E-02	1.71E+02	1.86E+02
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	1,806		7	258	1,806	y			2.49E-02	7.99E-01	4.72E-01	1.82E-03	3.32E-03	3.32E-03	4.60E-02	5.52E-02	1.71E+02	1.86E+02
	Skid Steer	73	Tier 4i	0.37			2.5	258	645	y			1.32E-03	4.22E-02	2.49E-02	9.60E-05	1.76E-04	1.76E-04	2.43E-03	2.92E-03	9.03E+00	9.83E+00
	Dozer - D6N	173	Tier 4i	0.41			7	258	1,806	y			9.67E-03	3.11E-01	1.83E-01	7.06E-04	1.29E-03	1.29E-03	1.79E-02	2.15E-02	6.64E+01	7.23E+01
	Fuel Delivery Truck	280			200	1,140				y			2.97E-05	3.70E-04	4.55E-03	1.95E-05	1.45E-05	1.38E-05	3.25E-04	1.38E-06	2.07E+00	2.16E+00
												task tons	0.12	4.18	1.80	0.01	0.02	0.02	0.24	0.29	895.94	974.98
	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation							**232**														
	Dozer - D6N	173	Tier 4i	0.41			7	232	1,624	y			8.70E-03	2.79E-01	1.65E-01	6.35E-04	1.16E-03	1.16E-03	1.61E-02	1.93E-02	5.97E+01	6.50E+01
	Excavator - CAT349	430	Tier 4F	0.38			7	232	1,624	y			1.62E-02	6.44E-01	7.66E-02	1.46E-03	2.68E-03	2.68E-03	3.70E-02	4.45E-02	1.38E+02	1.50E+02
	Skid Steer	73	Tier 4i	0.37			5	232	1,160	y			2.37E-03	7.60E-02	4.48E-02	1.73E-04	3.16E-04	3.16E-04	4.37E-03	5.25E-03	1.62E+01	1.77E+01
3	Dozer - D6N	173	Tier 4	0.41	12,528		5	232	1,160	y			9.21E-03	2.36E-01	2.12E-01	4.53E-04	8.30E-04	8.30E-04	1.15E-02	1.38E-02	4.27E+01	4.64E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	12,528		5	232	1,160	y	See Haul Truck Data Worksheet for details.		1.60E-02	5.13E-01	3.03E-01	1.17E-03	2.13E-03	2.13E-03	2.95E-02	3.55E-02	1.10E+02	1.19E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	12,528		5	232	1,160	y			1.60E-02	5.13E-01	3.03E-01	1.17E-03	2.13E-03	2.13E-03	2.95E-02	3.55E-02	1.10E+02	1.19E+02
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	12,528		5	232	1,160	y			1.60E-02	5.13E-01	3.03E-01	1.17E-03	2.13E-03	2.13E-03	2.95E-02	3.55E-02	1.10E+02	1.19E+02
	Fuel Delivery Truck	280			137	780				y			2.00E-05	2.55E-04	3.13E-03	1.32E-05	9.91E-06	9.48E-06	2.20E-04	9.31E-07	1.40E+00	1.46E+00
												task tons	0.08	2.77	1.41	0.01	0.01	0.01	0.16	0.19	586.74	638.49
	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area							**294**														
	Loader - 966	274	Tier 4i	0.33			7	294	2,058	y			1.41E-02	4.51E-01	2.66E-01	1.03E-03	1.88E-03	1.88E-03	2.60E-02	3.12E-02	9.65E+01	1.05E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,880		7	294	2,058	y			2.84E-02	9.11E-01	5.37E-01	2.07E-03	3.79E-03	3.79E-03	5.24E-02	6.29E-02	1.95E+02	2.12E+02
4a	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,880		7	294	2,058	y	See Haul Truck Worksheet for details.		2.84E-02	9.11E-01	5.37E-01	2.07E-03	3.79E-03	3.79E-03	5.24E-02	6.29E-02	1.95E+02	2.12E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,880		7	294	2,058	y			2.84E-02	9.11E-01	5.37E-01	2.07E-03	3.79E-03	3.79E-03	5.24E-02	6.29E-02	1.95E+02	2.12E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,880		7	294	2,058	y			2.84E-02	9.11E-01	5.37E-01	2.07E-03	3.79E-03	3.79E-03	5.24E-02	6.29E-02	1.95E+02	2.12E+02
	Fuel Delivery Truck	280			140	800				y			6.16E-05	3.68E-04	3.50E-03	1.38E-05	1.94E-05	1.86E-05	2.30E-04	2.86E-06	1.46E+00	1.53E+00
												task tons	0.13	4.09	2.42	0.01	0.02	0.02	0.24	0.28	876.56	953.90
	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area							**106**														
	Dozer - D6N	173	Tier 4i	0.41			7	106	742	y			3.97E-03	1.28E-01	7.53E-02	2.90E-04	5.31E-04	5.31E-04	7.35E-03	8.82E-03	2.73E+01	2.97E+01
	Loader - 966	274	Tier 4i	0.33			7	106	742	y			5.07E-03	1.63E-01	9.60E-02	3.70E-04	6.77E-04	6.77E-04	9.36E-03	1.12E-02	3.48E+01	3.79E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,936		7	106	742	y	See Haul Truck Data Worksheet for details.		1.02E-02	3.28E-01	1.94E-01	7.46E-04	1.37E-03	1.37E-03	1.89E-02	2.27E-02	7.02E+01	7.64E+01
4b	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,936		7	106	742	y			1.02E-02	3.28E-01	1.94E-01	7.46E-04	1.37E-03	1.37E-03	1.89E-02	2.27E-02	7.02E+01	7.64E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	5,936		7	106	742	y			1.02E-02	3.28E-01	1.94E-01	7.46E-04	1.37E-03	1.37E-03	1.89E-02	2.27E-02	7.02E+01	7.64E+01
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	742		7	106	742	y			1.02E-02	3.28E-01	1.94E-01	7.46E-04	1.37E-03	1.37E-03	1.89E-02	2.27E-02	7.02E+01	7.64E+01
	Fuel Delivery Truck	280			60	340				y			7.56E-05	3.34E-04	2.61E-03	7.58E-06	1.25E-05	1.20E-05	1.26E-04	3.51E-06	8.03E-01	8.40E-01
												task tons	0.05	1.60	0.95	0.00	0.01	0.01	0.09	0.11	343.60	373.91

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Engine hp	Engine Tier	Off-Road Diesel Engine Default Load Factors	On-site mileage	Off-site mileage	Hours / day	Duration (days)	Duration (hrs)	Included in Peak Day	Notes	Emissions (Total Tons)	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
5a	**Excavation and Transportation of Material**							**700**														
	Excavator - CAT349	430	Tier 4F	0.38			7	700	4,900	y			4.90E-02	1.94E+00	2.31E-01	4.41E-03	8.08E-03	8.08E-03	1.12E-01	1.34E-01	4.15E+02	4.52E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	21,000		7	700	4,900	y			6.75E-02	2.17E+00	1.28E+00	4.93E-03	9.02E-03	9.02E-03	1.25E-01	1.50E-01	4.63E+02	5.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	21,000		7	700	4,900	y	See Haul Truck Data Worksheet for details.		6.75E-02	2.17E+00	1.28E+00	4.93E-03	9.02E-03	9.02E-03	1.25E-01	1.50E-01	4.63E+02	5.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	21,000		7	700	4,900	y			6.75E-02	2.17E+00	1.28E+00	4.93E-03	9.02E-03	9.02E-03	1.25E-01	1.50E-01	4.63E+02	5.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	21,000		7	700	4,900	y			6.75E-02	2.17E+00	1.28E+00	4.93E-03	9.02E-03	9.02E-03	1.25E-01	1.50E-01	4.63E+02	5.04E+02
	Fuel Delivery Truck	280			399	2,280				y			8.13E-05	1.16E-03	1.46E-02	4.67E-05	2.36E-05	2.26E-05	7.76E-04	3.77E-06	4.94E+00	5.17E+00
												task tons	0.32	10.61	5.36	0.02	0.04	0.04	0.61	0.73	2,273.89	2,474.49
5b	**Clean Soil Loading, Transportation and Backfilling of Excavations**							**560**														
	Dozer - D6N	173	Tier 4i	0.41			7	560	3,920	y			2.10E-02	6.74E-01	3.98E-01	1.53E-03	2.80E-03	2.80E-03	3.88E-02	4.66E-02	1.44E+02	1.57E+02
	Excavator - CAT349	430	Tier 4F	0.38			7	560	3,920	y			3.92E-02	1.55E+00	1.85E-01	3.53E-03	6.46E-03	6.46E-03	8.94E-02	1.07E-01	3.32E+02	3.61E+02
	Skid Steer	73	Tier 4i	0.37			7	560	3,920	y			7.99E-03	2.57E-01	1.52E-01	5.84E-04	1.07E-03	1.07E-03	1.48E-02	1.77E-02	5.49E+01	5.97E+01
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	22,400		7	560	3,920	y			5.40E-02	1.73E+00	1.02E+00	3.94E-03	7.21E-03	7.21E-03	9.98E-02	1.20E-01	3.71E+02	4.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	22,400		7	560	3,920	y	See Haul Truck Data Worksheet for details.		5.40E-02	1.73E+00	1.02E+00	3.94E-03	7.21E-03	7.21E-03	9.98E-02	1.20E-01	3.71E+02	4.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	22,400		7	560	3,920	y			5.40E-02	1.73E+00	1.02E+00	3.94E-03	7.21E-03	7.21E-03	9.98E-02	1.20E-01	3.71E+02	4.04E+02
	Off Road Haul Truck - CAT740	445	Tier 4i	0.41	22,400		7	560	3,920	y			5.40E-02	1.73E+00	1.02E+00	3.94E-03	7.21E-03	7.21E-03	9.98E-02	1.20E-01	3.71E+02	4.04E+02
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	3,920		7	560	3,920	y			5.40E-02	1.73E+00	1.02E+00	3.94E-03	7.21E-03	7.21E-03	9.98E-02	1.20E-01	3.71E+02	4.04E+02
	Fuel Delivery Truck	280			452	2,580				y			9.19E-05	1.31E-03	1.65E-02	5.28E-05	2.67E-05	2.56E-05	8.79E-04	4.27E-06	5.59E+00	5.85E+00
												task tons	0.34	11.16	5.87	0.03	0.05	0.05	0.64	0.77	2,390.56	2,601.43
6	**Loading and Offsite Transport to Santa Maria Landfill**							**1425**														
	Offsite 15L Semi Trailer Truck-Material Truck	485		0.38	259,329	2,630,337				y	See Haul Truck Data Worksheet for details.		2.01E-01	1.17E+00	1.13E+01	4.25E-02	6.72E-02	6.43E-02	7.06E-01	9.32E-03	4.49E+03	4.70E+03
	Loader - 966	274	Tier 4i	0.33			7	1425	9,975	y			6.81E-02	2.19E+00	1.29E+00	4.97E-03	9.10E-03	9.10E-03	1.26E-01	1.51E-01	4.68E+02	5.09E+02
	Dozer - D6N	173	Tier 4i	0.41			5	1425	7,125	y			3.82E-02	1.23E+00	7.23E-01	2.79E-03	5.10E-03	5.10E-03	7.05E-02	8.47E-02	2.62E+02	2.85E+02
	Off Road Water Truck - CAT740	445	Tier 4i	0.41	7,125		5	1425	7,125	y	See Haul Truck Data Worksheet for details.		9.82E-02	3.15E+00	1.86E+00	7.16E-03	1.31E-02	1.31E-02	1.81E-01	2.18E-01	6.74E+02	7.33E+02
	Fuel Delivery Truck	280			315	1,800				y			1.52E-04	8.84E-04	8.52E-03	3.15E-05	4.93E-05	4.71E-05	5.25E-04	7.06E-06	3.34E+00	3.50E+00
												task tons	0.41	7.73	15.13	0.06	0.09	0.09	1.08	0.46	5,900.83	6,235.67

Baseline Construction Emissions (Remediation Activities and Hauling to t
Allowed Under CDP/DP D890558D Covering the Guadalupe Restor

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9																						
	Excavator, 336		0.13	4.06	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.48		0.13	4.06	2.40	0.01	0.02	0.02	0.23	0.28	868.76	945.48
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
1	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Water Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Fuel Delivery Truck		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	11.71	12.26		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	11.71	12.26
		lb/day	0.90	28.85	17.06	0.07	0.12	0.12	1.66	1.99	6,177.25	6,722.27	lb/day	0.90	28.85	17.06	0.07	0.12	0.12	1.66	1.99	6,177.25	6,722.27
	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66
	Excavator - CAT349		0.07	2.77	0.33	0.01	0.01	0.01	0.16	0.19	592.97	645.33		0.07	2.77	0.33	0.01	0.01	0.01	0.16	0.19	592.97	645.33
	Excavator - CAT349		0.07	2.77	0.33	0.01	0.01	0.01	0.16	0.19	592.97	645.33		0.07	2.77	0.33	0.01	0.01	0.01	0.16	0.19	592.97	645.33
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
2	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Water Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Skid Steer		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.01	76.19		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.01	76.19
	Dozer - D6N		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26
	Fuel Delivery Truck		0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	16.03	16.78		0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	16.03	16.78
		lb/day	0.94	32.42	13.94	0.07	0.13	0.13	1.87	2.24	6,945.29	7,557.95	lb/day	0.94	32.42	13.94	0.07	0.13	0.13	1.87	2.24	6,945.29	7,557.95
	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation																						
	Dozer - D6N		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66
	Skid Steer		0.02	0.66	0.39	0.00	0.00	0.00	0.04	0.05	140.02	152.39		0.02	0.66	0.39	0.00	0.00	0.00	0.04	0.05	140.02	152.39
3	Dozer - D6N		0.08	2.03	1.83	0.00	0.01	0.01	0.10	0.12	367.71	400.19		0.08	2.03	1.83	0.00	0.01	0.01	0.10	0.12	367.71	400.19
	Off Road Haul Truck - CAT740		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38
	Off Road Haul Truck - CAT740		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38
	Off Road Water Truck - CAT740		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38
	Fuel Delivery Truck		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	12.05	12.62		0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	12.05	12.62
		lb/day	0.73	23.92	12.16	0.05	0.10	0.10	1.36	1.63	5,058.08	5,504.25	lb/day	0.73	23.92	12.16	0.05	0.10	0.10	1.36	1.63	5,058.08	5,504.25
	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area																						
	Loader - 966		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
4a	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Fuel Delivery Truck		0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	9.94	10.41		0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	9.94	10.41
		lb/day	0.87	27.85	16.46	0.06	0.12	0.12	1.60	1.92	5,962.97	6,489.14	lb/day	0.87	27.85	16.46	0.06	0.12	0.12	1.60	1.92	5,962.97	6,489.14
	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area																						
	Dozer - D6N		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26
	Loader - 966		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
4b	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Water Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Fuel Delivery Truck		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	15.15	15.86		0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	15.15	15.86
		lb/day	0.94	30.26	17.91	0.07	0.13	0.13	1.74	2.09	6,482.97	7,054.85	lb/day	0.94	30.26	17.91	0.07	0.13	0.13	1.74	2.09	6,482.97	7,054.85

Baseline Construction Emissions (Remediation Activities and Hauling to tl
Allowed Under CDP/DP D890558D Covering the Guadalupe Restor

Estimated Emissions by Task and Equipment

Task #	Task Equipment		Average Daily Emission (lbs/day)											Peak Daily Emission (lbs/day)									
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
5a	**Excavation and Transportation of Material**																						
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Fuel Delivery Truck		0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	14.11	14.77		0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	14.11	14.77
		lb/day	0.91	30.33	15.33	0.07	0.13	0.13	1.75	2.10	6,496.82	7,069.96	lb/day	0.91	30.33	15.33	0.07	0.13	0.13	1.75	2.10	6,496.82	7,069.96
5b	**Clean Soil Loading, Transportation and Backfilling of Excavations**																						
	Dozer - D6N		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26		0.07	2.41	1.42	0.01	0.01	0.01	0.14	0.17	514.80	560.26
	Excavator - CAT349		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66		0.14	5.55	0.66	0.01	0.02	0.02	0.32	0.38	1,185.93	1,290.66
	Skid Steer		0.03	0.92	0.54	0.00	0.00	0.00	0.05	0.06	196.03	213.35		0.03	0.92	0.54	0.00	0.00	0.00	0.05	0.06	196.03	213.35
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Haul Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Off Road Water Truck - CAT740		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13		0.19	6.19	3.66	0.01	0.03	0.03	0.36	0.43	1,324.19	1,441.13
	Fuel Delivery Truck		0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	19.96	20.90		0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	19.96	20.90
		lb/day	1.21	39.85	20.96	0.09	0.17	0.17	2.30	2.75	8,537.70	9,290.82	lb/day	1.21	39.85	20.96	0.09	0.17	0.17	2.30	2.75	8,537.70	9,290.82
6	**Loading and Offsite Transport to Santa Maria Landfill**																						
	Offsite 15L Semi Trailer Truck-Material Truck		0.28	1.64	15.79	0.06	0.09	0.09	0.99	0.01	6,307.37	6,603.14		0.28	1.64	15.79	0.06	0.09	0.09	0.99	0.01	6,307.37	6,603.14
	Loader - 966		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21		0.10	3.07	1.81	0.01	0.01	0.01	0.18	0.21	656.25	714.21
	Dozer - D6N		0.05	1.72	1.02	0.00	0.01	0.01	0.10	0.12	367.71	400.19		0.05	1.72	1.02	0.00	0.01	0.01	0.10	0.12	367.71	400.19
	Off Road Water Truck - CAT740		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38		0.14	4.42	2.61	0.01	0.02	0.02	0.25	0.31	945.85	1,029.38
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	4.69	4.91		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	4.69	4.91
		lb/day	0.57	10.85	21.24	0.08	0.13	0.13	1.52	0.65	8,281.87	8,751.82	lb/day	0.57	10.85	21.24	0.08	0.13	0.13	1.52	0.65	8,281.87	8,751.82

Baseline Construction Emissions (Remediation Activities and Hauling to tl
Allowed Under CDP/DP D890558D Covering the Guadalupe Restor

Estimated Emissions by Task and Equipment		Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
Task #	Task Equipment		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	47	Days per Year										1	Quarters per year									
	Excavator, 336		0.00	0.10	0.06	0.00	0.00	0.00	0.01	0.01	20.42	22.22		0.00	0.10	0.06	0.00	0.00	0.00	0.01	0.01	20.42	22.22
	Off Road Haul Truck - CAT740		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87
1	Off Road Haul Truck - CAT740		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87
	Off Road Haul Truck - CAT740		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87
	Off Road Water Truck - CAT740		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87		0.00	0.15	0.09	0.00	0.00	0.00	0.01	0.01	31.12	33.87
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.29		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.29
		tons/yr	0.02	0.68	0.40	0.00	0.00	0.00	0.04	0.05	145.17	157.97	tons/qtr	0.02	0.68	0.40	0.00	0.00	0.00	0.04	0.05	145.17	157.97
	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	258.00	Days per Year										4	Quarters per year									
	Excavator - CAT349		0.02	0.72	0.09	0.00	0.00	0.00	0.04	0.05	152.99	166.50		0.00	0.18	0.02	0.00	0.00	0.00	0.01	0.01	38.25	41.62
	Excavator - CAT349		0.01	0.36	0.04	0.00	0.00	0.00	0.02	0.02	76.49	83.25		0.00	0.09	0.01	0.00	0.00	0.00	0.01	0.01	19.12	20.81
	Excavator - CAT349		0.01	0.36	0.04	0.00	0.00	0.00	0.02	0.02	76.49	83.25		0.00	0.09	0.01	0.00	0.00	0.00	0.01	0.01	19.12	20.81
	Off Road Haul Truck - CAT740		0.02	0.80	0.47	0.00	0.00	0.00	0.05	0.06	170.82	185.91		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	42.71	46.48
2	Off Road Haul Truck - CAT740		0.02	0.80	0.47	0.00	0.00	0.00	0.05	0.06	170.82	185.91		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	42.71	46.48
	Off Road Water Truck - CAT740		0.02	0.80	0.47	0.00	0.00	0.00	0.05	0.06	170.82	185.91		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	42.71	46.48
	Skid Steer		0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	9.03	9.83		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	2.26	2.46
	Dozer - D6N		0.01	0.31	0.18	0.00	0.00	0.00	0.02	0.02	66.41	72.27		0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.01	16.60	18.07
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.16		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.54
		tons/yr	0.12	4.18	1.80	0.01	0.02	0.02	0.24	0.29	895.94	974.98	tons/qtr	0.03	1.05	0.45	0.00	0.00	0.00	0.06	0.07	223.99	243.74
	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	232.00	Days per Year										4	Quarters per year									
	Dozer - D6N		0.01	0.28	0.16	0.00	0.00	0.00	0.02	0.02	59.72	64.99		0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	14.93	16.25
	Excavator - CAT349		0.02	0.64	0.08	0.00	0.00	0.00	0.04	0.04	137.57	149.72		0.00	0.16	0.02	0.00	0.00	0.00	0.01	0.01	34.39	37.43
	Skid Steer		0.00	0.08	0.04	0.00	0.00	0.00	0.00	0.01	16.24	17.68		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	4.06	4.42
3	Dozer - D6N		0.01	0.24	0.21	0.00	0.00	0.00	0.01	0.01	42.65	46.42		0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	10.66	11.61
	Off Road Haul Truck - CAT740		0.02	0.51	0.30	0.00	0.00	0.00	0.03	0.04	109.72	119.41		0.00	0.13	0.08	0.00	0.00	0.00	0.01	0.01	27.43	29.85
	Off Road Haul Truck - CAT740		0.02	0.51	0.30	0.00	0.00	0.00	0.03	0.04	109.72	119.41		0.00	0.13	0.08	0.00	0.00	0.00	0.01	0.01	27.43	29.85
	Off Road Water Truck - CAT740		0.02	0.51	0.30	0.00	0.00	0.00	0.03	0.04	109.72	119.41		0.00	0.13	0.08	0.00	0.00	0.00	0.01	0.01	27.43	29.85
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	1.46		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.37
		tons/yr	0.08	2.77	1.41	0.01	0.01	0.01	0.16	0.19	586.74	638.49	tons/qtr	0.02	0.69	0.35	0.00	0.00	0.00	0.04	0.05	146.68	159.62
	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	260.00	Days per Year										4	Quarters per year									
	Loader - 966		0.01	0.40	0.24	0.00	0.00	0.00	0.02	0.03	85.31	92.85		0.00	0.10	0.06	0.00	0.00	0.00	0.01	0.01	21.33	23.21
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
4a	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	1.35		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.34
		tons/yr	0.11	3.62	2.14	0.01	0.02	0.02	0.21	0.25	775.19	843.59	tons/qtr	0.03	0.91	0.53	0.00	0.00	0.00	0.05	0.06	193.80	210.90
	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	106.00	Days per Year										2	Quarters per year									
	Dozer - D6N		0.00	0.13	0.08	0.00	0.00	0.00	0.01	0.01	27.28	29.69		0.00	0.06	0.04	0.00	0.00	0.00	0.00	0.00	13.64	14.85
	Loader - 966		0.01	0.16	0.10	0.00	0.00	0.00	0.01	0.01	34.78	37.85		0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.01	17.39	18.93
	Off Road Haul Truck - CAT740		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.18	76.38		0.01	0.16	0.10	0.00	0.00	0.00	0.01	0.01	35.09	38.19
4b	Off Road Haul Truck - CAT740		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.18	76.38		0.01	0.16	0.10	0.00	0.00	0.00	0.01	0.01	35.09	38.19
	Off Road Haul Truck - CAT740		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.18	76.38		0.01	0.16	0.10	0.00	0.00	0.00	0.01	0.01	35.09	38.19
	Off Road Water Truck - CAT740		0.01	0.33	0.19	0.00	0.00	0.00	0.02	0.02	70.18	76.38		0.01	0.16	0.10	0.00	0.00	0.00	0.01	0.01	35.09	38.19
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.84		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.42
		tons/yr	0.05	1.60	0.95	0.00	0.01	0.01	0.09	0.11	343.60	373.91	tons/qtr	0.03	0.80	0.47	0.00	0.00	0.00	0.05	0.06	171.80	186.95

Baseline Construction Emissions (Remediation Activities and Hauling to tl
Allowed Under CDP/DP D890558D Covering the Guadalupe Restor

Estimated Emissions by Task and Equipment

Task #	Task Equipment	Annual Emission (Tons/yr)											Quarterly Emission (Tons/qtr)										
			ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e		ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	N_2O	CH_4	CO_2	CO_2e
5a	**Excavation and Transportation of Material**	260.00	Days per Year										4	Quarters per year									
	Excavator - CAT349		0.02	0.72	0.09	0.00	0.00	0.00	0.04	0.05	154.17	167.79		0.00	0.18	0.02	0.00	0.00	0.00	0.01	0.01	38.54	41.95
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.83	1.92		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.48
		tons/yr	0.12	3.94	1.99	0.01	0.02	0.02	0.23	0.27	844.59	919.09	tons/qtr	0.03	0.99	0.50	0.00	0.00	0.00	0.06	0.07	211.15	229.77
5b	**Clean Soil Loading, Transportation and Backfilling of Excavations**	260.00	Days per Year										4	Quarters per year									
	Dozer - D6N		0.01	0.31	0.18	0.00	0.00	0.00	0.02	0.02	66.92	72.83		0.00	0.08	0.05	0.00	0.00	0.00	0.00	0.01	16.73	18.21
	Excavator - CAT349		0.02	0.72	0.09	0.00	0.00	0.00	0.04	0.05	154.17	167.79		0.00	0.18	0.02	0.00	0.00	0.00	0.01	0.01	38.54	41.95
	Skid Steer		0.00	0.12	0.07	0.00	0.00	0.00	0.01	0.01	25.48	27.73		0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	6.37	6.93
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Haul Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Off Road Water Truck - CAT740		0.03	0.81	0.48	0.00	0.00	0.00	0.05	0.06	172.15	187.35		0.01	0.20	0.12	0.00	0.00	0.00	0.01	0.01	43.04	46.84
	Fuel Delivery Truck		0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	2.60	2.72		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.68
		tons/yr	0.16	5.18	2.73	0.01	0.02	0.02	0.30	0.36	1,109.90	1,207.81	tons/qtr	0.04	1.30	0.68	0.00	0.01	0.01	0.07	0.09	277.48	301.95
6	**Loading and Offsite Transport to Santa Maria Landfill**	260.00	Days per Year										4	Quarters per year									
	Offsite 15L Semi Trailer Truck-Material Truck		0.04	0.21	2.05	0.01	0.01	0.01	0.13	0.00	819.96	858.41		0.01	0.05	0.51	0.00	0.00	0.00	0.03	0.00	204.99	214.60
	Loader - 966		0.01	0.40	0.24	0.00	0.00	0.00	0.02	0.03	85.31	92.85		0.00	0.10	0.06	0.00	0.00	0.00	0.01	0.01	21.33	23.21
	Dozer - D6N		0.01	0.22	0.13	0.00	0.00	0.00	0.01	0.02	47.80	52.02		0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	11.95	13.01
	Off Road Water Truck - CAT740		0.02	0.58	0.34	0.00	0.00	0.00	0.03	0.04	122.96	133.82		0.00	0.14	0.08	0.00	0.00	0.00	0.01	0.01	30.74	33.45
	Fuel Delivery Truck		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.64		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.16
		tons/yr	0.07	1.41	2.76	0.01	0.02	0.02	0.20	0.08	1,076.64	1,137.74	tons/qtr	0.02	0.35	0.69	0.00	0.00	0.00	0.05	0.02	269.16	284.43

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task

Task #	Task Description	Duration (Workdays)	Start Date	End Date	# Quarters per Year	Workdays/ Year	Material Moved		Fugitive Emissions from Handling Hydrocarbon Impacted Soils									
							Total (CY)	Prod Rate (CY/Day)	TPH (mg/kg)	Fug ROG EF (lb/CY)	Fug ROG (lb/day)	Fug ROG (ton/yr)	Fug ROG (ton/qtr)	Fug CH_4 (lb/day)	Fug CH_4 (ton/yr)	Fug CH_4 (ton/qtr)	Fug CO_2e (MT/yr)	Fug CO_2e (MT/qtr)
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	47	11/1/2022	1/4/2023	1	47	56,500	1,202	-	-	-	-	-	-	-	-	-	-
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	258	1/5/2023	1/1/2024	4	258	206,000	798	9,871	0.02	15.97	2.06	0.52	41.52	5.36	1.34	121.85	30.46
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	232	1/16/2024	12/4/2024	4	232	206,000	888	-	-	-	-	-	-	-	-	-	-
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	294	6/1/2021	7/15/2022	4	260	206,000	701	9,871	0.02	14.01	1.82	0.46	36.44	4.74	1.18	107.76	26.94
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	106	7/18/2022	12/12/2022	2	106	85,000	802	9,871	0.02	16.04	0.85	0.43	41.70	2.21	1.11	50.28	25.14
5a	Excavation and Transportation of Material	700	1/9/2024	9/14/2026	4	260	700,000	1,000	9,871	0.02	20.00	2.60	0.65	52.00	6.76	1.69	153.79	38.45
5b	Clean Soil Loading, Transportation and Backfilling of Excavations	560	4/16/2024	6/8/2026	4	260	560,000	1,000	-	-	-	-	-	-	-	-	-	-
6	Loading and Offsite Transport to Santa Maria Landfill	1425	6/26/2021	12/14/2026	4	260	1,185,500	832	9,871	0.02	16.64	2.16	0.54	43.26	5.62	1.41	127.94	31.99

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task

Task #	Task Description	Construction Equipment Emissions															
		ROG (lb/day)	ROG (ton/yr)	ROG (ton/qtr)	CO (lb/day)	CO (ton/yr)	NO_X (lb/day)	NO_X (ton/yr)	NO_X (ton/qtr)	SO_2 (lb/day)	SO_2 (ton/yr)	PM_{10} (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	PM2.5 (lb/day)	$PM_{2.5}$ (ton/yr)	N_2O (lb/day)	N_2O (ton/yr)
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	0.90	0.02	0.02	28.85	0.68	17.06	0.40	0.40	0.07	0.00	0.12	0.00	0.00	0.12	0.00	1.66	0.04
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	0.94	0.12	0.03	32.42	4.18	13.94	1.80	0.45	0.07	0.01	0.13	0.02	0.00	0.13	0.02	1.87	0.24
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	0.73	0.08	0.02	23.92	2.77	12.16	1.41	0.35	0.05	0.01	0.10	0.01	0.00	0.10	0.01	1.36	0.16
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	0.87	0.11	0.03	27.85	3.62	16.46	2.14	0.53	0.06	0.01	0.12	0.02	0.00	0.12	0.02	1.60	0.21
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	0.94	0.05	0.03	30.26	1.60	17.91	0.95	0.47	0.07	0.00	0.13	0.01	0.00	0.13	0.01	1.74	0.09
5a	Excavation and Transportation of Material	0.91	0.12	0.03	30.33	3.94	15.33	1.99	0.50	0.07	0.01	0.13	0.02	0.00	0.13	0.02	1.75	0.23
5b	Clean Soil Loading, Transportation and Backfilling of Excavations	1.21	0.16	0.04	39.85	5.18	20.96	2.73	0.68	0.09	0.01	0.17	0.02	0.01	0.17	0.02	2.30	0.30
6	Loading and Offsite Transport to Santa Maria Landfill	0.57	0.07	0.02	10.85	1.41	21.24	2.76	0.69	0.08	0.01	0.13	0.02	0.00	0.13	0.02	1.52	0.20

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task

Task #	Task Description	Construction Equipment Emissions								Fugitive Dust PM_{10} Emissions								
										Paved + Unpaved Road			Excavations and Material Movements			Total		
		CH_4 (lb/day)	CH_4 (ton/yr)	CO_2 (lb/day)	CO_2 (ton/yr)	CO_2e (lb/day)	CO_2e (ton/yr)	CO_2e (MT ton/yr)	CO_2e (MT ton/qtr)	PM_10 (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	PM_10 (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)	PM_10 (lb/day)	PM_{10} (ton/yr)	PM_{10} (ton/qtr)
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	1.99	0.05	6,177.25	145.17	6,722.27	157.97	143.76	143.76	11.24	0.26	0.26	8.95	0.21	0.21	20.19	0.47	0.47
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	2.24	0.29	6,945.29	895.94	7,557.95	974.98	887.23	221.81	4.61	0.59	0.15	5.61	0.72	0.18	10.22	1.32	0.33
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	1.63	0.19	5,058.08	586.74	5,504.25	638.49	581.03	145.26	11.35	1.32	0.33	7.33	0.85	0.21	18.68	2.17	0.54
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	1.92	0.25	5,962.97	775.19	6,489.14	843.59	767.67	191.92	4.22	0.62	0.16	4.88	0.63	0.16	9.10	1.25	0.31
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	2.09	0.11	6,482.97	343.60	7,054.85	373.91	340.26	170.13	9.20	0.49	0.24	5.64	0.30	0.15	14.84	0.79	0.39
5a	Excavation and Transportation of Material	2.10	0.27	6,496.82	844.59	7,069.96	919.09	836.38	209.09	6.32	0.82	0.21	6.97	0.91	0.23	13.29	1.73	0.43
5b	Clean Soil Loading, Transportation and Backfilling of Excavations	2.75	0.36	8,537.70	1,109.90	9,290.82	1,207.81	1,099.10	274.78	8.80	1.14	0.29	7.23	0.94	0.23	16.03	2.08	0.52
6	Loading and Offsite Transport to Santa Maria Landfill	0.65	0.08	8,281.87	1,076.64	8,751.82	1,137.74	1,035.34	258.84	11.42	1.48	0.37	5.85	0.76	0.19	17.26	2.24	0.56

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task
Baseline Work Quarters for Each Task by Calendar Quarter

Task #	Task Description	2021			2022				2023				2024				2025				2026		Total Quarters
		04/01/21	07/01/21	10/01/21	01/01/22	04/01/22	07/01/22	10/01/22	01/01/23	04/01/23	07/01/23	10/01/23	01/01/24	04/01/24	07/01/24	10/01/24	01/01/25	04/01/25	7/1/2025	10/1/2025	1/1/2026	4/1/2026	
		06/30/21	09/30/21	12/31/21	03/31/22	06/30/22	09/30/22	12/31/22	03/31/23	06/30/23	09/30/23	12/31/23	03/31/24	06/30/24	09/30/24	12/31/24	03/31/25	06/30/25	9/30/2025	12/31/2025	3/31/2026	6/30/2026	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9							1	1														2
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area								1	1	1	1	1										5
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation												1	1	1	1							4
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	1	1	1	1	1	1																6
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area						1	1															2
5a	Excavation and Transportation of Material												1	1	1	1	1	1	1	1	1	1	10
5b	Clean Soil Loading, Transportation and Backfilling of Excavations													1	1	1	1	1	1	1	1	1	9
6	Loading and Offsite Transport to Santa Maria Landfill	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21

Total Baseline Construction Equipment Emissions by Calendar Quarter

Construction Equipment Emission Type	2021			2022				2023				2024				2025				2026		Max
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Equipment ROG Emissions (LB/DAY)	1.44	1.44	1.44	1.44	1.44	2.38	2.41	2.41	1.51	1.51	1.51	3.15	3.42	3.42	3.42	2.69	2.69	2.69	2.69	2.69	2.69	3.42
Equipment ROG Emissions (TONS/QTR)	0.05	0.05	0.05	0.05	0.05	0.07	0.06	0.07	0.05	0.05	0.05	0.10	0.11	0.11	0.11	0.09	0.09	0.09	0.09	0.09	0.09	0.11
Equipment NO_x Emissions (LB/DAY)	37.70	37.70	37.70	37.70	37.70	55.61	56.20	52.24	35.18	35.18	35.18	62.66	69.69	69.69	69.69	57.53	57.53	57.53	57.53	57.53	57.53	69.69
Equipment NO_x Emissions (TONS/QTR)	1.23	1.23	1.23	1.23	1.23	1.70	1.57	1.54	1.14	1.14	1.14	1.99	2.22	2.22	2.22	1.87	1.87	1.87	1.87	1.87	1.87	2.22
Equipment (ROG + NO_x) Emissions (LB/DAY)	39.14	39.14	39.14	39.14	39.14	57.99	58.62	54.65	36.69	36.69	36.69	65.82	73.10	73.10	73.10	60.22	60.22	60.22	60.22	60.22	60.22	73.10
Equipment (ROG + NO_x) Emissions (TONS/QTR)	1.27	1.27	1.27	1.27	1.27	1.77	1.63	1.61	1.19	1.19	1.19	2.09	2.33	2.33	2.33	1.96	1.96	1.96	1.96	1.96	1.96	2.33
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.25	0.25	0.25	0.25	0.25	0.37	0.38	0.39	0.27	0.27	0.27	0.49	0.52	0.52	0.52	0.42	0.42	0.42	0.42	0.42	0.42	0.52
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Total PM_{10} Fugitive Dust (Uncontrolled) (LB/DAY)	26.36	26.36	26.36	26.36	26.36	41.20	52.29	47.67	27.48	27.48	27.48	59.45	65.26	65.26	65.26	46.58	46.58	46.58	46.58	46.58	46.58	65.26
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.87	0.87	0.87	0.87	0.87	1.27	1.43	1.37	0.89	0.89	0.89	1.86	2.06	2.06	2.06	1.51	1.51	1.51	1.51	1.51	1.51	2.06
Equipment CO_2e Emissions (MT/QTR)	450.75	450.75	450.75	450.75	450.75	620.88	572.72	624.40	480.64	480.64	480.64	834.99	887.96	887.96	887.96	742.71	742.71	742.71	742.71	742.71	742.71	887.96

Total Baseline Construction Soil Fugitive Emissions by Calendar Quarter

Soil Fugitive Emission Type	2021			2022				2023				2024				2025				2026		Max
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Fugitive ROG Total Daily Emissions (LB/DAY)	30.65	30.65	30.65	30.65	30.65	46.69	32.68	32.61	32.61	32.61	32.61	52.61	36.64	36.64	36.64	36.64	36.64	36.64	36.64	36.64	36.64	52.61
Fugitive ROG Total Quarterly Emissions (TONS/QTR)	1.00	1.00	1.00	1.00	1.00	1.42	0.97	1.06	1.06	1.06	1.06	1.71	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.71
Fugitive CO_2e Total Quarterly Emissions (MT/QTR)	58.93	58.93	58.93	58.93	58.93	84.06	57.12	62.45	62.45	62.45	62.45	100.90	70.43	70.43	70.43	70.43	70.43	70.43	70.43	70.43	70.43	100.90

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task

Total Baseline Emissions (All Tasks)

Total Baseline Construction Emissions by Calendar Quarter

Total Construction Emission Type	2021			2022				2023				2024				2025				2026		Max
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	69.79	69.79	69.79	69.79	69.79	104.68	91.29	87.26	69.30	69.30	69.30	118.42	109.74	109.74	109.74	96.86	96.86	96.86	96.86	96.86	96.86	118.42
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.25	0.25	0.25	0.25	0.25	0.37	0.38	0.39	0.27	0.27	0.27	0.49	0.52	0.52	0.52	0.42	0.42	0.42	0.42	0.42	0.42	0.52
Total PM_{10} Fugitive Dust (Uncontrolled) (LB/DAY)	26.36	26.36	26.36	26.36	26.36	41.20	52.29	47.67	27.48	27.48	27.48	59.45	65.26	65.26	65.26	46.58	46.58	46.58	46.58	46.58	46.58	65.26
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	2.27	2.27	2.27	2.27	2.27	3.19	2.60	2.67	2.24	2.24	2.24	3.80	3.52	3.52	3.52	3.15	3.15	3.15	3.15	3.15	3.15	3.80
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.87	0.87	0.87	0.87	0.87	1.27	1.43	1.37	0.89	0.89	0.89	1.86	2.06	2.06	2.06	1.51	1.51	1.51	1.51	1.51	1.51	2.06
Equipment + Soil Fugitive CO_2e Emissions (MT/QTR)	509.68	509.68	509.68	509.68	509.68	704.94	629.84	686.85	543.09	543.09	543.09	935.89	958.40	958.40	958.40	813.14	813.14	813.14	813.14	813.14	813.14	958.40
CUMULATIVE RUNNING ANNUAL NO_X+ROG (TONS/4 QTRS)	2.27	4.54	6.80	9.07	9.07	10.00	10.33	10.72	10.70	9.75	9.40	10.53	11.81	13.08	14.36	13.71	13.34	12.97	12.59	12.59	12.59	14.36

Total Baseline Annual Construction Emissions by Calendar Year

Emission Type	2021	2022	2023	2024	2025	2026	Max
Equipment + Soil Fugitive Emissions,ROG+NO_X (TON/YEAR)	6.80	10.33	9.40	14.36	12.59	6.30	14.36
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/YR)	0.02	0.04	0.04	0.07	0.06	0.03	0.07
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/YEAR)	2.62	4.45	4.04	8.03	6.06	3.03	8.03
CO_2e Total Emissions (MT/YEAR)	1,529	2,354	2,316	3,811	3,253	1,626	3,811

Total Baseline Construction Emissions

Emission Type	Total
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS)	59.78
Equipment PM_{10} treated as Diesel Particulate Matter (TONS)	0.25
Total PM_{10} Fugitive Dust (Uncontrolled) [unpaved SL= 0.4] (TONS)	28.22
CO_2e Total Emissions (MT)	14,889

Emissions for Trucking to Santa Maria Landfill (Tasks 3, 4a, 4b, and 6)

Trucking to Santa Maria Landfill Baseline Emissions by Calendar Quarter

Emission Type	2021			2022				2023				2024				2025				2026		Max
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Equipment + Soil Fugitive Emissions,ROG+NO_X (LB/DAY)	69.79	69.79	69.79	69.79	69.79	104.68	73.34	38.45	38.45	38.45	38.45	51.33	51.33	51.33	51.33	38.45	38.45	38.45	38.45	38.45	38.45	104.68
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.25	0.25	0.25	0.25	0.25	0.37	0.26	0.13	0.13	0.13	0.13	0.23	0.23	0.23	0.23	0.13	0.13	0.13	0.13	0.13	0.13	0.37
Total PM_{10} Fugitive Dust (Uncontrolled) (LB/DAY)	26.36	26.36	26.36	26.36	26.36	41.20	32.10	17.26	17.26	17.26	17.26	35.94	35.94	35.94	35.94	17.26	17.26	17.26	17.26	17.26	17.26	41.20
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS/QTR)	2.27	2.27	2.27	2.27	2.27	3.19	2.17	1.25	1.25	1.25	1.25	1.62	1.62	1.62	1.62	1.25	1.25	1.25	1.25	1.25	1.25	3.19
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.87	0.87	0.87	0.87	0.87	1.27	0.95	0.56	0.56	0.56	0.56	1.10	1.10	1.10	1.10	0.56	0.56	0.56	0.56	0.56	0.56	1.27
Equipment + Soil Fugitive CO_2e Emissions (MT/QTR)	509.68	509.68	509.68	509.68	509.68	704.94	486.09	290.82	290.82	290.82	290.82	436.08	436.08	436.08	436.08	290.82	290.82	290.82	290.82	290.82	290.82	704.94

Trucking to Santa Maria Landfill Baseline Annual Emissions by Calendar Year

Emission Type	2021	2022	2023	2024	2025	2026	Max
Equipment + Soil Fugitive Emissions,ROG+NO_X (TON/YEAR)	6.80	9.90	5.00	6.49	5.00	2.50	9.90
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/YR)	0.02	0.04	0.02	0.03	0.02	0.01	0.04
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/YEAR)	2.62	3.97	2.24	4.41	2.24	1.12	4.41
CO_2e Total Emissions (MT/YEAR)	1,529	2,210	1,163	1,744	1,163	582	2,210

Total Trucking to Santa Maria Landfill Baseline Emissions

Emission Type	Total
Equipment + Soil Fugitive Emissions,ROG+NO_X (TONS)	35.70
Equipment PM_{10} treated as Diesel Particulate Matter (TONS)	0.13
Total PM_{10} Fugitive Dust (Uncontrolled) [unpaved SL= 0.4] (TONS)	16.62
CO_2e Total Emissions (MT)	8,392

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Summary of Baseline Emissions by Task

Emissions for Onsite Remediation Activities (Tasks 1, 2,5a, 5b)

Onsite Remediation Activities Baseline Emissions by Calendar Quarter

Emission Type	2021			2022				2023				2024				2025				2026		Max
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	17.96	48.81	30.85	30.85	30.85	67.09	58.41	58.41	58.41	58.41	58.41	58.41	58.41	58.41	58.41	67.09
Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.26	0.13	0.13	0.13	0.26	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Total PM_{10} Fugitive Dust (Uncontrolled) (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	20.19	30.41	10.22	10.22	10.22	23.51	29.31	29.31	29.31	29.31	29.31	29.31	29.31	29.31	29.31	24.05
Equipment + Soil Fugitive Emissions,ROG+NO_x (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.42	1.42	0.99	0.99	0.99	2.17	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	1.90	2.17
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.80	0.33	0.33	0.33	0.76	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Equipment + Soil Fugitive CO_2e Emissions (MT/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	143.76	396.02	252.27	252.27	252.27	499.81	522.32	522.32	522.32	522.32	522.32	522.32	522.32	522.32	522.32	522.32

Onsite Remediation Activities Baseline Annual Emissions by Calendar Year

Emission Type	2021	2022	2023	2024	2025	2026	Max
Equipment + Soil Fugitive Emissions,ROG+NO_x (TON/YEAR)	0.00	0.42	4.40	7.87	7.59	3.80	7.87
Equipment PM_{10} treated as Diesel Particulate Matter (TONS/YR)	0.00	0.00	0.02	0.04	0.04	0.02	0.04
Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/YEAR)	0.00	0.47	1.79	3.62	3.81	1.91	3.81
CO_2e Total Emissions (MT/YEAR)	0	144	1153	2067	2089	1045	2089

Total Onsite Remediation Activities Baseline Emissions

Emission Type	Total
Equipment + Soil Fugitive Emissions,ROG+NO_x (TONS)	24.08
Equipment PM_{10} treated as Diesel Particulate Matter (TONS)	0.12
Total PM_{10} Fugitive Dust (Uncontrolled) [unpaved SL= 0.4] (TONS)	11.60
CO_2e Total Emissions (MT)	6,497

Emissions by Task by Quarter (Santa Maria Landfill Only)

Total Baseline Construction Emissions by Calendar Quarter

	Emission Type	2021			2022				2023				2024				2025				2026		Max
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation																						
	Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.88	12.88	12.88	12.88	0.00	0.00	0.00	0.00	0.00	0.00	12.88
3	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	Equipment + Soil Fugitive Emissions,ROG+NO_x, (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1.02	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.02
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.54	0.54	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.54
	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area																						
	Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	31.34	31.34	31.34	31.34	31.34	31.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.34
4a	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.12	0.12	0.12	0.12	0.12	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
	Equipment + Soil Fugitive Emissions,ROG+NO_x, (TONS/QTR)	1.02	1.02	1.02	1.02	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.31	0.31	0.31	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area																						
	Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	0.00	0.00	0.00	0.00	0.00	34.89	34.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.89
4b	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.00	0.00	0.00	0.00	0.00	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
	Equipment + Soil Fugitive Emissions,ROG+NO_x, (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
	Loading and Offsite Transport to Santa Maria Landfill																						
	Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45	38.45
6	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	Equipment + Soil Fugitive Emissions,ROG+NO_x, (TONS/QTR)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	Total																						
	Equipment + Soil Fugitive Emissions,ROG+NO_x (LB/DAY)	69.79	69.79	69.79	69.79	69.79	104.68	73.34	38.45	38.45	38.45	38.45	51.33	51.33	51.33	51.33	38.45	38.45	38.45	38.45	38.45	38.45	104.68
	Equipment PM_{10} treated as Diesel Particulate Matter (LB/DAY)	0.25	0.25	0.25	0.25	0.25	0.37	0.26	0.13	0.13	0.13	0.13	0.23	0.23	0.23	0.23	0.13	0.13	0.13	0.13	0.13	0.13	0.37
	Equipment + Soil Fugitive Emissions,ROG+NO_x, (TONS/QTR)	2.27	2.27	2.27	2.27	2.27	3.19	2.17	1.25	1.25	1.25	1.25	2.27	2.27	2.27	2.27	1.25	1.25	1.25	1.25	1.25	1.25	3.19
	Equipment PM_{10} treated as Diesel Particulate Matter (TONS/QTR)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Total PM_{10} Fugitive Dust (Uncontrolled) (TONS/QTR)	0.87	0.87	0.87	0.87	0.87	1.27	0.95	0.56	0.56	0.56	0.56	1.10	1.10	1.10	1.10	0.56	0.56	0.56	0.56	0.56	0.56	1.27

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill]
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description	Off-site mileage	On-site mileage (VMT)	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb /day)	Total Roadway PM_{10} (ton /year)	Total Roadway PM_{10} (ton /qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
1	**Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9**			**47**		**47**	**1**	**11.24**	**0.26**	**0.26**			
	Excavator, 336			47	329								
	Off Road Haul Truck - CAT740		3,243	47	329							96.71	73.09
	Off Road Haul Truck - CAT740		3,243	47	329							96.71	73.09
	Off Road Haul Truck - CAT740		3,243	47	329							96.71	73.09
	Off Road Water Truck - CAT740		329	47	329							9.81	7.41
	Fuel Delivery Truck	140	25								0.39	0.73	0.55
2	**Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area**			**258**	**1,806**	**258**	**4**	**4.61**	**0.59**	**0.15**			
	Excavator - CAT349			258	1,806								
	Excavator - CAT349			258	903								
	Excavator - CAT349			258	903								
	Off Road Haul Truck - CAT740		10,320	258	1,806							307.75	232.59
	Off Road Haul Truck - CAT740		10,320	258	1,806							307.75	232.59
	Off Road Water Truck - CAT740		1,806	258	1,806							53.86	40.70
	Skid Steer			258	645								
	Dozer - D6N			258	1,806								
	Fuel Delivery Truck	1,140	200								3.16	5.95	4.50
3	**Clean Soil Loading, Transportation and Backfilling of TB9 Excavation**			**232**		**232**	**4**	**11.35**	**1.32**	**0.33**			
	Dozer - D6N			232	1,624								
	Excavator - CAT349			232	1,624								
	Skid Steer			232	1,160								
	Dozer - D6N		12,528	232	1,160							373.59	282.35
	Off Road Haul Truck - CAT740		12,528	232	1,160							373.59	282.35
	Off Road Haul Truck - CAT740		12,528	232	1,160							373.59	282.35
	Off Road Water Truck - CAT740		12,528	232	1,160							373.59	282.35
	Fuel Delivery Truck	780	137								2.16	4.07	3.08
4a	**TPH-affected Stockpiled Material (TB8) Transportation to M3 Area**			**294**		**260**	**4**	**4.22**	**0.62**	**0.16**			
	Loader - 966			294	2,058			-	-	-			
	Off Road Haul Truck - CAT740		5,880	294	2,058			-	-	-		175.34	132.52
	Off Road Haul Truck - CAT740		5,880	294	2,058			-	-	-		175.34	132.52
	Off Road Haul Truck - CAT740		5,880	294	2,058			-	-	-		175.34	132.52
	Off Road Haul Truck - CAT740		5,880	294	2,058			-	-	-		175.34	132.52
	Fuel Delivery Truck	800	140								2.21	4.17	3.16

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill]
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Roadway Fugitive PM_{10} Emission Calculations

Task	Task Description	Off-site mileage	On-site mileage (VMT)	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	Total Roadway PM_{10} (lb /day)	Total Roadway PM_{10} (ton /year)	Total Roadway PM_{10} (ton /qtr)	Total Offsite Paved PM_{10} (lbs)	Total Onsite Paved PM_{10} (lbs)	Total Unpaved PM_{10} (lbs)
4b	**TPH-affected Stockpiled Material (TB9) Transportation to M3 Area**			**106**		**106**	**2**	**9.20**	**0.49**	**0.24**			
	Dozer - D6N			106	742								
	Loader - 966			106	742								
	Off Road Haul Truck - CAT740		5,936	106	742							177.01	133.78
	Off Road Haul Truck - CAT740		5,936	106	742							177.01	133.78
	Off Road Haul Truck - CAT740		5,936	106	742							177.01	133.78
	Off Road Water Truck - CAT740		742	106	742							22.13	16.72
	Fuel Delivery Truck	340	60								0.94	1.77	1.34
5a	**Excavation and Transportation of Material**			**700**		**260**	**4**	**6.32**	**0.82**	**0.21**			
	Excavator - CAT349			700	4,900								
	Off Road Haul Truck - CAT740		21,000	700	4,900							626.23	473.29
	Off Road Haul Truck - CAT740		21,000	700	4,900							626.23	473.29
	Off Road Haul Truck - CAT740		21,000	700	4,900							626.23	473.29
	Off Road Haul Truck - CAT740		21,000	700	4,900							626.23	473.29
	Fuel Delivery Truck	2,280	399								6.31	11.90	8.99
5b	**Clean Soil Loading, Transportation and Backfilling of Excavations**			**560**		**260**	**4**	**8.80**	**1.14**	**0.29**			
	Dozer - D6N			560	3,920								
	Excavator - CAT349			560	3,920								
	Skid Steer			560	3,920								
	Off Road Haul Truck - CAT740		22,400	560	3,920							667.98	504.84
	Off Road Haul Truck - CAT740		22,400	560	3,920							667.98	504.84
	Off Road Haul Truck - CAT740		22,400	560	3,920							667.98	504.84
	Off Road Haul Truck - CAT740		22,400	560	3,920							667.98	504.84
	Off Road Water Truck - CAT740		3,920	560	3,920							116.90	88.35
	Fuel Delivery Truck	2,580	452								7.14	13.46	10.18
6	**Loading and Offsite Transport to Santa Maria Landfill**			**1,425**		**260**	**4**	**11.42**	**1.48**	**0.37**			
	Offsite 15L Semi Trailer Truck-Material Truck	2,630,337	259,329								7,279.67	8,592.55	
	Loader - 966			1,425	9,975								
	Dozer - D6N			1,425	7,125								
	Off Road Water Truck - CAT740		7,125	1,425	7,125							212.47	160.58
	Fuel Delivery Truck	1,800	315								4.98	9.39	7.10

The Semi Trailer Trucks for Task 6 only operate on onsite paved roads only.

0.2254 PM_{10} fugitive dust emission factor (lbs/VMT) for onsite unpaved roads (See Note 4)
0.0331 PM_{10} fugitive dust emission factor (lbs/VMT) for onsite paved roads (See Note 4)
0.0028 PM_{10} fugitive dust emission factor (lbs/VMT) for offsite paved roads (See Note 4)

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Excavation and Soil Movement PM_{10} Fugitive Dust Emissions

Task #	Task Description	Areas Graded (acres)	Material Moved (CY/day)	Duration (days)	Duration (hrs)	Workdays per Year	Quarters per Year	PM_{10} from Loading Operations			PM_{10} from Drop Operations			PM_{10} from Grading Operations			Total Excavation/Movement PM_{10} Emissions		
								lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr	lbs/day	Tons per Year	Tons/Qtr
1	Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9	10.9	1,202	47	7	47	1	8.22	0.19	0.19	0.15	0.00	0.00	0.57	0.01	0.01	8.95	0.21	0.21
2	Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area	1.0	798	258	7	258	4	5.46	0.70	0.18	0.10	0.01	0.00	0.05	0.01	0.00	5.61	0.72	0.18
3	Clean Soil Loading, Transportation and Backfilling of TB9 Excavation	21.7	888	232	7	232	4	6.07	0.70	0.18	0.11	0.01	0.00	1.14	0.13	0.03	7.33	0.85	0.21
4a	TPH-affected Stockpiled Material (TB8) Transportation to M3 Area	0.0	701	294	7	260	4	4.79	0.62	0.16	0.09	0.01	0.00	0.00	0.00	0.00	4.88	0.63	0.16
4b	TPH-affected Stockpiled Material (TB9) Transportation to M3 Area	1.0	802	106	7	106	2	5.49	0.29	0.15	0.10	0.01	0.00	0.05	0.00	0.00	5.64	0.30	0.15
5a	Excavation and Transportation of Material	0.0	1,000	700	7	260	4	6.84	0.89	0.22	0.12	0.02	0.00	0.00	0.00	0.00	6.97	0.91	0.23
5b	Clean Soil Loading, Transportation and Backfilling of Excavations	5.0	1,000	560	7	260	4	6.84	0.89	0.22	0.12	0.02	0.00	0.26	0.03	0.01	7.23	0.94	0.23
6	Loading and Offsite Transport to Santa Maria Landfill	1.0	832	1426	7	260	4	5.69	0.74	0.18	0.10	0.01	0.00	0.05	0.01	0.00	5.85	0.76	0.19

6.84 lbs PM10/1,000 cubic yards material moved for loading operations ((Guadalupe ATC, Appendix E, pages E-2 through E-5) (see Note 5)
1.25E-04 lbs PM10/cubic yard of moved material for drop operations (Guadalupe ATC, Appendix E, pages E-6 and E-7) (see Note 5)
0.0075 lbs PM10/acre-work-hour for grading operations (Guadalupe ATC, Appendix E, pages E-2 through E-5) (see Note 5)

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Baseline Operational Offgassing that Would Occur at the Santa Maria Landfill

Item	Value
Total contained soil surface area (square feet)	792,792
Average TPH concentration in soil (mg/kg)	9,871
ROG Emission Factor (Based on LTU with no tilling) (lbs/day)	49.8
ROG Emissions (tons/yr)	9.1
CH_4 Emissions (tons/yr)	23.6
CO_2 Emissions MT/year)	4,746
GHG CO_2e Emissions - 1st Year of Operation (MT/yr)	5,284

ROG Emission Factor Derivation Notes

1. May 21, 1998 ATC Appendix F, Table F-4, Page 2, Unocal Guadalupe Full-Scale Landfarm Emissions, Yearly Emissions = 3.80 tons/year.
2. Adjusted 3.8 tons/year to account for larger surface area and higher average TPH concentration.

3.80	ROG tons/yr	Land Treatment Unit ROG Emissions from ATC
20.82	ROG lbs/day	Land Treatment Unit ROG Emissions from ATC
305,000	ft2	Land Treatment Unit Surface Area
792,792	ft2	Estimated surface area at Santa Maria Landfill
54.12	lbs/day	Adjusted SMA ROG Emissions for larger area
5,000	mg/kg	Average TPH in LTU soil
9,871	mg/kg	Average TPH of material transported to Santa Maria Landfill.
106.85	lbs/day	Adjusted ROG Emissions for higher TPH
0.47		Emission Reduction Factor for no tilling (Source: Agronomy Research 12(1), 115-120, 2014, Table 1)
0.00		Cap reduction efficiency, fraction reduction, for CH4 and CO2
49.84	lbs/day	Adjusted ROG Emissions for no tilling
5,215	tons/day CO_2	Taken from EPA's LandGEM adjusted for soil TPH.

3. Assume CH_4 = 2.6*ROG

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Off-Road Emission Factors

Emission Category	Code	ROG	CO	NO_X	SO_2 [2]	PM_{10}	$PM_{2.5}$	N_2O [5]	CH_4	CO_2	CO_{2e} [3]
Tier 4i	Tier 4i	0.069	2.200	1.299	0.005	0.009	0.009	0.127	0.152	470.30	511.83
Tier 4F	Tier 4F	0.056	2.200	0.262	0.005	0.009	0.009	0.127	0.152	470.30	511.83

Inputs to Select Off-Road Emission Factors

Emission Category	Code	Off-Road Diesel Engines -Emission Factor (g/bhp-hr) and Deterioration Rates (g/bhp-hr-hr)							
		ROG		NO_X		PM_{10}		$PM_{2.5}$	
		EF	DR	EF	DR	EF	DR	EF	DR
Tier 4i	Tier 4i	0.06	1.70E-05	1.29	1.70E-05	0.009	3.00E-07	0.009	3.00E-07
Tier 4F	Tier 4F	0.05	1.10E-05	0.26	4.00E-06	0.009	3.00E-07	0.009	3.00E-07

Notes:

Emissions Factors and Deterioration Rates for ROG, NOx and PM10 taken from The Carl Moyer Program Guidelines 2017 Table D-9 of equipment 300-750 hp.

Assumed Equipment Hours: 500 hours *(NO_x EF+DR; assuming 500 hours: 1.30, assuming 5,000 hours: 1.38, assuming 50,000 hours: 2.14)*

CO EF from Cal EE Mod Appendix D Table 3.5 OFFROAD Equipment Emission Factors on Engine Tier

SO_2 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

N_2O EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors (assume N2O EF = 0.8333*CH4 EF per EMFAC EFs)

CH_4 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

CO_2 EF from Cal EE Mod Appendix D Table 3.4 OFFROAD Equipment Emission Factors

Carbon Dioxide Equivalent (CO_{2e}) is calculated using N_2O, CH_4 and CO_2 values and their Global Warming Potential (GWP)

Carbon Dioxide (CO_2) GWP	1	times the amount of warming caused by CO_2
Methane (CH_4) GWP	25	times the amount of warming caused by CO_2
Nitrous Oxide (N_2O) GWP	298	times the amount of warming caused by CO_2

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Onroad Emission Factors by Task

Task #	Start Calendar Year	End Calendar Year	Speed	ROG	CO	NOx	SO2	PM10	PM2.5	N2O	CH4	CO2
1	2022	2023	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2023	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2023	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
2	2023	2024	25	0.028283033	0.388902921	4.864774154	0.016168803	0.008150066	0.007797497	0.269013984	0.001313674	1711.436498
	2023	2024	35	0.018682608	0.226624468	2.768680821	0.012717296	0.010076398	0.009640497	0.211588359	0.000867759	1346.101173
	2023	2022	45	0.014510399	0.131980233	1.671317231	0.011072516	0.016025201	0.015331958	0.184222758	0.00067397	1172.004321
3	2024	2024	25	0.027875013	0.391108528	4.917750437	0.015983319	0.008076114	0.007726745	0.26592793	0.001294722	1691.803367
	2024	2024	35	0.018438265	0.227590714	2.780807122	0.012568139	0.010110619	0.009673238	0.209106697	0.00085641	1330.313121
	2024	2024	45	0.014355819	0.132243655	1.657387359	0.010941185	0.0162148	0.015513355	0.182037704	0.000666791	1158.103251
4a	2021	2022	25	0.293880893	1.08604036	6.821213539	0.01764847	0.068055863	0.065111796	0.293632435	0.013650006	1868.056294
	2021	2022	35	0.184926038	0.719118386	4.949952169	0.014330635	0.060510468	0.057892812	0.238430838	0.008589335	1516.869986
	2021	2022	45	0.126604334	0.515698707	3.972212582	0.012651165	0.066425858	0.063552305	0.210488069	0.005880443	1339.101254
4b	2022	2022	25	0.171603653	0.758629033	5.921194879	0.017220606	0.028405789	0.027176967	0.2865137	0.007970545	1822.767709
	2022	2022	35	0.100365892	0.448059507	4.010096441	0.013833274	0.025536713	0.024432006	0.230155812	0.004661736	1464.225206
	2022	2022	45	0.063973749	0.271206031	3.015944407	0.012148791	0.029342931	0.028073568	0.202129662	0.002971415	1285.926014
5a	2024	2026	25	0.027514138	0.392250765	4.949217886	0.015803176	0.007996201	0.007650289	0.262930732	0.00127796	1672.735538
	2024	2026	35	0.018214326	0.22799288	2.784227585	0.012423836	0.010105671	0.009668504	0.206705816	0.000846008	1315.038991
	2024	2026	45	0.014206747	0.132225586	1.642005828	0.010814378	0.016309616	0.015604069	0.179927906	0.000659867	1144.680959
5b	2024	2026	25	0.027514138	0.392250765	4.949217886	0.015803176	0.007996201	0.007650289	0.262930732	0.00127796	1672.735538
	2024	2026	35	0.018214326	0.22799288	2.784227585	0.012423836	0.010105671	0.009668504	0.206705816	0.000846008	1315.038991
	2024	2026	45	0.014206747	0.132225586	1.642005828	0.010814378	0.016309616	0.015604069	0.179927906	0.000659867	1144.680959
6	2021	2026	25	0.096051665	0.568387435	5.409139372	0.016407901	0.021433387	0.020506188	0.272992053	0.004461351	1736.744519
	2021	2026	35	0.059769586	0.346296834	3.346902031	0.013025452	0.021073432	0.020161804	0.21671541	0.002776142	1378.71889
	2021	2026	45	0.041284787	0.219260289	2.264248617	0.011385934	0.026787139	0.02562834	0.189437368	0.001917571	1205.179078

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

1 Emission Estimates for baseline are based upon historical remediation and hauling activities that have occurred at the Guadalupe site over the past 10 years

2 Emissions Factors and Deterioration Rates for ROG, NOx and PM10 taken from The Carl Moyer Program Guidelines 2017 Table D-9 of equipment 300-750 hp

Assumed Equipment Hours:	500	hours	*(NO_x EF+DR; assuming 500 hours: 1.30, assuming 5,000 hours: 1.38, assuming 50,000 hours: 2.14)*

3 Carbon Dioxide Equivalent (CO_{2e}) is calculated using N_2O, CH_4 and CO_2 values and their Global Warming Potential (GWP)

Carbon Dioxide (CO_2) GWP	1	times the amount of warming caused by CO_2
Methane (CH_4) GWP	25	times the amount of warming caused by CO_2
Nitrous Oxide (N_2O) GWP	298	times the amount of warming caused by CO_2

4 **Unpaved Road Fugitive Dust Calculations**

The following equation was used to calculate the emissions factor for unpaved roads for PM10 (taken from AP-42, Section 13.2.2 Unpaved Roads

$E = k\ (SL/12)^a * (W/3)^b$

Where	E	**0.2254**	lb/VMT (VMT is vehicle mile traveled)
	k	1.5	empirical constant provided by Table 13.2.2-2 in AP-42
	SL	0.4	surface material silt constant (%) taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	a	0.9	empirical constant provided by Table 13.2.2-2 in AP-42
	W	40	mean vehicle weight (tons)
	b	0.45	empirical constant provided by Table 13.2.2-2 in AP-42

Assumed portion of Onsite unpaved road traveled 10%

Onsite Paved Roads Fugitive Dust Calculation

$E=k(SL)^{0.91}*W^{1.02}$ CARB Miscellaneous Process Methodology, Entrained Road Travel (CARB 2018)

Where	E	**0.0331**	lbs/VMT
	k	0.0022	constant for particle size taken for PM10 (lbs/vmt)(CARB 2018)
	SL	0.32	Silt Loading (gr/m^2) (used local roadway) (CARB 2018)
	W	39	vehicle weight (tons) Taken as maximum for project

Average onsite paved road vehicle weight based upon prorated VMT

	Weight	VMT
Construction Equipment	50	309002
Delivery Trucks	27	261054.5
Average Weight (tons)	39	

Offsite Paved Roads Fugitive Dust Calculations

$E=k(SL)^{0.91}*W^{1.02}$ CARB Miscellaneous Process Methodology, Entrained Road Travel (CARB 2018)

Where	E	**0.0028**	lbs/VMT
	k	0.0022	constant for particle size taken for PM10 (lbs/vmt)(CARB 2018)
	SL	0.032	Silt Loading (gr/m^2) (used major/collector roadway) (CARB 2018)
	W	27	vehicle weight (tons) CalTrans WIM Data

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

5 **Excavation and Soil Handling Fugitive Dust Calculations**

Loading Operations

		118	lb/1000 CY at silt content of 6.9% ((Guadalupe ATC, Appendix E, pages E-2 through E-5)
	=SF1/SF2	0.058	Conversion from silt factor of 6.9% to 0.4%
	SF1	0.004	
			(Taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	SF2	0.069	
		6.84	lb/1000 CY at silt content of 0.4%

Drop Operations (Guadalupe ATC, Appendix E, pages E-6 and E-7)

$EF=k(0.0032)*(U/5)^{1.3}*(M/2)^{1.4}*D$

Where	EF	2.49E-04	Lbs/cubic yards dropped
	k	0.35	constant for PM10
	U	7	Mean Wind Speed at Guadalupe (from ATC, Appendix E, page E-7)
	M	8	Moisture content % (from ATC, Appendix E, page E-7)
	D	1.18	ton/cubic yards

Assumes material is dropped once in each task

Most of material to be dropped is hydrocarbon impacted material that would reduce fugitive drop emissions by 50% (Guadalupe ATC, Appendix E, page E-7

Adjusted $EF_{adj}=EF*0.5$ **1.25E-04** Lbs/cubic yards dropped

Grading Operations

		0.1300	lbs PM10/acre-work-hour for grading operations at silt content of 6.9% (Guadalupe ATC, Appendix E, pages E-2 through E-5)
	=SF1/SF2	0.058	Conversion from silt factor of 6.9% to 0.4%
	SF1	0.004	
			(Taken from sieve analysis of Guadalupe sand (ENSR 1998), and shown on pages E-4 and E-8 and Appendix D of Guadalupe Authority to Construct).
	SF2	0.069	
		0.0075	lbs PM10/acre-work-hour for grading operations at silt content of 0.4% (Guadalupe ATC, Appendix E, pages E-2 through E-5)

6 EMFAC rates taken from EMFAC2017 Web Database

7 Fugitive CH_4/Fugitive ROG 2.6 This values is from SBCAPCD and is based upon oil field gas analysis to compare CH_4 content to ROG content.

8 **Fugitive ROG from TPH Soil**

Base Emission Factor	0.01	lbs/CY	1998 ENSR Study at Guadalupe for soil with TPH of 5,000 mg/kg)
SMA TPH	9,871	mg/kg	
SMA Emission Factor	0.02	lbs/CY	

9 **Vehicle Travel Speeds on Roadways**

Onsite vehicle travel on roads assumed to be 25 mph.

Offsite Vehicle travel on roads assumed to be average of 35 mph for trucks traveling on local roads only

Offsite Vehicle travel on roads assumed to be average of 45 mph for trucks traveling on local roads and highways

Baseline Construction Emissions (Remediation Activities and Hauling to the Santa Maria Landfill)
Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

10 **Excavation Emissions from 1998 EIR**

Equipment Emissions

Remediation Phase	Days	ROG+NOx			DPM		
		lbs/day	Tons/QTR	Tons/Yr	lbs/day	Tons/QTR	Tons/Yr
Excavations	360	926.20	30.10	120.41	51.46	1.67	6.69

Source: Guadalupe Restoration Project EIR. 1998. Appendix K-Air Quality
Equipment lbs/day numbers taken from page K-8 for the two excavation only. Annual emission based upon daily emissions times 260 workdays per year. Quarterly emission based upon one-quarter of annual emissions.

1998 EIR emissions are based upon one of the two excavations only.

Fugitive Dust Emissions

Remediation Phase	Fugitive Dust		
	lbs/day	Tons/QTR	Tons/Yr
Material Movement	1.27	0.04	0.17
Disturbed Areas	632.6	20.56	82.24
Total	**633.87**	**20.60**	**82.40**

Source: Guadalupe Restoration Project EIR. 1998. Appendix K-Air Quality
Fugitive dust lbs/day numbers taken from page K-12 for the two excavations only. Annual emission based upon daily emissions times 260 workdays per year. Quarterly emission based upon one-quarter of annual emissions.
1998 EIR emissions are based upon one of the two excavations only.

11 **Trucking Emissions from 2012 CEQA Addendum (Trucking to Santa Maria Landfill)**

Equipment Emissions

Remediation Phase	ROG+NOx			DPM		
	lbs/day	Tons/QTR	Tons/Yr	lbs/day	Tons/QTR	Tons/Yr
Trucking-Onsite	14.01	0.31	1.22	0.48	0.01	0.04
Trucking -Offsite	120.83	2.62	10.49	3.85	0.08	0.33
Loading Operations	14.82	0.46	1.85	0.56	0.02	0.07
Total	**149.66**	**3.39**	**13.56**	**4.89**	**0.11**	**0.44**

Source: Guadalupe Restoration Project 2011 Trucking Addendum. Appendix A-Air Quality
Trucking-onsite lbs/day and tons/yr taken from page A-4 and A-6 respectively.
Trucking-offsite Lbs/day and tons/yr taken from pages A-8 and A-9 respectively.
Loading Operation lbs/day and tons/yr taken from page A-5 and A-7 respectively.
Quarterly emission based upon one-quarter of annual emissions.
Fugitive Dust not calculated.

Appendix H

Ecological Resources of the SMA Project Site Area

ECOLOGICAL RESOURCES OF THE SMA PROJECT SITE

This section addresses biological resources in the vicinity of the proposed Soils Management Area Project (SMA Project). Impacts resulting from hauling activities were previously discussed and analyzed in existing California Environmental Quality Act (CEQA) documents including the Guadalupe Restoration Project Trucking Supplemental Environmental Impact Report (EIR) (MRS 2005). This section focuses on the proposed project activities that have the potential to affect biological resources at the SMA Project Site. All other impacts from ongoing activities have been addressed in previous CEQA documents prepared for the ongoing remediation activities.

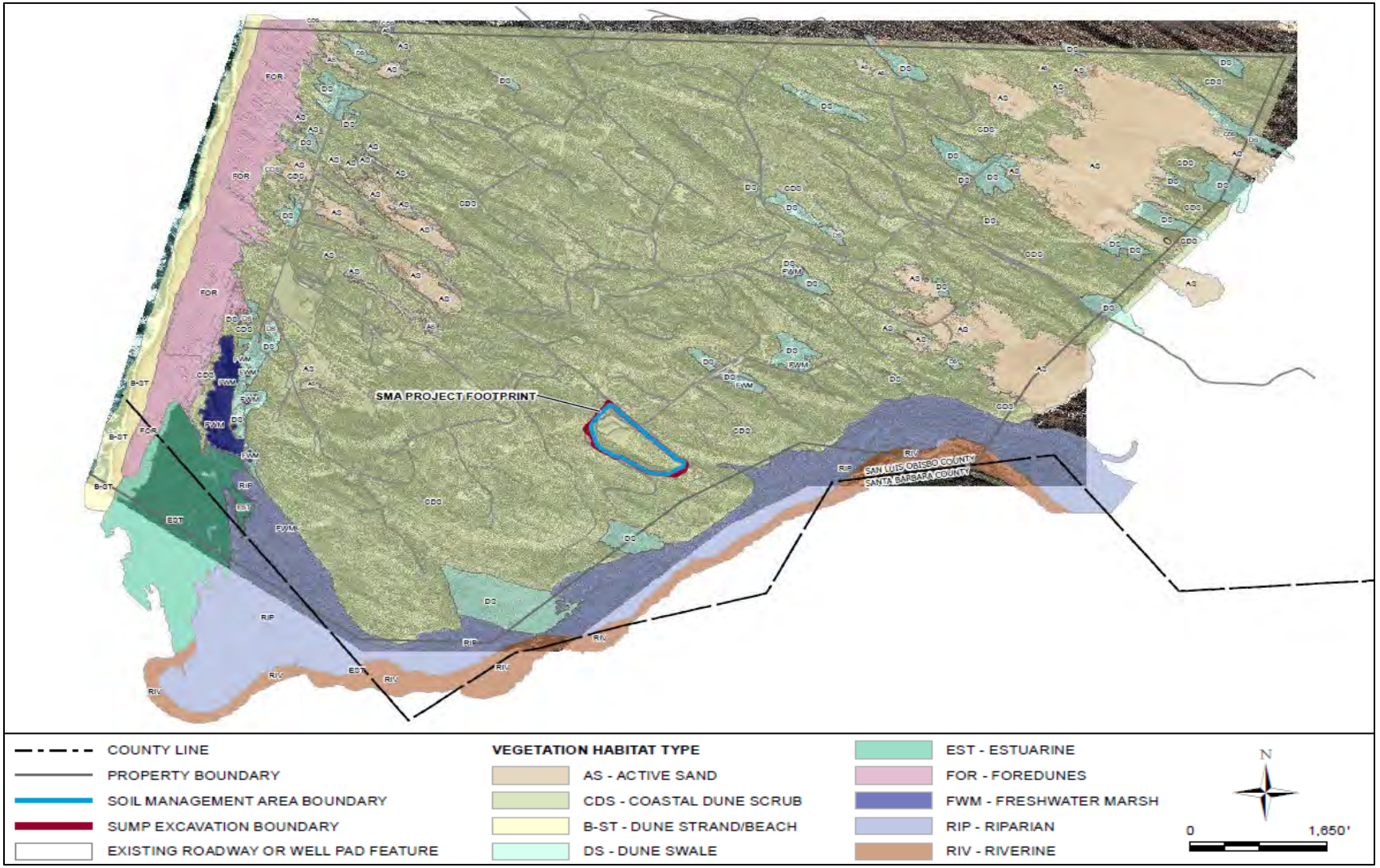
A complete description of biological resources of the Guadalupe Restoration Project (GRP) is found in the Guadalupe Oil Field Remediation and Abandonment Project EIR, prepared by Arthur D Little (ADL 1998). Most of these habitats and sensitive resources would not be affected by the proposed project described in this document. The description of biological resources in this section also uses information from the ongoing extensive biological monitoring and reporting of activities associated with the GRP, as required by the San Luis Obispo County Coastal Development Permit/Development Plan (CDP/DP) D890558D. The baseline biological information presented below used several sources including:

- The Ecological Assessment Report of the Treated Soils Management Area, prepared by Padre and Associates, dated August 2018 (Padre 2018).
- Results of ongoing monitoring of the GRP as presented in GRP Annual Ecological Monitoring Reports (AEMRs), currently being conducted by Trihydro Corporation (Trihydro 2020a).
- Ongoing GRP special status species monitoring programs and reports (Trihydro 2020b).
- Other ongoing GRP vegetation, wetland, and sensitive species mapping, monitoring, and reporting programs.
- Over 25 years' experience serving as On-site Environmental Coordinator and Independent Performance Monitoring tasked with monitoring remediation, species protection, and restoration activities associated with the GRP by MRS Environmental (MRS).

The GRP site, formerly the Guadalupe Oil Field (Field), is located on the Central Coast of California, in southern San Luis Obispo County, just bordering the northern boundary of Santa Barbara County. The Field occupies approximately 2,700 acres within the larger Guadalupe-Nipomo Dunes Complex (G-N Dunes Complex), one of the largest remaining natural coastal dune complexes on the West Coast, which extends from the Pismo Beach area in southern San Luis Obispo County to Mussel Rock in northern Santa Barbara County. The G-N Dunes Complex was designated as a National Natural Landmark by the Department of the Interior in 1980.

The SMA Project site encompasses 18.1 acres within the TB-9 area in the south-central portion of the Field (Figure 1). Most of the Proposed SMA Project footprint (14.52 acres) was previously disturbed during the construction and operations of the Land Treatment Unit (LTU) activities that occurred in 1998 and 1999. At that time, a portion of the TB9 area was graded and diluent-affected material was brought into the site and partially treated as part of a Pilot Study. After the LTU pilot study was completed, a portion of the deposited affected material was removed, and the rest was graded into a relatively flat site. In addition, at the time of the LTU Pilot Study, a HDPE-lined stormwater containment basin was constructed in the eastern portion of the site. This HDPE-lined basin was later filled with clean borrow sand and is still actively used as a stormwater retention basin.

Figure 1 Vegetation Habitats within the Guadalupe Restoration Project Site



Source: Trihydro 2020.

The area disturbed during these LTU operations was not actively restored, although native vegetation was allowed to naturally revegetate in the disturbance area. In 2017, approximately 3 acres of the LTU site was used as a temporary stockpile for petroleum-affected material and currently contains 86,000 cy of affected material.

In addition, the entire SMA Project area is located over an estimated 180,000 cy of sump material which indicates that previous oil field activities had disturbed the area prior to the LTU activities.

The following section includes an overview and descriptions of the plant communities, wildlife habitats, and sensitive biological resources known or expected in the areas affected by the specific activities addressed in the project description. Only those biological resources that could be affected by proposed project activities are described in detail below.

A. Plant Communities

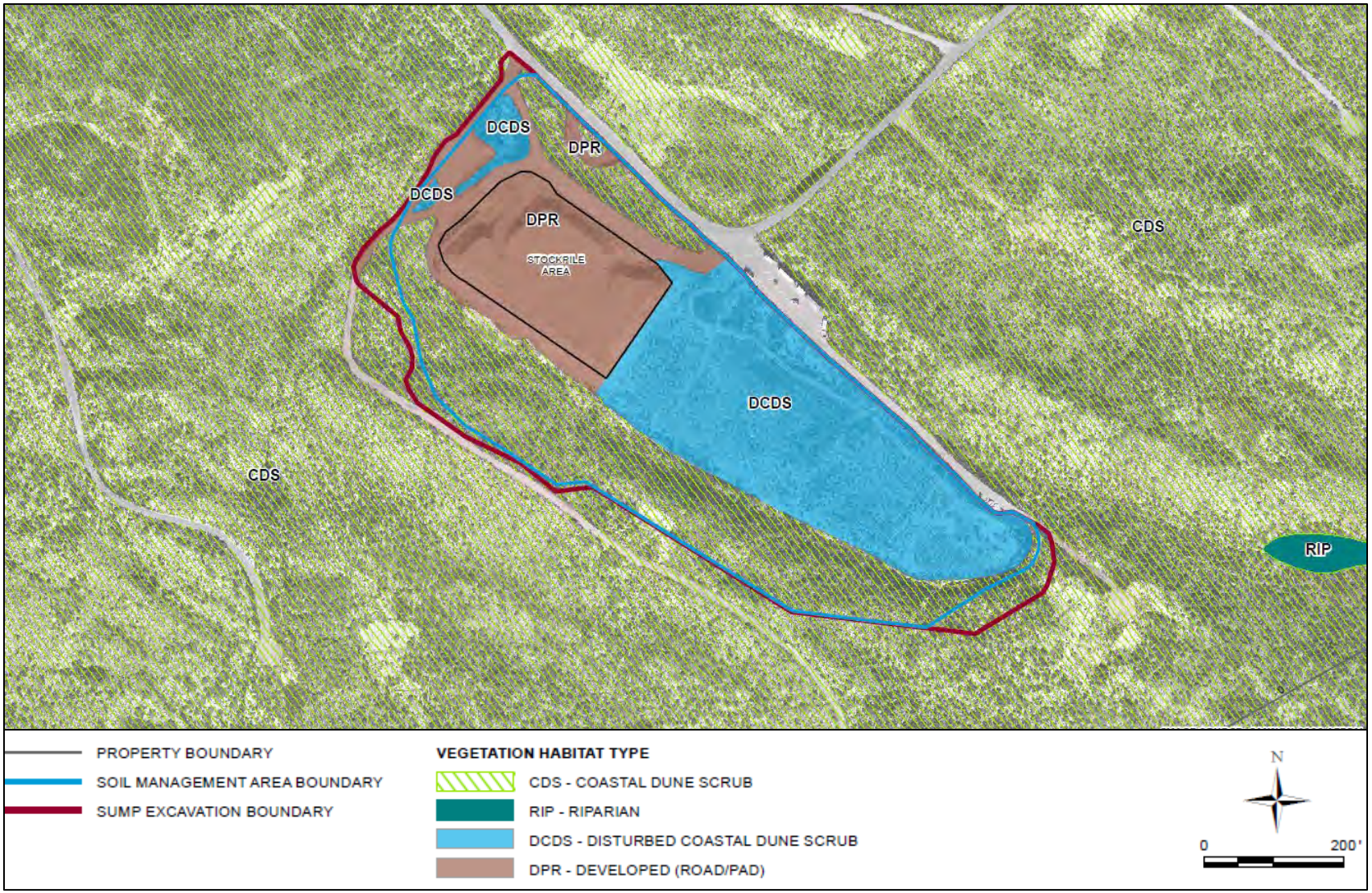
Currently, the plant communities present within the 18.1 acre Proposed SMA Project footprint is comprised of undisturbed coastal dune scrub located on the three slopes surrounding project site (3.58 acres); partially restored coastal dune scrub located in the old LTU Project footprint (10.75 acres), and disturbed habitats which include the temporary affected-material stockpile and a combination of roads, pads, decontamination pad site (3.77 acres). Figure 2 depicts the proposed SMA project footprint and distribution of habitats within and immediately adjacent to the proposed project.

1. Coastal Dune Scrub

Most of the SMA Proposed Project area supports coastal dune scrub habitat which is characterized by sand dunes supporting native shrub species such as mock heather (Ericameria ericoides), dune lupine (Lupinus chamissonis), seacliff buckwheat (Eriogonum parvifolium), and Blochman's groundsel (Senecio blochmaniae). Other native shrub species include California aster (Corethrogyne filaginifolia), coyote brush (Baccharis pilularis), Blochman's leafy daisy (Erigeron blochmaniae), California croton (Croton californicus), deerweed (Acmispon glabra), poison oak (Toxicodendron diversilobum), coastal goldenbush (Isocoma menziesii), dune mint (Monardella undulata ssp. crispa), giant coreopsis (Leptosyne gigantea), and arroyo willow (Salix lasiolepis). Herbaceous species that are commonly found in the dune scrub communities include pink sand-verbena (Abronia umbellata), sand mat (Cardionema ramosissima), suffrutescent wallflower (Erysimum insulare ssp. suffrutescens), California spineflower (Mucronea californica), horkelia (Horkelia cuneata ssp. cuneata), and Nuttall's milk-vetch (Astragalus nuttallii var. nuttallii).

The habitat within the proposed SMA Project footprint primarily consists of native coastal dune scrub and previously disturbed/partially restored coastal dune scrub. The LTU disturbance area was disturbed in 1998-1999 and was not actively restored. However, the vegetation has passively restored without management activities such as seeding or planting. The LTU disturbance area has received regular weed control over the years to prevent the spread of non-native plants into the surrounding undisturbed slopes. Most of the coastal dune scrub habitat within the LTU disturbance area has a slightly lower plant cover and different plant species composition from the adjacent undisturbed coastal dune scrub habitat. This may be a result of the age of the community or physical conditions such as difference in substrate, amount of affected material present, and the presence of the underlying HDPE lined containment. However, the area supports sufficient cover and diversity of native perennial plant species to be functionally equivalent to the adjacent undisturbed coastal dune scrub.

Figure 2 Vegetation Habitats at Soils Management Area



Source: Trihydro 2020.

Twenty-nine plant species were observed within the coastal dune scrub habitat within the SMA Project footprint, with a total absolute cover of approximately 40 percent. Of these 29 species, 16 were native perennial species with a combined estimated absolute cover of 30 percent. Four native annual species were observed with approximately five percent absolute cover. Nine non-native plant species were observed, three of which were also invasive. Non-native species contributed approximately five percent absolute cover

The eastern portion of the SMA Project site has a lower vegetative cover than the western area and is dominated by coyote bush with some clustered field sedge (*Carex praegracilis*) and spreading rush (*Juncus lescurii*) present in the understory (Padre 2018). This combination of plant species is commonly found in the buffer areas between dune swale wetlands and coastal scrub plant communities, although it is also found less commonly away from wetlands, especially in areas where soil disturbance has occurred (such as adjacent to pads, along roadsides, and in treated pad and road sites).

2. Disturbed Habitats

The upland habitats at the Field have been subject to various disturbances in the past, mostly related to historic oil field activities. The disturbed areas are mostly localized and include areas where vegetation has been removed and then subsequently used for roads, surface facilities, stockpile sites, oil well pads, and other areas that have been paved or graded to accommodate equipment or services, or areas where crude oil has been sprayed on the dunes. Areas that have been subject to more recent disturbances, such as the LTU project site, and left undisturbed for several years often become colonized by a combination of native and non-native species, especially around their periphery. Areas that have been previously disturbed and currently support vegetation do provide habitat for wildlife and special status species and are not included in this habitat category.

3. Wetland and Riparian Habitats

Wetland and riparian habitats are limited at the Field, which is why they are considered important resources supporting wildlife and contributing to the diversity of the plant communities in the coastal dune ecosystem. Within the Field, wetlands primarily consist of dune swales that support a range of plant communities or habitat types depending on depth to the water table. Habitats encountered in dune swales include ponds, freshwater marshes, willow scrub/woodlands, and mesic herbaceous plant communities that transition into the surrounding upland dune scrub. Often there is a mixture of two or more habitat types, reflecting a transition from wetter to drier conditions.

There are no dune swale wetlands or riparian habitats located within the Proposed SMA Project footprint; the closest is located approximately 1,500 feet to the northeast within the L11/M12 wetland complex. The Santa Maria River is located approximately 1,000 feet to the west of the SMA Project site. The L11/M12 wetland area is a complex of several wetland types but is predominantly herbaceous wetland with areas of seasonal ponding with one or two small groups of willows. The access road to the proposed SMA site bisects the L11/M12 wetland complex. The wetlands adjacent to the road at the base of the road bank have seasonal ponding in some years. In addition, several other dune swale wetlands are in close proximity to the haul routes which will be utilized for the SMA construction phase.

4. Invasive Species

Nine non-native plant species observed within the coastal dune scrub habitat within the SMA Project footprint, which contributed approximately five percent absolute cover (Padre 2018). Three of these non-

native species are identified as invasive in the Field including iceplant (*Carpobrotus* spp.), narrow-leaved iceplant (*Conicosia pugioniformis*), and veldt grass (*Ehrharta calycina*). The iceplant and narrow-leaved iceplant are relatively widespread through the Field but are low to moderate in cover except in a few localized areas. Veldt grass is present and relatively widespread in most of the Field but is not prevalent in the SMA Project footprint. Based upon observations in similar habitats, these non-native species have the potential to spread and dramatically increase their dominance, displacing native vegetation, especially after disturbances. However, Chevron has implemented an ongoing weed eradication program that includes continual monitoring and treatment for controlling the spread and reducing the cover of non-native and invasive plant species, especially in restoration areas.

B. Wildlife Habitats

1. Coastal Dune Scrub

The coastal dune scrub habitat provides valuable resources to numerous wildlife species. Mule deer (*Odocoileus hemionus*), brush rabbit (*Sylvilagus bachmani*), and blacktailed jackrabbit (*Lepus californicus*) are common and are frequently observed foraging throughout the Field. Rodent species, including Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), and Heermann's kangaroo rat (*Dipodomys heermanni*) are widespread and abundant and attract larger mammal predators, including, American badger (*Taxidea taxus*) (a species recognized by the California Department of Fish and Game as a "Special animal"), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*). Other large mammals include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*). Several amphibian species are expected in this habitat (most commonly in proximity to wetland habitat), including western toads (*Bufo boreas*) and western spadefoot toads (*Spea hammondii*), which burrow into the sandy soils throughout the Field, and an occasional Sierra California tree frog (*Pseudacris sierra*) or California red-legged frog (*Rana aurora*) (federally listed as threatened), which seasonally move between aquatic habitats on the Field.

Several reptile species are expected to be common throughout the Field, including gopher snake (*Pituophis catenifer*), western rattlesnake (*Crotalus viridis*), California whipsnake (*Masticophis lateralis*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and southern alligator lizard (*Elgaria multicarinata*). Backdune habitat abutting wetlands may occasionally be used as nest sites by western pond turtles (*Emys marmorata*) (Identified as Species of Special Concern [SSC] by the CDFW), which lay eggs up to 1/4 mile away from a water source. The loose sandy soils throughout the coastal dune scrub community also provide habitat to the silvery legless lizard (*Anniella pulchra*) and the Blainsville's horned lizard (*Phrynosoma blainvilli*). The Project Site is located within Coastal Dunes Unit (Unit 23) of designated CRLF critical habitat, and the majority of upland habitat on the Field, including the proposed Project Area, is considered potential dispersal habitat by the US Fish and Wildlife Service (USFWS 2005).

Commonly observed avian species in the coastal dune scrub include Bewick's wren, horned lark (SSC), white-crowned sparrow, wrentit, California quail, California towhee, loggerhead shrike (SSC), and California thrasher. Raptors and owls common to this area include barn owl, great horned owl, red-tailed hawk, golden eagle (SSC), white tailed kite (a "special" status animal), northern harrier (SSC), and American kestrel.

The coastal dune scrub habitat in the SMA Project Area provides cover, dispersal, and forage habitat for amphibian and reptile species. Amphibian and reptilian species expected within this habitat include western fence lizard, California toad, Pacific gopher snake, California striped racer and Northern Pacific rattlesnake.

The SMA Project Area provides forage and cover for most of the common mammalian species found at the Field including mule deer, coyote, and black-tailed jackrabbit. Numerous small mammal burrows of deer mice (*Peromyscus maniculatus*), Botta's pocket gopher (*Thomomys bottae*), and Heermann's kangaroo rat (*Dipodomys heermanni*) are common throughout the proposed SMA footprint.

Avian species observed using the SMA Project Area include red-tailed hawk (*Buteo jamaicensis*), California quail (*Callipepla californica*), bushtit (*Psaltriparus minimus*), house finch (*Haemorhous mexicanus*), and white-crowned sparrow (*Zonotrichia leucophrys*).

2. Disturbed Habitats

The disturbed habitats provide little food or cover for most of the wildlife species found within the GRP boundary. Roads are frequently used as thoroughfares for larger mammals such as coyotes, mule deer, gray fox, and raccoons. Berms on or adjacent to disturbed areas are often used by burrowing animals, such as kangaroo rats, snakes and lizards. Several sparrow species and California horned larks (SSC) forage along roads and pad sites. Sandy or gravelly soils associated with some roads and abandoned oil well pads provide marginal habitat for reptile species including the Blainsville's horned lizard (SSC).

3. Dune Swale and Riparian Habitats

Wildlife species expected to occur in the dune swale and riparian communities include those species described above for the coastal dune scrub habitat. The mesic swales are often characterized by open, flat areas with sparse vegetation, and could therefore, support more rodent species, such as Botta's pocket gopher, deer mouse, and California vole (*Microtus californicus*). Willows, if present and depending on their height and density, add cover, additional foraging habitat, nest sites, and natural perch sites. Standing water is often associated with dune swale habitat and would attract species similar to those that occupy the freshwater pond habitats on the Field. Although areas of ponding may be intermittent, depending on rainfall, they remain an important wildlife resource. Several wildlife species are closely associated with willow stands, including the dusky-footed woodrat (*Neotoma fuscipes*) and numerous species of amphibian and reptile species including western toads, western spadefoot toads, Sierran California treefrog, California red-legged frog, two-striped garter snake and red-sided garter snake (*Thamnophis sirtalis*). Avian species using this habitat include insectivorous birds (yellow warbler [SSC], orange-crowned warbler, yellow-rumped warbler, Wilson's warbler, black phoebe, ruby-crowned kinglet, and oak titmouse), seed eaters (white-crowned and song sparrows, house finch, and American goldfinch), and generalists (western scrub jay and American crow). Great horned owls and barn owls may roost in these habitats during the day. Cooper's hawks (SSC) may forage and roost in these areas. The willow and seasonal open water habitat on the project site also provide valuable habitat for birds migrating through the area.

C. Sensitive Habitat Types

1. Critical Habitat

Critical habitat for the La Graciosa thistle is present in the dune swales and the Santa Maria River floodplain where this species is known to occur within and adjacent to the GRP boundary (USFWS 2009).

La Graciosa thistle Critical Habitat Unit 1: Callender-Guadalupe Dunes, Subunit A: Callender-Guadalupe, San Luis Obispo County, California, overlaps nearly all of the Field, including the location of the proposed SMA. However, there are no wetlands or habitat suitable for La Graciosa thistle within the SMA Proposed project footprint.

The Project Site is located within Coastal Dunes Unit (Unit 23) of designated California red-legged frog critical habitat, and the majority of upland habitat on the Field, including the proposed SMA Project area, is considered potential upland dispersal habitat by the USFWS.

2. Sensitive Natural Communities

Several plant community classifications systems have been used to describe the vegetation within the GRP. Since the mid-1990s, CDFW and their partners, including the CNPS, have been working on classifying vegetation types throughout California using a hierarchical classification system based on plant species assemblages, as described in the *Manual of California Vegetation, 2nd edition* (MCV2, Sawyer et al 2009). However, not all areas of the state have been classified according to state standards, and CDFW acknowledges it may be appropriate to use the previously accepted CDFW classification system as described in the Preliminary Descriptions of the *Terrestrial Natural Communities of California* (Holland 1986), especially with regard to sensitive natural community types (CDFW 2020). The coastal dune scrub at the field is equivalent to Central Dune Scrub as described by Holland 1986 (Element Code 20320), which identified as a sensitive natural community. Additionally, most of the of the coastal dune scrub on the Field, including within the SMA Project a rea, is equivalent to the *Lupinus chamissonis-Ericameria ericoides* Shrubland Alliance (or dune lupine – mock heather scrub), as described in the MCV2 (Element Code 32160.00) with a State Rarity Ranking of S3. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2019, 2020). Therefore, all of the coastal dune scrub habitat at the SMA Project site is considered a CDFW sensitive natural community.

3. ESHA

All 14.33 acres of coastal dune scrub habitat within the SMA Project footprint is mapped as Environmentally Sensitive Habitat Area (ESHA). This includes both the 3.58 acres of undisturbed habitat and the 10.75 acres of habitat that was disturbed during the 1998 LTU Pilot study and was allowed to passively recover. An ESHA is defined by SLO County as a type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include coastal dune scrub habitat, wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations (SLO County 2018).
The presence and approximate boundary of coastal dune scrub within the Project footprint was confirmed by surveys conducted by Chevron biologists accompanied by the SLO County Botanical Monitor in 2019. All of the coastal dune scrub habitat (both previously disturbed and undisturbed habitat) present in the Project site contained features and natural resources that were identified by the County-approved expert as having equivalent characteristics and natural function as mapped ESHA and other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.

D. Special Status Species

The GRP supports numerous special status plant and wildlife species in a variety of habitat types. Table 1 is a list of those special status that have been observed or have the potential to occur within the project site or may potentially be affected by the SMA Project.

1. Federal and State-Listed Species

a. California Red-Legged Frog (Rana draytonii)

The California red-legged frog (CRLF) was proposed for Federal listing as endangered on February 2, 1994 (59 FR 4888). The species was listed as threatened on May 23, 1996, and the final rule became effective on June 24, 1996 (USFWS 1996). The USFWS Biological Opinion (USFWS 2005) details this species presence on the GRP and provides measures designed to protect this species during remediation activities. Adult red-legged frogs prefer dense, shrubby or emergent riparian vegetation closely associated with deep (more than 2.3 feet in depth), still or slowly moving water. Well-vegetated terrestrial areas near the aquatic habitat may provide important sheltering habitat during winter, foraging areas, and dispersal corridors. CRLF breed from November to March, with the earlier breeding records occurring in southern localities. Eggs hatch in 8 to 14 days, while larvae take 3.5 months or longer to metamorphose. CRLFs may live 8 to 10 years. The frogs disperse from breeding habitat to forage and seek resting habitat. They take cover in small mammal burrows and moist leaf litter (up to 100 feet from water) in dense vegetation and will use other cover sites when traveling overland. Adults can typically be found up to several hundred feet from aquatic habitat, and at least one individual has been recorded on the Field to move over 1.5 miles to reach known breeding habitat. After winter rains begin, red-legged frogs move away from summer habitat, primarily at night, and can travel up to one mile from those habitats. Juveniles may also disperse locally, shortly after metamorphosis in July–September and away from their natal habitats during warm rain events. In the SMA Project vicinity, this species has been observed historically at the M12/L11 wetlands; four CRLFs were observed within the bermed areas in the TB9 area in 2009 and 2010 (these berms were removed more than 10 years ago); and within the LTU stormwater basin prior to 2001 when standing water was regularly present within the basin.

b. La Graciosa Thistle (*Cirsium scariosum* ssp. *loncholepis*)

Annual surveys have been conducted at the GRP for La Graciosa thistle since issuance of the CDFW 2081 agreement (Trihydro 2020b). La Graciosa thistle occurs in several of the dune swale habitats on the Field but is not present within or near the SMA Project boundaries. This species is not expected to occur within the SMA Project site and project activities will not affect Critical Habitat for this species.

2. Non-listed Special Status Species

a. Plants

Several of the plant species that are common in the coastal dune scrub have been identified as California Rare Plant Rank (CRPR) species by the CDFW and CNPS. Suitable habitat is present for eight species, which have been observed or have the potential to occur within the SMA project area. Blochman's groundsel and Suffrutescent wallflower are common components of the dune scrub vegetation throughout the Field, including within the SMA Project site.

Table 4.1 Special Status Species Observed or with Potential to Occur within TSMA Project Area

Common Name	Scientific Name	Status Fed/State/Other	Occurrence within Project Footprint
Federally and State-Listed Species			
Wildlife			
California red-legged frog	*Rana draytonii*	T/SSC/-	No wetland habitat present: potential upland travel habitat is present in project area.
Plants			
La Graciosa thistle	*Cirsium scariosum* ssp. *loncholepis*	E/T/CRPR 1B.1	Critical habitat present, no suitable wetland habitat present project area.
Other Special Status Species			
Wildlife			
Blainville's horned lizard	*Phrynosoma blainvilli*	-/SSC/-	Habitat present, species observed within project area.
Loggerhead shrike	*Lanius ludovicianus*	BCC/SSC/-	Habitat present, species observed in project area, potential nester.
Silvery legless lizard	*Anniella pulchra*	-/SSC/-	Habitat present, species observed within project area.
Two-striped garter snake	*Thamnophis hammondii*	-/SSC/-	No suitable wetland habitat for this species present in project area, unlikely to occur.
Western spadefoot toad	*Spea (=Scaphiopus) hammondii*	-/SSC/-	No suitable wetland habitat for this species present in project area, potential upland burrowing habitat present.
Plants			
Blochman's groundsel	*Senecio blochmaniae*	-/-/CRPR 4.2	Habitat present, species observed within project area.
Blochman's leafy daisy	*Erigeron blochmaniae*	-/-/CRPR 1B.2	Habitat present, species not observed within project area but potential to occur.
California spineflower	*Mucronea californica*	-/-/CRPR 4.2	Habitat present, species not observed within project area, but potential to occur.
Coastal goosefoot	*Chenopodium littoralum*	-/-/CRPR 1B.2	Habitat present, species not observed within project area, but potential to occur
Dunedelion	*Malacothrix incana*	-/-/CRPR 4.3	Habitat present, species observed within project area.
Dune mint	*Monardella undulata* ssp. *crispacrispa*	-/-/CRPR 1B.2	Habitat present, species observed within project area.
Nuttall's milk-vetch	*Astragalus nuttallii* var. *nuttallii*	-/-/CRPR 4.2	Habitat present, species observed within project area.
Suffrutescent wallflower	*Erysimum suffrutescens*	-/-/CRPR 4.2	Habitat present, species observed within project area.

Sources: Padre, 2018; Trihydro 2020a,b.
Status:
Federal Rankings (USFWS): FE = Federally Listed as Endangered; FT = Federally Listed as Threatened; BCC = Birds of Conservation Concern.
State Rankings (CDFW): SE = State Listed as Endangered; ST = State Listed as Threatened; SSC = Species of Special Concern; WL = Watch List, CDFW 3503.5 = California Department of Fish and Wildlife Code 3503.5 (Birds of prey), SA = Included on the CDFW Special Animal List.
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).

Nuttall's milk-vetch and dune mint have a patchy distribution within the coastal dune scrub and have been reported from the project site and individuals of dundelion have been observed in the past. Although Blochman's leafy daisy, California spineflower, and coastal goosefoot have not been observed within the project area, the site supports suitable habitat for these species.

b. Wildlife

Habitat within the SMA Project Area has the potential to support four state species of special concern: loggerhead shrike (*Lanius ludovicianus*), American badger (*Taxidea taxus*), silvery legless lizard (*Anniella pulchra*), and Blainville's horned lizard (*Phrynosoma blainvillii*). Both the silvery legless lizard and Blainville's horned lizard have been recently observed within the proposed SMA Project limits of disturbance. The American badger was observed in 2000, and loggerhead shrike in 2011. Prior to 2001 when standing water was regularly present within the LTU stormwater basin, two-striped garter snakes (*Thamnophis hammondii*), and western spadefoot (*Spea hammondii*) were observed in the project vicinity on several occasions.

Appendix I

Estimated Fuel Use for Construction

Proposed Soil Management Area (SMA) Project

Estimated Fuel Use for Propose SMA Project

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 1							
1a-P1	Excavator - CAT336 at Q4 Clean OB	Excavator	315	203		8.0		1,624
	Excavator - CAT349 at TB9 Clean OB	Excavator	430	203		12.0		2,436
	Dozer - D6N at Q4 Clean OB	Dozer	173	203		5.0		1,015
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 1							
1b-P1	Excavator - CAT349 at Q4	Excavator	430	119		12.0		1,428
	Dozer - D6N at TB9 Clean Soil Grading	Dozer	173	119		5.0		595
	Dozer - D6T at TB9 Clean Soil Grading	Dozer	229	119		5.0		595
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Compactor	Compactor	157	119		4.0		476
	Clean Soil Grading at SMA, Removal and Transport of Clean Soil to Q4-Phase 2							
1a-P2	Excavator - CAT336 at Q4 Clean OB	Excavator	315	203		8.0		1,624
	Excavator - CAT349 at TB9 Clean OB	Excavator	430	203		12.0		2,436
	Dozer - D6N at Q4 Clean OB	Dozer	173	203		5.0		1,015
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	203		6.0		1,218

Proposed Soil Management Area (SMA) Project

Estimated Fuel Use for Propose SMA Project

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
1b-P2	**Final Grading of SMA and Transport of Clean Soil to SMA from Q4-Phase 2**							
	Excavator - CAT349 at Q4	Excavator	430	119		12.0		1,428
	Dozer - D6N at TB9 Clean Soil Grading	Dozer	173	119		5.0		595
	Dozer - D6T at TB9 Clean Soil Grading	Dozer	229	119		5.0		595
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	119		6.0		714
	Compactor	Compactor	157	119		4.0		476
2-P1	**Import of Materials from Offsite for Liner System-Phase 1**							
	Semi Trailer Truck		485		264,608		8.5	31,130
	Loader	Loader	248	196		5.0		980
2-P2	**Import of Materials from Sources for Liner System-Phase 2**							
	15L Semi Trailer Truck		485		264,608		8.5	31,130
	950 Loader	Loader	248	189		5.0		945
3-P1	**Subgrade Preparation-Phase 1**							
	Excavator - CAT349	Excavator	430	105		12.0		1,260
	Dozer - D6N	Dozer	173	105		5.0		525
	Dozer - D6T	Dozer	229	105		5.0		525
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Compactor	Compactor	157	105		4.0		420

Proposed Soil Management Area (SMA) Project

Estimated Fuel Use for Propose SMA Project

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
	Subgrade Preparation-Phase 2							
	Excavator - CAT349	Excavator	430	105		12.0		1,260
	Dozer - D6N	Dozer	173	105		5.0		525
	Dozer - D6T	Dozer	229	105		5.0		525
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
3-P2	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	105		6.0		630
	Compactor	Compactor	157	105		4.0		420
	Liner System Installation-Phase 1							
	Excavator - CAT349	Excavator	430	126		12.0		1,512
	Dozer - D6N	Dozer	173	126		5.0		630
	Dozer - D6T	Dozer	229	126		5.0		630
	Off Road Haul Truck - CAT740 (1)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (1)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (2)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (2)	Off Road Haul Truck	445	126		6.0		756
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	126		6.0		756
	Loader	Loader	230	126		5.0		630
4-P1	Water Truck - 4k gallon		230		37.8		8.5	4
	Pulverizer - Wirtgen WR240i	Pulverizer	619	126		12.0		1,512
	Excavator - CAT315	Excavator	99.8	112		6.0		672
	Tracked Haul Truck - RT9	Off Road Haul Truck	220	112		6.0		672
	Loader - 966	Loader	274	112		6.0		672
	Tracked Haul Truck - RT9	Off Road Haul Truck	220	112		6.0		672
	Loader - 966	Loader	274	105		6.0		630
	Manlift - 65'	Manlift	74	35		2.0		70
	Lull	Lull	111	160		4.0		640
	Loader - 966	Loader	274	280		6.0		1,680
	Compactor	Compactor	157	119		4.0		476

Proposed Soil Management Area (SMA) Project

Estimated Fuel Use for Propose SMA Project

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
	Liner System Installation-Phase 2							
	Excavator - CAT349	Excavator	430	126		12.0		1,512
	Dozer - D6N	Dozer	173	126		5.0		630
	Dozer - D6T	Dozer	229	126		5.0		630
	Off Road Haul Truck - CAT740 (1)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (1)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (2)	Off Road Haul Truck	445	126		6.0		756
	Off Road Haul Truck - CAT740 (2)	Off Road Haul Truck	445	126		6.0		756
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	126		6.0		756
	Loader	Loader	230	126		5.0		630
4-P2	Water Truck - 4k gallon				37.8		8.5	4
	Pulverizer - Wirtgen WR240i	Pulverizer	619	126		12.0		1,512
	Excavator - CAT315	Excavator	99.8	112		6.0		672
	Tracked Haul Truck - RT9	Off Road Haul Truck	220	112		6.0		672
	Loader - 966	Loader	274	112		6.0		672
	Tracked Haul Truck - RT9	Off Road Haul Truck	220	112		6.0		672
	Loader - 966	Loader	274	105		6.0		630
	Manlift - 65'	Manlift	74	35		2.0		70
	Lull	Lull	111	160		4.0		640
	Loader - 966	Loader	274	280		6.0		1,680
	Compactor	Compactor	157	119		4.0		476
	TPH-Affected Stockpiled Material at TB9 Transported to SMA-Phase 1							
	Excavator - CAT349	Excavator	430	525		12.0		6,300
	Dozer - D6K	Dozer	125	525		4.0		2,100
	Dozer - D6T	Dozer	229	525		5.0		2,625
5-P1	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	525		6.0		3,150
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	525		6.0		3,150
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	525		6.0		3,150
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	525		6.0		3,150
	Compactor	Compactor	157	525		4.0		2,100

Proposed Soil Management Area (SMA) Project

Estimated Fuel Use for Propose SMA Project

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
5-P2	**TPH-Affected Stockpiled Material at TB8 Transported to SMA-Phase 2**							
	Excavator - CAT349	Excavator	430	238		12.0		2,856
	Dozer - D6K	Dozer	125	238		4.0		952
	Dozer - D6T	Dozer	229	238		5.0		1,190
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	238		6.0		1,428
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	238		6.0		1,428
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	238		6.0		1,428
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	238		6.0		1,428
6	**Spreading of TPH Affected Soil and Addition of Amendment to Enhance Biodegradation**							
	Dozer - D6N	Dozer	178	5180		5.0		25,900
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	5180		6.0		31,080
7	**Evapotranspirative (ET) Cover Construction**							
	15L Semi Trailer Truck		485		286,244		8.5	33,676
	Dozer - D6N	Dozer	178	420		5.0		2,100
	Loader - 950	Loader	230	420		5.0		2,100
	Excavator	Excavator	336	420		10.0		4,200
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	420		6.0		2,520
8	**Final Restoration (Hydroseeding, Planting, etc..)**							
	Dozer - D6N	Dozer	178	168		5.0		840
	Skid Steer	Skid Steer	73	168		4.0		672
	Hydroseed Truck		225		372		8.5	44
							Estimated Total Fuel Use (gallons)	**301,431**
							Estimated Total Onsite Fuel Use (gallons)	**205,442**

Proposed SMA Project Key Construction Inputs (Remediation Activities and Construction of SMA)
Remediation Activities Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Estimate Fuel Use for Baseline-Excavations and Trucking to Santa Maria Landfill by Equipment and Task

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
1	**Site Preparation - Clear Vegetation and Clean Over Burden Prior to TPH-affected Soil Removal from TB9**							
	Excavator, 336	Excavator	315	329		8		2,632
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	329		6		1,974
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	329		6		1,974
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	329		6		1,974
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	329		6		1,974
2	**Excavation of TPH-affected Soil at TB9, Transportation and Stockpiling at M3 Area**							
	Excavator - CAT349	Excavator	430	1806		12		21,672
	Excavator - CAT349	Excavator	430	903		12		10,836
	Excavator - CAT349	Excavator	430	903		12		10,836
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	1806		6		10,836
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	1806		6		10,836
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	1806		6		10,836
	Skid Steer	Skid Steer	73	645		4		2,580
	Dozer - D6N	Dozer	173	1806		5		9,030
3	**Clean Soil Loading, Transportation and Backfilling of TB9 Excavation**							
	Dozer - D6N	Dozer	173	1624		5		8,120
	Excavator - CAT349	Excavator	430	1624		12		19,488
	Skid Steer	Skid Steer	73	1160		4		4,640
	Dozer - D6N	Dozer	173	1160		5		5,800
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	1160		6		6,960
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	1160		6		6,960
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	1160		6		6,960
4a	**TPH-affected Stockpiled Material (TB8) Transportation to M3 Area**							
	Loader - 966	Loader	274	2058		6		12,348
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	2058		6		12,348
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	2058		6		12,348
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	2058		6		12,348
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	2058		6		12,348

Proposed SMA Project Key Construction Inputs (Remediation Activities and Construction of SMA)
Remediation Activities Allowed Under CDP/DP D890558D Covering the Guadalupe Restoration Project

Estimate Fuel Use for Baseline-Excavations and Trucking to Santa Maria Landfill by Equipment and Task

Task	Task Equipment	Look Up Class	Engine hp	Duration (hrs)	Miles	Fuel Use (gals per hour)	Fuel Use (miles/gal)	Total Fuel Use (gals)
4b	**TPH-affected Stockpiled Material (TB9) Transportation to M3 Area**							
	Dozer - D6N	Dozer	173	742		5		3,710
	Loader - 966	Loader	274	742		6		4,452
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	742		6		4,452
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	742		6		4,452
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	742		6		4,452
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	742		6		4,452
5a	**Excavation and Transportation of Material**							
	Excavator - CAT349	Excavator	430	4900		12		58,800
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	4900		6		29,400
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	4900		6		29,400
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	4900		6		29,400
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	4900		6		29,400
5b	**Clean Soil Loading, Transportation and Backfilling of Excavations**							
	Dozer - D6N	Dozer	173	3920		5		19,600
	Excavator - CAT349	Excavator	430	3920		12		47,040
	Skid Steer	Skid Steer	73	3920		4		15,680
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	3920		6		23,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	3920		6		23,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	3920		6		23,520
	Off Road Haul Truck - CAT740	Off Road Haul Truck	445	3920		6		23,520
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	3920		6		23,520
6	**Loading and Offsite Transport to Santa Maria Landfill**							
	Offsite 15L Semi Trailer Truck-Material Truck		485		2,630,337		8.5	309,451
	Loader - 966	Loader	274	9975		6		59,850
	Dozer - D6N	Dozer	173	7125		5		35,625
	Off Road Water Truck - CAT740	Off Road Haul Truck	445	7125		6		42,750
						Estimated Total Fuel Use (gallons)		**1,068,624**
						Estimated Total Onsite Fuel Use (gallons)		**759,173**