Appendix A

Notice of Preparation and Initial Study for the Supplemental Environmental Impact Report (SEIR) for the Guadalupe Oil Field Remediation and Abandonment Project

Notice of Preparation and Initial Study for the Supplemental Environmental Impact Report (SEIR) for the Guadalupe Oil Field Remediation and Abandonment Project

County File No. – ED01-586

CEQA Lead Agency
Department of Planning and Building
San Luis Obispo County
County Government Center
San Luis Obispo, California
93408

Contact
John Nall
Department of Planning and Building
San Luis Obispo County
County Government Center
San Luis Obispo, California
93408

February 2004

Table of Contents

Introduction **1**
1.0 Proposed Project Description **2**
1.1 Affected Material Quantities and Tiers 4
1.2 Proposed Project 5
1.2.1 Offsite Trucking—Santa Maria 5
1.2.1.1 Offsite Trucking—Santa Maria: Onsite Description 10
1.2.1.2 Offsite Trucking—Santa Maria: Construction and Mobilization 10
1.2.1.3 Offsite Trucking—Santa Maria: Operations 13
1.2.2 Offsite Trucking—Other Destinations 16
1.2.2.1 Offsite Trucking—Other Destinations: Operations 17
1.2.3 Treated Material Land Feature 18
1.2.3.1 Treated Material Land Feature: Material Treatment 18
1.2.3.2 Treated Material Land Feature: Design Basis 19
1.2.3.3 Treated Material Land Feature: Site Description 19
1.2.3.4 TMLF Construction and Restoration 21
1.2.3.5 Equipment, Utilities, and Personnel 23
1.2.3.6 Post-Construction Monitoring, Maintenance, and Decommissioning 24
1.3 Required Permits and Permitting Agencies 25
2.0 Scope of the Environmental Impact Report **27**
2.1 Issue Areas with Potentially Significant Impacts 27
2.1.1 Air Quality/Odors 27
2.1.2 Biological Resources 28
2.1.3 Geology 28
2.1.4 Noise 28
2.1.5 Risk of Upset/Hazardous Materials 29
2.1.6 Transportation/Circulation 29
2.1.7 Water Resources/Flooding 29
2.2 Issue Areas with No Impacts or Less Than Significant Impacts 30
2.2.1 Aesthetic/Visual Resources 30
2.2.2 Agriculture 31
2.2.3 Cultural Resources 31
2.2.4 Energy 31
2.2.5 Fire Protection 31
2.2.6 Historical Resources 31
2.2.7 Housing 31
2.2.8 Land Use 32
2.2.9 Recreation 32
2.2.10 Public Facilities 32
3.0 Alternatives to the Proposed Project **33**
4.0 References **34**

Appendix A Potentially Significant Effects Checklist

List of Figures and Tables

Figure 1 Proposed Project Location 3
Figure 2 Santa Maria Landfill Location and Site Details 9
Figure 3 Santa Maria Landfill Refuse Layering 9
Figure 4 Site Specifics: Stockpiles, Roadwork and Future Excavations 11
Figure 5 TB8 Staging Areas 15
Figure 6 TMLF Configuration 20

Table 1 Affected Material Volumes 4
Table 2 Tier Volumes/Technology 5
Table 3 Offsite Trucking Trips Summary 6
Table 4 Mobilization Requirements 12
Table 5 Offsite Trucking : Truck Trips 16
Table 6 Equipment and Personnel 16
Table 7 Offsite Trucking Other Destinations: Truck Trips and Days of Operations 17
Table 8 Mileage to Other Waste Handling Facilities 17
Table 9 Grading Quantities for TMLF 21
Table 10 Construction Equipment and Personnel 23
Table 11 TMLF Decommissioning Personnel and Equipment Requirements 25
Table 12 Required Permits 26

Introduction

The Applicant is seeking a permit amendment to Coastal Development Permit/Development Permit (CDP/DP) D890558D to include several treatment/disposal methodologies that may be necessary to complete the remaining Phase I remedial projects under Cleanup and Abatement Order (CAO) 98-38. These treatment/disposal methods were not evaluated in the Final Environmental Impact Report (FEIR) and therefore are not permitted under the current CDP/DP.

The main goal of the Supplemental EIR (SEIR) is to evaluate and compare the environmental impacts of a variety of soil treatment and disposal methods that can then be combined in such a manner as to optimize treatment and disposal options, while maximizing protection of the environment. As part of this project the Applicant would also be requesting a number of modifications to existing CDP/DP conditions. Some of the requested changes may have to undergo environmental review. The type and extent of the environmental review would be dependent on the requested changes to the permit language.

1.0 Proposed Project Description

The Guadalupe Oil Field (Field) occupies over 2,700 acres of the larger Guadalupe-Nipomo Dunes Complex and is located on the Central California Coast in San Luis Obispo and Santa Barbara Counties, as shown in Figure 1.

The principal land use at the Field, from 1946 to March 1994, was the production of oil and natural gas. In the 1950s, a petroleum hydrocarbon referred to as diluent was introduced at the Field to assist in the production and transportation of the heavy crude oil. Diluent use ceased in 1990. Over the years, diluent was released from the pipelines and storage tanks, and diluent plumes are now present in soils and groundwater at the Field. Assessment activities to characterize and delineate the underground hydrocarbons and pilot studies to test the effectiveness of various remediation methods have been conducted at the Field.

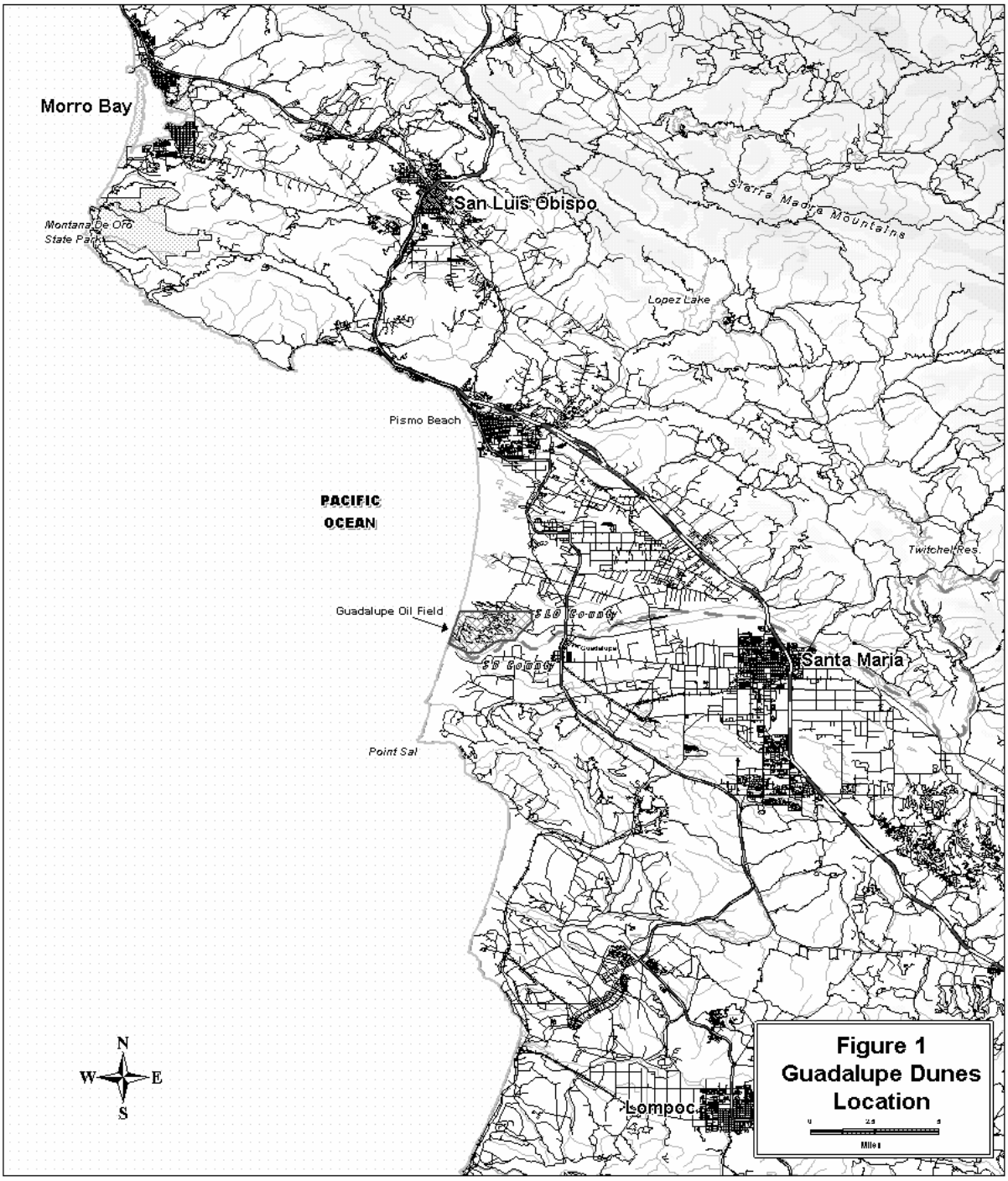
In March 1998, the County of San Luis Obispo (County) certified an EIR that evaluated and determined mitigation measures for remedial actions, including excavation of diluent plumes and treatment methods for the excavated material. Several treatment methods were evaluated in the EIR, including the use of a Thermal Desorption Unit (TDU) and a Land Treatment Unit (LTU). Subsequently, the Regional Water Quality Control Board (RWQCB) issued CAO 98-38, mandating remediation actions such as the excavation of specified plumes and sumps.

Since certification of the EIR, modifications to project elements included in the EIR have been evaluated through substantial conformance reviews. A substantial conformance review evaluates a modified project to ensure that the impacts and mitigation measures were adequately considered in the existing environmental review/permit, or determines if new or substantially greater impacts would be caused, requiring additional environmental review, such as an Addendum, a Supplemental EIR or a new EIR. To date, the County has determined that various project modifications, such as sump excavations and modified plume configurations, were in substantial conformance with the original project.

Unocal developed the project and obtained permits with the assumption that a LTU would be used to treat excavated material for reuse as backfill in subsequent excavations. Unocal conducted LTU pilot studies and began to process permit applications for the construction and operation of a LTU. In 2000, Unocal submitted an application to the RWQCB for Report of Waste Discharge Requirements (ROWD) and a Project Description to the County for a substantial conformance review. The processing of these LTU applications/reviews generated many agency questions, highlighting the need for additional information.

Screening level bioassays of leachate from LTU-treated material indicated that there may be some level of remaining toxicity that could be transferred to water in contact with the treated soil. Since the reuse of treated material as backfill for excavations would involve placement in saturated conditions adjacent to wetland areas, Unocal elected to pursue other treatment/disposal methods rather than undertake the additional studies that would be needed to determine the source and longevity of the potential toxicity from treated soil in saturated conditions.

Figure 1 Proposed Project Location



The excavation of plumes and sumps at the Field pursuant to emergency orders and CAO 98-38 has been ongoing. As an interim measure while the LTU was undergoing development and permitting, plumes and sumps were excavated, the material stockpiled onsite, and sand from the Q12 and Q4 active dunes was used for backfill. Without a permitted treatment/disposal method for the material excavated to date, the feasibility of reusing LTU-treated material for backfill uncertain, and the numerous factors (treatment standards, feasibility, agency concerns) that are still unknown for the potential treatment/disposal methods, Unocal and the agencies collectively agreed that the excavations should be suspended until a treatment/disposal method is determined, permitted, and implemented. It was also decided that the most expedient path to an acceptable method is to conduct environmental reviews for several feasible treatment and disposal methods; hence, the preparation of this SEIR.

1.1 Affected Material Quantities and Tiers

To determine the quantities of material that should be considered for each treatment or disposal method, the sump and affected material have been separated into categories. All sump material from both previous and future excavations is called Category A material (approximately 200,000 cubic yards [cy]). Sump material is not considered suitable for treatment.

Diluent-affected material has been separated into Categories B and C. Category B includes material from previous excavations (approximately 380,000 cy) most of which is currently stockpiled at TB8. Category C includes the estimated 280,000 cy of diluent-affected material anticipated from future excavations.

A breakdown of the source and quantity of material in each Category is shown below. Table 1 shows the estimated volume of material from each source, including an additional 10% contingency factor (33% for sump material from future excavations). This contingency factor has been added to account for the degree of uncertainty in the volume estimates and ensure that the estimates are conservative and should not require additional review when the excavations commence.

Table 1 Affected Material Volumes

Description	Quantity (cy)	Contingency Factor	Total (cy)
Category A Materials (Sump Material)			
TB9 Stockpiles	25,003	10%	*27,503*
Material Used at TB9	30,860	10%	*33,946*
LTU Buffer	2,460	10%	*2,706*
Future Excavations	96,790	33%	*128,730*
Sub Total (Category A Material, rounded)			200,000
Category B Material (Diluent Affected Materials Currently Stockpiled)			
LTU Pilot/Demo	12,480	10%	*13,728*
TB8 Stockpile	334,514	10%	*367,965*
Sub Total (Category B Materials, rounded)			380,000
Category C Material (Diluent Affected Materials Remaining to be Excavated)			
Future Excavations	251,977	10%	*277,174*
Sub Total (Category C Materials, rounded)			280,000
Backfill Requirements			

Table 1 Affected Material Volumes

Description	Quantity (cy)	Contingency Factor	Total (cy)
Category A Material	96,790	33%	*128,730*
Category C Material	251,977	10%	*277,174*
		Sub Total Backfill Requirements	410,000

1.2 Proposed Project

Unocal currently is proposing the trucking of materials to the Santa Maria Landfill as the proposed project. In addition, there are two other methods which are being detailed herein to a permit level of detail. These include the trucking of materials to other permitted waste disposal sites and the reuse of treated material onsite in a Treated Material Land Feature (TMLF).

For the trucking offsite aspects of the project, three tier volumes of material are considered. Tier 1 considers only trucking of the sump materials. Tier 2 considers trucking of all of the excavated material except that which would be treated for reuse as backfill. (To ensure a conservative evaluation of trucking quantities, the volumes of backfill need for future excavation of 96,790 cy for sumps and 251,977 cy for diluent plumes (without contingencies) were assumed for onsite use Any future excavated material would need to be treated prior to reuse. Tier 3 considers trucking of all 860,000 cy of material.

For the TMLF, two tiers of material quantities are considered. Tier 1 considers use of the maximum volume of diluent-affected material that would be treated onsite, but not reused for backfill, or approximately 410,000 cy (this includes a contingency to consider the possibility of reducing the quantity of backfill to restore some areas to wetlands). Tier 2 examines treatment of all of the diluent-affected material (Category B and Category C materials), or approximately 660,000 cy. The 200,000 cy of sump materials would be transported offsite.

Table 2 shows the volume in each Tier for the treatment and disposal methods.

Table 2 Tier Volumes/Technology

Tier	TMLF (CY)	Trucking (CY)[1]
1	410,000	200,000
2	660,000	510,000
3	N/A	860,000

Note: [1.] Red rock/road base and aggregate from excavation and screening activities is assumed to be within the contingencies provided for each Tier under Trucking.

1.2.1 Offsite Trucking—Santa Maria

For offsite trucking to the City of Santa Maria Landfill, trucks would be brought onsite and loaded with hydrocarbon-affected material. These trucks would then travel to a permitted offsite solid-waste handling facility located in the City of Santa Maria where the affected material would be offloaded. The objective of this project is to remove the affected material from the environmentally sensitive areas of the field and move it to a location where it can be contained and controlled.

Between 200,000 and 860,000 cy of affected material may be hauled offsite (see Tier discussion above). Other treatment or handling methods would be employed for Tier 1 and 2 volumes for the materials not transported. To ensure that the impacts are fairly assessed for different quantities that may be trucked offsite, three different quantities, or tiers, of hydrocarbon-affected material are considered in this description.

It is anticipated that approximately 22,000 cy of red rock/road base material would also be removed and trucked offsite in conjunction with excavation activities, regardless of the treatment/disposal method implemented for the hydrocarbon-affected material. The offsite trucking of this red rock/road base material is included in this project description.

Aggregate from screening activities may be generated onsite during excavation and treatment/disposal activities. The overburden from an excavation site may be screened to remove rocks and/or asphalt chunks before it is reused. Land treatment may require removal of large particles from the material before it can be processed. These would also require transportation offsite. It is estimated that an additional 10,000 cy of aggregate could be removed from the site if screening is conducted.

It is anticipated that any quantity of red rock/road base or aggregate material generated from excavation or screening activities is accounted for within the contingency provided for the three trucking Tier volumes. Material that is transported offsite could be taken to the Santa Maria Landfill, to another permitted waste disposal facility, or to an offsite location within San Luis Obispo or Santa Barbara Counties for beneficial reuse.

Offsite trucking could generate a maximum of 150 round trips per day to the Santa Maria Landfill during short-term peak periods of activity (for a maximum of 300 one-way trips per day). Average daily trips for a two and four year duration of trucking are shown below. It is anticipated that 18-wheel dump trucks, 10-wheel dump trucks, or equivalent would be used for trucking operations. These trucks have a capacity ranging from 8–18 cy (11 to 25 tons of affected material). The most likely quantity per truck trip would be an average of 16 cy (22 tons).

Table 3 Offsite Trucking Trips Summary

	Average Number of Truck Round Trips			
	Duration–2 Years		Duration–4 Years	
	Per Day	Per Hour	Per Day	Per Hour
200,000 cy	25.0	3.1	12.5	1.6
510,000 cy	63.8	8.0	31.9	4.0
860,000 cy	107.5	13.4	53.8	6.7
Maximum peak short-term rate	150.0	18.8	150.0	18.8

Notes: Round Trips (for total one-way trips, multiply by 2), 16 cubic yard loads average, 8-hour work day, 5 days per week, 50 weeks per year

In accordance with Title 27, which contains provisions to use contaminated soils to construct foundation layers for landfill closure, the Regional Water Quality Control Board (RWQCB) issued Revised Waste Discharge Requirements (WDR) Order No. 01-041 on May 18, 2001 to

the Santa Maria Landfill. WDR 01-041 provides guidelines for the acceptance of Nonhazardous Hydrocarbon-Impacted Soils (NHIS or impacted soils) from the restoration and cleanup of oil producing sites. These plans were addressed in a Joint Technical Document (JTD) prepared by CH_2MHill and evaluated in the CEQA addendum to the 1993 Landfill EIR (SCH 92031045).

According to the JTD, accepting impacted soils is consistent with the Landfill's intent to implement an expedited closure process at the landfill by using the NHIS: 1) to achieve design grades and serve as the foundation layer of the final cover system for the existing active portion of the landfill, and 2) for daily and intermediate cover material in the lined expansion areas of the landfill. The EIR Addendum identified no significant impacts associated with the use of NHIS. The acceptance criteria for the impacted soils are addressed in the Santa Maria Landfill EIR Addendum Appendix B.

The Santa Maria Landfill began accepting NHIS in early 2003. As discussed in the Joint Technical Document, specific screening of the impacted soils is performed by the Santa Maria Landfill to determine its conformance to the RWQCB's acceptance criteria for each source of material entering the site. Only nonhazardous impacted soils meeting the acceptance criteria are accepted for disposal in the landfill.

Impacted soils are initially being placed to obtain design grades and serve as the foundation layer for the final cover system for the active portion of the landfill. Impacted soils from the Field would be placed only in locations of the Santa Maria Landfill that have a liner and leachate collection and removal system, perimeter containment (such as containment berms), storm water controls, and a final cover, all designed and constructed to meet current applicable landfill standards. WDR 01-041 requires, at a minimum, the following final cover system for portions of the Active Area that will not utilize irrigation for any post-closure reuse choices:

- Foundation Layer with a minimum thickness of two feet,
- Low Permeability Layer with a minimum thickness of one foot of soil with permeability less than or equal to $1x10^{-4}$ cm/sec,
- Vegetative Layer with a minimum thickness of two feet, resistant to erosion while maximizing sheet flow runoff from the site, planted and maintained to minimize erosion and protect the underlying low permeability layer. (At the request of the RWQCB, the Santa Maria Landfill will provide a 3-foot thick vegetative layer.)
- An alternative engineered design as protective of water quality and satisfying cover design requirements stated in Title 27 and 40 CFR § 258 may be substituted if approved by the Executive Officer.

WDR 01-041 also allows for future use, with prior approval from the Executive Officer, of impacted soils for daily and intermediate cover material in the proposed expansion areas of the landfill. Per WDR 01-041, areas outside the present Active Area footprint will not receive waste unless the area is equipped with the following containment system (per the WDR, the redundant composite liner system is restrictive, but provides enhanced water quality protection appropriate for the challenging geologic and hydrogeologic conditions specific to this site and is consistent with requirements for sites with similarly extreme siting conditions throughout the state):

- A groundwater break/subdrain placed beneath and protecting the liner system from contact with the highest historic and anticipated groundwater elevations for the location. This subdrain will be considered the top of the groundwater surface, above which will be the requisite 5-foot separation between groundwater and waste as stated in Section 20240, Title 27.
- Above the subdrain system, a composite liner with a leak detection layer and a leachate collection and removal system with the following components:
  - Lower: Minimum 2-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec,
  - Upper: minimum 80-mils HDPE, installed in direct and uniform contact with the lower component,
  - A Leak Detection and Removal System (LDRS), comprised of a drainage layer overlain by a 60-mil HDPE geomembrane. Drainage will be directed to a collection pipe into a tank for removal, volume measurement and testing. If liquid is found in the LDRS, the RWQCB will be notified immediately and a corrective action plan will be developed.
  - A Leachate Collection and Removal System (LCRS), designed to direct leachate to a collection point/sump and be removed to a holding tank for removal, volume measurement and testing. A minimum 24-inch thick protective soil layer shall be placed above the LCRS and liner system.
  - An alternative design will be considered for bottom and side slope liner areas. Alternative designs must satisfy the performance criteria in 40 CFR § 258.40(a)(1) and (c), and satisfy the criteria for an engineered alternative to the above Prescriptive Design, as provided by CCR Title 27 § 20080 (b). Performance of the alternative composite liners' components, in combination, shall equal or exceed the waste containment capability of the Prescriptive Design, as outlined above.
- Prior to the construction of any new cell, basic critical siting conditions, including but not limited to, liquefaction potential, seismicity and active faulting, and seismic stability shall be evaluated. These evaluations shall be completed to the satisfaction of the Executive Officer and included with the Expansion Area design report.

Diagrams of the Santa Maria Landfill site and the typical final cover cross section (Figures 2 and 3) from the Final EIR, Santa Maria Regional Landfill, Site Facility Permit dated October 1993 by Fugro-McClelland (West), Inc, SCH 92031045 are shown below.

Figure 2 Santa Maria Landfill Location and Site Details

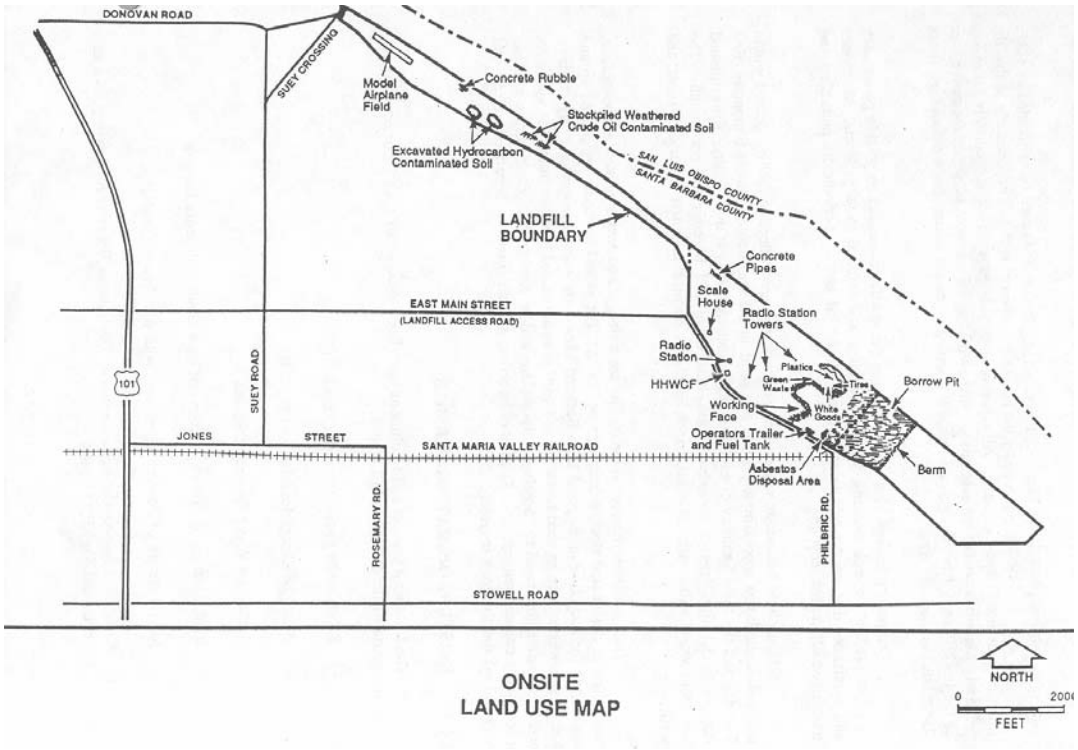
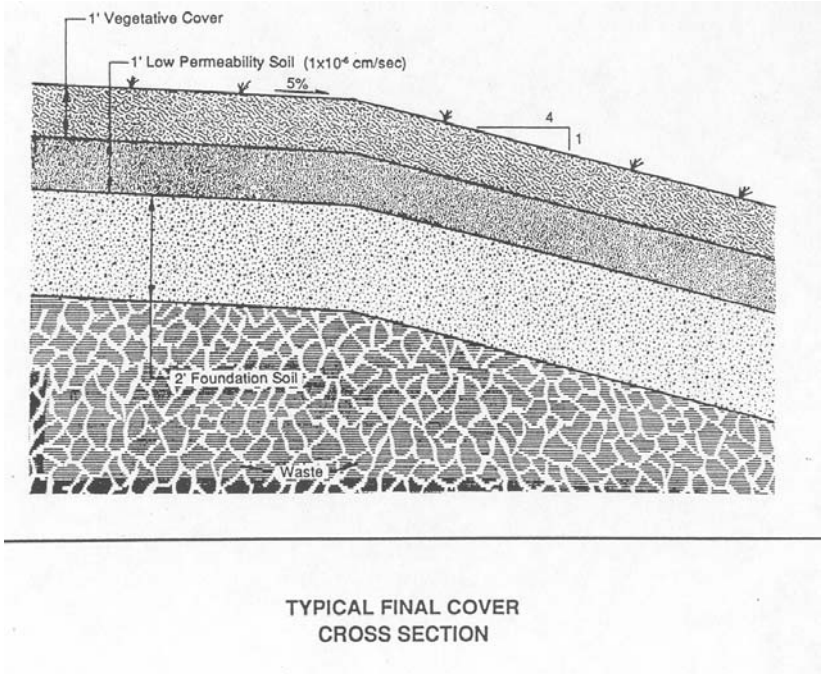


Figure 3 Santa Maria Landfill Refuse Layering



1.2.1.1 Offsite Trucking—Santa Maria: Onsite Description

Loading of trucks onsite would occur at the current stockpile sites and, if feasible, at excavation sites, as shown on Figure 4. Additionally, material may be loaded from screening operation sites. Loading of trucks would be accomplished with loaders, excavators and bulldozers or equivalent equipment. Loading sites would also include portable scales for weighing the loaded trucks and an area for cleaning the trucks (dry decon) before they leave the site.

Affected material is currently stockpiled or placed in two locations onsite: TB8 and TB9. Truck loading operations at TB8 and TB9 would require approximately 1 to 2 acres at each site. There are several locations at TB8 and TB9 within the existing disturbed areas that would be suitable for loading operations so it is not anticipated that any additional site disturbance would be required.

Sites of the remaining excavations required by CAO 98-38 are shown in the Figure 4. If feasible, trucks for offsite trucking would be loaded directly at the excavation sites. The feasibility of direct loading from an excavation is dependant on the maneuverability of the trucks within the defined limits of disturbance at each site. Limits of disturbance would not be expanded strictly to accommodate loading of trucks. If trucks cannot be direct-loaded at the excavation site, excavated material would be hauled to TB8, TB9, or another established truck-loading area.

Material may also be loaded from the site of portable screening operations. If truck loading is done at a screening operation site, it would be done within the established screening area so that no additional area would need to be disturbed.

While onsite, trucks would travel to and from loading sites on the existing paved roads. The majority of truck traffic within the site would be on the Main Road or the TB9 Road. Other roads may be employed as needed for traffic control and safety. Prior to operations, road repairs/repaving/widening may be completed. Figure 4 shows the system of roads and well pads on the site and indicates the anticipated areas where widening may be needed.

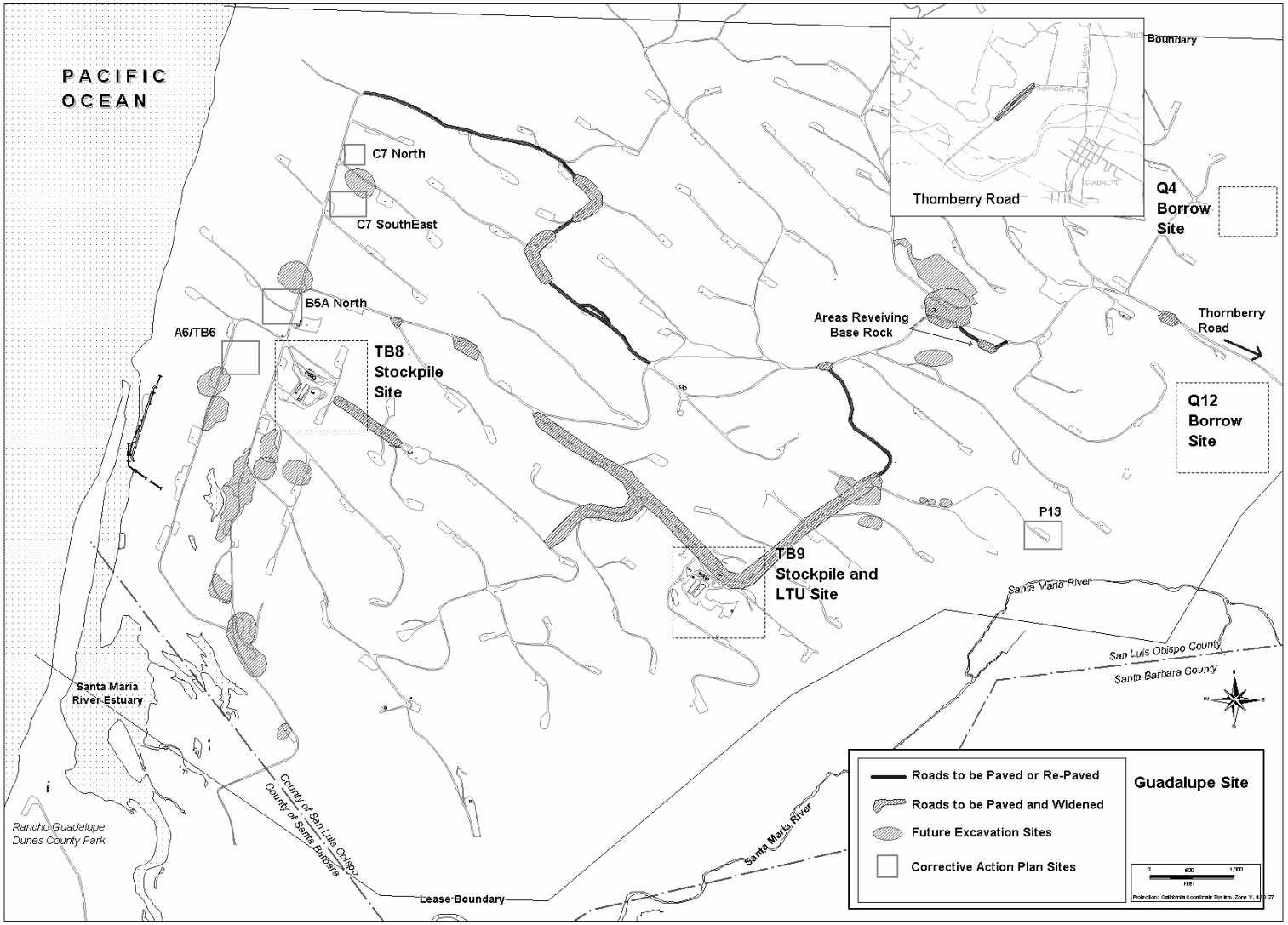
1.2.1.2 Offsite Trucking—Santa Maria: Construction and Mobilization

Since truck loading would take place within already disturbed areas (stockpile, screening, or excavation sites), construction activities directly related to the offsite trucking operation would be minimal. "Construction" activities would largely consist of mobilization, or transporting the equipment needed for the loading operations to the loading site. Mobilization activities would be comparable for any volume of material hauled offsite, except that additional loading sites may be needed if material is hauled from multiple stockpiles and/or excavation sites.

It is anticipated that no more than three separate loading sites would be established concurrently. Only two sites (TB8 and TB9) would need additional equipment for loading that requires mobilization specifically for trucking activities. Other sites would have equipment available from other activities, such as excavation.

Table 3 and the discussion below addresses the needs for a single loading site; this information should be multiplied if additional concurrent loading sites are used.

Figure 4 Site Specifics: Stockpiles, Roadwork and Future Excavations



Description of Work

Equipment necessary for the truck loading operations may include front-end loaders, bulldozers, excavators and/or similar equipment. If it is not already onsite to support excavation activities, equipment would be brought onsite using haul trucks, trailers, or equivalent equipment. No new utility infrastructure would be needed for the trucking operation.

Prior to the start of hauling on Thornberry Road, repairs may be needed. It is anticipated that soft spots in the road would be repaired and the road overlaid with 2 inches of asphalt. To allow staging of trucks outside the gate, about 0.5 miles of Thornberry Road may be widened ten feet. Road widening is dependent on available County right-of-ways.

Road widening and re-paving would also be conducted on roads in the field as needed. Figure 4 shows the roads that may be widened and paved and those that may be re-paved only. Base rock may also be placed on some existing pads/staging areas. An estimated 7,000 feet of roads may be re-paved only and an estimated 9,400 feet of roads may be both widened and then re-paved. This would be done for both the truck-transport and the TMLF methods.

Time Schedule

Approximately 5 days would be required for mobilization and setup of the first loading location. Mobilization of equipment onsite would involve one round trip by each haul truck/trailer for each piece of heavy equipment needed specifically for the loading/trucking operations.

If multiple loading sites are used consecutively, brief delays in operation may be experienced to demobilize equipment from the first site and move it to the next. It is anticipated that mobilization would be planned around loading operations, so delays would not affect the overall schedule of the offsite trucking operation.

Equipment, Personnel Description

Equipment and personnel involved in setup for the trucking operation are shown below:

Table 4 Mobilization Requirements

Task	Equipment/Personnel	Quantity	Duration of Initial Setup	
			Days	Hours/Day
Set up loading area	Haul trucks/trailers	6 trips		
Onsite road work	Excavator	1	3	10
	Loader	1	3	10
	Grader	1	5	10
	Water tuck	1	5	10
	Dump trucks–offsite Base/AC	120 trips		
	Paving spreader	1	2	10
Repair Thornberry Road	Dump trucks–offsite AC	110 trips		
	Grader	1	1	10
	Compactor	1	3	10
	Broom	I	1	10
	Water truck	1	5	10

Table 4 Mobilization Requirements

Task	Equipment/Personnel	Quantity	Duration of Initial Setup	
			Days	Hours/Day
	Asphalt spreader	1	3	10
	Flatbed truck	1	5	10
	Tack oil truck	1	3	10
Widen Thomberry Road (0.5 miles x 10 feet)	Dump trucks–offsite Base/AC	60 trips		
	Grader	1	2	10
	Compactor	1	2	10
	Loader	1	4	10
	Water truck	1	4	10
	Asphalt spreader	I	1	10
	Broom	1	1	10
	Dump trucks, spoil material	30 trips		
	Tack oil truck	1	1	10
Total Duration (days)			14	

Equipment would likely come from either San Luis Obispo or Santa Barbara County, depending on contractor availability. It is anticipated that materials and equipment would come from within a 60 mile radius of the site.

1.2.1.3 Offsite Trucking—Santa Maria: Operations

The proposed project is to haul the material to the City of Santa Maria Landfill at 2065 E. Main Street. This facility is located in Santa Barbara County, approximately 16 miles from the Field. The estimated requirement for foundation and interim cover in the landfill is 5,000,000 cy. The sequence of operations for the offsite trucking operation are;

1. Load affected materials
2. Travel to a permitted waste handling facility
3. Offload affected material
4. Return to site for reloading

Each of these is discussed in more detail below.

Loading of affected material would take place onto trucks at specified loading sites or, if feasible, at excavation sites. It is anticipated that 18-wheel dump trucks, 10-wheel dump trucks, or equivalent would be used for trucking operations. These trucks have a capacity ranging from 8–18 cy (11 to 25 tons of affected material). The most likely quantity per truck trip would be an average of 16 cy (22 tons).

Trucks would be loaded with front-end loaders or equivalent equipment. Bulldozers, excavators and/or similar equipment would be used to manipulate the affected material stockpiles as necessary for loading. It is anticipated that truck loading would be during daylight hours, 5 days a week, 50 weeks a year. Trucks may stage along Thornberry Road if necessary.

During loading, trucks would be weighed using portable scales to help ensure they are not loaded above safe capacity. To reduce dust during transport, tarps or other covers would be placed over the affected material in the trucks prior to their departure from the site. Some trucks may have built-in cover assemblies; others may require installation of covers by hand. Water trucks would spray traffic areas for dust control during loading operations.

Affected material would be hand broomed from truck exteriors and removed from tires using rumble mats. (Rumble mats, or tread spreaders, are pads with a textured surface that separates the tread of the tires as the truck is driven over them. This allows the affected material to fall out of the treads onto the mats.) The mats would be of sufficient length to allow at least one complete revolution of the tires.

When loading activities and associated affected material stockpile management operations cease for more than 24 hours, or as otherwise required by the Air Pollution Control District (APCD), Soil Sement® or other approved vapor control would be applied to disturbed stockpile areas.

Travel to an approved offsite solid-waste handling facility. The trucks would drive to the waste handling facility or facilities via the route(s) selected. The route selected for the proposed project is south on Highway 1, East on Highway 166, South on Simas Street or Black Road, East on Betteravia and North on Philbric Road to the Santa Maria Landfill. Other routes may be used for contingency only. A Traffic Control Plan is in place for current operations related traffic on and offsite. This plan would be amended as necessary to include traffic related to offsite trucking. Pursuant to the 1998 EIR findings, project related traffic would be restricted from travel on Route 166 between Highway 1 and Highway 101 between the hours of 4:30 pm and 5:30 pm.

Offload affected material at the approved facility. After the affected material is offloaded, debris would be removed from the truck exterior and tires as needed, most likely using methods comparable to those for onsite activities.

Return to site for reloading. Trucks would return to the site by reversing their route to the solid-waste handling facility. It is anticipated that each truck can complete up to five round trips per day.

Staging may be available along Thornberry Road, if it can be widened ten feet. Truck staging would be also done onsite at TB8 or other available locations. Figure 5 shows the anticipated staging and loading layout at TB8. The trucking contractor would be required to maintain responsible procedures and spacing.

While the trucks are onsite, standard traffic safety procedures would be in place. It is anticipated that, when offsite trucking is the only operation ongoing at the site, no traffic control would be needed. When concurrent operations are underway, such as excavation concurrent with offsite trucking, flaggers or other traffic control would be utilized to direct traffic safely.

Table 5 below illustrates the number of trips required for the range of truck capacities, and the three tiers of affected material (the red rock/road base/aggregate volumes are anticipated to be within the contingencies provided for each tier). The actual number of trips required to complete the trucking operation would likely be within this range. Estimates assume a maximum peak rate of 150 truck round trips (300 one-way trips) per day.

Figure 5 TB8 Staging Areas

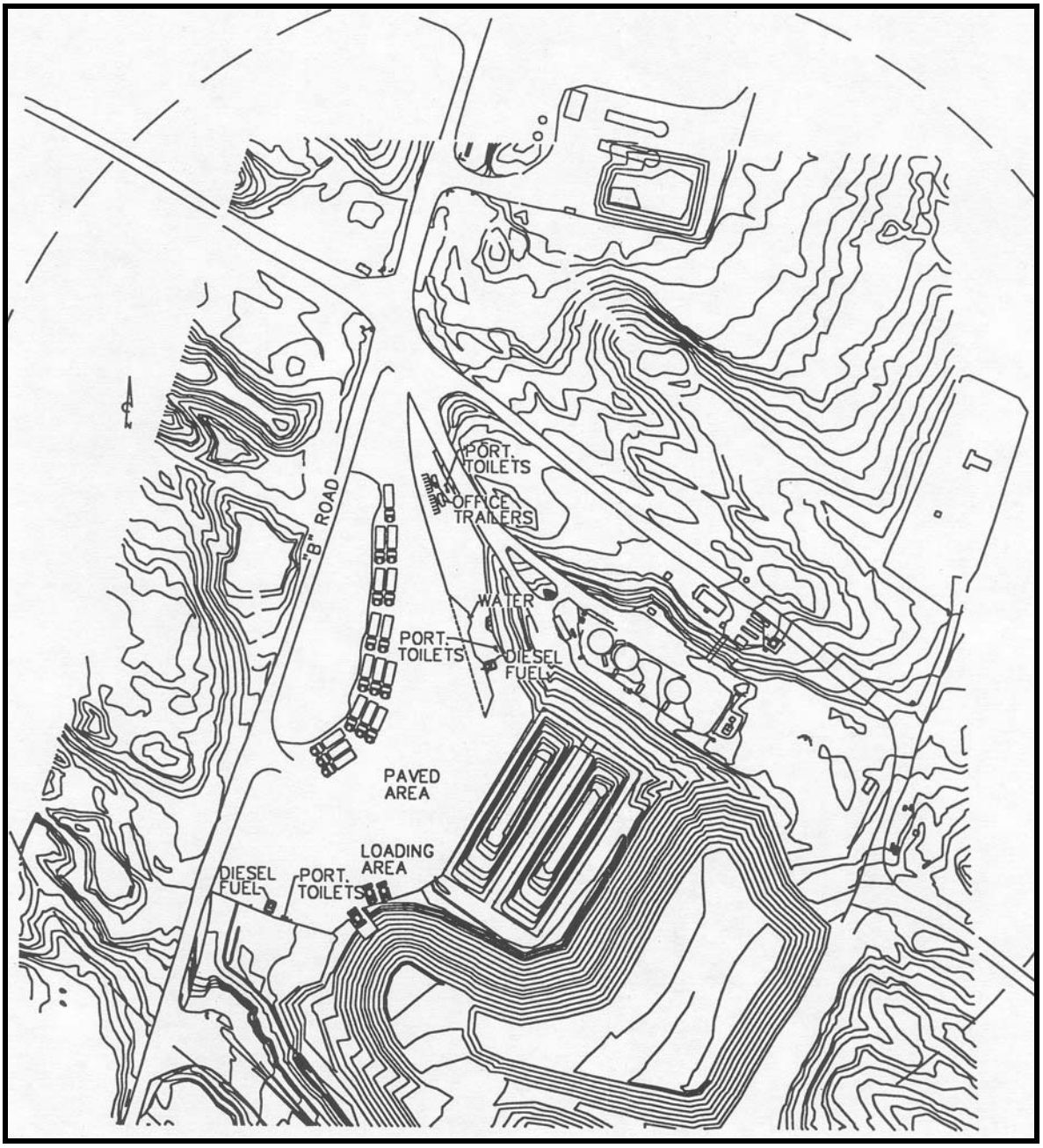


Table 5 Offsite Trucking : Truck Trips

Tier	Quantity (cubic yards)	Truck Trips Required	
		8 cubic yards minimum per trip	18 cubic yards maximum per trip
Tier 1	200,000	25,000 trips	11,111 trips
Tier 2	510,000	63,750 trips	28,333 trips
Tier 3	860,000	107,500 trips	47,779 trips

Equipment and personnel involved in offsite trucking operations are shown below.

Table 6 Equipment and Personnel

Task	Equipment/Personnel	Quantity	Duration/day (hrs)
Load Trucks	Komatsu PC600 Excavator	1	8
	D8R Dozer	1	8
	Front-End Loader	1	8
	Water Truck	1	3
	Soil Semento Applicator	1	As needed
	Portable Scales	1	8
	Light Plants with diesel Generators, <50 hp	2	As needed
Decontaminate Trucks	Brooms, Sweeping personnel	As needed	8
	Rumble Mats	1	8
Travel to and from solid-waste handling facility	Trucks, drivers	each	See truck trips and equivalent mileage above

Utilities used during loading operations would include water for the water trucks and Soil Sement® to apply as needed. Additionally, lights or light plants with less than 50 horsepower (hp) generators may be used if loading operations are performed beyond daylight hours.

Any diesel fuel stored at the Field to fuel vehicles and/or equipment would have secondary containment and be kept in a secured area.

Project demobilization for offsite trucking activities would be minimal, and similar to mobilization efforts. If multiple loading sites are established, multiple demobilization efforts could be necessary, potentially resulting in a brief delay in demobilization operations from one site to the next.

1.2.2 Offsite Trucking—Other Destinations

Destinations other than the Santa Maria Landfill for the offsite trucking would include:

- Clean Harbors Environmental Services Facility at Buttonwillow
- Waste Management at McKittrick or Kettleman Hills

Offsite trucking for these destinations would have the same elements of site description, mobilization and onsite operations as the Santa Maria option. However, the distances of travel would be greater and the number of truck trips per day would be less. These two areas are discussed below.

1.2.2.1 Offsite Trucking—Other Destinations: Operations

Operations for the other destinations would be similar to the Santa Maria Landfill project description. However, only a maximum of 2 trips per day per truck is assumed due to the greater distances. In addition, all of the other destinations have a maximum amount per day that they would accept. This limits the number of trips that can be made to each of the facilities. The table below shows the number of truck trips and the landfill limitations for each of the Tiers and the destinations.

Table 7 Offsite Trucking Other Destinations: Truck Trips and Days of Operations

	Quantity (cubic yards)	Buttonwillow	McKittrick	Kettleman
Maximum Amount Allowed at the Facility per day		1600 cy	785 cy	430 cy
Max Daily Truck Trips - 8/18 cy/truck		150/89	99/44	54/24
Tier 1	200,000	167/125 days	255 days	466 days
Tier 2	510,000	425/319 days	644 days	1181 days
Tier 3	860,000	717/538 days	1096 days	2000 days

Distances for the other destinations are shown below along with the respective distances within each County.

Table 8 Mileage to Other Waste Handling Facilities

Option	Facility Name	Total Miles (One Way)	Miles Traveled in Each County			
			San Luis Obispo County	Santa Barbara County	Kern County	Kings County
Option 1, Route 1	Waste Management, McKittrick/ Buttonwillow	130/137	66	25	39/46 (McKittrick/ Buttonwillow)	
Option 1, Route 2	Waste Management, McKittrick/ Buttonwillow	133/140	52	42	39/46 (McKittrick/ Buttonwillow)	
Option 2	Waste Management, Kettleman Hills	117	87		10	20

1.2.3 Treated Material Land Feature

TMLF would be constructed using diluent-affected excavated material that has been treated to a treatment standard determined by the Regional Water Quality Control Board (RWQCB). The proposed treatment method is the bioremediation in a land treatment unit (LTU) method. The TMLF objective is for onsite reuse of treated sand where it is needed for restoration, in an aboveground area where the material would not be placed directly into saturated soils or environmentally-sensitive areas.

A silt/clay-amended layer and a vadose zone/groundwater monitoring system may already be in place if a TMLF is a post-LTU feature. The lead oversight agency for treatment standards and groundwater considerations of the TMLF would be the RWQCB. After review of the proposed project, the RWQCB would present guidelines and conditions governing aspects of the TMLF that relate to treatment and groundwater issues.

Treated material could also potentially be used for other beneficial reuse, such as backfill. Using treated backfill at one or more of the remaining CAO excavations is possible in lieu of backfilling with Q4 borrow material.

1.2.3.1 Treated Material Land Feature: Material Treatment

The proposed project is the construction (recontouring into a dune feature and restoring the surface) of the TMLF after treatment via a "treat up" LTU located at TB9. In a "treat up" LTU, each successive lift of affected material would be placed and treated directly on top of the previous one. The final result would be a stockpile of treated material in an LTU configuration. After construction, the TMLF would be monitored and maintained using the existing LTU facilities until the treated material is determined by the RWQCB to no longer be a threat to the environment. At that point, the site would be decommissioned and left to natural processes.

The TMLF could also be constructed after excavated material is treated by some means other than LTU, such as thermal desorption (TDU). In this case, treatment may be conducted at TB9 or at an alternate location, and treated material would be stockpiled at TB9 within the TMLF footprint.

LTU utilizes naturally occurring micro-organisms for the degradation of the hydrocarbons. Exposing the affected soils to the air and adding moisture and other nutrients enhances the activity of the microorganism, resulting in increased rates of hydrocarbon degradation. The average treatment area of the LTU would cover an estimated eleven acres at Tank Battery 9. Treating 660,000 cy of affected soils in the LTU could take up to seven years.

Prior to treatment, the affected material may be screened to remove aggregate. During operations, soil would be periodically wetted down with water pumped from existing onsite wells to maintain optimum (5 – 10%) moisture content by weight for biodegradation. Nutrients may also be sprayed over the excavated soil, or nutrients could be introduced by tilling the affected soil with amendments. If needed, on a periodic basis soil would be tilled or disked with conventional earthworking equipment.

This technology is proposed as the primary technology for treating affected soils produced from excavation activities. LTU impacts are described in detail in the original Guadalupe Dunes EIR. Details of the impacts of the LTU system are not addressed in this document.

1.2.3.2 Treated Material Land Feature: Design Basis

For any means of treatment, the resulting stockpile of treated material would be graded to resemble a natural dune, capped with clean material, and restored with native vegetation. The final TMLF is intended to blend with the surrounding environment and provide restoration of the area. As the TMLF would be considered a permanent feature, construction assumes that there would be no future remediation activity requiring removal to provide access to the subgrade.

An estimated 860,000 cy of affected material would be excavated under CAO 98-38. Of this amount, 200,000 cy would be heavy sump material maybe unsuitable for treatment and reuse and therefore, might have to be transported offsite. It is anticipated that up to 660,000 cy could be treated and subsequently reused as the TMLF. If some of the treated material is reused as backfill or in another way, the quantity in the TMLF would be less.

The TMLF requires a footprint of approximately 16.4 acres as shown in Figure 6. The footprint shown in Figure 6 corresponds to the grading boundary for the LTU treatment area. Figure 6 shows the potential configuration based on an assumed quantity of 660,000 cy. For less treated material, the footprint would stay the same and the profile would be lower. The final configuration would be submitted in a Site Specific Restoration Plan (SSRP) for approval by the appropriate agencies.

1.2.3.3 Treated Material Land Feature: Site Description

The TB9 site is the proposed location for the TMLF. TB9 was selected for TMLF operations based on its need for restoration, distance from surface water, the current level of disturbance, and the existing natural drainage characteristics.

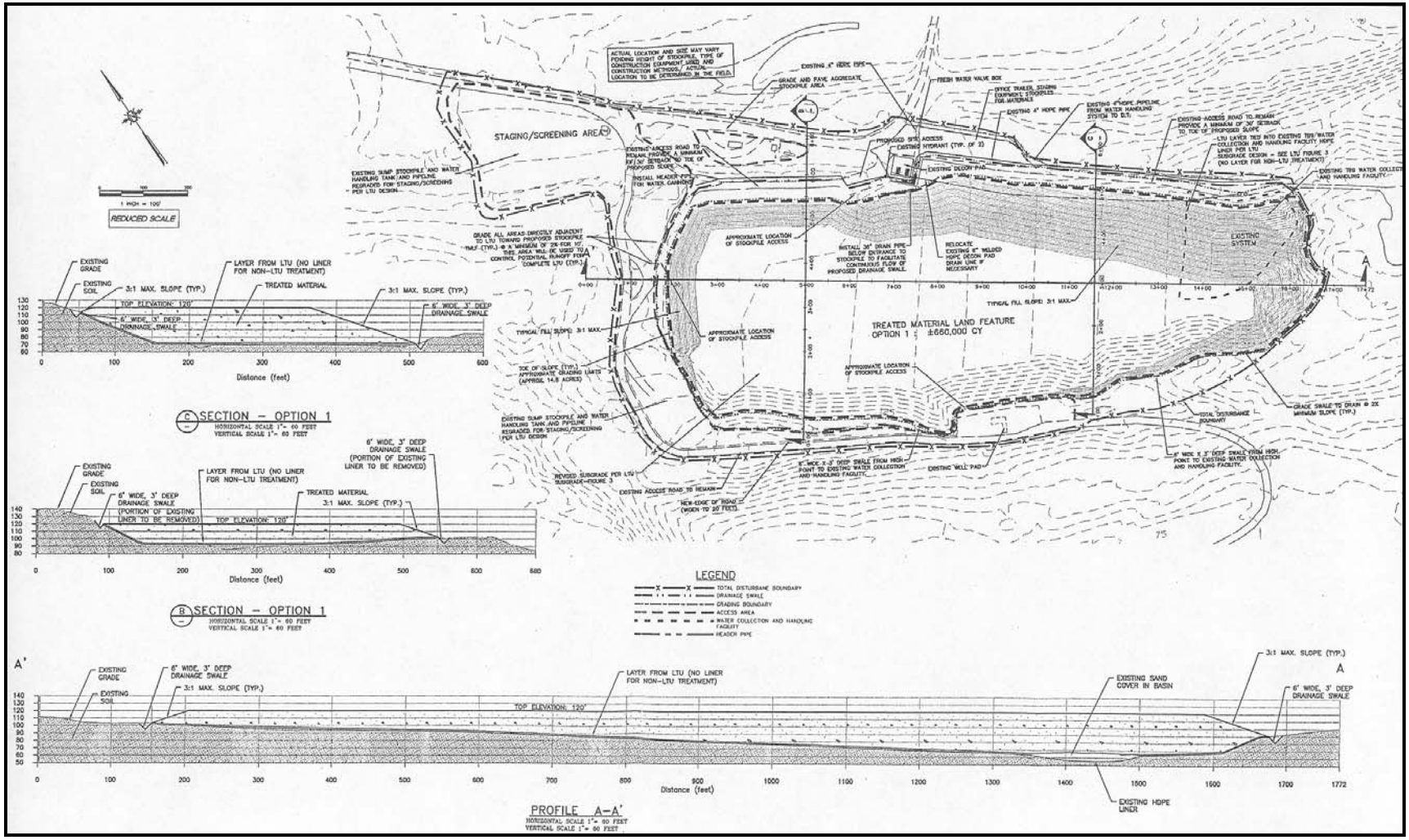
Sump and diluent-affected material currently placed at the LTU site and graded into the current topography would be left as the subgrade. Because this material is included in the estimate of diluent-affected material, the actual volume available after treatment may be somewhat less than specified above.

Roads to and from the TB9 site are already in place. Some of these roads may require repair or widening prior to TMLF construction.

The 16.4-acre TMLF footprint utilizes the treatment areas for the proposed LTU, so no or minimal additional disturbance would be required for construction of the TMLF if treatment is achieved in the LTU. (Impacts caused by the LTU are discussed separately in the previous Guadalupe EIR.)

If treatment is achieved by another method, such as TDU, the TMLF construction would be confined to the same footprint and would require some disturbance for construction. Figure 6 illustrates the footprint and disturbed boundaries.

Figure 6 TMLF Configuration



The TMLF requires approximately 18.8 acres of total area, with 13.9 acres of that currently disturbed. Should a TMLF be constructed after treatment by a means other than LTU, approximately 4.9 acres of new disturbance would be required. Figure 6 shows a potential configuration for the TMLF after grading to resemble surrounding dunes. The additional 2.4 acres of disturbance beyond the footprint are required for equipment staging and other support activities.

The grading specifics for both options (treatment by LTU or by other methods) are shown below to reflect the maximum volume of 660,000 cy. However, it should be noted that the volume may be smaller if less treated soil is available for reuse in the TMLF. For less treated material, the footprint would stay the same and the profile would be lower. The final configuration would be submitted in a SSRP for approval by the appropriate agencies.

Mitigation for wind erosion during construction includes minimizing temporary windward fill faces that may be cut by wind. Construction work would cease when wind speeds exceed 25 mph if deemed necessary by the OEC.

Table 9 Grading Quantities for TMLF

Grading Quantity	Treatment Method	
	16.4-acre LTU	No LTU
Subgrade (CY)		
Cut	0[1]	40,000
Fill	0[1]	10,000
TMI-F Footprint (Acres)	16.4	16.4
Disturbed Areas (Acres)		
Total Disturbance	0[1]	18.8
Existing	0[1]	13.7
Existing Currently under Restoration	0[1]	0.2
New	0[1]	4.9
Vegetated Overburden Removed (CY)	0[1]	8000
Contour Stockpiled Treated Material (Cy)[2]		
Cut	90,000	90,000
Fill	90,000	90,000
Clean Sand for 2- to 3-foot cap	54,400	54,400–81,600

Notes:

[1] Grading, disturbance, and liner construction would be associated with the LTU, not with the TMLF.

[2] Cut and fill quantities are the estimated amounts required to contour the TMLF from either an LTU or a standard stockpile configuration to a dune configuration. It is anticipated that only a portion of the stockpiled material along the top and sides would need to be moved to create the dune structure.

1.2.3.4 TMLF Construction and Restoration

Before the construction of the TMLF, material would be treated and/or stockpiled in place at TB9 within the approximate footprint of the TMLF. Since the transport and stockpiling of treated material at TB9 would likely occur as part of treatment or excavation activities, transportation to the TB9 site would not be addressed in this description.

The sequence of construction activities includes the following;

1. Install vadose zone/groundwater monitoring system, if needed and not already in place.
2. Grade treated soil stockpile to resemble surrounding dunes.
3. Cover the TMLF surface with two to three feet of clean sand and/or vegetated overburden.
4. Install erosion control measures, as needed.
5. Restore the TMLF surface per the approved SSRP.

Actions involved with each activity are further described below:

Install vadose zone groundwater monitoring system. A silt/clay-amended layer and a vadose zone/groundwater monitoring system would already be in place if a TMLF is constructed after LTU treatment at TB9. For construction of a TMLF from material treated by means other than an LTU, the site would be graded as necessary to drain to the existing water-handling system. However, a silt/clay-amended layer would not be constructed for the TMLF. A TMLF would not be built from material treated by means other than LTU if the RWQCB does not agree that it is suitable for reuse and does not require containment.

If material treatment is achieved by a means other than LTU, the area would need to be prepared for TMLF construction. The existing facilities within the construction footprint would be decommissioned or relocated. The stockpiled sump material, liners, and the water handling facilities associated with each stockpile would be removed. Utilities would be removed or relocated. Monitoring wells currently in place at TB9 would be removed, relocated, or protected in place. Additional groundwater monitoring wells may be installed if required by the RWQCB. If water cannons would be used for grading and erosion control (discussed below), a header would be installed from the water line around the northern TMLF perimeter. If required by the RWQCB, vadose zone and moisture sensors would be placed during preparation of the subgrade. These sensors would be used to detect leachate migration into the subsurface.

Grade treated-soil stockpile to resemble surrounding dunes. Treated soil would be located in a stockpile at TB9. If LTU is conducted at TB9, the stockpile would have an LTU configuration. If another treatment method is used, the stockpile would most likely have a more conventional configuration.

Soil would be redistributed to make the pile resemble a dune formation. The treated material would be graded using standard earth-moving equipment. A potential contoured dune configuration is shown in Figure 6. Actual contours would be submitted to the appropriate agencies for SSRP approval.

Cap graded surface with two to three feet of clean sand and/or vegetated overburden material. Additional clean sand may be used to provide a two to three foot cover over the treated material. Approximately 54,400–81,600 cy of sand would be required. Clean sand would likely come from the Q4 borrow site and/or other borrow sources and be added to the surface after grading of treated material. After re-grading, any available clean vegetated overburden removed from similar habitat would be distributed over the soil surface.

To promote stability, the TMLF slopes are designed at or less than the natural angle of repose for the dunes in the area, at an approximate slope of 3:1 or less. The final design would be based on a slope stability analysis pursuant to RWQCB requirements. To minimize the likelihood of slope

failure during grading, the design would allow adequate space for heavy equipment to turn without nearing slope edges.

The completed TMLF would be graded so as to avoid creation of catchment areas that would encourage pooling on the surface and concentrated flows of water within the TMLF. Further, Soil Sement® would not be used on horizontal surfaces during construction of the TMLF in order to reduce the likelihood of catchment areas.

The TMLF would be designed to withstand significant seismic events per applicable codes and regulations. The final design would be based on a slope stability analysis pursuant to RWQCB requirements.

Install erosion control measures. If needed for erosion control, any or all of the following measures may be employed:

- Water cannons, using headers that may be installed around the perimeter of the TMLF,
- Jute netting,
- Hydromulch,
- Crimped or mulched straw plugs.

Revegetate the TMLF surface per the approved SSRP. A SSRP would be prepared to detail the restoration process of the TMLF so it is consistent with the surrounding dune landscape.

Time Schedule. If needed, installation of the vadose zone groundwater monitoring system would require a total of approximately 7 days. It is expected that grading of the treated-material stockpile, installation of erosion control measures, and re-vegetation can be accomplished in about 3 months.

1.2.3.5 Equipment, Utilities, and Personnel

Equipment and personnel needed for construction of the TMLF are shown below:

Table 10 Construction Equipment and Personnel

Task	Equipment/Personnel	Quantity	Duration	
			Days	Hrs/Day
Install vadose zone/groundwater monitoring system, if needed and not already in place (Option I only)	Drill Rig	1	7	10
	Front End Loader	1	7	10
Grade treated soil stockpile to resemble surrounding	Excavator	2	10	10
	Dozer	2	10	10
	Volvos	4	10	10
	Water Truck	1	10	10
Cap re-graded surface with clean material and/or	Excavator	2	10	10
	Dozer	1	10	10

Table 10 Construction Equipment and Personnel

Task	Equipment/Personnel	Quantity	Duration	
			Days	Hrs/Day
stockpiled vegetated overburden	Volvos	8	10	10
	Water Truck	1	10	10
Install erosion control measures, if needed.	As needed			
Restore the TMLF surface per the approved SSRP.	Excavator	1	10	10
	Dozer	1	10	10
	Volvos	2	10	10
	Trucks	1	10	10
		Total Duration (Days)	47	

Water and electrical systems are currently in place for water-handling facilities at TB9, if required by the RWQCB. Water would be used for soil compaction and dust control. A header may be constructed along the northerly side for erosion control watering. Minor additional electricity would be used for a temporary construction office.

Any diesel fuel stored at the Field to fuel vehicles and/or equipment would have secondary containment and be kept in a secured area.

1.2.3.6 Post-Construction Monitoring, Maintenance, and Decommissioning

Upon completion of construction and restoration, the TMLF would be monitored and maintained as required by the RWQCB and the SSRP. At that time, the TMLF would be left to natural processes, with the possible exception of post-LTU facilities that are left in place and maintained. Two phases of post-construction activities are anticipated.

The first phase consists of monitoring and maintenance of the TMLF and support infrastructure. The second phase, site decommissioning, would begin when the RWQCB confirms that the TMLF no longer needs active maintenance. Decommissioning may involve restoring percolation through the silt/clay-amended layer (if left from the LTU) and water handling system, allowing the area to return to natural processes.

Monitoring and Maintenance. During the first phase of the post-construction period, TMLF operations would primarily involve maintenance of required systems and monitoring of soil and groundwater. Specific activities would include:

1. Operating and maintaining erosion control measures and post-LTU system(s)
2. Groundwater and vadose monitoring.

Erosion control measures would be operated and maintained as necessary. The existing water-handling system would be operated on an as-needed basis to manage storm water runoff from the TMLF. Water collected in the water-handling system would be injected into EPA-permitted wells.

Groundwater and vadose monitoring for the TMLF would likely be performed as part of the existing sitewide groundwater monitoring program required by the RWQCB per CAO 98-38. If

the TMLF requires special monitoring procedures specified by the RWQCB, these procedures would be implemented.

Maintenance would be performed as needed, and monitoring would be performed as required. Equipment and personnel needed for monitoring and maintenance activities are estimated to be 50% time for a single person and 50% for a single vehicle.

Decommissioning of the TMLF (the second phase of the post-construction period) involves abandonment of systems used for operations, to allow natural processes to resume.

When the RWQCB determines that a post-LTU TMLF can be decommissioned, natural percolation or flow can be allowed to establish at the site. Natural flow may be established or promoted by methods such as drilling holes in the silt/clay-amended layer and/or in the liner of the basin of the TB9 water handling system. Piping and other support structures for the water-handling system would be removed or capped and abandoned in place.

It is anticipated that decommissioning activities could be completed within 1 or 2 months, once the determination to abandon the area has been made. Equipment and personnel needs for decommissioning are shown below.

Table 11 TMLF Decommissioning Personnel and Equipment Requirements

Task	Equipment/Personnel	Quantity	Duration	
			Days	Hours/Day
Restore natural flow or percolation (LTU)	Drill rig	1	1	10
Remove or cap and abandon water-handling system piping	Personnel	4	2	10
	flatbed truck	1	2	10
Total Duration (Days)			*3*	

The utilities anticipated for the TMLF post closure period are water and electricity, as required. Water may be used for erosion control. There would be a need for onsite electricity for as long as the water handling system is operational. The TB9 electrical system would be decommissioned when it is no longer needed.

A long term groundwater monitoring program is in place for the Field. This program may be modified for the TMLF, as required by the RWQCB. No further monitoring is anticipated after the end of site wide monitoring programs.

1.3 Required Permits and Permitting Agencies

Listed below are the permits required for the proposed project. Agencies that have, or may have, approval or oversight over aspects of the proposed project include those agencies identified in table below.

Table 12 Required Permits

Agencies	Offsite Trucking	Treated Material Land Feature
COUNTY		
CEQA Review	MND or SEIR, depending on impacts	MND or SEIR, depending on impacts
County CDP/DP	Amendment may be needed	Amendment may be needed
Grading/Construction Permit	May be Needed	X
Encroachment permit (Thornberry Road repairs)	X	N/A
CCC		
Coastal Development Permit	No permit revision Needed (proposed activity is not in original permit jurisdiction), but can appeal County CDP/DP	No permit revision needed (proposed activity is not in original permit jurisdiction), but can appeal County CDP/DP
RWQCB		
Waste Discharge, Requirements and/ or Treatment Standard(s)	N/A	X
NPDES Construction Storm Water Activity Permit	X	X
APCD		
Permit to Operate (PTO) 598	Amendment Needed	Amendment Needed
UIC Program Permit	N/A	For LTU treatment method, UIC Permit will be needed for disposal of water from the water handling system

2.0 Scope of the Environmental Impact Report

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15060 a preliminary review of the proposed project has been conducted. A CEQA Initial Study Checklist was used to identify and address all issue areas that could be impacted by the proposed project. The completed CEQA Checklist is presented in Appendix A.

The analysis contained in the CEQA Initial Study Checklist found that the proposed project had the potential for significant impacts in a number of issue areas. As such, an EIR was deemed necessary for the proposed project.

A summary of the results of the CEQA Initial Study Checklist are presented below along with the issues that would be addressed in the EIR. Additional issues may be identified at the public scoping meeting and in written comments that would need to be addressed in the EIR. The EIR would also consider project alternatives, including the No Project alternative, as required by CEQA. A preliminary list of alternatives is discussed below.

2.1 Issue Areas with Potentially Significant Impacts

The analysis contained in the CEQA Initial Study Checklist identified 7 issue areas where there could be significant impacts. These issue areas include:

- Air Quality
- Biology
- Geology
- Noise
- Risk of Upset/Hazardous Materials
- Traffic, and
- Water Quality

Each of these issue areas is discussed below.

2.1.1 Air Quality/Odors

The use of construction equipment and trucks could generate emissions in exceedance of the APCD thresholds for significant impacts. This would be associated both with the offsite trucking proposal as well as the TMLF option.

Offsite trucking could generate significant emissions due to a large number of truck trips that would result from this method. This method could also trigger CO “hotspots” issues due to high level of truck traffic traveling through the City of Santa Maria. As diesel combustion is classified as a potential air toxic by the CalEPA, and trucks would be traveling through populated areas, this method may present significant impacts to public health as well.

The TMLF option may involve as many as 30,000 truck trips due to the need to transport sump materials and road base/aggregate materials offsite. This could cause significant emissions similar, but on a smaller scale, as the proposed offsite trucking.

The proposed project could lead to the release of odors from trucks traveling through Santa Maria or from materials handling operations onsite. These emissions of hydrocarbons, soot and particulate could lead to objectionable odors, which could result in a potentially significant impact.

2.1.2 Biological Resources

The construction of the TMLF is considered a permanent structure and could have a potential for permanent loss of habitat. In addition, the construction of a TMLF could cause a loss of existing habitat totaling 4.9 acres if an LTU is not utilized. (The LTU would disturb areas that would then be used in the TMLF, thereby not disturbing any additional areas). The proposed project includes the use of an LTU and would therefore not disturb any additional areas. The proposed project plans are restoration to a dune feature, including revegetation. Therefore, impacts to biology are considered potentially significant but mitigated by restoration and revegetation.

2.1.3 Geology

The aeolian dune morphology may be altered by the introduction of the new TMLF landform into the environment. Increased wind erosion could occur at some areas, and more deposition could occur at other areas. Mitigation for wind erosion during construction includes minimizing temporary windward fill faces that may be cut by wind. In addition, the formation of the TMLF could produce catchment areas that could encourage pooling and runoff, thereby increasing erosion and concentrations of water flow within the TMLF. This could cause runout of the treated materials onto the site areas.

The TMLF could also be affected by seismic events that could cause the land feature to open up or could increase the rate of movement of the land feature. The construction of the TMLF could introduce steep slopes with the additional potential for erosion.

The project has specified measures to address the issues of erosion and seismic issues. Therefore, the impacts to geology are considered to be potentially significant and mitigable.

2.1.4 Noise

Receptors along the proposed routes would potentially experience an increase in noise, depending on their proximity to the road, background noise levels and other specific conditions. If noise from the trucking is an impact, it would likely occur in early morning while the empty trucks are driving to the site to begin loading operations at 5 a.m. However, as the area through which trucks would pass is an area that normally receives a large number of agricultural related trucks and activities, this may not be a significant impact for the trucking operations.

Noise levels from activities conducted onsite are a considerable distance from any noise receptors in or west of the town of Guadalupe. Noise impacts from onsite operations are therefore considered to be minimal and to have no impact.

Noise impacts are therefore considered to be potentially significant. But, through routing and timing, impacts could effectively be mitigated.

2.1.5 Risk of Upset/Hazardous Materials

The Guadalupe oil field has produced oil for the greater part of the last century. The proposed project would not develop new areas and would focus instead on the cleanup of existing impacted areas on the site. An accident could result in the release of affected material being transported by a truck or a fuel spill either along roadways or onsite. Release of fuel or affected material could pose a public health hazard. The Water Resources/Flooding section discusses preventive measures. Public health hazards related to toxic emissions are discussed under Air Quality. Impacts are considered to be significant but mitigable.

2.1.6 Transportation/Circulation

The large number of trucks that would be required for the offsite trucking could produce significant impacts on the roadways. The maximum trucking volume during peak periods, 150 truck round trips per day (300 one-way trips), could generate a truck every 1.5 to 2 minutes along Highway 166. Current truck traffic along the section of Highway 166 between Highway 1 and 101 averages between 500 and 1,200 trucks per day. Therefore, the project could increase the truck traffic by 25% in the higher traffic areas to as much as 60% in the lower traffic areas during these peak periods. Impacts could be realized in terms of the lowering of levels of service due to the increased truck traffic. Lower levels of service would mean longer traffic signal wait times, more congestion, reduced visibility of other drivers, etc. The increase in truck traffic could also produce an increased hazard to bicyclists and pedestrians along the routes due to the increased traffic and reduced levels of service.

These impacts would be less for the Tier 1 and 2 and for the TMLF options. However, sump materials and aggregate/road base materials would still be transported offsite in what could amount to significant, but probably mitigable, impact levels.

2.1.7 Water Resources/Flooding

Surface runoff could be affected by the installation of the TMLF. A new dune in the area would most likely affect the runoff characteristics of the immediate area. However, though effective measures, this impact could be mitigated.

Affected material that adheres to the truck exteriors could fall off after the truck leaves the loading area. To prevent this occurrence, trucks would be swept with brooms (dry decontaminated) and run over rumble plates to remove the material before leaving the loading area. Also, containment and cleanup equipment would be kept onsite during all loading and trucking activities.

An accident could result in the release of affected material being transported by a truck or a fuel spill, which could cause a hazard to surface water or nearby resources. A spill response plan is in place for spills onsite, and the drivers would receive training in spill response procedures should an accidental release occur during transport. Trucks would be operated by professional drivers in a safe and legal manner, and they would be loaded within their safe weight limit. The drivers would receive training about public safety precautions in the event of an accidental release or spill during transport.

Long term operation of the TMLF could cause impacts to ground water if substantial leaching of treated material occurs. In addition, if sufficient treatment of materials is not conducted or sump materials are allowed in to the TMLF, impacts to groundwater could occur. Measures to prevent this from occurring, in combination with monitoring of groundwater quality, could be established, however, and this impact could be effectively mitigated.

2.2 Issue Areas with No Impacts or Less Than Significant Impacts

Based on the analysis contained in the CEQA Initial Study Checklist, it has been determined that the proposed project would have a less than significant impact or no impact on the following CEQA issue areas:

- Aesthetic/Visual Resources
- Agricultural Resources
- Cultural/Historical Resources
- Energy
- Fire Protection
- Land Use/Recreation
- Public Facilities

Potential proposed-project impacts to these issue areas would be discussed in the EIR. However, the EIR would not present detailed baseline descriptions or regulatory setting of these areas in an effort to limit the length of the document. The EIR would contain an expanded discussion of each of the issue areas where impacts are considered insignificant as part of the CEQA Initial Study Checklist. Each of these areas are discussed below.

2.2.1 Aesthetic/Visual Resources

Equipment used to load trucks and to excavate would most likely not be visible or minimally visible from the beach areas or from the east side of the site. Visual impacts would not exceed those associated with the current remediation and abandonment activities.

The creation of a TMLF might be visible from the beach areas but would blend in with the surrounding dunes areas as sand would be used as a formation cover and the cover would be planted appropriately.

Therefore, no impacts to visual and aesthetic resources are anticipated.

2.2.2 Agriculture

The proposed project would be located in an area that has been previously disturbed and is not zoned or designated as agricultural land. A short strip of Thornberry Road could be widened which might cause some loss of the shoulder areas along Thornberry Road and subsequent minimal loss of the agricultural land along Thornberry Road. But these impacts are considered to be minimal.

Therefore, no impacts to agricultural resources are anticipated.

2.2.3 Cultural Resources

Although there are archeological sites on the field, no aspects of the proposed project are anticipated to impact these areas. The offsite trucking activities would be limited to the currently disturbed areas. The TMLF might require some additional areas of disturbance, but none of these areas impact a known archeological site. Therefore, no impacts to cultural resources are anticipated.

2.2.4 Energy

The proposed project would increase the demand for energy over what exists today primarily due to the requirement for the supply of diesel fuel for the offsite trucking and construction equipment. However, it is anticipated that there is sufficient supply of diesel fuel in the community to supply the trucks and construction equipment. Beyond fuel requirements, there is only a minimal requirement for energy associated with the proposed project and these levels are not expected to exceed current usages. Therefore, no impacts to energy resources are anticipated.

2.2.5 Fire Protection

No new development would be associated with the proposed project that could impact fire department response activities or increase the demands on a high fire hazard area. Although there would be a large quality of fuel being moved around the site to fuel trucks and equipment, this is not anticipated to introduce significant impacts for fire hazards. Therefore, no impacts to fire protection are anticipated.

2.2.6 Historical Resources

The proposed project would not affect any historical structures or properties that are of historical or cultural significance. The proposed project would have no impacts to historical resources.

2.2.7 Housing

The proposed project would not affect existing housing through demolition, conversion or removal. No residents would need to be displaced as part of the proposed project. The project would be located on land that is not zoned or designated as residential. The proposed project would have no impacts to housing.

2.2.8 Land Use

The proposed project would introduce no additional structures incompatible with existing land use and would not induce growth or concentrate population. No additional sewer lines would be constructed and no loss of open space would be associated with the project. No construction or operations would negatively affect economic or social conditions in the area and there are no impacts to air safety zones. Therefore, the proposed project would have no impacts to land use.

2.2.9 Recreation

The increased traffic associated with the proposed project and the two alternatives could minimally impact nearby uses. Nearby uses along the trucking routes include farms, ranches, residential areas and businesses in the town of Guadalupe, and the Rancho Guadalupe Park and Oso Flaco Lake recreational sites. Because trucking related traffic would avoid direct access to most of the areas referenced above, impacts are anticipated to be minimal. Therefore, the proposed project would have no impacts to recreation.

2.2.10 Public Facilities

The proposed project would generate large quantities of solid waste. This waste would be transported to the Santa Maria Landfill and possibly to other permitted waste disposal sites in two of the alternatives. The City of Santa Maria Landfill is using the impacted soils for foundation and, potentially, for intermediate cover, in place of a portion of the estimated 5,000,000 cy of imported soils that well be needed. It has the appropriate permits and facilities to accept the non-hazardous impacted soils. For the alternatives, the amounts of solid waste would not exceed the daily allowable thresholds as defined by the individual solid waste facilities. The material would be used for foundation in the closure of a solid municipal waste cell. This material would not use any space in the landfill that is slated for solid municipal waste. Therefore, there would be no impacts on public facilities associated with this project.

3.0 Alternatives to the Proposed Project

CEQA Section 15126(d) requires that an EIR:

> *"Describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, and evaluate the comparative merits of the alternatives."*

For the EIR, an alternatives analysis should meet the following objectives:

- The alternatives analysis is comprehensive enough to ensure that a reasonable range of feasible alternatives to the proposed action have been reviewed.
- The alternatives that are analyzed throughout the document are limited to only those that could feasibly attain the Applicants' objectives for the project, and that have the ability to reduce significant impacts associated with the proposed action.

As required by CEQA the No Project Alternative would be evaluated. The proposed project is transportation of the affected materials to the Santa Maria Landfill. Two other methods, which are included in the impact discussions above, include:

- Transportation of the affected materials to other permitted waste disposal sites,
- The treatment of the affected materials followed by the construction of a TMLF,

Other alternatives, such as slurry injection, a waste containment unit at Guadalupe may be evaluated. Additional alternatives could be identified as part of the scoping process for the EIR.

4.0 References

Arthur D. Little, Inc. (ADL). 1998. *Guadalupe Oil Field Remediation and Abandonment Project Final Environmental Impact Report*.1998.

California Air Quality Board (CARB). 1999. *The 1999 California Air Quality and Emissions Almanac*, Chapter 5, Emissions and Air Quality tables for County Portions of Air Basins, p. 211.

CH2MHill. 2000. *Draft Joint Technical Document City of Santa Maria Landfill*. August.

City of Santa Maria. 2001. *Addendum to the Final EIR Santa Maria Regional Landfill Site Facility Permit Addressing the Santa Maria Joint Technical Document*. March.

—. 1995. *Final Supplement to the Final EIR Santa Maria Regional Landfill Site Facility Permit*. August.

Fugro. 1993. *Final EIR Santa Maria Regional Landfill Volume 1* (SCH 92031045). October.

Golder Associates Inc. 2002. *Final Closure and Post-closure Maintenance Plan for Santa Maria Landfill*. March.

Levine Fricke. 2003. *Corrective Action Plan Options for Hydrocarbon Affected Soils at A6/TB2, B5A North, C7 North, C7 Southeast, and P13 Areas of the Former Guadalupe Oil Field, San Luis Obispo County, California*. July 30.

Santa Barbara County Fire Department. 2000. *Venoco Ellwood Facility Risk Assessment*.

Unocal. 2001. *Remaining CAO Projects Excavation Activities Workplan*. April 25.

—. 2001. *Guadalupe Restoration Project, Treatment and Handling Methods, Comprehensive Submittal for Environmental Review*. October 2.

Appendix A

Guadalupe Oil Field Remediation and Abandonment Project

Project #

CEQA INITIAL STUDY CHECKLIST

A POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST

The following checklist indicates the potential level of impact. The following abbreviations have been used:

Known Sig.	Known significant environmental impacts.
Unknown Poten. Sig.	Unknown potentially significant impacts which need further review to determine significance level.
Potential Sig. and Mitig.	Potentially significant impacts which can be mitigated to less than significant levels.
Not Sig.	Impacts which are not considered significant.
Previously Reviewed	The analysis contained in a previously adopted/certified environmental document addresses this issue adequately for use in the current case.

A.1 AESTHETIC/VISUAL RESOURCES

Will the proposal result in:	**Known Sig.**	**Unknown Poten. Sig.**	**Potential Sig. and Mitig.**	**Not Sig.**	**Previously Reviewed**
a. The obstruction of any scenic vista or view open to the public or the creation of an aesthetically offensive site open to public view?				X	
b. Change to the visual character of an area?				X	
c. Glare or night lighting which may affect adjoining areas?				X	
d. Visually incompatible structures?				X	

a,b,d. Equipment used to load trucks and to excavate would most likely not be visible or minimally visible from the beach areas or from the east side of the site. Visual impacts would not exceed those associated with the current remediation and abandonment activities.

The creation of a TMLF might be visible from the beach areas but would blend in with the surrounding dunes areas as sand would be used as a formation cover and the cover would be planted appropriately.

Therefore, no impacts to visual and aesthetic resources is anticipated.

A.2 AGRICULTURE

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. The conversion of prime agricultural land to non-agricultural use, impairment of agricultural land productivity (whether prime or non-prime), or conflict with agricultural preserve programs?				X	
b. An effect upon any unique or other farmland of State or Local importance?				X	

a,b. The proposed project would be located in an area that has been previously disturbed, and is not zoned or designated as agricultural land. A short strip of Thornberry Road may be widened which might cause some loss of the shoulder areas along Thornberry Road and subsequent minimal loss of the agricultural land along Thornberry Road. But these impacts are considered to be minimal.

Therefore, no impacts to agricultural resources are anticipated.

A.3 AIR QUALITY

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation including, CO hotspots, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?			X		
b. The creation of objectionable smoke, ash or odors?		X			
c. Extensive dust generation?			X		

a. The use of construction equipment and trucks may generate emissions in exceedance of the APCD thresholds for significant impacts. This potential would be associated both with offsite trucking and TMLF.

Offsite trucking could generate significant emissions due to a large number of truck trips that would result from this method. This method could also trigger CO “hotspots” issues due to high level of truck traffic traveling through the City of Santa Maria. As diesel combustion is classified as a potential air toxic by the CalEPA, and trucks would be traveling through populated areas, this option may present significant impacts to public health as well.

The TMLF option may involve as many as 30,000 truck trips due to the need to transport sump materials and road base/aggregate materials offsite. This could cause significant

emissions similar, but on a smaller scale, as the proposed offsite trucking. Various types of mitigations could be applied to the project such as emission reduction credits that could reduce the level of significance.

b. The proposed project could lead to the release of odors from trucks traveling through Santa Maria or from materials handling operations onsite. These emissions of hydrocarbons, soot and particulate could lead to objectionable odors, which could result in a potentially significant impact.

c. The construction of the materials handling areas as well as the modifications to roadways and the transportation of materials, both on and offsite, could generate significant levels of particulate emissions. The impact could be mitigated through standard measures as detailed by the APCD.

A.4 BIOLOGICAL RESOURCES

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
FLORA:					
a. A loss or disturbance to a unique, rare or threatened plant community?			X		
b. A reduction in the numbers or restriction in the range of any unique, rare or threatened species of plant?			X		
c. A reduction in the extent, diversity, or quality of native vegetation (including brush removal for fire prevention and flood control improvements)?				X	
d. An impact on non-native vegetation whether naturalized or horticultural if of habitat value?				X	
e. The loss of healthy specimen trees?				X	
f. Introduction of herbicides, pesticides, animal life, human habitation, non-native plants, or other factors that would change or hamper the existing habitat?				X	
FAUNA:					
g. A reduction in the numbers or a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened, or endangered species of animal?			X		
h. A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?				X	
i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?				X	
j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?				X	

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?				X	

a,b,g. The construction of the TMLF is considered a permanent structure and could have a potential for permanent loss of habitat. In addition, the construction of a TMLF could cause a loss of existing habitat totaling 4.9 acres if an LTU is not utilized (the LTU would disturb areas that would then be used in the TMLF, thereby not disturbing any additional areas). The proposed project includes the use of an LTU and would therefore not disturb any additional areas. The proposed project plans are restoration to a dune feature, including revegetation. This could be considered a potentially significant impact, but mitigated by restoration and revegetation.

c–f. The proposed project would require construction and mobilization in areas already disturbed by the current and past activities at the site. No new roadways would be constructed and no new areas would be disturbed for truck loading or maintenance.

The TB9 area currently used for the LTU pilot study and material stockpiling would be expanded as part of the TMLF. Depending on the treatment method chosen, the expansion would range from zero additional disturbed acres to 4.9 acres. The proposed project, which is the use of LTU and analyzed in the EIR, would not require any additional disturbed areas beyond that assessed in the EIR.

As the proposed project does not require any additional disturbed areas, no impacts to biological resources are anticipated.

h–k. As is the case with impacts to flora, no additional areas are expected to be impacted beyond the current levels of disturbance. The construction of fencing and the potential for nighttime lighting is not expected to exceed the current levels of activity at the TB9 site during the construction period. Therefore, no impacts to biological resources are anticipated.

A.5 CULTURAL RESOURCES

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
ARCHAEOLOGY:					
a. Disruption, alteration, destruction, or adverse effect on a recorded prehistoric or historic archaeological site (Note site number below)?				X	
b. Disruption or removal of human remains?				X	

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
c. Increased potential for trespassing, vandalizing, or sabotaging archaeological resources?				X	
d. Ground disturbances in an area with potential cultural resource sensitivity based on the location of known historic or prehistoric sites?				X	
ETHNIC RESOURCES:					
e. Disruption of or adverse effects upon a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group?				X	
f. Increased potential for trespassing, vandalizing, or sabotaging ethnic, sacred, or ceremonial places?				X	
g. The potential to conflict with or restrict existing religious, sacred, or educational uses of the area?				X	

a–g. Although there are archeological sites on the field, no aspects of the proposed project are anticipated to impact these areas. The offsite trucking activities would be limited to the currently disturbed areas. The TMLF might require some additional areas of disturbance, but none of these areas impact a known archeological site. Therefore, no impacts to cultural resources are anticipated.

A.6 ENERGY

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Substantial increase in demand, especially during peak periods, upon existing sources of energy?				X	
b. Requirement for the development or extension of new sources of energy?				X	

a–b. The proposed project would increase the demand for energy over what exists today primarily due to the requirement for the supply of diesel fuel for the offsite trucking and construction equipment. However, it is anticipated that there is sufficient supply of diesel fuel in the community to supply the trucks and construction equipment. Beyond fuel requirements, there is only a minimal requirement for energy associated with the proposed project and these levels are not expected to exceed current usages. Therefore, no impacts to energy resources are anticipated.

A.7 FIRE PROTECTION

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Introduction of development into an existing high fire hazard area?				X	
b. Project-caused high fire hazard?				X	
c. Introduction of development that will hamper fire prevention techniques such as controlled burns or backfiring in high fire hazard areas?				X	
d. Development of structures beyond safe Fire Dept. response time?				X	

a–d. No new development would be associated with the proposed project that could impact fire department response activities or increase the demands on a high fire hazard area. Although there would be a large quality of fuel being moved around the site to fuel trucks and equipment, this is not anticipated to introduce significant impacts for fire hazards. Therefore, no impacts to fire protection are anticipated.

A.8 GEOLOGY

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?			X		
b. Disruptions, displacements, compaction or overcovering of the soil by cuts, fills, or extensive grading?				X	
c. Permanent changes in topography?			X		
d. The destruction, covering or modification of any unique geologic, paleontologic, or physical features?				X	
e. Any increase in wind or water erosion of soils, either on or off the site?			X		
f. Changes in deposition or erosion of beach sands or dunes, or changes in siltation, deposition or erosion which may modify the channel of a river, or stream, or the bed of the ocean, or any bay, inlet or lake?			X		
g. The placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent?				X	
h. Extraction of mineral or ore?				X	
i. Excessive grading on slopes of over 20%?				X	
j. Sand or gravel removal or loss of topsoil?				X	

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
k. Vibrations, from short-term construction or long-term operation, which may affect adjoining areas?				X	
l. Excessive spoils, tailings or over-burden?				X	

a,c,e,f. The aeolian dune morphology may be altered by the introduction of the new TMLF landform into the environment. Increased wind erosion could occur at some areas, and more deposition could occur at other areas. Mitigation for wind erosion during construction includes minimizing temporary windward fill faces that may be cut by wind. In addition, the formation of the TMLF could produce catchment areas that could encourage pooling and runoff, thereby increasing erosion and concentrations of water flow within the TMLF. This could cause runout of the treated materials onto the site areas.

The TMLF could also be affected by seismic events that could cause the land feature to open up or could increase the rate of movement of the land feature. The construction of the TMLF could introduce steep slopes with the additional potential for erosion.

The project has specified measures to address the issues of erosion and seismic issues. Therefore, the impacts to geology are considered to be potentially significant and mitigable.

b,d,g–l. The proposed project would not introduce any additional disturbed areas which could cause disruptions or modifications to the existing areas. Spoils, tailing and over-burden would be disposed of as indicated in the project description. When possible, topsoil would be preserved for re-vegetating the areas. No mineral or ores would be extracted and no septic systems would be installed.

A.9 HISTORIC RESOURCES

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Adverse physical or aesthetic impacts on a structure or property at least 50 years old and/or of historic or cultural significance to the community, state or nation?				X	
b. Beneficial impacts to an historic resource by providing rehabilitation, protection in a conservation/open easement, etc.?				X	

a,b. The proposed project would not affect any historical structures or properties that are of historical or cultural significance. The proposed project would have no impacts to historical resources.

A.10 HOUSING

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Loss of existing affordable dwellings through demolition, conversion, or removal?				X	
b. Displacement of substantial numbers current residents or existing housing, necessitating the construction of replacement housing elsewhere?				X	

a,b. The proposed project would not affect existing housing through demolition, conversion or removal. No residents would need to be displaced as part of the proposed project. The project would be located on land that is not zoned or designated as residential. The proposed project would have no impacts to housing.

A.11 LAND USE

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Structures and/or land use incompatible with existing land use?				X	
b. The induction of substantial growth or concentration of population				X	
c. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?				X	
d. The loss of a substantial amount of open space?				X	
e. An economic or social effect that would result in a physical change? (i.e., Closure of a freeway ramp results in isolation of an area, businesses located in the vicinity close, neighborhood degenerates, and buildings deteriorate. Or, if construction of new freeway divides an existing community, the construction would be the physical change, but the economic/social effect on the community would be the basis for determining that the physical change would be significant.)				X	
f. Conflicts with adopted air safety zones?				X	

a. The proposed project would introduce no additional structures incompatible with existing land use and would not induce growth or concentrate population. No additional sewer lines would be constructed and no loss of open space would be associated with the project. No construction or operations would negatively affect economic or social conditions in the area and there are no impacts to air safety zones. Therefore, the proposed project would have no impacts to land use.

A.12 NOISE

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Long-term exposure of people to noise levels exceeding City thresholds (e.g., locating noise sensitive uses next to an airport, etc.)?				X	
b. Short-term exposure of people to noise levels exceeding City thresholds?			X		
c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?				X	

a,b,c. Receptors along the proposed routes would potentially experience an increase in noise, depending on their proximity to the road, background noise levels and other specific conditions. If noise from the trucking is an impact, it would likely occur in early morning while the empty trucks are driving to the site to begin loading operations at 5 a.m. However, as the area through which trucks would pass is an area that normally receives a large number of agricultural related trucks and activities, this may not be a significant impact for the trucking operations.

Noise levels from activities conducted onsite are a considerable distance from any noise receptors in or west of the town of Guadalupe. Noise impacts from onsite operations are therefore considered to be minimal and to have no impact.

Noise impacts are therefore considered to be potentially significant. But, through routing and timing, impacts could effectively be mitigated.

A.13 PUBLIC FACILITIES

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. A need for new or altered police protection and/or health care services?				X	
b. Student generation exceeding school capacity?				X	
c. Significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity)?				X	
d. A need for new or altered sewer system facilities (sewer lines, lift stations, etc.)?				X	

a,b,d. The proposed project would not introduce any additional requirements for police or health care services to the area. No additional students or impacts to local schools would be associated with the project. No additional sewer systems would be required.

c. The proposed project would generate large quantities of solid waste. This waste would be transported to the Santa Maria Landfill and possibly to other permitted waste disposal sites in two of the alternatives. The City of Santa Maria Landfill is using the impacted soils for foundation and, potentially, for intermediate cover, in place of a portion of the estimated 5,000,000 cy of imported soils that will be needed. It has the appropriate permits and facilities to accept the non-hazardous impacted soils. For the alternatives, the amounts of solid waste would not exceed the daily allowable thresholds as defined by the individual solid waste facilities.

A.14 RECREATION

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Conflict with established recreational uses of the area?				X	
b. Conflict with biking, equestrian, and hiking trails?				X	
c. Substantial impact on the quality or quantity of existing recreational opportunities (e.g., over use of an area with constraints on numbers of people, vehicles, animals, etc., which might safely use the area)?				X	

a,b,c. The increased traffic associated with the proposed project and the two alternatives could minimally impact nearby uses. Nearby uses along the trucking routes include farms, ranches, residential areas and businesses in the town of Guadalupe, and the Rancho Guadalupe Park and Oso Flaco Lake recreational sites. Because trucking related traffic would avoid direct access to most of the areas referenced above, impacts are anticipated to be minimal. Therefore, the proposed project would have no impacts to recreation.

A.15 RISK OF UPSET/HAZARDOUS MATERIALS

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. In the known history of this property, have there been any past uses, storage, or discharge of hazardous materials? Examples of hazardous materials include, but are not limited to, fuel or oil stored in underground tanks, pesticides, solvents, or other chemicals.			X		
b. Will the proposed project involve the use, storage, or distribution of hazardous or toxic materials?			X		
c. A risk of an explosion or the release of hazardous substances (including, but not limited to oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event			X		

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
of an accident or upset conditions?					
d. Possible interference with an emergency response plan or an emergency evacuation Plan?				X	
e. The creation of a potential public health hazard?			X		
f. Public safety hazards (e.g., due to development near existing chemical or industrial activity, producing oil wells, toxic disposal sites, etc.)?				X	
g. Exposure to hazards from oil or gas pipelines or oil well facilities?				X	
h. The contamination of a public water supply?				X	

a,b,e. The Guadalupe oil field has produced oil for the greater part of the last century. However, the proposed project would not develop new areas and would focus instead on the cleanup of existing impacted areas on the site. An accident could result in the release of affected material being transported by a truck or a fuel spill either along roadways or onsite. Release of fuel or affected material could pose a public health hazard. The Water Resources/Flooding section discusses preventive measures. Public health hazards related to toxic emissions are discussed under Air Quality.

c,d, f–h. The materials being transported are not highly flammable and would not present a risk of explosion. There is the possibility of a release of materials while in transport which could cause impacts to the public. Emergency evacuation and response plans have been developed as part of the existing Guadalupe project and these would continue to be implemented. No public safety hazards related to operations or construction near existing chemical plants or other hazardous locations would be applicable as there are no other sites of that nature near the field. No pipelines are planned to be constructed. The public water supply issues are addressed under Water Resources/Flooding.

A.16 TRANSPORTATION/CIRCULATION

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Generation of substantial additional vehicular movement (daily, peak-hour, etc.) in relation to existing traffic load and capacity of the street system?			X		
b. A need for private or public road maintenance, or need for new road(s)?			X		
c. Effects on existing parking facilities, or demand for new parking?				X	
d. Substantial impact upon existing transit systems (e.g., bus service) or alteration of present patterns of circulation				X	

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
or movement of people and/or goods?					
e. Alteration to waterborne, rail or air traffic?				X	
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians (including short-term construction and long-term operational)?			X		
g. For new road construction are there issues of				X	
Inadequate sight distance?				X	
Ingress/egress?				X	
General road capacity?				X	
Emergency access?					

a.,f. The large number of trucks that would be required for the offsite trucking may produce significant impacts on the roadways. The maximum trucking volume during peak periods, 150 truck round trips (300 one-way trips) per day, could generate a truck every 1.5 to 2 minutes along Highway 166. Current truck traffic along the section of Highway 166 between Highway 1 and 101 averages between 500 and 1,200 trucks per day. Therefore, the project could increase the truck traffic by 25% in the higher traffic areas to as much as 60% in lower traffic areas during these peak periods. Impacts could be realized in terms of the lowering of levels of service due to the increased truck traffic. Lower levels of service would mean longer traffic signal wait times, more congestion, reduced visibility of other drivers, etc. The increase in truck traffic could also produce an increased hazard to bicyclists and pedestrians along the routes due to the increased traffic and reduced levels of service.

These impacts would be less for the Tier 1 and 2 and for the TMLF options. However, sump materials and aggregate/road base materials would still be transported offsite in what could amount to significant, but probably mitigable, impact levels.

b. With the above listed level of truck traffic, it is possible that there could be impacts to local roadways. Trucks are largely responsible for the damage to roadways and, depending on the condition of roadway before the project, some impacts may occur. The project proposes improvements to Thornberry Road to accommodate traffic there and a widening of Thornberry Road to address staging issues. It is possible other roads in the area may require some maintenance activities. However, these impacts are mitigable through mitigation measures directed at roadway improvement projects.

c–e, g. The project proposes to address the staging along Thornberry Road. Aside from this area, there are no apparent parking issues associated with the project. There would be minimal impacts on the existing transportation system due to the reduced levels of service. There would be no impacts on waterborne, air or rail traffics due to the project. Impacts associated with new roadway construction would be limited to Thornberry Road unless additional construction is required on other roads as a mitigation measure.

A.17 WATER RESOURCES/FLOODING

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?				X	
b. Changes in percolation rates, drainage patterns or the rate and amount of surface water runoff?			X		
c. Change in the amount of surface water in any water body?				X	
d. Discharge into surface waters, or alteration of surface water quality, including but not limited to temperature, dissolved oxygen, turbidity, or thermal water pollution (e.g., eutrophication)?			X		
e. Alterations to the course of flow of flood waters, or need for private or public flood control projects?				X	
f. Exposure of people or property to water related hazards such as flooding (placement of project in 100 year flood plain), accelerated runoff or tsunamis?				X	
g. Alteration of the direction or rate of flow of ground water?				X	
h. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or recharge interference?				X	
i. Overdraft or overcommitment of any ground water basin? Or, a significant increase in the existing overdraft or overcommitment of any ground water basin?				X	
j. The substantial degradation of groundwater quality, including saltwater intrusion?			X		
k. Substantial reduction in the amount of water otherwise available for public water supplies?				X	

b. Surface runoff could be affected by the installation of the TMLF. A new dune in the area would most likely affect the runoff characteristics of the immediate area. However, through effective measures, this impact could be mitigated.

d. There is the possibility of impact to surface and groundwater quality because of surface runoff from the TMLF. Protective measures currently in place include existing drainage systems at both TB8 and TB9. Water is collected at a common point and pumped into the onsite water handling facility. Water and hydrocarbons are separated in a gravity separation tank and the water is reused onsite or pumped into injection wells.

Affected material that adheres to the truck exteriors could fall off after the truck leaves the loading area. To prevent this occurrence, trucks would be swept with brooms (dry decontaminated) and run over rumble plates to remove the material before leaving the

loading area. Also, containment and cleanup equipment would be kept onsite during all loading and trucking activities.

An accident could result in the release of affected material being transported by a truck or a fuel spill, which could cause a hazard to surface water or nearby resources. A spill response plan is in place for spills onsite, and the drivers would receive training in spill response procedures should an accidental release occur during transport. Trucks would be operated by professional drivers in a safe and legal manner, and they would be loaded within their safe weight limit. The drivers would receive training about public safety precautions in the event of an accidental release or spill during transport. Since the project has specified measures to address the issues, the impacts are considered potentially significant and mitigable.

j. Long term operation of the TMLF could cause impacts to ground water if substantial leaching of treated material occurs. In addition, if sufficient treatment of materials is not conducted, impacts to groundwater could occur. Measures to prevent this from occurring, in combination with monitoring of groundwater quality, could be established, however, and this impact could be effectively mitigated.

a,b,c,e–g,h,i,k. The proposed project would not impact water movements or the direction of existing water. It would not change the amount of water in any surface water body nor alter the flow of surface waters nor create a need for private flood control projects. It would not exposure people nor property to water related hazards. The proposed project would not alter the direction of groundwater. It would not overdraft groundwater basins nor cause groundwater degradation due to saltwater intrusion. The proposed project would not alter the amount of water currently available for public water supplies.

A.18 MANDATORY FINDINGS OF SIGNIFICANCE

Will the proposal result in:	Known Sig.	Unknown Poten. Sig.	Potential Sig. and Mitig.	Not Sig.	Previously Reviewed
1. 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, 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?				X	
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term environmental goals?			X		
3. May any aspect of the project either individually or cumulatively cause a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial?			X		
4. Does the project have environmental effects which can cause substantial adverse effects on human beings, either directly or indirectly?			X		
5. Is there serious public controversy over the project's environmental effects or a disagreement between experts over the significance of an effect which would require investigation of potentially significant adverse impacts in an EIR (Section 15064(H))?				X	

1. The proposed project involves construction and operations over a period a number of years depending on the selection of Tiers and treatment/disposal methods. Use of the TMLF would require the treatment of the materials by LTU for an unspecified period. Use of the offsite trucking option would require anywhere from 1 to 8 years, depending on the trucking rate and the destination of the materials. However, as discussed in the biology section above, no impacts to rare or endangered wildlife species or habitats would cause species to drop below the sustainable levels or threaten to eliminate plant or animal communities.

2. The offsite trucking option of the project involves the moving of a significant quantity of impacted soils from one area by the Santa Maria River to another area farther upstream by the Santa Maria River. While releases of the impacted soils from the Santa Maria Landfill could impact the River environment and cause significant impacts, a release is unlikely since the impacted soils would be placed above the groundwater in an engineered containment system with a liner and leachate collection and removal system, perimeter containments, storm water controls, a final cover, and a monitoring system all designed and constructed to meet current applicable landfill standards. (The design, monitoring and maintenance activities associated with the impacted soils in the Santa Maria Landfill or other permitted waste disposal facility are not part of the proposed project, as they are the responsibility of the permitted receiving facility.) With the Santa Maria Landfill implementing appropriate mitigation and monitoring as required by the WDR 01-041 and other permits from additional jurisdictional agencies, this issue is effectively mitigated.

3. The traffic and air quality impacts could be significant for the proposed project due to the large number of truck trips required for the proposed project, along with the large number of construction equipment working concurrently onsite. These impacts could cause significant public health issues related to toxic emissions from diesel truck engines. Some of these impacts could be mitigated through technology and timing.

4. The proposed project could have significant public health impacts to humans through the emission of toxic diesel exhaust through the City of Santa Maria. However, through the use of mitigation measures and equipment, these impacts could be largely reduced.

5. The use of the TMLF and the levels at which water quality would be adversely affected by keeping the treated materials at the Guadalupe site could be an issue that generates significant public concern. The contamination reduction levels to which the LTU could achieve and whether these are acceptable levels to the RWQCB and other jurisdictional agencies for the Guadalupe Dunes environment has yet to be determined by the RWQCB.

A.19 INFORMATION SOURCES

√	field work		Ag Preserve maps
√	calculations	√	Flood Control maps
√	project plans	√	Other technical references (reports, surveys, etc.)
√	traffic studies	√	planning files, maps, reports
√	records	√	zoning maps
√	grading plans		soils maps/reports
√	elevation, architectural renderings	√	plant maps
	published geological map/reports	√	archaeological maps and reports
√	topographical maps		
√	Other Documents		

Cleanup and Abatement Order (CAO) 1
Coastal Development Permit/Development Permit (CDP/DP) 1
County of San Luis Obispo (County) 2
cubic yards [cy] 4
Final Environmental Impact Report (FEIR) 1
Guadalupe Oil Field (Field) 2
Land Treatment Unit (LTU) 2
Regional Water Quality Control Board (RWQCB) 2
Report of Waste Discharge Requirements (ROWD) 2
Supplemental EIR (SEIR) 1
Thermal Desorption Unit (TDU) 2
Treated Material Land Feature (TMLF) 5