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Oak Tree Protection Plan

Addendum to
Revised Biological Survey Report

for the
Proposed Truck Rack Project
Lompoc Oil Field
Santa Barbara County, California

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Table of Contents

Figures

1.0 Introduction

Sentinel Peak Resources LLC (SPR) proposes to construct a truck-loading facility at the Lompoc Oil Field, located in northern Santa Barbara County, California (**Figure 1** and **Figure 2**). The Lompoc Oil Field is a large, State-designated oil and natural gas production field located in the Purisima Hills region of northern Santa Barbara County, California. Discovered in 1903, the Lompoc Oil Field is one of the oldest oil fields in northern Santa Barbara County, producing approximately 260,000 barrels of oil in 2018. The on-site Lompoc Oil Treatment Facility, operated by SPR, includes facilities and equipment to process, store, and transport produced oil and natural gas. The proposed Lompoc Oil Field Truck Rack Project (Project) includes the construction of a truck rack to facilitate the loading of crude oil into tanker trucks for transport to the Coalinga Station in Coalinga, California.

Transport of crude oil via trucking is required due to recent operational changes at the Santa Maria Pump Station. Effective as of January 2023, Line 300, which previously conveyed crude oil from the Lompoc Oil Field to the Santa Maria Pump Station, no longer accepts crude oil. No other common carrier pipelines are available to replace Line 300 at this time. In response, SPR is proposing to construct the Project and transport crude oil via trucking, and is seeking a Land Use Permit (LUP) for Project construction.

In a letter dated March 15, 2023, the County of Santa Barbara Planning and Development Department (County) requested that SPR prepare a site-specific Tree Protection Plan for oak trees identified in the vicinity of Project construction activities. AECOM Technical Services, Inc., (AECOM) has prepared this Oak Tree Protection Plan based on the criteria presented in the County of Santa Barbara Appendix A: Grading Ordinance Guidelines for Native Oak Tree Removal. SPR will adopt the following oak tree management and protection measures to avoid net losses of oak trees as a result of the Project.

1.1 Project Description

The Project includes the construction of a new truck loading rack and associated infrastructure on an existing production pad associated with production well Purisima 33 (hereafter, Purisima 33 refers to the pad itself). Project components include new P-140 Lease Automatic Custody Transfer (LACT) charge pumps, LACT Unit, truck loading rack with impervious secondary containment suitable to load one (1) 160-barrel truck at a time, hydrogen sulfide (H_2S) removal system, Volatile Organic Compound (VOC) removal system, automatic shut-off valve, H_2S and reactive organic compound monitors, approximately 493 feet of new aboveground pipeline to connect existing infrastructure to the truck loading rack, and four (4) new electrical poles. The proposed truck loading rack will connect to the existing Sentinel Peak Resources 4-inch Oil Shipping Line. The production shipped through the proposed truck rack is under the ownership of Sentinel Peak Resources. The majority of the existing 4-inch line is above ground except at road crossings.

The proposed truck rack will be installed on an existing production pad within the Lompoc Oil Field, located immediately north of the Freeport-McMoRan operated Lompoc Oil and Gas Plant, east of Harris Grade Road. The truck loading rack will encompass approximately 11,000 ft^2 of the existing, developed pad and will include a new 4-inch oil line extension connecting to the existing 4-inch oil

shipping line. All proposed work associated with the truck loading rack construction will be restricted to the existing developed production pad and existing access roads.

All equipment and material staging areas would occur on existing production pads and roadways, or within the developed Lompoc Oil Treatment Facility; no new areas of disturbance will be utilized for staging. Access to work areas will be via existing paved and unpaved roadways under the ownership of Sentinel Peak Resources.

1.2 Project Location

The Project is located approximately 4.5 miles north of the City of Lompoc in northern Santa Barbara County, California, within the California Geologic Energy Management Division administrative boundary of the State-designated Lompoc Oil Field, which follows the line of the Purisima Hills roughly east-west. Portions of the Lompoc Oil Field overlap the Burton Mesa Ecological Reserve, which is operated by California Department of Fish and Wildlife (CDFW; **Figure 1**). Purisima 33 is located about 2,870 feet northeast of the boundary of the ecological reserve.

Project components occur within the boundaries of the existing Purisima 33 production pad and the pad's associated access roads. Purisima 33 is located approximately 108 feet north of the existing Lompoc Oil and Gas Plant, east of Harris Grade Road, and encompasses approximately 0.39 acres. The associated access roads include about 3,000 feet of unpaved lease roads.

2.0 Regulatory Setting

The Project occurs within northern Santa Barbara and is subject to the local ordinances and regulations protecting natural resources within that jurisdiction. The County of Santa Barbara Board of Supervisors recognize native oaks trees as being "important to the people's well-being and the ecological integrity of Santa Barbara County" (County 2003).

The County of Santa Barbara Municipal Code Chapter 14 Grading Code, Appendix A Grading Ordinance Guidelines for Native Oak Tree Removal outlines the rules for agricultural and non-agricultural oak removals within private land outside of the coastal zone and urban boundaries. Live oak tree removal for non-agricultural projects that do not require a Development Permit from the County of Santa Barbara initiate the implementation of the following standards and recommendations (per Santa Barbara County Appendix A):

- Oak tree management plan approval by the Agricultural Commissioner's office is required before cumulative live oak removals within the 30-year removal period exceed five percent of live oak canopy cover on a given lot.
- Failure to adhere to Management Plan standards is a violation.
- Voluntary development of a Management Plan by landowners is encouraged.

When a Development Permit from the County is required, guidelines regarding live oak removal and mitigation requirements, if any, are presented within the conditions of Approval of the issued Permit.

Within the County of Santa Barbara, the definition of removal is "causing an oak tree to die, be uprooted and/or removed from the ground by any means, including, but not limited to, cutting,

uprooting, poisoning, or-burning (unrelated to controlled burns). Excessive pruning or topping, or severing an oak tree's roots enough to lead to the death of the tree, would also be considered oak tree removal." Death by natural causes (e.g., sudden oak death syndrome) or removals required due to disease, regulatory requirements, or trees removed that pose an immediate threat to safety should not be considered a removal. An example of "an immediate threat to safety" would be an oak that, through natural causes, is imminently and highly likely to fall directly onto a structure, such as a residence, barn, or shed.

A "protected tree" is any live oak tree with a diameter at breast height (DBH) of eight inches or greater; these trees count toward the total number of trees or canopy removed. Replacement trees required as mitigation under the Live Oak Program are protected trees regardless of size. Whether the replacement tree is planted or nurtured is immaterial when defining it as protected. Trees voluntarily planted are not protected unless they have been subsequently designated as replacement trees.

3.0 Resources Present

Coast live oaks (*Quercus agrifolia*, QUAG) are abundant within portions of the Lompoc Oil Field. Coast live oak woodland and individual coast live oaks occur in the vicinity of Purisima 33 and the access road (**Figure 3**;AECOM 2023). Although coast live oaks are common within the Lompoc Oil Field, the majority of these trees occur outside the boundaries of Purisima 33 and the associated existing unpaved access roads.

Table 1 summarizes the characteristics of those coast live oaks that occur immediately adjacent to the access roads and Purisima 33, and the anticipated maximum level of impacts to each tree. **Figure 3** displays their locations. The proposed Project will not remove any protected coast live oak trees. Measures to avoid and minimize impacts to coast live oaks are described in **Section 4**.

4.0 Avoidance and Minimization Measures

Project-related impacts to protected oaks will be minimized to the extent necessary to maintain open passage of vehicles on existing roadways. No work will occur within the undisturbed coast live oak woodland in the vicinity of the Project (**Figure 3**). The proposed Project will not remove any protected coast live oak trees.

The following measures are proposed to avoid impacts to oak trees to the greatest extent possible from Project activities.

4.1 Worker Environmental Awareness Training (WEAT)

A Worker Environmental Awareness Training (WEAT) will be prepared and presented to all construction personnel at the start of Project-related activities. The training will discuss protections for oak trees including their regulatory status, description, and habitat requirements. The program

Table 1. Protected Coast Live Oaks (*Quercus agrifolia*) Near Purisima 33 and Access Roads and Anticipated Protection Measures

Tree No.	Diameter at Breast Height (inches)	Anticipated Project-related Impacts	Anticipated Protection Measures
Quag-30	5.2	Protect in place. No impacts. Tree located on a slope north of pad, protected by existing aboveground pipelines.	Visual delineation of dripline using fencing or flagging and no entry by pedestrians or equipment into protected zone.
Quag-31	14.2*	Minor trimming anticipated. Two of four trunks estimated dbh, inaccessible due to slope (3-inch dbh each). Construction activities will avoid the dripline of QUAG-31 to the maximum extent feasible; however, construction of the secondary containment berms may require limited work within the dripline of this tree. The majority of the berm will be constructed outside the dripline of this tree. Minor trimming of the tree is anticipated, (<10% of canopy).	Demarcation of protected zone at the bottom of the existing berm using fencing or flagging.
Quag-32	9.3	Protect in place. No impacts anticipated.	Visual delineation of dripline using fencing or flagging and no entry by pedestrians or equipment into protected zone.
Quag-33	3.8	Insufficient dbh, not protected oak. No impacts anticipated.	Visual delineation of dripline using fencing or flagging and no entry by pedestrians or equipment into protected zone.
Quag-34	75.7	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-35	40.7	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-36	26.6	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-37	7.5	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-38	28.7	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-39	29.8	Some trimming possible. Potential trimming of up to 10% of canopy overhanging access road, including branches 2-4 inches in diameter.	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-40	61.4	Some trimming possible. Potential trimming of up to 10-15% of canopy overhanging access road, with all trimming on a single trunk with a dbh of 14.1 inches.	Flagging at edge of road and no entry into dripline outside of existing road.

Tree No.	Diameter at Breast Height (inches)	Anticipated Project-related Impacts	Anticipated Protection Measures
Quag-41	50.5	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-42	9.5	Protect in place. No impacts anticipated.	Visual delineation of dripline using fencing or flagging and no entry by pedestrians or equipment into protected zone.
Quag-43	8	Protect in place. No impacts anticipated.	Visual delineation of dripline using fencing or flagging and no entry by pedestrians or equipment into protected zone.
Quag-44	8*	Limited trimming possible. Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy). Estimated dbh due to dense poison oak.	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-45	38.6*	Limited trimming possible. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter). Two trunks estimated dbh due to woodrat midden present around base.	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-46	19.4	Limited trimming possible. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-47	3.2	Insufficient dbh, not a protected oak. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-48	2.5	Insufficient dbh, not a protected oak. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-49	2.5	Insufficient dbh, not a protected oak. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-50	10.0	Limited trimming possible. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.
Quag-51	11.1	Limited trimming possible. Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).	Flagging at edge of road and no entry into dripline outside of existing road.

* Denotes a tree where dbh for one or more trunks was visually estimated.

will emphasize the importance of minimizing disturbance and describe the regulations protecting oak trees (BIO-1 – Worker Environmental Awareness Training [AECOM 2023]).

4.2 Dripline Protection

The dripline, or the vertical edge of the visual tree canopy, is generally used as an easy-to-identify approximate indicator of the oak tree critical root zone. Soil compression and ground disturbance within the dripline can adversely impact the condition of the tree by damaging necessary root tissue. **Exhibit 1** graphically displays the concept of the dripline.

Prior to the start of construction, the dripline of protected oaks located adjacent to Project-related construction activities will be clearly delineated with high-visibility flagging or exclusionary fencing (**Exhibit 1**). The only exception to this shall be where the existing coast live oak canopy extends into or over the existing lease access roads; in these instances, high-visibility flagging will be positioned at the edge of the existing road (**Exhibit 2**).

No infrastructure, including aboveground pipelines, will be placed within the dripline of an existing coast live oak tree. Excavation activities will not occur within the dripline of protected oaks, and no heavy equipment will travel through or operate within the dripline zone of a protected oak except where the dripline extends over existing roadways.

Foot traffic within the dripline of protected oaks will be avoided. Pedestrian entry will be limited to the biological monitor in cases where entry is necessary to protect natural resources, such as during monitoring of an active native bird nest.

These protective measures are encompassed in avoidance and minimization measure BIO-7 – Coast Live Oak Protection in the *Revised Biological Resources Survey Report* (AECOM 2023).

4.1 Initial Trimming

Only one protected oak, designated Quag-31, occurs immediately adjacent to Project work activities and may require trimming to facilitate construction. Quag-31 is positioned on the outside edge of the southern berm of Purisima 33; its canopy extends over the berm toward the existing infrastructure on the pad. Construction of the secondary containment berm associated with the Project may require minor trimming of the northern side of this tree to facilitate access. Trimming will not remove more than 10 percent of the total oak canopy of this tree.

Trimming of all other protected oaks will be conducted only on oaks overhanging the existing roadways. Where trimming must occur to maintain clearance over existing roadways, trimming will be minimized to the extent necessary to attain sufficient protection from fire hazards and vehicular clearance. No more than 20 percent of the canopy of any individual protected tree will be removed by the Project. Protected trees that may be subject to trimming include Quag-34, Quag-35, Quag-36, Quag-37, Quag-38, Quag-39, Quag-40, Quag-41, Quag-44, Quag-45, Quag-46, Quag-50, and Quag-51.

Exhibit 2. In situations where the dripline extends into the existing roadway (dashed white), as above, high-visibility flagging will be placed at the edge of the roadway (yellow).

Exhibit 1. The dripline of each protected oak will be delineated with high-visibility flagging or exclusion fencing during construction activities. The dripline is defined as the outermost boundary of the oak canopy. The extent of the dripline zone of this coast live oak is indicated with white dashed lines as an example.

Initial trimming will be conducted under the supervision of a certified arborist or qualified biologist to ensure no inadvertent is caused to the trees due to trimming.

These protective measures are encompassed in avoidance and minimization measure BIO-7 – Coast Live Oak Protection in the *Revised Biological Resources Survey Report* (AECOM 2023).

4.2 Maintenance Trimming

Maintenance trimming of protective oaks will be conducted on an as-needed basis throughout Project operation to ensure the existing lease roads allow sufficient clearance for the passage of facility vehicles. Maintenance trimming is currently conducted on the Lompoc Oil Field in areas where tree growth obstructs road use or threatens existing utilities. These efforts are generally minimal, with any one tree subject to trimming once every few years under normal conditions[1]. Protected oaks along the existing lease roads to and from Purisima 33 may be subject to maintenance trimming, where portions of the crown grow over the roadway at heights low enough to restrict passing vehicles. Maintenance trimming will be conducted under supervision from a certified arborist or qualified biologist.

The Project is not anticipated to result in maintenance trimming activities in excess of that already conducted at the Lompoc Oil Field.

4.3 Biological Monitor

A qualified biological monitor will be on-site during all initial ground-disturbance and vegetation removal activities, including tree trimming. The biological monitor will be the principal agent in the direct implementation of mitigation measures, including administering the WEAT and compliance monitoring (Bio-3 – Biological Monitor [AECOM 2023]).

5.0 Oak Tree Restoration

The proposed Project will not remove any protected coast live oak trees and will implement the above-described avoidance and minimization measures to protect coast live oak trees from trimming or other impacts that would adversely affect the trees' survivorship. Therefore, no oak tree restoration is planned at this time.

However, if oak tree removal cannot be avoided, or more than 20% of the canopy of an oak tree must be removed to facilitate Project construction, SPR will prepare a restoration plan to mitigate Project-related impacts.

The restoration plan will include the following features:

[1] Normal conditions herein describes situations with typical growth and development of existing trees, and does not include trimming necessary to remove portions or whole trees damaged by natural but uncommon occurrences such as extreme wind and storm events.

- Proposed site for restoration and mitigation planting, including a description of selection criteria for the site and a description of the physical characteristics of the site. The site will be located on the Lompoc Oil Field;
- Replacement planting of coast live oak trees at a 10:1 replacement ratio;
- Proposed methods of propagation of replacement oak saplings, including on-site collection of acorns to maintain genetic integrity of the population;
- Proposed installation methods;
- If supplemental species are proposed, a list of potential species to be included in the restoration site to increase species diversity;
- A maintenance and monitoring plan, to include a minimum of 5 years of maintenance and monitoring to ensure long-term oak sapling establishment and survivorship; and,
- Proposed performance criteria to be met to achieve program approval.

The restoration plan will be submitted to the County for review and approval prior to implementation to ensure its compliance with County requirements.

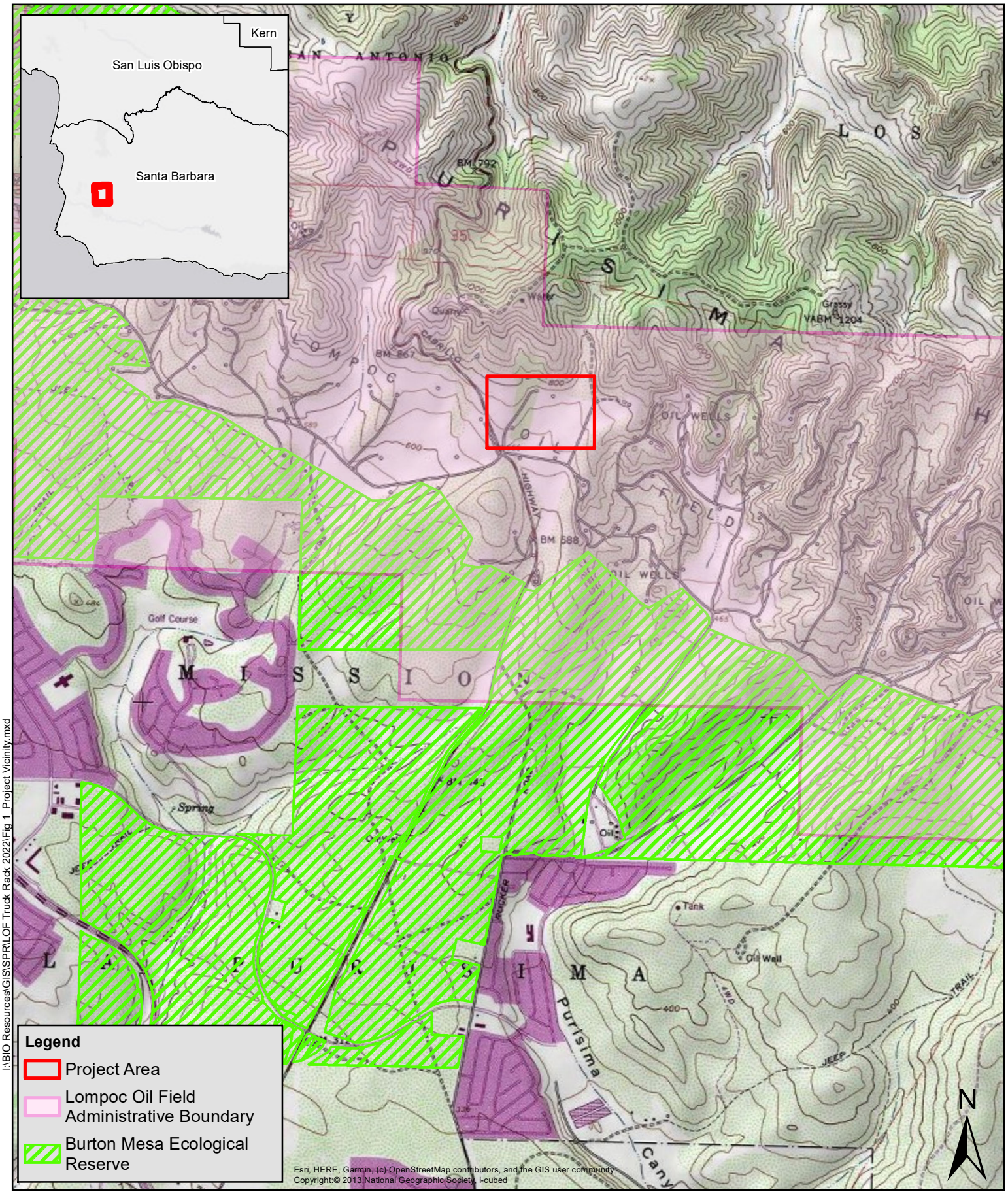
6.0 References

AECOM Technical Services, Inc. 2023. Revised Biological Resources Survey Report for the Proposed Truck Rack Project, Lompoc Oil Field, Santa Barbara County, California. Prepared for Sentinel Peak Resources. Revised April.

County of Santa Barbara. 2003. Deciduous Oak Tree Protection and Regeneration, Article IX of Chapter 35, Santa Barbara County Code. June. 27 pp.

Appendix A: Grading Ordinance Guidelines for Native Oak Tree Removal.

Figures



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Proposed Truck Rack Project - Lompoc Oil Field
Sentinel Peak Resources

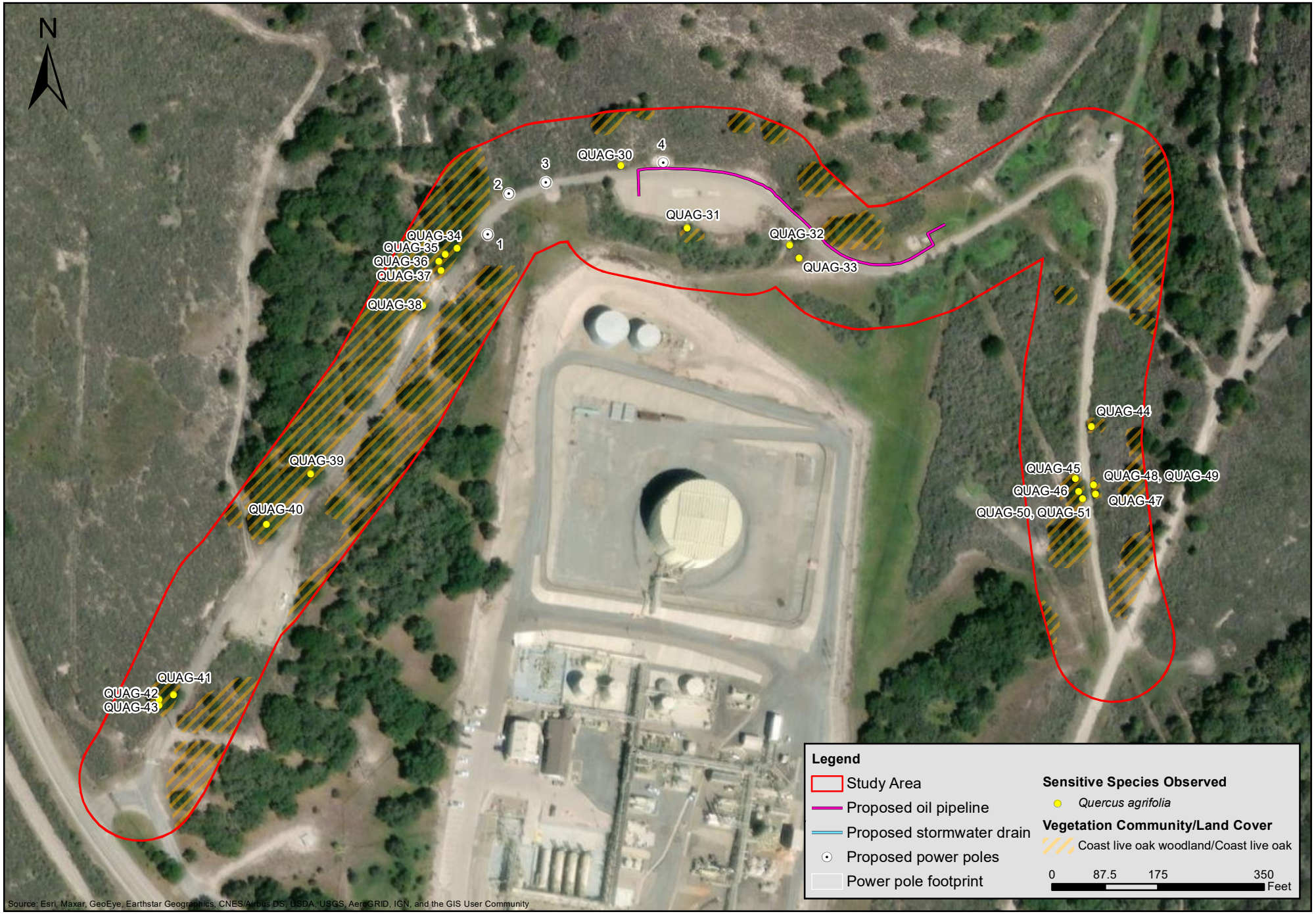
Figure 1 - Project Vicinity

DRWG: W. Dawson Date: 1/5/2023 Revision: 0

Proposed Truck Ramp Project - Lompoc Oil Field
Sentinel Peak Resources

Figure 2 - Project Site

DRWG: W. Dawson Date: 6/15/2023 Revision: 0



SENTINEL PEAK RESOURCES

Proposed Truck Ramp Project - Lompoc Oil Field
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Figure 3 - Coast Live Oak Tree Locations

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DRWG: W. Dawson Date: 5/22/2023 Revision: 0