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Revised

Biological Resources Survey Report

for the

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

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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**). 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 (LOTF), 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 located in Coalinga, California.

At the request of SPR, AECOM Technical Services, Inc. (AECOM) conducted a literature review and field survey of the proposed Project footprint and surrounding areas to document biological resources present in the vicinity of the proposed Project. This report summarizes the methods and results of the surveys, assesses potential Project-related impacts to biological resources, and provides recommended mitigation measures to avoid, minimize, or mitigate Project-related impacts to biological resources at the Project site on the Lompoc Oil Field in Santa Barbara County, California. A summary of the biological resources known to occur or potentially present along the trucking route from the Lompoc Oil Field to Coalinga Station is prepared as a supplementary, stand-alone report and is not included in this report.

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 SPR 4-inch Oil Shipping Line, the production shipped through the proposed truck rack is under the ownership of SPR. The majority of the existing 4-inch line is above ground except at road crossings. Impervious surfaces necessary for secondary spill containment will encompass approximately 19,000 square feet (ft^2), all of which will be constructed on existing developed areas. Net fill is estimated to equal approximately 550 cubic yards (cy).

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. SPR proposes to install bollards with safety rails around the wellhead of Purisima 33 to shield it from truck traffic.

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.

The site improvements will include a new v-ditch and AC berm to divert run-on around the loading rack pad to a new storm drain inlet. The storm drain will connect to a new drain line buried under the existing previously disturbed lease road. The drain line will terminate into a new rip-rap energy dissipater directing stormwater flow into the existing drainage. Additionally, the loading rack/Purisima 33 pad will have a new containment berm installed to capture potential spills and stormwater on the pad. The new pad drain will be valved and will follow existing requirements per the Industrial SWPPP prior to flowing into a new drain line installed under the existing previously disturbed well pad. The drain line will connect to the new v-ditch drain line under the existing previously disturbed lease road.

SPR does not anticipate any increase in the throughput of oil, water, and gas following the installation of the truck loading rack. The proposed Project will require minimal grading to the pad as the existing surface is level. Construction of containment berms and paving of the existing access roads will occur during construction. No new habitable structures, landscaping, parking, or utilities (e.g., water and sewer) are proposed as part of this Project. Existing power is routed to the pad; however, a portion will be rerouted to allow equipment access. The reroute will require the removal and replacement of one power pole and the installation of four new power poles. The electrical system is owned and operated by SPR.

The proposed Project will require trimming a small number of oak trees along the access roads to Purisima 33 to allow overhead clearance of roadways. The extent of trimming is described in more detail in **Section 3.2.4** of this report.

Currently, there are eight (8) full-time employees working in the field and there will be no change in the number of full-time employees as a result of this Project. Overall, Project-related permanent impacts comprise approximately 31,000 ft^2, all of which will be restricted to previously disturbed areas immediately adjacent to existing developed areas. The Project proposes to add approximately 24,500 $ft^2$of impervious surfaces.

Table 1 provides a summary of the project features.

1.1.1 Construction Details

The Applicant proposes to complete construction of the Project site within three (3) to six (6) months. Construction activities will occur during the day for eight (8) hour periods, five (5) days per week.

Construction crews will utilize the following equipment:

- Backhoe
- Loader
- Motor Grader
- Elevating Scraper
- Dump Truck
- Crew Truck
- Welding Truck
- Crane
- Cement Mixer
- Paver
- Roller

Table 1 Project Summary Table.

Component	Existing	Proposed Project / Change
Acreage	39.51; 2,243 acres (parcels)	0.71 acres (proposed Project area, includes a small portion of APN 097-360-012)
Production* (Gross Average)	640 BOPD**, 570 MSCFD***, 57,000 BWPD****	No change
Commodity	21° API crude oil	No change
Number of Employees	Eight (8)	No change
Site Access	Harris Grade Rd	Private Lease Roads via Harris Grade Rd
Estimated Termination Date	-	50 years
Hours of Operation	24-hour operations	24-hour operation, no change
Water Use (Annually)	None	None
Phased Development	-	Three (3) - six (6) months (total construction period)
Earthwork/Grading	-	Cut: 150 cy Fill: 700 cy Net: 550 cy
Truck Trips	-	• Six (6) daily round trips per day (twelve (12) single trips), and; • Up to ten (10) round trips (twenty (20) one-way trips) per day under special circumstances. • Maximum of 2,000 truck trips annually
Truck Capacity	-	160 barrels
Truck Loading Rate	-	160 - 320 barrels/hour
Landscaping	None	None
Tree/Vegetation removal	None	None (trimming as needed)
Utilities	Water – Municipal Gas – N/A Electrical – PG&E Sewage - Septic	No change. This Project does not involve any new utility connections or requests for service.
Impervious Surfaces	None	24,500 ft^2
Equipment	• Stored pipes • Existing T-110/T-500 Oil Tanks	• Truck Loading Rack with secondary containment • P-140 LACT Charge Pumps • LACT 150 Automatic Custody Transfer • H2S Removal System- 2 Vessel System • VOC Removal System- 2 Vessel System
Buildings	-	No habitable structures are proposed as part of this Project.
Lighting	None	Minimal lighting will be installed at the proposed truck loading area and around the equipment.
Security	Perimeter fencing	No change
Hazardous Materials	None	None
Fire Protection	Municipal water supply	No change

*Based on the 2021 gross average; ** Barrels of Oil per day; *** Million standard cubic feet per day; **** Barrels of water per day

The Applicant expects approximately eight (8) to ten (10) workers on-site during a given time. Grading activities consist of scraping 6 inches off the existing pad/road and adding 6 inches of compacted aggregate base for impervious containment. The above-mentioned equipment will be removed from the Project site upon completion of construction activities.

1.2 Project Location

The proposed 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 (CalGEMD) 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 the 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 LOGP, east of Harris Grade Road, and encompasses approximately 0.39 acre. The associated access roads include about 3,000 feet of existing unpaved lease roads.

1.3 Study Area

The study area for the biological surveys encompasses the proposed Project footprint, which includes the boundaries of the production pad Purisima 33 and the associated existing unpaved access roads from their intersections with the larger lease roads to the production pad. The study area also includes a 100-foot buffer of these areas. The study area encompasses approximately 16.7 acres and ranges in elevation from about 680 feet to 740 feet above mean sea level (msl; **Figure 2**).

2.0 Methodology

AECOM conducted a pedestrian survey of the study area in December 2022 to identify and quantify biological resources that may be subject to impacts due to Project-related activities. Prior to conducting the field survey, AECOM biologist Wynter Dawson conducted a desktop review of the California Natural Diversity Database (CNDDB; CDFW 2022a) for historical records of special-status plant and wildlife species and sensitive terrestrial or aquatic communities within the vicinity of the proposed Project. The review included all extant and presumed extant records within a 1-mile radius of the study area; extirpated records were not considered in the analysis.

Ms. Dawson conducted the biological field survey of Purisima 33 and the associated access roads from 07:15 a.m. to 10:00 a.m. on December 19, 2022. Conditions were clear and calm, with air temperatures of approximately 44° Fahrenheit. The survey consisted of meandering pedestrian transects with 100 percent coverage of the proposed Project footprint. Areas within the 100-foot buffer were surveyed on foot to the extent feasible; where steep slopes, dense vegetation, or poison oak (*Toxicodendron diversilobum*) limited access, the buffer area was surveyed from the edges using binoculars. A review of aerial photographs assisted with mapping of special-status tree and shrub species where the buffer could not be surveyed on foot.

The survey was focused on identifying special-status plant and wildlife species and their sign, and documenting habitat types and general habitat quality. Native and non-native plant species were identified to species and incidental wildlife observations were recorded. Locations of special-status plant species were documented using a handheld GPS-capable cellular device. Photographs were taken to document site conditions. A diameter-at-breast-height (DBH) was measured for any coast live oak (*Quercus agrifolia*) trees that may be subject to Project-related impacts, such as trimming; DBH was not measured for coast live oak trees within the buffer but outside the proposed Project footprint and that would not be subject to trimming or other direct impacts. In some cases, DBH was visually estimated due to the presence of dense poison oak, steep slopes, or sensitive resources that limited access to the trunk.

For the purposes of this report, special-status species are those species that meet one or more of the following criteria:

- Species listed as threatened, endangered, or as a candidate for threatened or endangered status under the federal Endangered Species Act;
- Species listed as threatened, endangered, or as a candidate for threatened or endangered status under the California Endangered Species Act;
- Plant species listed as Rare under the California Native Plant Protection Act;
- Plant species designated with a California Rare Plant Rank (CRPR) of 1, 2, or 4, by the California Native Plant Society (CNPS);
- Wildlife species designated as California Species of Special Concern or Fully Protected by the California Department of Fish and Wildlife; and,
- Species considered to be locally sensitive by the County of Santa Barbara.

3.0 Survey Results and Preliminary Impact Analysis

The proposed Project occurs on an existing production pad and unpaved roads within the Lompoc Oil Field. **Appendix A** provides photographic documentation of the site conditions at the time of the surveys. **Appendix B** provides a list of the plant and wildlife species observed within the study area during the surveys.

3.1 Land Covers and Vegetation Communities

The following sections summarize the vegetation communities and other land covers observed within the study area. Vegetation communities are described following *A Manual of California Vegetation* (Sawyer *et al.* 2009), as defined by the dominant species present. Land covers are described by their primary use. **Figure 3** displays the vegetation communities and land covers throughout the study area.

A few areas were recently disturbed and unvegetated at the time of the field survey, with straw wattles present for erosion control. Hydroseed had been applied, but no germination was observed in December. This included a portion of the powerline corridor on the slope west of Purisima 33, and an area along the access road immediately east of the production pad. These disturbances are related to a separate pipeline installation project conducted by Southern California Gas and are not

related to the proposed project or SPR's operations at the oilfield. These areas are designated as Bare on **Figure 3.** One of the four new power poles, Pole 3, occurs entirely within this bare area.

3.1.1 Developed

Developed areas include existing paved and unpaved roads, production pads, and other oilfield infrastructure. These areas are subject to regular use and are maintained to be generally free of vegetation. Developed areas are often paved and/or exhibit highly compacted substrates and represent limited habitat value for native plants and wildlife.

The majority of Project-related work activities will occur in existing, developed areas. Developed areas include Pad Purisima 33, existing roads and the existing oil field facilities. All equipment and material staging will occur in developed areas including Pad Purisima 33, and vehicle and equipment access will occur via existing roadways.

3.1.2 Ruderal/Disturbed

Ruderal areas are typified by frequent disturbance and association with developed areas. These areas may occur adjacent to existing production pads, roadways, and other facilities, and generally support sparse vegetation or a high relative cover of non-native invasive species. Cover of bromes (*Bromus* spp.), filarees (*Erodium* spp.), mustards (*Hirschfeldia* spp. and *Brassica* spp.), and other annual grasses and herbs are typical of ruderal areas. Ruderal areas are of reduced habitat value for native plant and wildlife species, although some species do utilize these areas for foraging and sheltering.

Within the study area, ruderal areas occur on the edges of the production pad and access roads. Ruderal areas are generally sparsely vegetated, dominated by non-native and annual species, and in some areas supported only the remnants of last season's vegetation. Due to the timing of the survey, not all species were identifiable. Red brome (*Bromus madritensis*), cheeseweed mallow (*Malva parviflora*), red-stem filaree (*Erodium cicutarium*), and native telegraphweed (*Heterotheca grandiflora*) were commonly observed in these areas.

One proposed power pole, Pole 4, is within an area mapped as ruderal/disturbed. This power pole will replace an existing pole and will occur within the footprint of that existing power pole. Areas around the power poles are maintained free of vegetation as a wildfire prevention measure and to facilitate access for necessary maintenance of the infrastructure on the power pole. During the survey, the area around the existing power pole supported only a low cover of ruderal herbaceous species. Additionally, approximately 340 linear feet of the proposed new 4-inch aboveground oil pipeline will be installed on sleepers within the ruderal areas on the shoulder of Purisima 33.

3.1.3 Coast live Oak Woodland

Coast live oak woodland (*Quercus agrifolia* forest and woodland alliance) is a common community within the Lompoc Oil Field and occurs adjacent to the proposed Project work areas. Coast live oak woodland is defined by coast live oak comprising more than 50 percent of the relative cover within the tree canopy. Trees may measure up to 30 meters (98 feet) in height. The canopy ranges from open to continuous, with a sparse to intermittent shrub layer and a sparse or grassy herbaceous layer. This community occurs on alluvial terraces, canyon bottoms, stream banks, slopes, and flats, were deep, sandy or loamy soils with high organic matter occur (Sawyer *et al.* 2009).

Coast live oak woodland and individual coast live oaks occur in the vicinity of Purisima 33 and the access road. Most stands are open-canopy coast live oak woodland with a grassy and shrubby understory, although denser, closed-canopy coast live oak woodland with a thick duff layer also occurs in the buffer. The understory within the study area tends to support a high relative cover of native poison oak (*Toxicodendron diversilobum*). No work will occur within undisturbed coast live oak woodland and no heavy equipment will enter the dripline of mature coast live oaks, except where the driplines extend over existing roads. No infrastructure, including aboveground pipelines, will be placed within the dripline of an existing coast live oak tree.

3.1.4 California Sagebrush Scrub

California sagebrush scrub (*Artemisia californica* shrubland alliance) is patchy in occurrence throughout the Lompoc Oil Field, usually occurring on slopes and in openings between stands of mature coast live oaks. California sagebrush (*Artemisia californica*) is dominant or co-dominant in the shrub canopy with a variety of other shrub species. The shrub layer may be intermittent or continuous, with a variable herbaceous layer. Other species representative of this community include bush monkeyflower (*Diplacus [Mimulus] aurantiacus*), coyote bush (*Baccharis pilularis*), deerweed (*Acmispon glaber*), chamise (*Adenostoma fasciculatum*), and poison oak. California sagebrush scrub typically occurs on steep slopes and rarely-flooded stream-side deposits, on alluvial- or colluvial-derived shallow soils (Sawyer *et al.* 2009).

California sagebrush scrub is one of the most common vegetation communities within the study area. Undisturbed, healthy California sagebrush scrub occurs north of Purisima 33 and along portions of the access road east and west of the production pad. Shrub cover tends to be high in most areas and non-natives occur at low cover; when non-natives are present, they occur mostly near the edges of developed or ruderal land covers. Coast live oaks occur scattered throughout the scrubland.

Two of the four proposed new power poles, Poles 1 and 2, occur within California sagebrush scrub, requiring the removal of approximately 630 ft^2 of this vegetation community. Additionally, the proposed 4-inch oil pipeline will occur on the edge of the California sagebrush scrub between the tie-in and Purisima 33; the Project may require temporary trimming of shrubs on the shoulder in order to facilitate work activities but will not remove any shrubs.

3.1.5 Annual Grassland

Annual grasslands are not a recognized vegetation community in the *Manual of California Vegetation*. These communities are dominated by introduced grasses, typically bromes (*Bromus* spp.), which are widespread in the Central Coast region of California. Species diversity is variable in the herbaceous layer, but the shrub and tree strata are generally limited, although emergent trees may be present at low cover.

Within the study area, annual grasslands are an anthropogenic community associated with areas of regular maintenance such as mowing. This community occurs immediately north of the Lompoc Oil and Gas Plant, in a small area at the southwest end of the study area, and in some areas along the shoulder of the existing access road. Annual grasslands in the study area are maintained (i.e., mowed) to limit the incursion of shrubs and trees. These areas may offer foraging habitat for wildlife such as mule deer (*Odocoileus hemionus*) and ground-foraging birds, as well as potentially suitable habitat for ground squirrel (*Otospermophilus beecheyi*) colonies, although no such uses were observed during the field survey.

A limited area of non-native annual grassland will be removed due to construction of the riprap energy dissipator at the end of the stormwater drain from Purisima 33. The dissipator will be positioned immediately adjacent to the existing roadway, where non-native species tend to be more abundant. No other impacts to annual grassland are anticipated.

3.1.6 Coastal Scrub

Coastal scrub (*Baccharis pilularis* shrubland alliance) is characterized by dominant or co-dominant coyote bush in the shrub canopy with other native shrubs, and emergent trees present at low cover. Other representative species may include California sagebrush, poison oak, coast live oak, bush monkeyflower, buckwheats (*Eriogonum* spp.), sages (*Salvia* spp.), and California coffeeberry (*Frangula californica*). Shrubs are generally less than 3 meters (10 feet) in height, with a variable canopy and herbaceous layer. It occurs on a variety of soils on open exposed slopes, coastal bluffs, stabilized dunes, stream sides, and gaps in forest stands (Sawyer *et al.* 2009).

Within the study area, coastal scrub occurs along the access road; it is also present to the immediate south and southeast of Purisima 33 where it is characterized as slightly to moderately degraded due to a high density of invasive plant species. Coastal scrub in the study area is dominated by coyote bush, with lower cover of California sagebrush and poison oak, scattered Douglas' nightshade (*Solanum douglasii*), blue elderberry (*Sambucus nigra*), and coast live oak. There is a high seasonal component of non-native grasses and poison hemlock; although growth was limited in December, remnants of the previous season's hemlock stands were identifiable. Poison hemlock can exhibit allelopathic effects that can limit the growth of other competing species, reducing species diversity over time (Hillman 1997).

No Project features are located within coastal scrub areas; the Project does not include any removal or trimming/trampling of coastal scrub habitats. The proposed Project also is not anticipated to result in any changes to the current maintenance activities along the existing access roads, which may include seasonal trimming to limit coastal scrub incursion into the roadway and maintain clear line-of-sight of existing above ground pipelines as required for regular pipeline integrity visual inspections.

3.2 Special-status Species Observations

The following sections described the special-status species observed during the survey and potential impacts to these species due to Project-related activities. **Figure 3** provides a graphic representation of the locations of observed special-status species.

3.2.1 La Purisima manzanita

La Purisima manzanita is a perennial evergreen shrub with red trunks, small, bright green spade-shaped leaves and small, white to pinkish flowers. It blooms from January to March. La Purisima manzanita occurs only within Santa Barbara County, on sandstone outcrops and sandy soils in chaparral habitats at elevations up to 300 meters (984 feet) above msl (CNPS 2023, Jepson 2023). La Purisima manzanita is designated with a CRPR of 1B.1 by the CNPS, and is threatened by urbanization, habitat conversion, and oil extraction activities (CNPS 2023).

One La Purisima manzanita was observed during the survey, located off the edge of the western access road near Purisima 33 (**Figure 3**). Because of its position off the road edge, no impacts to the

manzanita are anticipated. Measures to avoid and minimize impacts to La Purisima manzanita are provided in **Section 4.2**.

3.2.2 Blue elderberry

Blue elderberry (*Sambucus nigra*) is a perennial shrub with bright green, serrated leaves and clusters of tiny, creamy white flowers that yield deep blueish fruit. It blooms from March to September. It ranges throughout California, favoring streambanks and open areas at elevations up to 3,000 meters (914 meters) above msl (Jepson 2023). Blue elderberry does not have a designated CRPR, but elderberry stands are considered a sensitive natural community by the CDFW (CDFW 2022b).

Four blue elderberry shrubs were observed in the scrubland south of Purisima 33 (**Figure 3**). All were in poor condition during the survey, appearing mostly or completely dead; this may have been due to the season. One shrub is located near the edge of the production pad but is outside the proposed secondary containment berms and will not be disturbed. One shrub is located south of the proposed storm drain pipeline; this shrub will also be avoided during construction. The other shrubs are downslope within the scrubland. There will be no trimming or removal of any blue elderberry shrubs.

3.2.3 Bishop pine

Bishop pine (*Pinus muricata*) is a coniferous tree with paired, green needles measuring 2 to 6 inches in length, ridged bark, and persistent, brown to grey generally closed cones. It ranges along the coast of California in closed-cone pine forests and chaparral habitats at elevations up to 300 meters (984 feet) above msl (Jepson 2023). Bishop pine does not have a designated CRPR, but Bishop pine woodland is considered a sensitive natural community by the CDFW (CDFW 2022b).

One Bishop pine was identified along the western access road (**Figure 3**). The tree is located at the edge of the road but does not overhang the road and would not be subject to trimming or removal. No impacts to Bishop pine are anticipated.

3.2.4 Coast live oak

Coast live oaks are abundant within portions of the Lompoc Oil Field including within the study area. Coast live oaks are evergreen trees that occur in valleys and on slopes in woodland and mixed-evergreen forests at elevations up to 1,440 meters (4,725 feet) msl (Jepson 2023). Coast live oak is a locally sensitive species in Santa Barbara County. Individuals are protected by the Santa Barbara County Deciduous Oak Tree Protection and Regeneration Ordinance, adopted by the County Board of Supervisors as Ordinance No.4490 on April 15, 2003. The ordinance defines a “protected tree” as one with a DBH of 4 inches or greater and specifies that removal of protected trees must be mitigated.

Although coast live oaks are common in the study area, the majority of these trees occur outside the Project footprint and will be avoided during Project-related work activities. **Table 2** below summarizes the characteristics of those coast live oaks that occur immediately adjacent to the access roads and production pad, and the anticipated maximum level of impacts to each tree. **Figure 3** displays their locations. Impacts, including trimming, will be minimized to the extent necessary to facilitate passage of vehicles on existing roadways. 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 4.2**.

Table 2. Characteristics of Coast Live Oaks (*Quercus agrifolia*) Near Project Footprint

Tree No.	Diameter at Breast Height (inches)	Anticipated Project-related Impacts
Quag-30	5.2	No impacts. Tree located on a slope north of pad, protected by existing aboveground pipelines.
Quag-31	14.2*	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. No trimming or removal of the tree is anticipated.
Quag-32	9.3	No impacts anticipated.
Quag-33	3.8	Insufficient dbh, not protected oak. No impacts anticipated.
Quag-34	75.7	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-35	40.7	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-36	26.6	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-37	7.5	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-38	28.7	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-39	29.8	Potential trimming of up to 10% of canopy overhanging access road, including branches 2-4 inches in diameter.
Quag-40	61.4	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.
Quag-41	50.5	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy).
Quag-42	9.5	No impacts anticipated.
Quag-43	8	No impacts anticipated.
Quag-44	8*	Minor trimming of overhanging branches may be needed to provide vehicle clearance (<5% of canopy). Estimated dbh due to dense poison oak.
Quag-45	38.6*	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.
Quag-46	19.4	Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).
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).
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).
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).
Quag-50	10.0	Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).
Quag-51	11.1	Very minor trimming may be needed to keep road clear (<5% of canopy, only branches <1 inch diameter).

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

3.3 Special-status Species Not Observed but with Potential to Occur

Appendix C provides a summary of the species with CNDDB records that occur within a 1-mile radius of the proposed Project with an assessment of each species' potential to occur within the Project vicinity. The following special-status species were determined to have at least a moderate potential to occur within the Project vicinity during construction based on the habitat types and quality present within the study area and previous observations of sign within the Lompoc Oil Field. Species with limited potential to occur are included in **Appendix C** but are not discussed further in this report.

3.3.1 Blainville's horned lizard

Blainville's horned lizard (*Phyrnosoma blainvillii*) is an uncommon to common resident of suitable coastal sage scrub, chaparral, hardwood, mixed hardwood, and coastal dune habitats. It occurs at elevations up to 2,500 meters (8,200 feet) msl, typically in areas with widely spaced shrubby vegetation. Blainville's horned lizard specialize in feeding on native ants including harvester ants (*Pogonomyrmex* spp.), although they will prey on a variety of other invertebrates including spiders, beetles, termites, grasshoppers, moth larvae, and flies. Horned lizards are primarily active during the day, retreating underground during periods of cool weather or extreme heat. Eggs are laid from May to June, and young hatch and disperse in August and September (Jones and Lovich 2009; Nafis 2023). Blainville's horned lizard is a California Species of Special Concern (CDFW 2023).

No Blainville's horned lizards were observed during the surveys; timing and environmental conditions of the survey were not suitable to detect this species. Potentially suitable habitat for this species occurs throughout the study area, especially at road and pad edges where coast horned lizards may bask. There is one historic record for the species near the proposed Project (**Figure 4b**), located approximately 890 feet south of the western terminus of the access road (CDFW 2022a).

Blainville's horned lizards present within the study area during construction may be at risk of injury or mortality due to collisions with vehicles or heavy equipment, or through collapse of underground tunnels being used as refugia. Horned lizards' tendency to stay still and rely on camouflage to avoid notice can make this species particularly vulnerable to these kinds of impacts. Entrapment in open trenches or excavations is also a risk. Additionally, individuals in the vicinity may be subject to temporary exposure to increase noise, vibration, and human presence, which may disrupt normal foraging and sheltering behaviors. Measures to avoid and minimize impacts to Blainville's horned lizard are described in **Sections 4.1 and 4.3**.

3.3.2 Northern California legless lizard

The northern California legless lizard (*Anniella pulchra*) is a secretive, fossorial species that occurs in desert scrub, sand dune, chaparral, pine and/or oak woodland, sandy washes, and cottonwood- (*Populus*) or sycamore- (*Planatus*) dominated riparian habitats from Contra Costa County south to Ventura County. It occurs from sea level to 1,800 meters (5,900 feet) above msl. Legless lizards can be found in moist, warm, loose sandy or sandy-loamy soils with sufficient plant cover and moisture. Primarily diurnal, they forage for larval insects and small invertebrates including beetles, termites, and spiders below the surface or in loose leaf litter. Legless lizards are viviparous, breeding in the spring or early summer and bearing live young from September to November (Jones and Lovich 2009; Nafis 2023). Northern California legless lizards are considered a California Species of Special Concern (CDFW 2023).

No northern California legless lizards were observed during the surveys. Habitat quality for this species is generally poor within existing developed areas due to the presence of very dry, highly compacted soils associated with developed and ruderal areas and the absence of shrub cover that provide leaf litter for foraging. Potentially suitable friable soils may occur in the undisturbed native communities adjacent to Purisima 33 and the access roads, including areas along the proposed 4-inch oil pipeline and at the power pole locations. One record for northern California legless lizards occurs within a 1-mile radius of the study area, located approximately 0.78 mile southwest of the western terminus of the access road (**Figure 4b**; CDFW 2022a). It is assumed legless lizards may be present throughout the native shrubland and woodland habitats within the study area.

If northern California legless lizards were present within the Project footprint during construction. individuals may be at risk of injury or mortality due to collisions with vehicles or heavy equipment, especially during ground-disturbing activities, including installation of the power poles. Individuals also may be injured or killed through collapse of underground tunnels being used as refugia. Entrapment in open trenches or excavations is also a risk. Additionally, individuals in the vicinity may be subject to temporary exposure to increase noise, vibration, and human presence, which may disrupt normal foraging and sheltering behaviors. Measures to avoid and minimize impacts to northern California legless lizards are described in **Sections 4.1 and 4.3**.

3.3.3 American badger

The American badger (*Taxidea taxus*) is a medium-sized member of the mustelid family and an uncommon resident throughout California. American badgers occur in drier, open stages of most shrub, woodland, and herbaceous habitats, where friable soils and sufficient suitable prey species occur. These medium-sized carnivores take a variety of prey, including reptiles, birds, eggs, carrion, and insects, but are specialized predators of fossorial rodents, especially pocket gophers (*Thomomys* spp.), ground squirrels, and their relatives. Fossorial in nature, badgers utilize dens for shelter and breeding. Dens may be dug by the badger or repurposed ground squirrel burrows; old dens may be reused, or a new den may be dug every night (Zeiner *et al.* 1990, Eder 2005). Dens may measure up to 30 feet in length, with a diameter of approximately 1 foot (Eder 2005). Mating occurs in the summer or early fall, with young born the following March or April and cared for in natal dens. Threats to badgers include rodent control and eradication practices that eliminate prey populations, use of rodenticides, habitat loss and conversion, and indiscriminate trapping (Zeiner *et al.* 1990, Eder 2005).

No American badgers or sign of American badgers including tracks, scat, or dens, were observed during the surveys. Prey species were not observed with the study area, although pocket gophers may be present within the canopy of nearby mature coast live oaks. One record for American badger occurs within a 1-mile radius of the study area (**Figure 4b**). The record is geographically non-specific, encompassing the entirety of the Burton Mesa Ecological Reserve; the edge of the record is located approximately 0.3 mile southwest of the western terminus of the access road (CDFW 2022A). American badgers are assumed to occupy the Lompoc Oil Field.

American badgers present in the vicinity of the Project could be subject to injury or mortality due to collisions with vehicles or heavy equipment. If work occurs during the pupping season and a natal den occurs within the work area, pups could be injured or killed due to grading and other equipment use that collapses the den. Entrapment in open trenches or pits is not believed to be a risk to this species due to the relative size of the excavations compared with the body size of an adult badger. However, badgers located in the vicinity of the Project work area may be subject to a temporary

increase in noise, vibration, and human presence that could temporarily disrupt natural hunting and sheltering behaviors. Measures to avoid and minimize impacts to American badgers are described in **Sections 4.1 and 4.3**.

3.3.4 Desert woodrat

The desert woodrat (*Neotoma lepida*) is a common to abundant resident in a variety of arid and semi-arid habitats through southern California (Zeiner *et al.* 1990). They occur in coastal sage scrub, desert, juniper-pinyon, chaparral, and sagebrush areas as well as a variety of other habitats from sea level to 2,600 meters (8,500 feet) in elevation. Desert woodrats are primarily crepuscular or nocturnal, and build middens of twigs and branches, rocks, and other available materials for shelter, food storage, and breeding. The desert woodrat has no special status. However, a subspecies, the San Diego desert woodrat (*N. l. intermedia*) is a California Species of Special Concern (CDFW 2023).

Although no San Diego desert woodrat occurrences are located within a 1-mile radius of the study area, woodrats are known to occur throughout the Lompoc Oil Field. The big-eared woodrat (*N. macrotis*) is common to abundant in the Project region; most woodrats present on the Lompoc Oil Field are expected to be big-eared woodrats. Identification to species requires examination of individuals; midden structures do not provide conclusive identification to species. One woodrat midden was observed along the access road at the base of Quag-45 during the survey; the individual woodrat was not observed and could not be identified to species. The midden is not positioned near proposed Project infrastructure and will not be subject to any Project-related impacts such as removal or relocation.

Regardless of species, it is recommended that all middens be avoided for health and safety reasons. Measures to avoid impacts to woodrat middens are described in **Sections 4.1 and 4.3**.

3.3.5 Native nesting birds

No active nests or signs of nesting were observed during the field surveys; however, the study area does occur adjacent to vegetated shrubland and woodland habitats that could serve as suitable nesting habitat for a number of native bird species. Ground-nesting species may utilize grassy and herbaceous areas as well as the edges of existing roads and pads, while tree- and shrub-nesting species may utilize chaparral and shrubland habitats adjacent to the proposed Project. Cavity-nesting species may nest within the mature oaks within the Project area buffer.

Native nesting birds are protected by California Fish and Game (CFG) Code Sections 3503, 3503.5, and 3511.3, which protect nesting native birds including both passerines and raptors. The federal Migratory Bird Treaty Act of 1918 also provides protection for breeding native migratory bird species. Impacts to nesting native birds due to Project-related activities could include destruction of eggs or nests and injury or mortality of chicks if nests occur within the Project footprint or work areas. Destruction could result from construction-related activities or vegetation clearing activities prior to construction. Additionally, nests in the Project vicinity may be subject to temporary disturbances due to Project-related noise, vibration, and human presence. Such disturbance can interfere with natural breeding behaviors including pair bonding, mating, egg laying or incubation, and caring for nestlings, or may cause adults to abandon a nest site temporarily or permanently, resulting in loss of the nest. Measures to avoid impacts to protect native nesting birds are provided in **Section 4.3**.

4.0 Recommended Measures

The following measures are recommended to avoid impacts to sensitive biological resources to the greatest extent possible from Project activities.

4.1 General Measures

BIO-1. **Pre-Construction Surveys.** A qualified biologist will conduct a comprehensive pre-construction survey for special-status plant and wildlife species within the Project footprint and a suitable buffer no more than seven (7) days prior to the start of construction. The survey will be focused on identifying and flagging special-status plants and identifying sign of special-status wildlife species (woodrat, American badger, etc.) within a 100-foot buffer of the Project footprint. Pre-construction surveys will be conducted by a qualified biologist experienced in identifying individuals and sign of special-status species known from or with potential to occur within the Lompoc Oil Field.

In the event that a special-status species is observed, efforts will be made to avoid impacts to the species through establishment of no-disturbance buffers. If listed species are observed, the appropriate agency will be contacted, and appropriate measures will be enacted prior to the start of construction.

BIO-2. **Worker Environmental Awareness Training (WEAT).** A Worker Environmental Awareness Training will be prepared and presented to all construction personnel at the start of Project-related activities. The training will discuss special-status species with the potential to occur within the Project footprint, including their regulatory status, description, and habitat requirements, and any sensitive habitat areas that may be encountered. The program will emphasize the importance of minimizing disturbance, and describe the federal, state, and local regulations protecting biological resources and the potential penalties for non-compliance with these laws and statutes.

BIO-3. **Biological Monitor**. A qualified biological monitor will be on-site during initial ground-disturbance and vegetation removal activities. If special-status plant or wildlife species are detected within the Project footprint or buffer during pre-construction surveys, a biological monitor will be present during all work activities. The biological monitor will be the principal agent in the direct implementation of mitigation measures, including administering the WEAT, conducting pre-construction surveys and compliance monitoring, and completing necessary reporting.

BIO-4. **Wildlife Entrapment Hazards.** To prevent entrapment, injury, and possible mortality of special-status and common wildlife species, open trenches and excavations will be backfilled at the end of the workday whenever possible. Trenches or excavations that cannot be backfilled at the end of the workday or are to be left open overnight will be surrounded by exclusionary fencing, securely and completely covered, and/or have wildlife escape ramps installed during non-work hours to prevent entrapment of common and special-status wildlife species.

4.2 Special-status Plant Species

BIO-5. **In-season Botanical Survey.** Prior to the start of construction, a botanical survey will be conducted of the Project footprint and a suitable buffer for special-status and listed plant species. The survey will be conducted by a qualified biologist familiar with the identifying features of special-status plants with potential to occur in the Project region and will be timed to coincide with the growing season for annual species with potential to occur, in April or May 2023. Individuals identified will be documented using GPS, their numbers estimated or extent mapped, and they will be protected from impact following the guidance in Measure Bio-6, below.

A Spring Plant Survey Report documenting the results of the in-season botanical survey is provided to the County as an addendum to this report.

BIO-6. **Special-Status Plants Protection.** Where pre-construction surveys identify La Purisima manzanita or any other manzanita species, mesa horkelia, blue elderberry, or any other special-status plant species, a no-disturbance buffer will be established using flagging or exclusionary fencing around all individuals in the vicinity of the Project footprint. No-disturbance buffers will measure no less than 12 inches from the live canopy of special-status plant species. Work will not occur within no-disturbance zones. Pedestrians will not enter a no-disturbance zone without a biological monitor present.

BIO-7. **Coast Live Oak Protection.** Project-related impacts to protected oaks will be minimized to the extent necessary to maintain open passage of vehicles on existing roadways. The dripline of protected oaks located adjacent to Project-related construction activities will be clearly delineated with flagging or exclusionary fencing. Work activities will avoid the dripline of mature coast live oak trees except where the dripline extends over the existing roadways. 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.

Trimming of protected oaks will be minimized and 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 proposed project.

A Site-Specific Tree Protection Plan is provided as an addendum to this report.

4.3 Special-status Wildlife Species

BIO-8. **Native Nesting Bird Protection.** Vegetation clearing activities and construction activities should be timed to avoid the nesting bird season (February 1 through August 31) if possible. When construction activities are required during the

nesting bird season, a qualified biologist will conduct a nesting bird survey of the Project footprint and a minimum 300-foot surrounding buffer, no more than fourteen (14) days prior to the start of construction or vegetation clearing activities.

If any active nests are identified within the Project footprint or buffer, a no-disturbance buffer will be established around the active nest, measuring no less than 500 feet for nesting raptors and 300 feet for all other species. The no-disturbance buffer will be identified in the field by flags or fencing and the construction supervisor will be notified of the no-disturbance buffer. A qualified biologist will monitor the nest for progress until such time as the nest has been determined to have failed or successfully fledged, at which time the no-disturbance buffer may be removed.

All vegetation clearing activities conducted during the nesting bird season within suitable nesting bird habitat should be monitored by a qualified biologist.

A Nesting Bird Protection Plan is provided as an addendum to this report.

BIO-9. **Blainville's Horned Lizard Protection.** If pre-construction clearance surveys identify coast horned lizards or potentially suitable conditions for coast horned lizards occur during the work period, a qualified biologist will conduct clearance surveys of work areas prior to the start of work activities each day to ensure no Blainville's horned lizards or special-status wildlife species occur within the work area. The clearance survey will be conducted by a qualified biologist. A biological monitor also will be present during any vegetation removal activities to monitor for Blainville's horned lizards and other wildlife species.

If individual horned lizards are observed, work in the immediate vicinity will be stopped and the individual will be permitted to leave the work area of its own volition, or the biological monitor will capture the individual and relocated it out-of-harm's-way to high-quality suitable habitat no more than 300 feet from the site of capture. Capture and relocation of coast horned lizards will be conducted only by persons authorized by the CDFW to handle special-status species (i.e., holders of a Scientific Collecting Permit that includes the species in question).

BIO-10. **Northern California Legless Lizard Protection.** If any vegetation clearing is necessary in an area with friable soils, a qualified biological monitor will be present during vegetation clearing activities. A monitor will be present during any excavation or disturbance to the top 18 inches of soil in areas with non-compacted, native soils.

If northern California legless lizards are observed during work activities, the biological monitor will capture the individual by hand and relocate the individual out-of-harm's-way to suitable habitat with friable soils and sufficient vegetation cover, no more than 300 feet from the site of capture.

BIO-11. **American Badger Protection.** Pre-construction surveys conducted no more than 7 days prior to the start of work activities (BIO-1) will identify and flag for avoidance all potentially active American badger dens within a 300-foot radius of the Project work areas.

If an active natal den is located within the work area or buffer, a no-disturbance buffer of no less than 300 feet will be established around the den. The den will be monitored by a qualified biologist until such time as the den is determined to no longer be occupied.

If an active non-natal den is located within the work area or buffer, a no-disturbance buffer of no less than 150 feet will be established around the den. A qualified biologist may encourage the occupant to self-relocate from the den; this action would entail partially blocking the den entrance with native soil and other natural debris, with the degree of blockage increasing incrementally over the course of several days. When the den is determined to no longer be occupied through use of tracking powder, game cameras, or visual observation, the den will be excavated by hand to ensure vacancy and backfilled to reduce the likelihood of re-occupation. Work will not proceed within the no-disturbance buffer until the den is determined to be vacant and has been excavated.

BIO-12. **Desert Woodrat Protection.** Identification of the special-status desert woodrat from the common big-eared woodrat (*Neotoma macrotis*) requires capture and examination of individuals. The Project will avoid need for such action by avoiding all woodrat middens, regardless of species, during vegetation clearing and construction. Pre-construction surveys will identify and flag for avoidance any active woodrat middens within a 100-foot radius of the Project work areas. No woodrat middens of any species are anticipated to be disturbed during Project activities, due to their position in wooded areas that will not be subject to clearing or construction activities.

If a woodrat individual is observed within a Project work area during a clearance survey or during work activities, work in the vicinity of the individual will be stopped until the individual has been identified to species or has vacated the work area of its own volition. If the individual does not vacate the work area, the biological monitor may capture the individual and relocate it to suitable vegetated habitat no more than 300 feet from the site of capture. If the individual is identified as a San Diego desert woodrat, only a qualified biologist authorized by the CDFW to handle this species may conduct the relocation.

4.4 Habitat Restoration

BIO-13. **Native Habitat Restoration.** Prior to initiation of construction, SPR will prepare a Habitat Restoration and Monitoring Plan (HRMP) for County approval, outlining the mitigation of impacts to native habitats. The HRMP will include a description of the habitats impacted and the location, proposed species palettes, installation methods, and maintenance and monitoring plan, for the habitat mitigation effort. Mitigation ratios will include a 1:1 ratio for temporary habitat impacts, a 3:1 ratio for permanent impacts to native habitats, and a 3:1 replacement ratio for any sensitive plant species removed due to Project-related activities.

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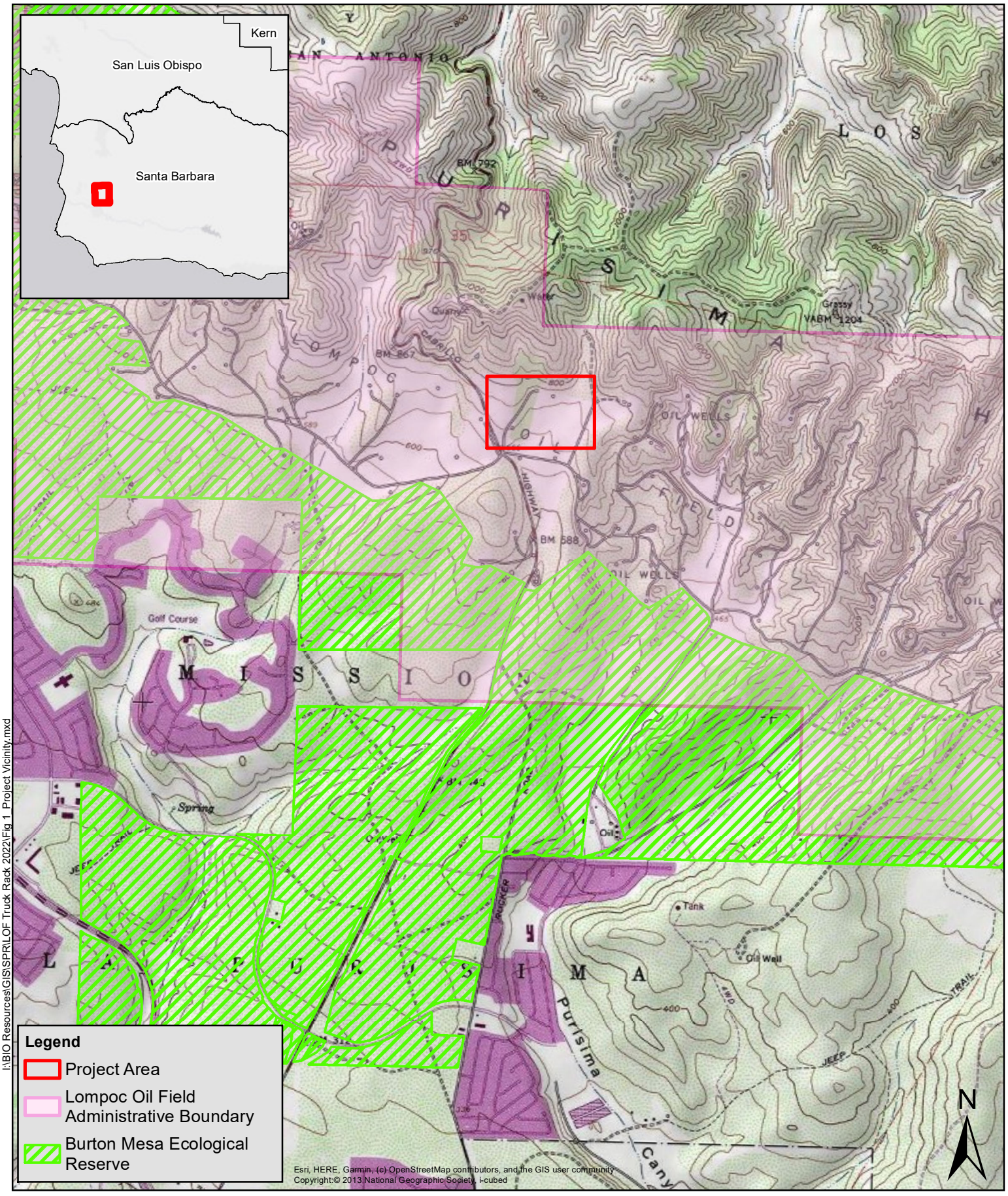
FIGURES



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Proposed Truck Rack Project - Lompoc Oil Field
Sentinel Peak Resources

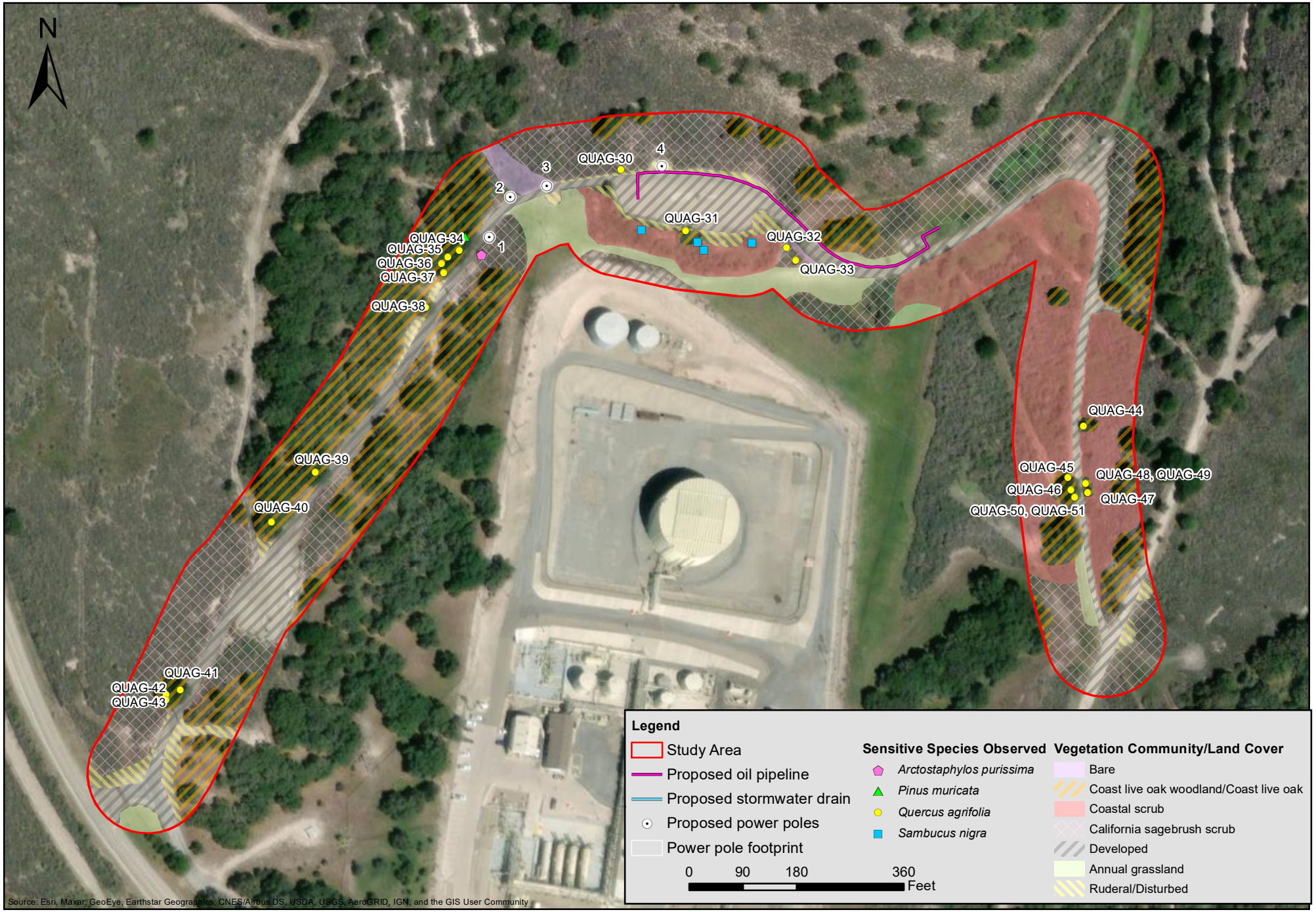
Figure 1 - Project Vicinity

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



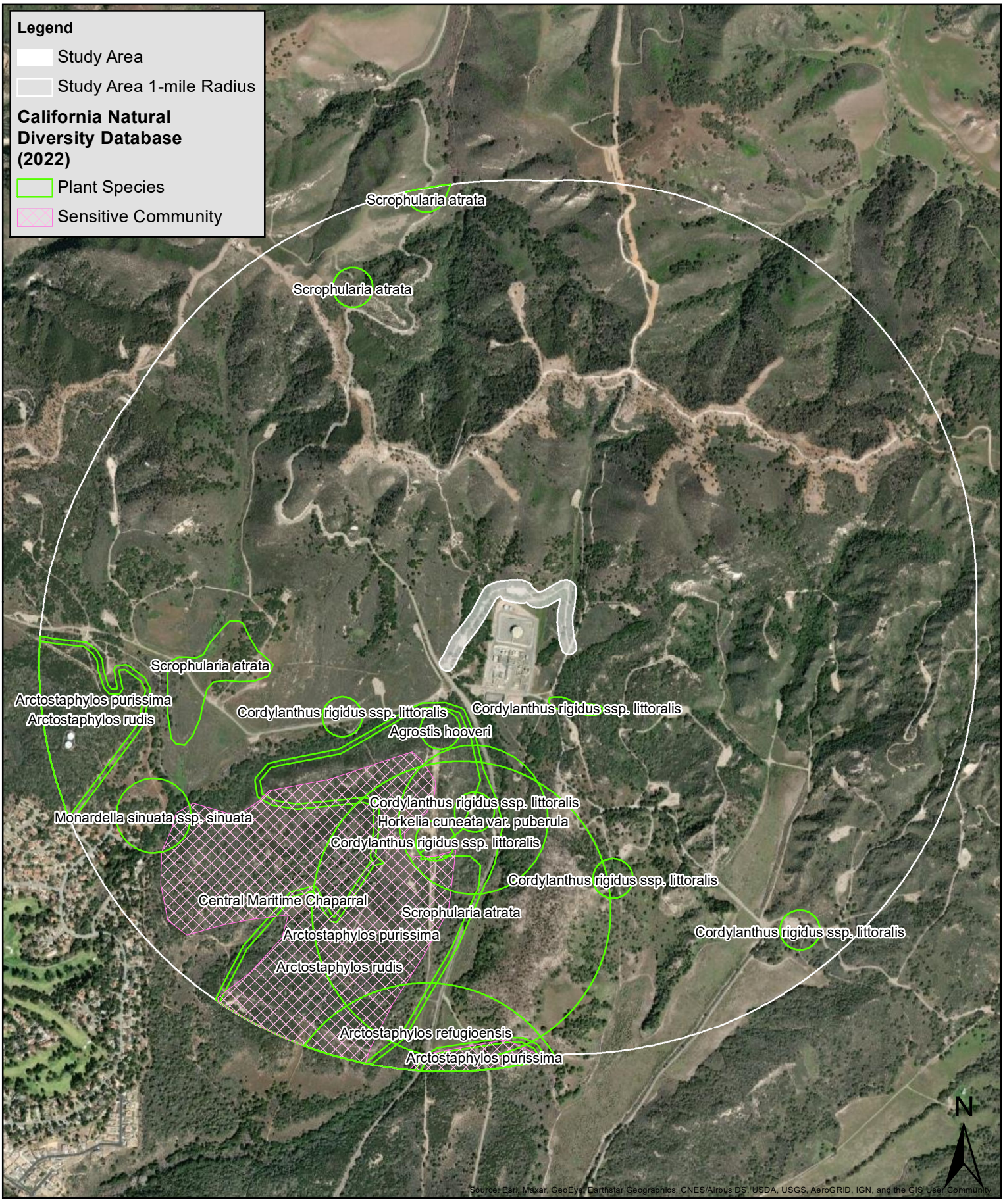
SENTINEL PEAK RESOURCES

Proposed Truck Ramp Project - Lompoc Oil Field
Sentinel Peak Resources

Figure 3 - Biological Survey Results

AECOM

DRWG: W. Dawson Date: 4/24/2023 Revision: 0



SENTINEL PEAK RESOURCES

Proposed Truck Ramp Project - Lompoc Oil Field
Sentinel Peak Resources

Figure 4a - CNDDB Plant and Sensitive Community Records

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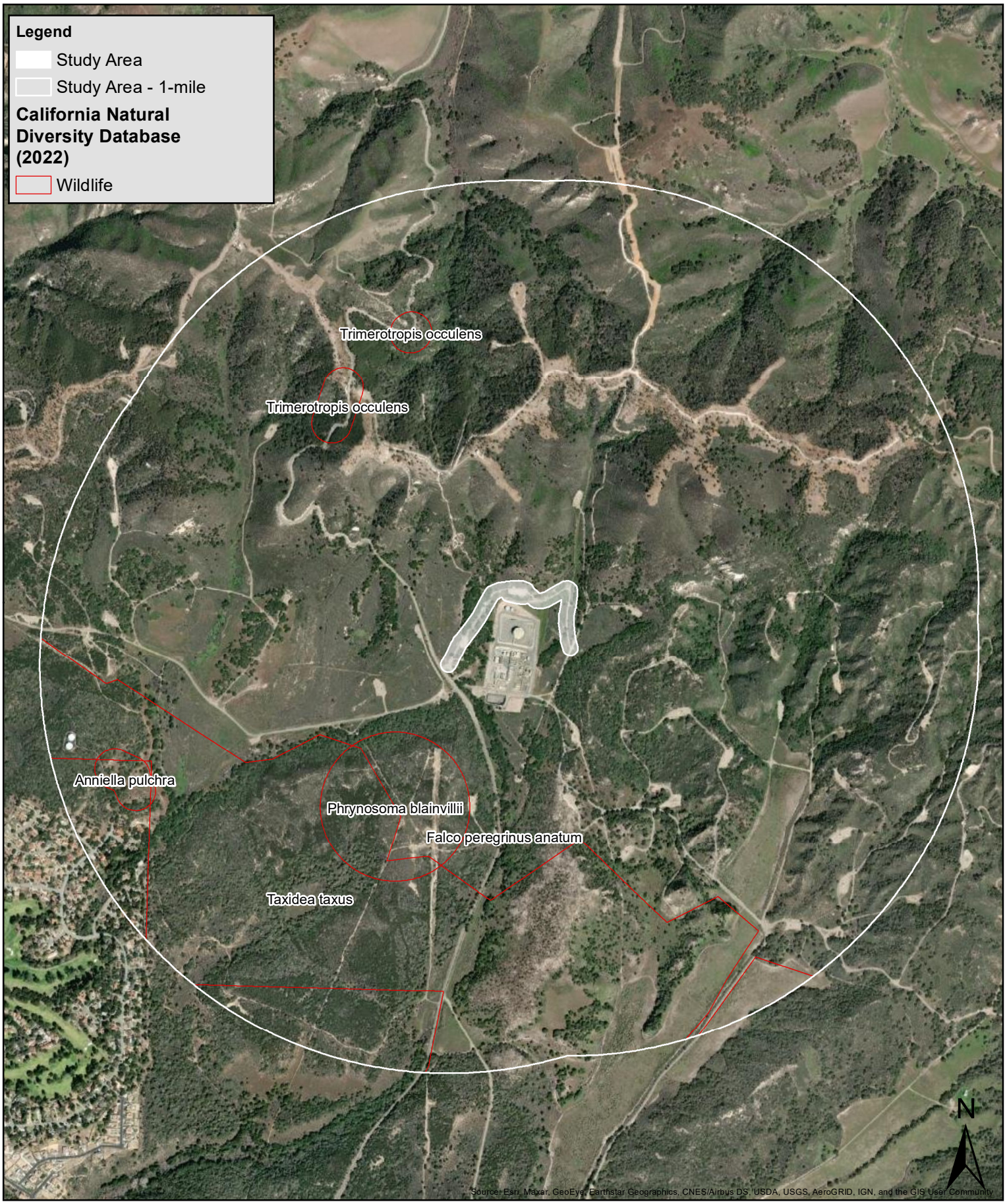

Proposed Truck Ramp Project - Lompoc Oil Field
Sentinel Peak Resources

Figure 4b - CNDDB Wildlife Records

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

APPENDIX A
Project Site Photographs
(December 19, 2022)

Photograph 1. View of Pad Purisima 33, facing west from the east access road to the production pad.

Photograph 2. View of the northern boundary of Pad Purisima 33, facing northwest, showing the existing pipelines at the edge of the production pad, with California sagebrush scrub and scattered coast live oaks (*Quercus agrifolia*).

Photograph 3. View of ruderal (foreground) at edge of production pad, with a thin band of coastal scrub that includes scattered blue elderberry (*Sambucus nigra*, white arrow), with annual grassland and the Lompoc Oil and Gas Plant in the background.

Photograph 4. View of the southern boundary of Pad Purisima 33. Quag-31 is shown with a white arrow; this tree occurs at the edge of the pad but is protected by existing infrastructure and would not be impacted by the proposed Project.

Photograph 5. View north from the eastern end of the existing access road, showing coast live oaks on edge of road. No trimming is anticipated for these trees.

Photograph 6. View north along the eastern access road, with coastal scrub habitats along road edge. Quag-44 is shown with a white arrow, and the potential extent of trimming is delineated.

Photograph 7. View southeast along the eastern access road from the sharp bend in the road.

Photograph 8. View west along the eastern access road from the sharp bend in the road, toward Pad Purisima 33.

Photograph 9. View west along the western access road from the edge of Pad Purisima 33.

Photograph 10. View of existing barren area associated with powerline corridor, located west of Pad Purisima 33.

Photograph 11. View along western access road. Bishop pine indicated with a white arrow.

Photograph 12. View of Quag-38 along western access road, with potential trimming highlighted with a dashed orange line. Trimming will be minimized and will not extend passed the edge of the existing road. Quag-39 is indicated by the white arrow.

Photograph 13. View south along western access road, showing Quag-40 (white arrow), with potential trimming lines.

Photograph 14. View north along western access road from the existing gate at the end of the road, showing Quag-41 (white arrow). Quag-42 and Quag-43 are smaller and located to the left of Quag-41, growing close together and set further back from the road.

Photograph 15. View of pole location 1 (white stake), within California sagebrush scrub.

Photograph 16. View of pole location 2 (white stake) at the edge of California sagebrush scrub.

Photograph 13. View of pole location 3 (white stake), within an area that was previously cleared by Southern California Gas and is considered bare ground.

Photograph 14. View of pole location 3 (white stake), adjacent to an existing pole and within the bare ground and ruderal footprint of the existing pole.

APPENDIX B
Species Observed Within the Project Study Area

TABLE B-1. Plant Species Observed Within the Project Study Area

Scientific Name	Common Name	Native /Introduced[1]	Regulatory Status
Acmispon glaber	Deerweed	N	-
Arctostaphylos purissima	La Purisima manzanita	N	1B.1
Artemisia californica	California sagebrush	N	-
Atriplex semibaccata	Australian saltbush	I[2]	-
Avena fatua/barbata	Wild oats	I[2]	-
Baccharis pilularis	Coyote brush	N	-
Bromus diandrus	Ripgut brome	I[2]	-
Bromus madritensis	Red brome	I[2]	-
Camissonia sp.	Primrose	N	-
Conium maculatum	Poison hemlock	I[2]	-
Cordateria selloana	Pampas grass	I[2]	-
Diplacus [Mimulus] aurantiacus	Sticky bush monkeyflower	N	-
Ehrharta calycina	Veldt grass	I[2]	-
Eriodictyon crassifolium	Thick-leaved yerba santa	N	-
Eriophyllum confertiflorum	Yellow yarrow	N	-
Erodium cicutarium	Red-stem filaree	I[2]	-
Heterotheca grandiflora	Telegraphweed	N	-
Lupinus bicolor	Bicolor lupine	N	-
Malva parviflora	Cheeseweed mallow	I	-
Nicotiana glauca	Tree tobacco	I[2]	-
Pinus muricata	Bishop pine	N	CDFW Sensitive Community
Plantago erecta	Coastal plantain	N	-
Pseudognaphalium californicum	Ladies' tobacco	N	-
Pseudognaphalium luteoalbum	Jersey cudweed	I	-
Quercus agrifolia	Coast live oak	N	Locally sensitive
Salsola tragus	Russian thistle	I[2]	-
Salvia spathacea	Hummingbird sage	N	-
Sambucus nigra	Blue elderberry	N	CDFW Sensitive Community
Solanum douglasii	Douglas' nightshade	N	-
Stachys bullata	Southern hedge nettle	N	-
Toxicodendron diversilobum	Poison oak	N	-

[1] Source: Cal-IPC 2023.
[2] Species listed as limited, moderate, or high invasiveness by Cal-IPC for the Central West region.

TABLE B-2. Wildlife Species Observed Within the Project Study Area

Scientific Name	Common Name	Regulatory Status
Birds		
Aphelocoma californica	California scrub jay	-
Callipepla californica	California quail	-
Calypte anna	Anna's hummingbird	-
Corvus corax	Common raven	-
Melozone crissalis	California towhee	-
Toxostoma redivivum	California thrasher	-

APPENDIX C
Special-status Species Not Observed but with Records within 1 Mile of the Project Study Area

TABLE C-1. Special-Status Plant Species Not Observed but With CNDDB Records Within 1 Mile of the Proposed Project

Common Name	Scientific Name	Regulatory Status*	Blooming Period	Habitat Requirements	Site Suitability	Potential to Occur
Seaside bird's-beak	*Cordylanthus rigidus* ssp. *littoralis*	CESA Threatened	Jul-Aug	Annual herb. Hemiparasitic. Occurs on sandy, often disturbed sites in dune, chaparral, coastal scrub, and closed-cone coniferous woodland habitats, at elevations up to 200 meters (656 feet) (Jepson 2023, CNPS 2023).	Species was not observed during surveys, but timing of survey may not have been suitable to detect this species. Potentially suitable habitats including disturbed sandy soils may occur along road and pad edges within the study area. Five records exist within a 1-mile buffer of the proposed Project, with the most recent in 2007; the nearest occurrence is about 680 feet south of the east end of the access road and was documented in 1985 (CDFW 2022a).	Low
Hoover's bent grass	*Agrostis hooveri*	CRPR 1B.2	Apr-Aug	Annual herb. Occurs on dry, sandy soils in open chaparral and oak woodland habitats, at elevations up to 600 meters (1,968 feet) (Jepson 2023).	Species was not observed during surveys, but timing of survey may not have been suitable to detect this species. Potentially suitable sandy soils and compatible habitats do occur within the study area but are not present within the Project footprint. One record within 1-mile radius of Project, approximately 435 feet south of the western end of the access road and was documented in 1991 (CDFW 2022A).	Low
Black flowered figwort	*Scrophularia atrata*	CRPR 1B.2	Apr-Jul	Perennial herb. Occurs on calcium- and diatom-rich soils in closed-cone coniferous forests, chaparral, coastal dune, coastal scrub, and riparian scrub habitats, at elevations up to 400 meters (1,312 feet) (Jepson 2023, CNPS 2023).	Not observed during survey. Potentially compatible habitat types do occur within the buffer but are not present within the Project footprint. Suitable soils may be present in the buffer. Three records occur within a 1-mile radius of the Project; the nearest occurrence is about 1,255 feet south of the western end of the access road and was documented in 1988 (CDFW 2022a).	Potentially present in buffer, not present in Project footprint
Refugio manzanita	*Arctostaphylos refugioensis*	CRPR 1B-2	Dec-Feb	Perennial evergreen shrub. Occurs on sandstone outcrops in chaparral habitats, at elevations of 300 to 820 meters (984-2,690 feet) (Jepson 2023).	Species was not observed during surveys and chapparal habitats are not present. One record within 1-mile radius of Project, located approximately 0.79 mile south of the western end of the access road and was documented in 2004 (CDFW 2022a).	No

TABLE C-1: Special-Status Plant Species Not Observed but With CNDDB Records Within 1 Mile of the Study Area, *continued*

Common Name	Scientific Name	Regulatory Status*	Blooming Period	Habitat Requirements	Site Suitability	Potential to Occur
Sand mesa manzanita	*Arctostaphylos rudis*	CRPR 1B.2	Nov-Feb	Perennial evergreen shrub. Occurs on sandy soils in chaparral habitats, at elevations up to 380 meters (1,247 feet) (Jepson 2023).	Species was not observed during surveys and chapparal habitats not present. One record within 1-mile radius of Project, approximately 440 feet south of the western end of the access road, documented in 2012 (CDFW 2022a).	No
Southern curly-leaved monardella	*Monardella sinuata* ssp. *sinuata*	CRPR 1B.2	Apr-Sep	Annual herb. Occurs on sandy soils in coastal strand, dune, sagebrush scrub, coastal chaparral, and oak woodland habitats, at elevations up to 300 meters (984 feet) (Jepson 2023).	Potentially suitable habitats do occur within the study area, but species was not observed during surveys. One record within 1-mile radius of the Project, located approximately 0.74 mile southwest of the western end of the access road and documented in 2004 (CDFW 2022a).	Very low
Mesa horkelia	*Horkelia cuneata* var. *puberula*	CRPR 1B.1	Mar-Jul	Perennial herb. Occurs on dry, sandy, or gravelly soils in coastal scrub, cismontane woodland, and chaparral habitats, at elevations from 70 to 870 meters (230 – 2,855 feet) (CNPS 2023, Jepson 2023)	Species was not observed during surveys, and potentially suitable habitat limited in study area. One record within 1-mile radius of Project, located approximately 1,085 feet southeast of the western end of the access road, documented in 1988 (CDFW 2022a).	Very low
California spineflower	*Mucronea californica*	CRPR 4.2	Mar-Jul	Annual herb. Occurs on sandy soils in chaparral, cismontane woodland, coastal dune and scrub, and grassland habitats, at elevations up to 1,400 meters (4,595 feet) (CNPS 2023).	Species was not observed but survey was suitably timed to detect this species. Species is not tracked in the CNDDB but is known to occur along pipeline rights-of-way and other open areas on the Lompoc Oil Field where suitable soils occur. Suitable soils may be present within the Study Area.	Low to Moderate

*Source: CNPS 2023.

Status Definitions:

CRPR = California Rare Plant Rank

1B = Plants rare, threatened, or endangered in California and elsewhere

0.1 = Seriously threatened in California

0.2 = Moderately threatened in California

TABLE C-2. Special-Status Wildlife Species Not Observed but With CNDDB Records Within 1 Miles of the Proposed Project

Common Name	Scientific Name	Regulatory Status*	Breeding Period	Habitat Requirements	Site Suitability	Potential to Occur
Invertebrates						
Lompoc grasshopper	*Trimerotropis occulens*	SA	---	Occurs in areas with pale, gravelly or rocky substrates. Range restricted to western Santa Barbara County. *Trimerotropis* grasshoppers typically prefer moderately dry, sunny habitats that are at least somewhat bare and exposed (Ferguson 2010)	Potentially suitable open, gravelly substrates may occur in the study area, particularly near the existing pads and roadways. One record within a 1-mile radius, located approximately 0.54-mile northwest of Pad Purisima 33, documented in 2012 (CDFW 2022a).	Very low
Reptiles						
Blainville's horned lizard	*Phyrnosoma blainvillii*	CSC	Eggs are laid from May to June and hatch from August to September.	Occurs in areas with widely spaced shrubby vegetation in coastal sage scrub, chaparral, hardwood and mixed woodland, and coastal dune habitats, at elevations of up to 2,500 meters (8,200 feet). Prey upon native ant species, primarily harvester ants; may also take other small invertebrates. Diurnal, taking refuge underground during periods of extreme heat or low temperatures (Jones and Lovich 2009; Nafis 2023).	Suitable open habitats and sandy soils do occur within the study area. Previous surveys have documented species throughout Lompoc Oil Field. One record within a 1-mile radius, located approximately 890 feet south of the western end of the access road and documented in 1989 (CDFW 2022a).	Moderate
Northern California legless lizard	*Anniella pulchra*	CSC	Breeds from spring to early summer, with live young born from September to November.	Highly fossorial, burrowing in loose, sandy or sandy-loam soils. Occurs in sand dune, chaparral, pine and oak woodland, and cottonwood (*Populus*) or sycamore (*Planatus*) dominated riparian habitats. Forages for larval insects and small invertebrates including beetles, termites, and spiders in loose soils, sand, or leaf litter during the day (Jones and Lovich 2009; Nafis 2023).	Soils within the Project area tend to be compacted and dry, although loose, sandy soils may occur in adjacent habitats in the buffer. One record within 1-mile radius, located approximately 0.78 mile southwest of the western end of the access road (CDFW 2022a).	Very low in production pad and existing roads, potentially present in buffer

TABLE C-2. Special-Status Wildlife Species Not Observed but With CNDDB Records Within 1 Miles of the Proposed Project

Common Name	Scientific Name	Regulatory Status*	Breeding Period	Habitat Requirements	Site Suitability	Potential to Occur
Birds						
American peregrine falcon	*Falco peregrinus anatum*	CDFW Fully Protected (nesting)	Mar-Aug	Uncommon breeding resident in California and uncommon migrant. Occurs in woodland, forest, and coastal habitats. Generally occurs near water. Birds are preferred prey, including waterfowl; also takes a variety of birds, and occasionally mammals, insects, and fish. Often breeds near water, including wetlands, lakes, or rivers. Nests in depressions or scrapes on open cliffs, dunes, mounds, transmission towers, bridges, or skyscrapers (Cornell University 2023, Zeiner *et al.* 1990).	Suitable nesting sites and foraging grounds near bodies of water do not occur within the study area. Occurrence records overlap the proposed Project, dated 2015; however, this is a non-specific record that encompasses the entire 7.5-minute USGS quad in which the Project occurs (CDFW 2022a).	Very low, transient only
Mammals						
American badger	*Taxidea taxus*	CSC	Mates in summer or early fall, with young born the following March to April.	Uncommon resident. Occurs in drier, open stages of most shrub, woodland, and herbaceous habitats, where suitable friable soils and prey species occur. Carnivorous, preferring to hunt fossorial rodents including pocket gophers (*Thomomys* spp.) and ground squirrels (*Otospermophilus* spp.), as well as other rodents, reptiles, insects, carrion, eggs, and birds. Dig burrows for breeding and sheltering; may reuse old burrows or dig a new burrow every night (Zeiner *et al.* 1990, Eder 2005).	Prey species limited within study area, although may be more abundant in adjacent woodlands and shrublands. Suitable friable soils present in some portions of study area. One record within 1-mile radius, located approximately 0.3 mile southwest of the western end of the access road, documented in 2004; this record is non-specific and encompasses the entirety of the Burton Mesa Ecological Reserve (CDFW 2022a).	Low to Moderate