4.4 Biological Resources

The following section describes the biological resources found within the Biological Study Area (BSA). The BSA includes the boundary for the Santa Maria Refinery (SMR or Refinery) Demolition and Remediation Project (Project) as defined in Chapter 2.0 (Project site) and a 100-foot buffer (Figure 4.4-1). This section also evaluates the potential of these biological resources to be impacted by Project activities as defined in Chapter 2.0, recommends mitigation measures where appropriate, and provides a discussion of cumulative biological impacts.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the SMR followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

The information provided below is a compilation of botanical and wildlife data gathered by the Applicant's consultant, ERM-West, Inc. (ERM) (ERM 2023, 2024), supplemental surveys conducted by SWCA Environmental Consultants (SWCA) and MRS Environmental, Inc. (MRS), previous California Environmental Quality Act (CEQA) documents, and information from federal, state, and local agencies.

4.4.1 Environmental Setting

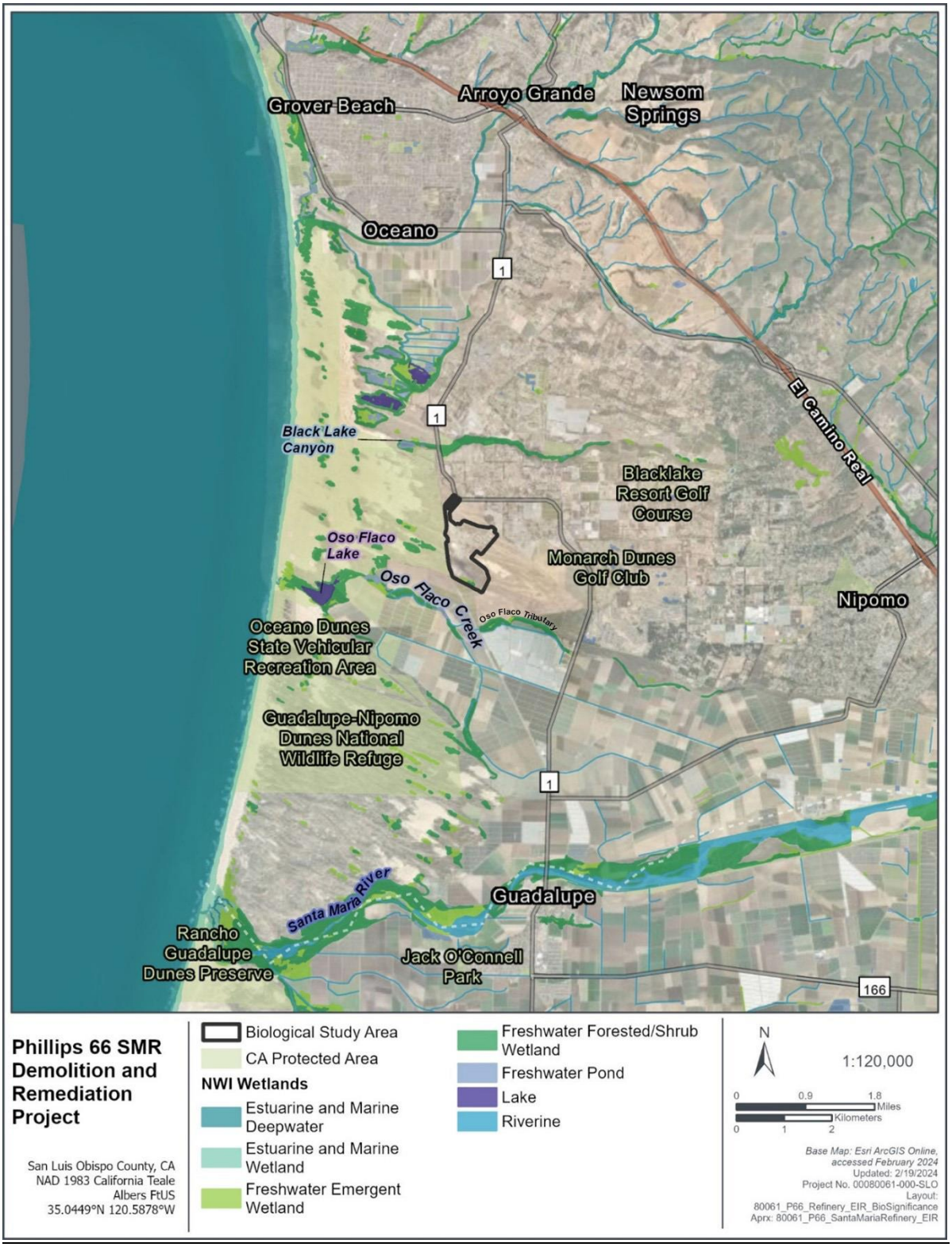
The BSA is situated in the Nipomo Mesa along the Central Coast east of the Oceano sand dunes and north of Oso Flaco Creek (Figure 4.4-2). The Nipomo Mesa and the Central Coast region in general occur in an important biological transition zone between the more humid communities of central and northern California and the more arid communities of southern California. Important ecological areas of significance adjacent to the BSA include the Pismo State Beach, Oceano Dunes State Vehicular Recreation Area (ODSVRA), the Guadalupe-Nipomo Dunes National Wildlife Refuge, Oso Flaco Lake, and Oso Flaco Creek (Figure 4.4-2).

The Nipomo Mesa has a coastal Mediterranean climate, with long, dry, summers and short, wet, mild winters. During the late spring and summer months, dense fog is common in the morning and acts to moderate summer temperatures. Average daily high temperatures during the summer months are in the low-70s degrees Fahrenheit (ºF) and average daily lows in the low-50s ºF. Average daily winter temperatures range from highs in the low-60s ºF to lows in the low- to mid-40s ºF. Rainfall is highly variable within and between winter seasons with an average annual precipitation of 17 inches per year (Western Regional Climate Center [WRCC] 2023).

The topography of the BSA and surrounding area consists primarily of flat sandy terrain, with elevations ranging from 60 to 150 feet. Located within the Oso Flaco Creek watershed (Hydrologic Unit Code 180600060704), the BSA gradually slopes in a north to south direction towards Oso Flaco Creek, which drains west into the Pacific Ocean (Figure 4.4-2).

Figure 4.4-1 Biological Study Area

Figure 4.4-2 Regional Setting



The ODSVRA is located along the beach immediately west of the BSA (Figure 4.4-2). The 3,600-acre (1,456 ha) park has 5.5 miles (8.8 km) of beach access with 1,500 acres (607 ha) of sand dunes open for vehicle and recreational vehicle use. The park is the only California State Park facility that allows vehicles to be driven on the beach. The Oso Flaco Lake Natural Area is also part of the ODSVRA. The Lake area is off-limits to vehicles and is primarily used by the public for viewing plants, wildlife, and scenic landscapes. The Oso Flaco Lake Natural Area offers a 1.5-mile (2.4 km) boardwalk path, including a span that crosses over the lake itself, which connects the parking lot at the west end of Oso Flaco Lake Road to the beach.

The Guadalupe-Nipomo Dunes National Wildlife Refuge, administered by the USFWS, was established in August 2000 to protect breeding habitat for the endangered California least tern, California red-legged frog, and threatened Western snowy plover. The Refuge is located in the heart of the Guadalupe-Nipomo Dunes Preserve, along an 18-mile stretch of coastline. Public visitors may hike in from either the Rancho Guadalupe Dunes County Park to the south or the Oso Flaco Lake Natural Area to the north. The Refuge is located approximately 2 miles southwest of the Project Site and offers numerous recreational opportunities including hiking, wildlife viewing, and fishing

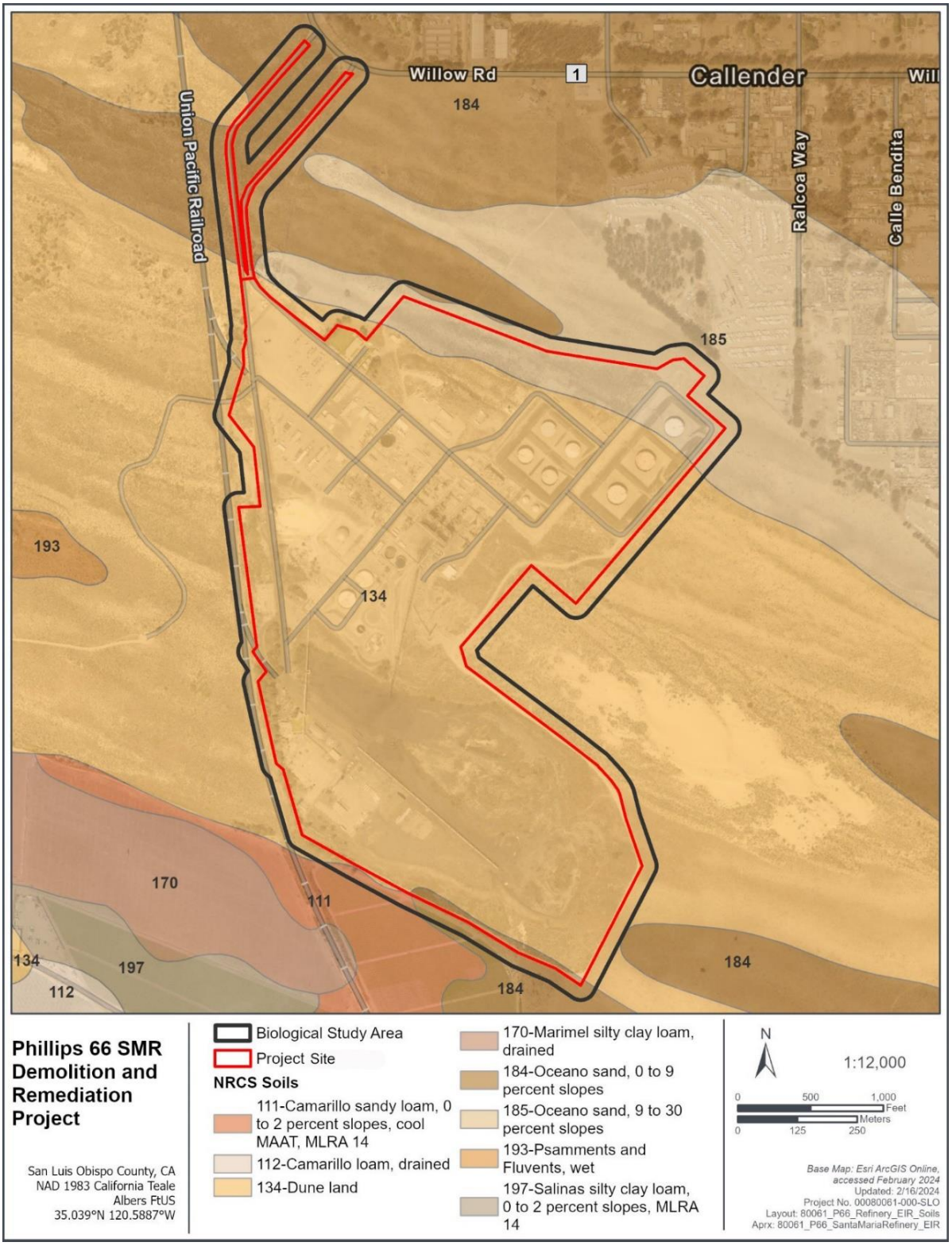
The County of Santa Barbara Parks Department manages the Rancho Guadalupe Dunes Preserve located approximately five miles south of the BSA (Figure 4.4-2). The Rancho Guadalupe Dunes Preserve supports pristine sand dunes and offers fishing, hiking, wildlife viewing, picnicking, and other activities for the public. The preserve is used as a breeding location by two federal and state listed wildlife species; the snowy plover (*Charadrius alexandrines*) and California least tern (*Sterna antillarum*). Certain human activities within the park are seasonally restricted during the breeding season (March 1 through October 1) of these two listed wildlife species.

Black Lake Canyon is located approximately one mile north of the BSA (Figure 4.4-2). Black Lake Canyon represents a significant natural resource, containing habitat for a number of rare plant and wildlife species including federally listed threatened California red-legged frog (*Rana draytonii*). The BSA does not support suitable habitat for this species.

4.4.1.1 Soils

The Soil Survey of San Luis Obispo County, California, Coastal Part (USDA 1984) identifies four soil types within the BSA: dune land soils; Oceano sand, 9 to 30 percent slopes; Oceano sand, 0 to 9 percent slopes; and Camarillo sandy loam, 0 to 2 percent slopes (Figure 4.4-3). While these soil types were mapped by USDA over the majority of the BSA, this does not mean that other soil types have not developed in some locations. The following provides a brief description of each soil type.

Figure 4.4-3 Soils Map



- **Dune land:** Most of the BSA, including most of the Refinery area, is mapped as dune land soils by the Soil Survey (Figure 4.4-3). These soils are characterized by non-hydric fine sand.
- **Oceano sand:** The north portion of the BSA is mapped as Oceano sand, 9 to 30 percent slopes (Figure 4.4-3). The access roads and a small area in the southern portion of the BSA is mapped as Oceano sand, 0 to 9 percent slopes (Figure 4.4-3). This soil type is typically found between 10 and 500 feet in elevation and formed from eolian deposit parent material. This sandy soil is excessively drained with low available water supply and is not classified as a hydric soil.
- **Camarillo sandy loam:** There is a small area in the southern portion of the BSA that is mapped as Camarillo sandy loam, 0 to 2 percent slopes (Figure 4.4-3). The Camarillo series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from sedimentary rocks. This is the only area within the BSA used for agriculture.

4.4.1.2 Vegetation and Land Cover Types

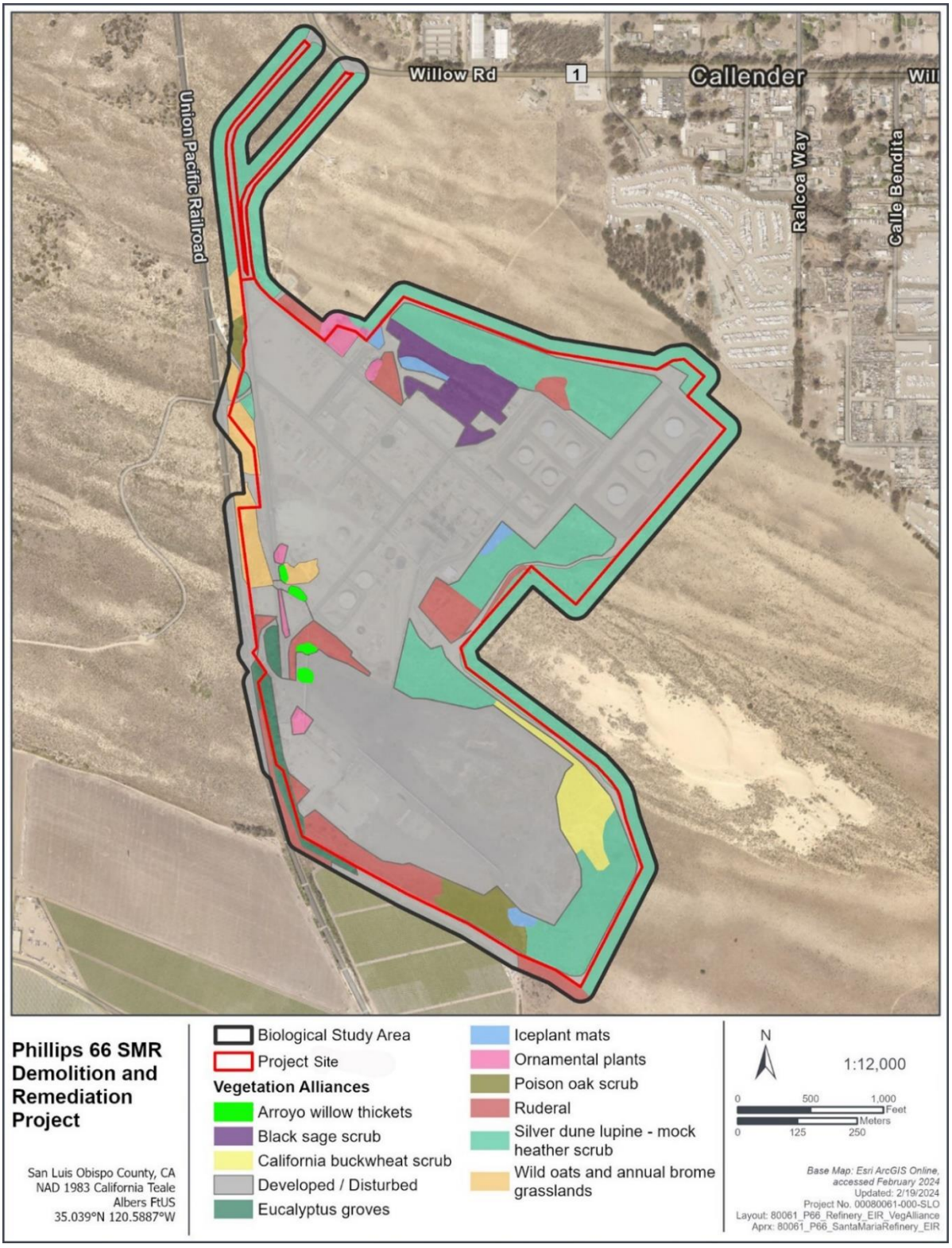
Vegetation types were characterized using a combination of the vegetation classification system described in the Manual of California Vegetation, 2nd edition (MCV2) (Sawyer et al. 2009), the MCV online version (CNPS 2023b), Holland (1986), and the California Department of Fish and Wildlife (CDFW) natural communities list (CDFW 2023b). The vegetation mapping is a combination of mapping efforts by ERM in March 2022, MRS in December 2022, and SWCA and MRS in May 2023. In addition to this mapping, Arcadis collected detailed vegetation mapping data for the Rail Spur EIR in 2013 and 2015, and the Line 300 Replacement Project in 2019. Both projects partially overlap the current BSA (Arcadis 2013a, 2015a, and 2019). These previous mapping efforts were also reviewed.

A total of 272.82 acres of land cover types were mapped within the BSA, as depicted in Figure 4.4-4 and listed in Table 4.4.1. Of that, 162.71 acres (60 percent) is developed/disturbed. Vegetation types that were mapped within the BSA are described in more detail below.

Table 4.4.1 Vegetation and Land Cover Types in the BSA

Vegetation Alliance and Land Cover Type	Project site (acres)	100-foot Buffer Only (acres)	BSA (acres)
Arroyo willow thickets	0.63	0.00	0.63
Black sage scrub	6.31	0.00	6.31
California buckwheat scrub	5.04	0.00	5.04
Developed / Disturbed	150.66	12.05	162.71
Eucalyptus groves	2.05	1.64	3.69
Iceplant mats	1.68	0.06	1.74
Ornamental plants	1.75	0.71	2.46
Poison oak scrub	3.39	0.57	3.96
Ruderal	10.45	3.17	13.63
Silver dune lupine - mock heather scrub	33.40	33.67	67.08
Wild oats and annual brome grasslands	3.00	2.56	5.56
Grand Total	**218.39**	**54.43**	**272.82**

Figure 4.4-4 Vegetation / Land Cover Types



Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance)
The dominant species in arroyo willow thickets is arroyo willow (*Salix lasiolepis*), often associated with other riparian and coastal sage scrub species such as western sycamore (*Platanus racemosa*), coyote brush, and blue elderberry (*Sambucus nigra*). Vegetation is less than 30 feet tall with an open to continuous canopy layer and variable herbaceous layer. This alliance is typical of stream banks, slope seeps, and along drainages.

Several patches of arroyo willow thickets, totaling 0.63 acres, were identified within the SMR associated with an area used as an evaporation pond for the Refinery and a ponded area formed by runoff from plant operations. A patch of dead and dying arroyo willow was also observed in a slight topographic depression, which was likely the location of an old retention basin. These areas were investigated as potential wetlands and are described in detail in Section 4.4.1.3, Potential Jurisdictional Features, including maps depicting their location within the SMR.

Black Sage Scrub (*Salvia mellifera - Artemisia californica* Shrubland)
This alliance is characterized by a dominant presence of black sage associated with other coastal sage scrub species such as California sagebrush, coyote brush, and California buckwheat. The maximum height of shrubs in this alliance is generally six feet. The canopy layer is continuous or intermittent with a variable herbaceous layer. Any associated grasses and herbs are seasonal. Black sage scrub is found on dry slopes and alluvial fans with shallow soils.

This alliance was identified along the northern edge of the BSA in an area where it was codominant in the shrub layer with sand almond, a special-status plant species with a California Rare Plant Rank (CRPR) of 4.3 (Figure 4.4-4).The herbaceous layer was dominated by veldt grass (*Ehrharta calycina*), an invasive perennial grass species known to have negative impacts on native coastal scrub communities. Total cover of this natural community is 6.31 acres. While this alliance has a State Rank of S4, it is considered equivalent to Central Dune Scrub under Holland (1986) which CDFW considers to be a sensitive natural community. This community is known to support special-status plant species such as sand almond, California spineflower (*Mucronea californica*) (CRPR 4.2), and Blochman's ragwort.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)
California buckwheat is dominant in the canopy and is found with species such as California sagebrush, coyote brush, and black sage. Shrubs are less than six feet tall, and the canopy is continuous to intermittent with a variable herbaceous layer.

California buckwheat scrub was identified in the southeastern portion of the BSA covering approximately 5.04 acres (Figure 4.4-4). This area encompasses a restoration area with temporary irrigation, where California buckwheat along with other native shrubs, such as coastal bush lupine (*Lupinus arboreus*), had been planted. The site is referred to as the "Coke Pile Remediation" site and was covered under CDP #DRC2012-00015 (approved in 2013). The grading was done under permit # PMT2013-00473 and finalized February 2016. While this alliance has a State Rank of S4, it is considered equivalent to Central Dune Scrub under Holland (1986) which CDFW considers to be a sensitive natural community. No special-status plant species were found in this area during surveys in 2022 and 2023, but it is adjacent to an area where Nipomo Mesa ~~lupine~~Lupine occurs. This vegetation alliance also provides suitable habitat for special-status

wildlife species, such as American badger (*Taxidea taxus*), which was observed in this area shortly after the restoration was put in place between 2013 and 2014.

Developed
The majority of the BSA was composed of Developed/Disturbed land cover type covering approximately 150.66 acres within the Project site and 12.05 acres within the 100-foot buffer area (Figure 4.4-4). This land cover type is characterized by paved and dirt roadways, parking lots, buildings, industrial infrastructure, and petroleum coke storage.

Eucalyptus Groves (Eucalyptus globulus Semi-Natural Woodland Stands Alliance)
Eucalyptus groves (*Eucalyptus* spp.) are non-native to California (Cal-IPC rating moderate) and are often associated with other non-native species such as Acacia (*Acacia* spp.), as was identified on the site. The shrub and herbaceous layers are typically sparse to intermittent. Eucalyptus groves are typically planted as windbreaks and are naturalized on uplands or bottomlands and adjacent to streams, lakes, or levees.

Eucalyptus groves occur in the BSA as a strip along the southwestern border, forming a windrow near the railroad entry point on the western side of the BSA (Figure 4.4-4). A total of 3.69 acres was mapped within the BSA, with approximately 2.05 acres occurring within the Project site and 1.64 acres occurring within the 100-foot buffer. The canopy is up to 65 feet tall and is open to continuous. This vegetation alliance is not included in global and state rankings.

Iceplant Mats (*Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands)
Non-native to California (California Invasive Plant Council [Cal-IPC] rating high), iceplant mats are characterized by a high percent coverage of iceplant species (*Carpobrotus chilensis*, *Carpobrotus edulis*). Only an herbaceous layer is present, which is less than 1.5 feet tall, and cover is intermittent to continuous. Emergent trees and shrubs may exist at a low percent coverage.

Iceplant mats were observed in four small areas within the BSA and cover approximately 1.74 acres (Figure 4.4-4). In the southern patch, emergent shrubs consist of poison oak and coyote brush. The small patch in the center of the BSA occurs along a steep slope where the vegetation abruptly transitions from disturbed silver dune lupine–mock heather scrub to iceplant mats. In this area emergent shrubs include mock-heather and coyote brush. This vegetation alliance is not included in global and state rankings.

Ornamental Plants
Ornamental plant land cover was identified in several areas throughout the BSA covering approximately 1.75 acres within the Project site and 0.71 acre within the 100-foot buffer (Figure 4.4-4). These areas are characterized by lawns, landscaped areas, and non-native screening hedges. This area also includes a small stand of planted Monterey pine trees (*Pinus radiata)* around the northern portion of the property.

Poison Oak Scrub (*Toxicodendron diversilobum* Shrubland Alliance)
Poison oak is dominant in this alliance and associated with species such as California sagebrush, coyote brush, black sage, and blue elderberry (*Sambucus mexicana*). Shrubs are less than 13 feet tall with an intermittent to continuous two-tiered canopy. The herbaceous layer is variable. This alliance can be found along the immediate coast or disturbed dry slopes.

Poison oak scrub was identified along the southwestern portion of the BSA covering 3.96 acres (Figure 4.4-4). This vegetation alliance intermixes with mats of iceplant (*Carpobrotus chilensis*, *Carpobrotus edulis*), but is primarily dominated by poison oak. The poison oak benefited from the abundant rain in 2023 and has also extended into the silver dune lupine–mock heather scrub to the east and into the area mapped as ruderal to the west.

Ruderal

Ruderal land cover is characterized by vegetation that grows on a human-disturbed site and typically includes a majority of invasive or non-native species, though some weedy natives may be present. This land cover type encompasses approximately 10.45 acres within the Project site and 3.17 acres within the 100-foot buffer (Figure 4.4-4).

Silver dune lupine - mock heather scrub (*Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance)

Silver dune lupine–mock heather scrub (*Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance) consists of dune-heather and/or silver dune lupine dominating the shrub canopy and associated with other coastal sage scrub and dune species such as California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and poison oak (*Toxicodendron diversilobum*). Shrubs are less than three feet tall with an open to continuous canopy. The herbaceous layer is open to intermittent. This alliance can be found on coastal bluffs and terraces, spits along coastlines, river mouths, and sand dunes.

This community is the most common vegetation alliance observed in the BSA and covers 33.4 acres within the Project site and 33.67 acres within the 100-foot buffer area (Figure 4.4-4). Within the BSA, silver dune lupine and/or mock heather often occurred as dominates in the shrub layer with black sage (*Salvia mellifera*), coyote brush, sand almond (*Prunus fasciculate* var. *punctata*), sea cliff buckwheat (*Eriogonum parvifolium*), or California buckwheat (*Eriogonum fasciculatum*). The herbaceous layer was dominated by invasive veldt grass. Silver dune lupine–mock heather scrub has a State Ranking of S3, which is considered a sensitive natural community by the CDFW (CDFW 2023b). This community is known to support special-status plant species including the federally endangered Nipomo Mesa ~~lupine~~Lupine (*Lupinus nipomensis*). Additional special-status plant species that were abundant within this natural community include Blochman's ragwort (*Senecio blochmaniae*) (CRPR 4.2) and Blochman's leafy daisy (*Erigeron blochmaniae*) (CRPR 1B.2).

Wild Oats and Annual Brome Grasslands (*Avena* spp. – *Bromus* spp. Semi-Natural Alliance)

Wild oats and annual brome grasslands are composed of varying assemblages of wild oats (*Avena* spp.), and bromes (*Bromus* spp.), which are cool-season annual grasses from Eurasia, with a Cal-IPC rank of moderate. Other non-native annual grass species that are often characteristic of this association are purple false brome (*Brachypodium distachyon*), big quaking grass (*Briza maxima*), and wall barley (*Hordeum murinum*). However, within the BSA veldt grass was also a co-dominant non-native annual grass that was present in these stands. Non-native annual forbs, such as black mustard (*Brassica nigra*), are often codominant with the annual grasses. Cover in this alliance is open to continuous with herbs less than four feet tall. Wild oats and annual brome grasslands are found in all topographic settings in foothills, roadsides, rangelands, and forest openings. While this alliance is primarily composed of non-native species, native annuals are often present.

Within the BSA, this vegetation alliance was mapped along the western border adjacent to the railroad tracks, covering approximately 3.0 acres within the Project site and 2.56 acres within the 100-foot buffer (Figure 4.4-4). These areas also contained emergent shrubs such as coyote bush and mock-heather, and several ruderal species such as black mustard. These areas were similar to the areas classified as ruderal but were changed to grassland because they have the potential to support special-status plant species. This vegetation alliance is not included in global and state rankings.

4.4.1.3 Potential Jurisdictional Features

The following section is based on findings of a wetlands and waters assessment conducted by wetland scientists at ERM (ERM 2023) for the Project site and not the larger BSA. Prior to conducting a field survey, ERM conducted a desktop analysis utilizing the National Wetlands Inventory (NWI) which is a spatial database that relies on trained image analysts to identify and classify wetlands and deepwater habitats from aerial imagery and field verification. In total, five potential jurisdictional features were identified within the Project site, two of those identified on ~~using~~ the NWI (USFWS 2023a, sites PEM1c and PSS1c). No streams or features identified as waters of the US or waters of the state were present within the BSA. The closest are ~~a tributary to~~the Oso Flaco Creek Tributary and the main Oso Flaco Creek ~~and a tributary to Oso Flaco Creek~~, located approximately 0.4 mile south/southeast and 0.6 mile southwest, respectively, ~~-~~ of the SMR, at the closest point (see Figure 4.4-2 Regional Setting); refer to Section 4.10, Hydrology and Water Quality, for detailed information on surface and groundwater movement at the SMR.

Further investigation of the potential jurisdictional five features was conducted by ERM wetland scientists on June 20, 2022 (ERM 2023), to determine if they exhibited wetland characteristics following the methodology described in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual and Arid West Region Supplement (Environmental Laboratory/USACE 1987). This method typically uses a three-parameter approach (soil, hydrology, and vegetation); however, due to potential underground hazards, soil pits were not dug. Instead, soils were assumed to be hydric based on the presence of standing water and obligate wetland plant species.

The investigation conducted by ERM also evaluated each of these features to determine if they qualified as 'wetlands' under the definition of the California Coastal Commission. The CCC's regulations (California Code of Regulations Title 14 (14 CCR)) establish a "one parameter wetland definition" that only requires evidence of a single parameter to establish wetland conditions (14 CCR Section 13577).

Of the five sites identified ~~by the NWI~~, ERM determined that only three contained features that qualified as potentially jurisdictional by USACE and CCC (PW 1, PW 2, and PW 3; refer to Figure 4.4-5). The remaining two ~~NWI-mapped~~ wetland areas, (~~(~~WL-1, and WL-2~~; refer to~~on Figure~~d~~ 4.4-5)~~,~~ were mapped as poison oak scrub (dominated by poison oak with deerweed, black sage, coyote brush, blue elderberry, all of which are upland plant species) and did not exhibit ~~wetland~~ positive indicators of wetland soils or hydrology ~~characteristics~~ and therefore are not discussed in the sections below. ~~Furthermore, n~~No other features were identified within the Project site that

were not already shown by the NWI. ~~Please refer to Figure 4.4-5 for the location of the three features.~~

Potential Wetland 1 (PW 1)
PW 1 was identified within the Refinery evaporation pond, located within the Project site, north of the coke stockpile location (Figure 4.4-5, Area 5). PW 1 receives non-contact stormwater that drains from non-industrial areas of the Project site. PW 1 was observed to support 0.63-acre of arroyo willow thickets, a Facultative Wetland Plant (FACW), which means they usually occur in wetlands, but may occur in non-wetlands. Patches of wetland grasses such as tall flatsedge (*Cyperus eragrostis*) (FACW) and rush (*Juncus* sp.) were also observed in the lowest topographic area of the pond. No surface or subsurface indicators of water were observed, and the soils mapped throughout the survey area consisted of excessively drained, non-hydric sandy soils with low available water supply. This feature receives much of its water through a culvert located on the west side. PW 1 only receives water input and stormwater runoff from non-operational areas of the site and is expected to dry out if the stormwater functionality is removed and/or altered through remediation activities. The Project proposes leaving stormwater facilities in place (belowground) and therefore this source of water for the PW 1 would remain. Depths to groundwater (as per Trihydro monitoring Geotracker ID SL203121248 in July 2023) in the vicinity of PW 1 is 32 feet.

There are maintenance activities associated with the evaporation pond (PW1). These maintenance activities pertain to the repair of the bank walls, which historically have involved the use of excavators and bulldozers to push the soil that had eroded from the bank back up onto the bank from the bottom of the evaporation pond. The evaporation pond/stormwater basin is dry for much of the year and never fills up near the top, according to Phillips 66. Therefore, the banks are always exposed. This leaves the banks subject to erosion during exceptionally heavy rain events. This earthmoving work necessitates the removal of any vegetation in the area where the soil was being moved.

Other activities in the Phillips 66 maintenance records involve installing rip rap (rock slope protection) to stabilize the banks, cleaning the surface drain inlets, etc. Phillips 66 has also extended the culvert pipes entering the pond so that the pipes empty into an area with the rip rap to dissipate the energy of the water flowing into the pond from the culverts. The last recorded (in Phillips 66 maintenance records) removal of "vegetation & debris" from the evaporative pond was in October 2018 and bank erosion repairs occurred in 2021 (as per Phillips 66 email).

Potential Wetland 2 (PW 2)
PW 2 is located at the western end of the petroleum coke storage area within the Project site (Figure 4.4-5). As part of Refinery operations, water is regularly sprayed onto the petroleum coke to prevent high winds from dispersing the fine dust and to cool the coke to prevent fires. PW 2 was observed to contain a 0.6-acre area of artificial ponding in a depression adjacent to a petroleum coke stockpile where the water from spraying the petroleum coke collects. The surrounding vegetation was composed of upland species such as iceplant, pampas grass, veldt grass, and coyote brush, and some wetland species, including arroyo willow, hardstem bulrush (*Schoenoplectus acutus*; OBL), water beard grass (*Polypogon viridis*; FACW), and rabbitsfoot grass (*Polypogon monspeliensis*; FACW). Wetland hydrology was observed as biotic crust and standing water.

Figure 4.4-5 Potentially Jurisdictional Features

The only water input observed was the coke stockpile wetting; no discharges or drainages were observed. Depths to groundwater (as per Trihydro monitoring Geotracker ID SL203121248 in July 2023) in the vicinity of PW 2 ranges from 40–45 feet.

Once the remaining salable coke product is removed from the site, there would no longer be a water input into this area other than rain and possibly some localized drainage. It is expected that PW 2 would dry out, even with rain input, due to the presence of dune land soils throughout much of the BSA (Figure 4.4-3) and the depths to groundwater.

Potential Wetland 3 (PW 3)

PW 3, identified via aerial imagery, is located in the central area of the petroleum coke storage area within the BSA (Figure 4.4-5). This area was previously wetted in the same way as PW 2. Wetting of the coke stockpiles was suspended in this area in 2015. A review of aerial (drone) photographs of PW 3 from May 2022 and field observations performed on 20 June 2022 confirmed that this area has dried out. Patches of upland species such as pampas grass and coyote bush were observed scattered around the site. A small patch of dead and dying arroyo willow was observed in a depression. No federal or state jurisdictional aspects were noted; therefore, this feature is not discussed further.

In conclusion, both PW 1 and PW 2 receive sufficient surface water throughout the year to support hydrophytic vegetation. The source of the surface water is a result of rainfall on the developed areas of the facility, and maintenance of the coke stockpile (wastewater from the facility is directed offshore through an outfall line, see Section 4.10, Hydrology and Water Quality). The soils on the site are highly permeable and surface water in the ponds is temporary, dependent on rainfall amounts and maintenance of the coke pile. Groundwater is 32–45 feet below the soil surface. Data collected during the wetland delineation (ERM 2023) found PW 1 had no surface or subsurface indicators of water observed, and the soils mapped throughout the survey area consist of excessively drained, non-hydric sandy soils with low available water supply, and therefore it was determined that the PW 1 feature would not be regulated by the USACE due to lack of wetland hydrology, and because of lack of connectivity to traditional navigable water (or lack of adjacency to a tributary to a traditional navigable water). PW 2 was also determined to lack hydric soils, and as it is an isolated feature not hydrologically connected to a traditional navigable water, it would not fall under the jurisdiction of the USACE.

They do meet the one parameter criteria for CCC wetlands, although according to the CCC definition:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes* (see Section 4.4.2, Regulatory Setting).

Since the hydrophytic vegetation is only supported by surface water runoff from hardscape or maintenance activities, and not groundwater, these areas do not meet the CCC definition of wetlands. The CCC does not consider evaporation ponds/stormwater basins to be wetlands if they are maintained through vegetation removal and grading at least every 5 years, (as per discussions with CCC 2024).

4.4.1.4 Sensitive Natural Communities

Sensitive Natural Community is a statewide designation given by the CDFW to specific vegetation associations of ecological importance. Rarity and ranking of Sensitive Natural Communities involves the knowledge of range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity (CDFW 2023b). Evaluation is conducted at both the Global (G) and State (S) levels, resulting in a rank ranging from 1 for very rare and threatened to 5 for demonstrably secure. Natural Communities with ranks of S1 through S3 are considered Sensitive Natural Communities in California and need to be addressed in the environmental review process of CEQA.

The vegetation alliances within CDFW's current ranking system (CDFW 2023b) are based on the vegetation classification system described in the Manual of California Vegetation, 2nd edition (MCV2) (Sawyer et al. 2009). It is a hierarchical classification based on dominant plant species grouped, at the lowest level, into plant alliances and plant associations (several associations may be under an alliance). Based on this classification system one sensitive natural community alliance with a rarity ranking of S3 was mapped within the BSA: Silver dune lupine - mock heather scrub (*Lupinus chamissonis - Ericameria ericoides* Shrubland Alliance).

In addition to the current CDFW ranking system, the California Natural Diversity Database (CNDDB) historically tracked sensitive natural communities (previously referred to as natural communities of special concern) based on Holland's (1986) vegetation classification system. While the MCV2 vegetation classification system is intended to replace the Holland system, there are many areas of California that have not yet been mapped, including Guadalupe-Nipomo Dunes. For unclassified areas of the state, an alliance or association may be identified as provisional when sufficient data exists to propose the vegetation type. However, there may not be enough research and regional information to rank the status of the provisional alliance or association. In such cases, sensitive natural communities identified in the CNDDB, which still uses the Holland system should still be addressed under CEQA. The CNDDB search identified that Central Dune Scrub sensitive habitat was mapped in the northern portion of the site (Figure 4.4-6; CDFW 2023a). This sensitive habitat includes several native California vegetation alliances, including the silver dune lupine - mock heather scrub described above and extends into the area mapped as black sage scrub and California buckwheat scrub.

Designated Critical Habitat

No designated critical habitat (USFWS 2023a) was identified within the Project site. However, a final critical habitat designation was issued in 2009 for La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*), a plant federally- and state-listed as endangered in 2000 (USFWS 2023b) that marginally overlaps with the western boundary of the BSA west of the railroad but does not fall within the Project site (Figure 4.4-6).

Figure 4.4-6 Sensitive Natural Communities and Critical Habitat

Environmentally Sensitive Habitat Areas (ESHA)
Coastal Zone Land Use Ordinance (CZLUO) Section 23.07.170 describes the provisions that apply to development within or adjacent to (within 100 feet of the boundary of) an Environmentally Sensitive Habitat Area (ESHA) as defined by Section 23.11. Section 23.11 defines both Mapped ESHA and Unmapped ESHA. These definitions are further defined in Section 4.4.2.3 below.

Mapped ESHA
A Coastal Act/Local Coastal Program-designated ESHA, referred to as San Luis Bay ESHA, was mapped to the west of the railroad (Figure 4.4-5; County 2022).

Unmapped ESHA
Title 23 of the County Code, CZLUO, Local Coastal Program (County 2022), defines Unmapped ESHA as:

> *A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but is not limited to:*
>
> *a. Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as other mapped environmental sensitive habitat areas;*
>
> *b. Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources; and*
>
> *c. Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.*

The County conducted an independent assessment of the BSA to determine areas of unmapped ESHA prior to the acceptance of the application for the Project by the County. MRS Senior Botanist, Lauren Brown, reviewed existing documents and conducted a site visit on December 8, 2022, for the purpose of assessing what areas within the BSA should be categorized as unmapped ESHA (Appendix D).

The assessment identified the presence of sensitive species and other resources in the BSA to include potential wildlife habitat, the potential for resources from adjacent areas to move into and utilize areas with sandy soils and vegetation and the presence of isolated species within areas designated as ornamental, ice plant and ruderal. Given these factors, it was determined that all areas outside of the developed portions of the facility meet the definition of unmapped ESHA (Figure 4.4-7) as they: a) exhibit equivalent characteristics and natural function as mapped ESHA to the west of the SMR facility, as well as habitat to the north and east that supports Nipomo ~~lupine~~Lupine; b) have been documented as containing ESHA resources, including sensitive habitat

types and wetlands; and c) have been documented as containing species and habitat for species determined to be threatened, endangered, or otherwise needing protection (see Appendix D).

4.4.1.5 Special-Status Plant Species

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

- Plants that are listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants and various notices in the Federal Register for proposed species);
- Plants that are candidates for possible future listing as threatened or endangered under the FESA;
- Plants that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380);
- Plants that are considered by CDFW and CNPS to be "rare, threatened, or endangered" in California (CRPR 1, 2, and 3);
- Plants that are listed by CNPS as plants about which more information is needed and plants of limited distribution (CRPR 4);
- Plants that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 CCR Section 670.5); and
- Plants that are listed under the California Native Plant Protection Act (NPPA; California Fish and Game Code [CFGC] Section 1900 et seq.).

Based on the CNDDB query, CNPS Online Inventory, site surveys (ERM 2023/2024; SWCA 2023, USFWS 2024, SLO Land Conservancy and ODSVRA 2024), and review of other background literature sources, a total of ~~92~~ 89 sensitive plant species have been documented in the Oceano USGS quadrangle and surrounding 7 quadrangles, not including the recently identified blushing layia (refer to Appendix B special-status species tables). The list of sensitive plant species considered in Appendix B is regional; therefore, a preliminary analysis of the listed species was conducted to identify which species have the potential to occur in or near the BSA. The preliminary analysis evaluated the known range and habitat preferences of the species in comparison to the existing habitat type present/absent, elevation, and soils within the BSA. Based on this preliminary analysis, it was determined that potentially suitable conditions occur within the BSA for 30 special-status plant species and marginal conditions are present in the BSA for five additional species. These species are listed in Table 4.4.2 below.

Figure 4.4-7 Environmentally Sensitive Habitat Areas (ESHA)

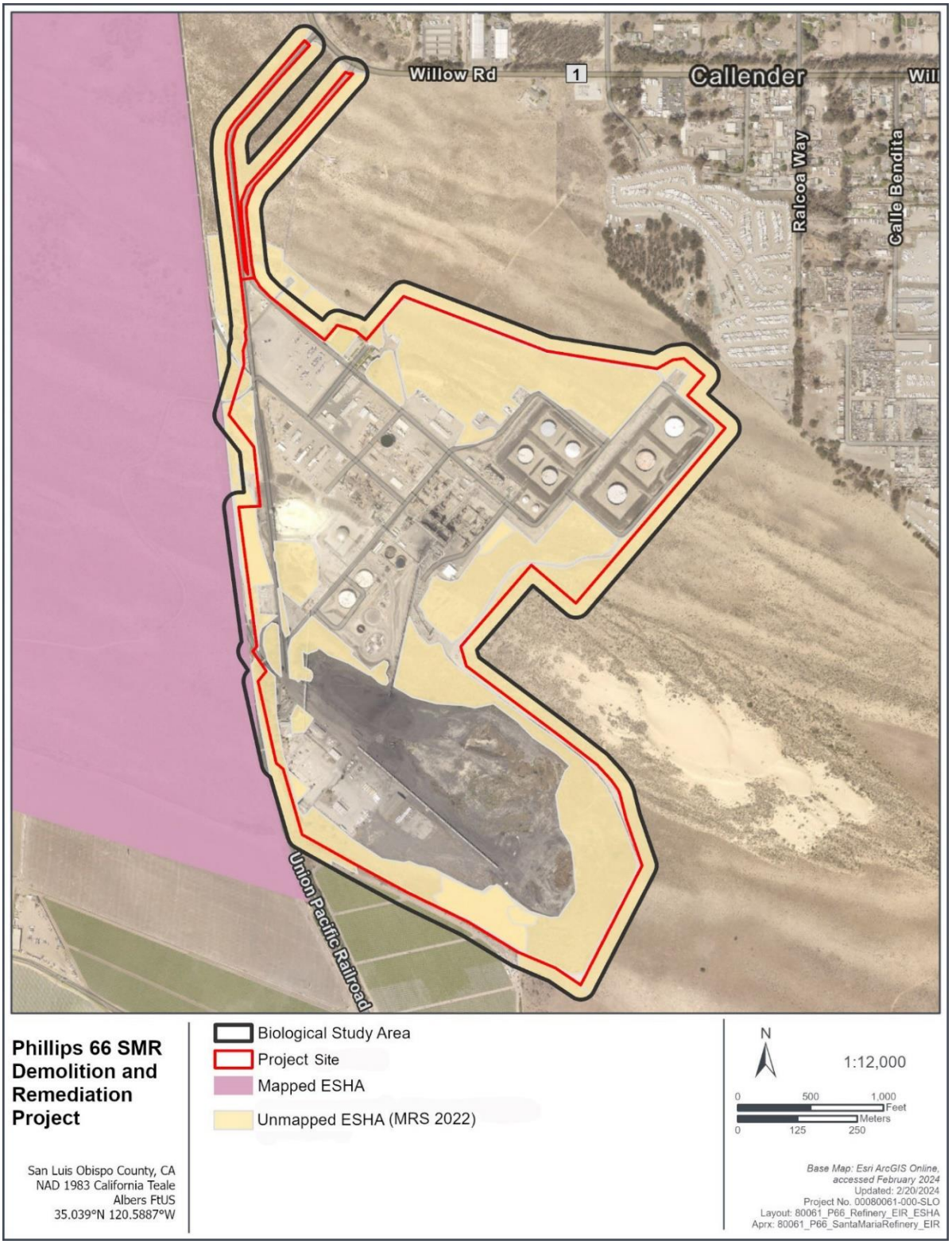


Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
red sand-verbena *Abronia maritima*	Perennial herb that occurs in coastal dunes. Elevation: 0–100 meters.	Feb—Nov	--/--/4.2	**Marginal Conditions Present, Species Absent:** There is marginally suitable dune habitat in the BSA. Species was not observed during 2022 or 2023 botanical surveys.
Aphanisma *Aphanisma blitoides*	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils. Elevation: 10–1,000 feet (3–305 meters). Channel Islands and immediate coast.	Feb–Jun	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable coastal scrub habitat occurs in the BSA, but it is outside of its known range (no occurrences in the County). Species was not observed during 2022 or 2023 botanical surveys.
sand mesa manzanita *Arctostaphylos rudis*	Evergreen shrub; maritime chaparral and coastal scrub with sandy soils. Elevation: 82–1,056 feet (25–322 meters).	Nov–Feb	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat occurs within the BSA. No manzanita species were observed during 2022 and 2023 botanical surveys.
Marsh sandwort *Arenaria paludicola*	Annual herb that occurs in freshwater marshes and wetlands. Growing up through dense mats of cattails, rushes, and Tule rushes in freshwater marsh. Elevation: 10–170 meters.	Mar–Apr	FE/SE/1B.1	**Suitable Conditions Absent, Species Absent:** The BSA does not support the appropriate mesic conditions for this species. Species was not observed during 2022 or 2023 botanical surveys.
Ocean bluff milk-vetch *Astragalus nuttallii* var. *nuttallii*	Perennial herb that occurs on coastal bluffs and dunes. 3—20 meters	Jany–Nov	--/--/4.2	**Suitable Conditions Present, Species Present:** The species was observed in two locations along the northeastern portion of the buffer area outside of the Project site during the rare plant surveys conducted in 2023. Also noted on the 2022 plant list, but not as the rare varietal.
Brewer's calandrinia *Calandrinia breweri*	Annual herb that occurs in chaparral, coastal scrub in burned areas, disturbed areas, loam (sometimes), or sandy (sometimes) soils. 10–1,220 meters	(Jan) Mar—Jun	--/--/4.2	**Suitable Conditions Present, Species Absent:** Potentially suitable habitat in coastal scrub. Species was not observed during 2022 or 2023 botanical surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
California jewelflower *Caulanthus californicus*	Annual herb that occurs in nonnative grassland, upper Sonoran subshrub scrub, and cismontane juniper woodland and scrub communities in subalkaline and sandy loam soils. Current known naturally-occurring populations are in: (1) Santa Barbara Canyon, (2) the Carrizo Plain, and (3) the Kreyenhagen Hills in Fresno County. 21–870 meters.	Feb–May	FE/SE/1B.1	**Suitable Conditions Absent, Species Absent:** BSA not located adjacent to known populations. Outside of current range. Not observed during 2022 or 2023 botanical surveys.
Lompoc ceanothus *Ceanothus cuneatus* var. *fascicularis*	Perennial evergreen shrub. Occurs in chaparral on sandy soils. Elevation: 15–1,310 feet (5–400 meters).	Feb–Apr	--/--/4.2	**Suitable Conditions Present, Species Absent:** This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 botanical surveys.
Santa Barbara ceanothus *Ceanothus impressus* var. *impressus*	Perennial shrub; chaparral on sandy soils. Elevation: 131–1,542 feet (40–470 meters).	Feb–Apr	--/--/1B.2	**Suitable Conditions Present, Species Absent:** This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 field surveys.
Nipomo Mesa ceanothus *Ceanothus impressus* var. *nipomensis*	Chaparral. Canyons, flats. Sandy substrates. Elevation: <650 feet.	Feb–Apr	--/--/1B.2	**Suitable Conditions Present, Species Absent:** This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 botanical surveys.
coastal goosefoot *Chenopodium littoreum*	Annual herb that occurs on coastal dunes.10–30 meters.	Apr–Aug	--/--/1B.2	**Suitable Conditions Present, Species Present:** Plants were observed between the entry roads during surveys in 2023 by SWCA.
Chorro Creek bog thistle *Cirsium fontinale* var. *obispoense*	Chaparral, cismontane woodlands; serpentine seeps or bogs. 35–380 meters	Feb–Jul	FE/SE/1B.2	**Suitable Conditions Absent, Species Absent:** Suitable serpentine substrate absent. Not observed during 2022 and 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
compact cobwebby thistle *Cirsium occidentale* var. *compactum*	A perennial herb that occurs in chaparral, coastal dunes, coastal prairie, and coastal scrub. 5–150 meters	Apr–Jun	--/--/1B.2	**Suitable Conditions Present, Species Absent:** The coastal scrub habitat potentially provides suitable habitat. Not observed during 2022 and 2023 rare plant surveys.
surf thistle *Cirsium rhothophilum*	Coastal dunes, coastal bluff scrub, and open areas in central dune scrub; usually in coastal dunes. Known from dunes at Pismo Beach, Nipomo, and Santa Barbara County. Endemic to Central Coast (Santa Barbara and San Luis Obispo Counties). Elevation: 10–197 feet (3–60 meters).	Apr–Jun	--/ST/1B.2	**Suitable Conditions Present, Species Absent:** The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
La Graciosa thistle *Cirsium scariosum* var. *loncholepis*	Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps (brackish), and valley and foothill grassland; usually in mesic, sandy soils. Elevation: 13–722 feet (4–220 meters).	May–Aug	FE/ST/1B.1	**Suitable Conditions Absent, Species Absent:** The BSA does not support mesic conditions necessary for this species. Not recorded on the site and not observed during 2022 or 2023 rare plant surveys.
seaside cistanthe *Cistanthe maritima*	An annual herb that occurs in coastal bluff scrub, coastal scrub, and valley and foothill grasslands, typically in sandy soil. 5–300 meters.	Mar–Jun	--/--/4.2	**Suitable Conditions Present, Species Absent:** The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
Pismo clarkia *Clarkia speciosa* ssp. *immaculata*	Sandy soils, openings in chaparral, cismontane woodland, valley, and foothill grassland. On ancient sand dunes not far from the coast. 25–185 meters.	May–Jul	FE/SR/1B.1	**Marginal Conditions Present, Species Absent:** The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus*	Annual herb; occurs in marshes and swamps on coastal dunes. 0–30 meters	May–Oct	FE/SE/1B.2	**Suitable Conditions Absent, Species Absent:** The BSA does not support mesic conditions necessary for this species. Not observed during 2022 or 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
Gaviota tarplant *Deinandra increscens* ssp. *villosa*	Annual herb in the Asteraceae family; coastal bluff scrub, coastal scrub, and valley and foothill grassland, typically associated with sandy soils. Elevation: 115–1,411 feet (35–430 meters).	May–Oct	FE/SE/1B.1	**Marginal Conditions Present, Species Absent:** Although soils are appropriate for this species, it is outside of its known range. Not recorded on the site and not observed during 2022 or 2023 rare plant surveys.
paniculate tarplant *Deinandra increscens* ssp. *villosa*	Coastal scrub, valley and foothill grassland, coastal bluff scrub. Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coast scrub ecotone. Elevation: 33–1,411 feet (10–430 meters).	May–Oct	--/--/4.2	**Marginal Conditions Present, Species Absent:** Although potentially suitable habitat exists in the coastal scrub, it is outside of its known range and not observed during 2022 or 2023 rare plant surveys.
dune larkspur *Delphinium parryi* ssp. *blochmaniae*	Perennial herb; maritime chaparral and coastal dunes with sandy or rocky soils. Elevation: 0–656 feet (0–200 meters).	Apr–May	--/--/1B.2	**Suitable Conditions Present, Species Present:** The maritime chaparral habitat and sandy soils makes areas of the BSA suitable. Species was found in the buffer area adjacent to the access road during 2023 botanical surveys.
western dichondra *Dichondra occidentalis*	Perennial rhizomatous herb that occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. 3–50 meters	Mar–May	--/--/1B.1	**Suitable Conditions Present, Species Absent:** The coastal scrub habitat is suitable for this species, but it was not observed during 2022 or 2023 rare plant surveys.
beach spectaclepod *Dithyrea maritima*	Coastal dunes, coastal scrub, seashores, sand dunes, and sandy places near the shore. Elevation: 10–164 feet (3–50 meters).	Mar–May	--/ST/1B.1	**Marginal Conditions Present, Species Absent:** The coastal scrub habitat does not contain areas of undisturbed dunes suitable for this species. Site is highly invaded by veldt grass. Not observed during 2022 or 2023 rare plant surveys.
Blochman's leafy daisy *Erigeron blochmaniae*	Perennial rhizomatous herb; coastal dunes and coastal scrub on sandy soils. Elevation: 10–148 feet (3–45 meters).	Jul–Aug	--/--/1B.2	**Suitable Conditions Present, Species Present:** Suitable habitat occurs on site in coastal dune scrub and was observed during 2022 and 2023 botanical surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
Indian knob mountainbalm *Eriodictyon altissimum*	Evergreen shrub. Occurs in maritime chaparral, cismontane woodland, and coastal scrub with sandstone substrates. 80–270 meters	Mar–Jun	FE/SE/1B.1	**Suitable Conditions Absent, Species Absent:** No suitable habitat present in BSA. BSA is outside of the species elevational range. Not observed during 2022 or 2023 rare plant survey.
elegant wild buckwheat *Eriogonum elegans*	Annual herb that occurs in cismontane woodlands and valley and foothill grasslands in areas that are gravelly (usually), along roadsides (sometimes), and in sandy soils (usually) and washes (often). 200–1,525 meters.	May–Nov	--/--/4.3	**Suitable Conditions Absent, Species Absent:** Suitable habitat is present, but the BSA is outside of the species elevational range. Not observed during 2022 or 2023 rare plant surveys.
suffrutescent wallflower *Erysimum suffrutescens*	Perennial herb; Chaparral (maritime), Coastal bluff scrub, Coastal dunes, Coastal scrub. Elevation: 0–490 feet (0–150 meters).	Jan–Jul (Aug)	--/--/4.2	**Suitable Conditions Present, Species Absent:** Suitable habitat is present. Not observed during 2022 or 2023 rare plant surveys.
mesa horkelia *Horkelia cuneata* ssp. *puberula*	Perennial herb; chaparral, cismontane woodlands, and coastal scrub in sandy or gravelly sites. Elevation: 230–2,658 feet (70–810 meters).	Feb–Sept	--/--/1B.1	**Suitable Conditions Present, Species Absent:** Suitable habitat present in BSA, but outside of elevational range of species. Not observed during 2022 and 2023 rare plant surveys.
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	Perennial herb; closed-cone coniferous forest, maritime chaparral, and coastal scrub with sandy or gravelly openings. Elevation: 33–656 feet (10–~~200~~45 meters).	Apr–Sept	--/--/1B.1	**Suitable Conditions Present, Species Absent:** Suitable habitat present in BSA. Not observed during 2022 and 2023 rare plant surveys.
blushing layia *Layia erubescens*	Annual herb; coastal dunes and coastal scrub, prefers loose, fine sand of stabilized dunes and sandhills. Elevation 10-245 meters (35 to 805 feet).	(Feb) Mar-May (June)	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat present in BSA. Not observed during 2022 and 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
fuzzy prickly-phlox *Linanthus californicus* ssp. *tomentosus*	Perennial deciduous shrub that occurs in coastal dune habitats. 1–185 meters.	Mar–Aug	--/--/4.3	**Suitable Conditions Present, Species ~~Potentially~~ Present:** ~~*Linanthus californicus* was o~~Observed during 2022 and 2023 rare plant surveys on the outer edge of BSA, ~~, but it was not identified to subspecies, therefore, absence cannot be ruled out.~~
Nipomo Mesa ~~lupine~~Lupine *Lupinus nipomensis*	Annual herb. Occurs in coastal dunes. 10–50 meters	Dec–May	FE/SE/1B.1	**Suitable Conditions Present, Species Present:** The coastal dune/scrub habitat is suitable for this species. Nipomo Mesa Lupin o~~O~~bserved during 2022, ~~ and~~ 2023 and 2024 botanical surveys within the site and the BSA.
dunedelion *Malacothrix incana*	Perennial herb that occurs in coastal dunes and coastal scrub habitats. 2–35 meters	Apr–Oct	--/--/4.3	**Suitable Conditions Present, Species Absent:** Suitable habitat is present, but it was not observed during 2022 and 2023 rare plant surveys.
southern curly-leaved monardella *Monardella sinuata* ssp. *sinuata*	Annual herb; sandy soil among chaparral, cismontane woodland, coastal dunes, and coastal scrub with openings. Elevation: 0–984 feet (0–300 meters).	Apr–Sept	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat is present, but it was not observed during 2022 and 2023 rare plant surveys.
crisp monardella *Monardella undulata* ssp. *crispa*	Perennial and rhizomatous herb; coastal dunes among coastal scrub and maritime chaparral. Elevation: 33–394 feet (10–120 meters).	Apr–Aug	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat is present. There are two CNPS occurrence from 1987 adjacent to the access road, but it was not observed during 2022 and 2023 rare plant surveys.
San Luis Obispo monardella *Monardella undulata* ssp. *undulata*	Perennial and rhizomatous herb; coastal dunes among coastal scrub and maritime chaparral on sandy substrates. Elevation: 33–656 feet (10–200 meters).	May–Sept	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat is present. Not observed during 2022 and 2023 rare plant surveys.
California spineflower *Mucronea californica*	Chaparral, woodland, coastal scrub, grassland. Sandy soil. Elevation: <3,280 feet.	Mar–Aug	--/--/4.2	**Suitable Conditions Present, Species Present:** Species was observed in the BSA during the 2022 and 2023 botanical surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
Gambel's water cress *Nasturtium* (*Rorippa*) *gambelii*	Rhizomatous herb; marshes and swamps (freshwater or brackish). Elevation: 16–1,083 feet (5–330 meters).	Apr–Oct	FE/ST/1B.1	**Suitable Conditions Absent, Species Absent:** The BSA does not support mesic conditions necessary for this species. Not observed during 2022 and 2023 rare plant surveys.
spreading Navarretia *Navarretia fossalis*	Annual herb occurs in chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools. 30–655 meters.	Apr–Jun	FT/--/1B.1	**Suitable Conditions Absent, Species Absent:** The BSA does not support mesic conditions necessary for this species. Not observed during 2022 and 2023 rare plant surveys.
coast woolly-heads *Nemacaulis denudata var. denudata*	Annual herb that occurs on coastal dunes. 0–100 meters	Apr–Sept	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Two CNPS occurrences adjacent to Oso Flaco Lake. Suitable coastal dune habitat in BSA, but not observed during 2022 and 2023 rare plant surveys.
Monterey pine *Pinus radiata*	Evergreen tree that occurs in closed-cone coniferous forest and cismontane woodland. Only native stands restricted to Año Nuevo, Cambria, and Monterey Peninsula. Elevation: 25–185 meters.	NA	--/--/1B.1	**Suitable Conditions Present, Species Present (planted):** Planted Monterey Pines occur around the northern portion of the property, but these are planted individuals and not considered a rare native stand. However, all mature trees are protected under CZLUO Section 23.05.062.
sand almond *Prunus fasciculata* var. *punctata*	Perennial shrub that occurs in chaparral and coastal scrub on coastal dunes. Elevation: 49–656 feet (15–200 meters).	Mar–Apr	--/--/4.3	**Suitable Conditions Present, Species Present:** Suitable habitat occurs on site and it was mapped in several locations in the BSA during the 2022 and 2023 rare plant surveys.
black-flowered figwort *Scrophularia atrata*	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub; around swales and in sand dunes; and sand, diatomaceous shale, and soils derived from other parent material. Elevation: 33–820 feet (10–250 meters).	Mar–Apr	--/--/1B.2	**Suitable Conditions Present, Species Absent:** Suitable habitat occurs on site. Not observed during the 2022 and 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
Blochman's ragwort *Senecio blochmaniae*	Perennial herb; coastal dunes. Elevation: 0–330 feet (0–100 meters).	May–Oct	--/--/4.2	**Suitable Conditions Present, Species Present:** Suitable habitat occurs on site, and it was mapped in several locations in the BSA during the 2022 and 2023 rare plant surveys.
San Bernardino aster *Symphyotrichum defoliatum*	Rhizomatous herb; meadows and seeps, cismontane woodland, coastal scrub, and foothill grassland. Vernally mesic grassland or near ditches and springs. Elevation: 7–6,693 feet (2–2,040 meters).	Jul–Nov	--/--/1B.2	**Marginal Conditions Present, Presumed Absent:** No suitable wetland habitat occurs on site. No known occurrences in San Luis Obispo County. Closest is in Santa Barbara County near Vandenberg Space Force Base. It has never been recorded in coastal dune habitat and is unlikely to occur.

Sources: Baldwin et al. 2012. ERM 2023/2024; SWCA 2023, USFWS 2024, SLO Land Conservancy and ODSVRA 2024. All plant descriptions paraphrased from CNPS 2023a

Status Codes:

-- = No status; **Federal:** FE = Federal Endangered; FT = Federal Threatened; **State:** SE = State Endangered; ST= State Threatened; SR = State Rare; **CNPS CRPR:** ***1B*** **=** rare, threatened, or endangered in California and elsewhere; ***2*** **=** rare, threatened, or endangered in California, but more common elsewhere; ***3*** **=** plants that about which more information is needed; ***4*** **=** a watch list plants of limited distribution; **Threat Code:** ***0.1*** **=** Seriously endangered I California (over 80% of occurrences threatened / high degree and immediacy of threat); ***0.2*** **=** Fairly endangered in California (20%–80% occurrences threatened); ***0.3*** **=** Not very endangered in California (<20% of occurrences threatened or no current threats known)

Rationale Terms: ***Species Present:*** Species was or has been observed in the survey area. ***Species Absent:*** Based on appropriate survey efforts, absence of the species was confirmed. ***Suitable Conditions Present:*** The appropriate habitat, soils, and elevation are present in the survey area. ***Marginal Conditions Present:*** The appropriate habitat and/or soils are present but other factors (past disturbances, elevation range) may preclude species occurrence. ***Suitable Conditions Absent:*** The survey area did not support the appropriate habitat, soils, and/or elevation for the species.

Focused botanical surveys were conducted within the Project site (minus the access roads) by ERM biologists on March 10 and June 20, 2022. Additional surveys were conducted by MRS and SWCA biologists on May 1, 2023, and SWCA biologists on May 4 and 11, 2023. These additional surveys by SWCA and MRS included the entire BSA (i.e., the Project site, including the access road, and the 100-foot buffer area). The results of these surveys collectively documented eight special-status plant species within the BSA: Nipomo Mesa ~~lupine~~Lupine (*Lupinus nipomensis*), Blochman's leafy daisy (*Erigeron blochmaniae*), dune larkspur (*Delphinium parryi* subsp. *blochmaniae*), Blochman's ragwort (*Senecio blochmaniae*), California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculate* var. *punctata*), and ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*). These species and their occurrence in the BSA are discussed in more detail below.

Additional spring surveys in 2024 specific to Nipomo Mesa Lupine ~~are ongoing at this time~~were conducted by ERM in February and April ~~2024 (report pending, data included in figures as noted)~~2024.

Special-Status Plant Taxa Observed in the BSA

Federally Listed Plants

Nipomo Mesa Lupine

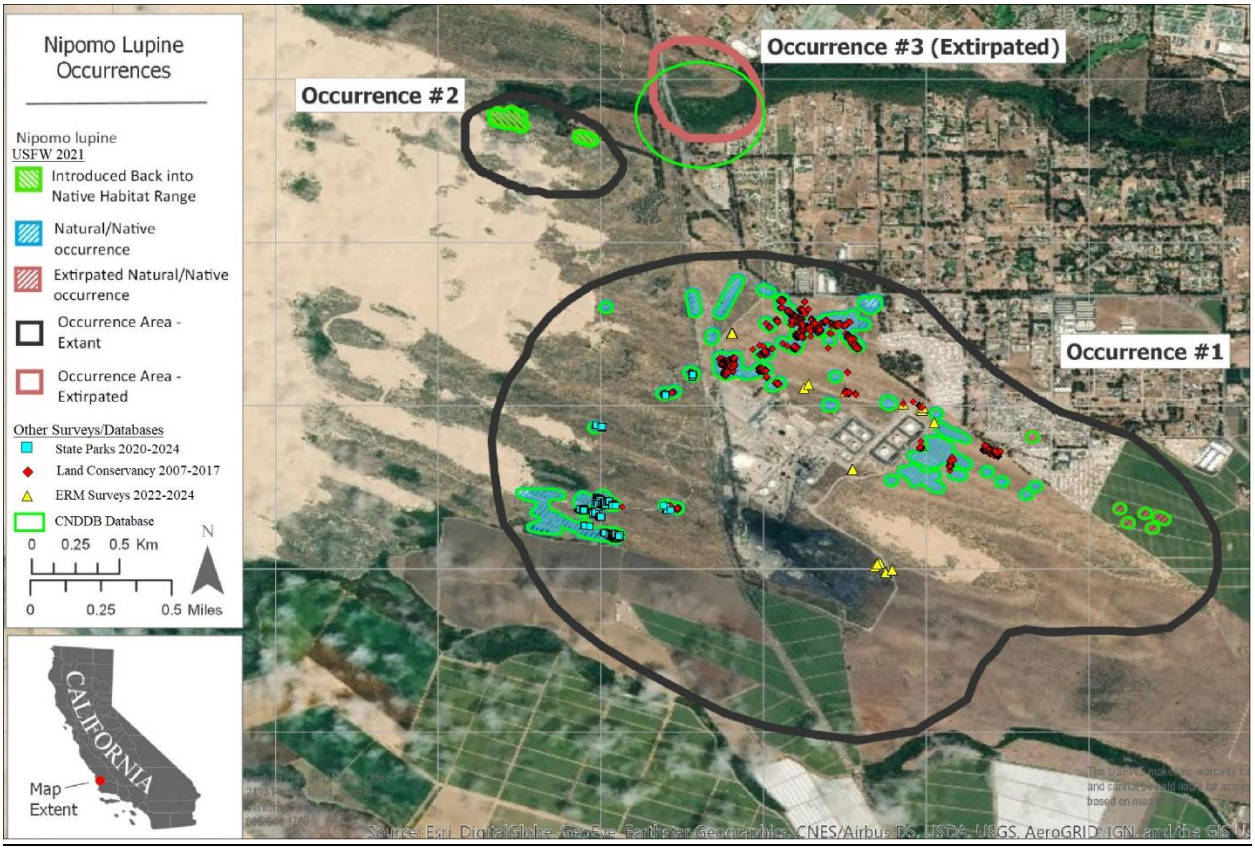
Nipomo Mesa ~~lupine~~Lupine (*Lupinus nipomensis*) is Federally listed as Endangered, State listed as Endangered, and has a CRPR of 1B.1, a plant of limited distribution that is seriously endangered in California. It is a highly endemic annual herb in the Fabaceae family. The species range is limited to a single population ~~-situated behind the Callender Dune sheet, which is one of three dune formations that comprise the Guadalupe-Nipomo Dunes Complex (USFWS 2021). The species ~~is known from a single~~ population ~~that~~ is currently recognized as three separate occurrences in the CNDDB (USFWS 2020; CNDDB 2023), with ~~. All of~~ the extant colonies ~~are~~ located west of State Route 1 (USFWS 2021), ~~. S~~see Figure 4.4-8. Figure 4.4-8 also includes the results of the 2022, 2023, and 2024 surveys conducted within the BSA, as well as focused surveys for Nipomo Mesa ~~lupine~~Lupine conducted by the Land Conservancy of San Luis Obispo from 2007 to 2017 in areas west, north, and east of SMR and surveys conducted by State Parks ODSVRA biologists from 2020 through 2024 ~~. See Appendix D), CNDDB database searches (CNDDB 2023), Land Conservancy (xx), and State Parks~~ (ODSVRA 2024).

Per the USFWS Recovery Plan (USFWS 2021) ~~refers to a~~and species report (USFWS 2020), Occurrence #1 ~~(Figure 4.4-8),~~ is the primary Nipomo Mesa ~~lupine~~Lupine occurrence and ~~occurs~~ is almost entirely on land currently owned by Phillips 66. ~~(see Recovery Plan [USFWS 2021] and Figure 2 in USFWS 2020 [Species Report]), which shows the geographic distribution and status of Occurrence #1).~~Occurrence #1 is bisected north to south by the Union Pacific Railroad~~(see Figure 4.4-1)~~ and the BSA is approximately situated in the middle of the extant occurrence area (see Figure 4.4-1).

All of the extant colonies occur in coastal dune scrub vegetation with at least some mock heather as the dominant shrub overstory (USFWS 2020). Coastal dune scrub vegetation with a relatively high diversity of native forbs appears to be the ideal habitat for Nipomo Mesa ~~lupine~~Lupine. More specifically, it occurs between or at the bases of stabilized dunes and seems to prefer pockets of open sand between widely spaced individuals of dune-heather, often mixed with other annuals and herbaceous perennials (USFWS 2020). Furthermore, it has an affinity for cooler temperatures and

is often found near the bottom of north and east-facing slopes and in the lower basins of shallow dune swales (USFWS 2020).

Figure 4.4-8 Nipomo Mesa Lupine Occurrences



Sources: USFWS 2021, SLO Land Conservancy and ODSVRA (2024~~4~~), ERM (2023, 2024), SWCA 2023, CNDDB 2023.

Nipomo Mesa ~~lupine~~Lupine fruits are legumes (like a conventional pea pod). Because it has a hard, orthodox seed, it likely has a persistent seed bank (USFWS 2020). This means that the seeds are generally able to remain dormant in the wild until germination is stimulated by suitable moisture or other environmental conditions. Therefore, germination, and thus the observed distribution, is dependent on adequate and seasonally timed rainfall events.

Species abundance in annuals is notoriously variable from year to year and the observed distribution in any given year does not always accurately represent its full distribution across habitats. The Land Conservancy of San Luis Obispo County (LC-SLO) has conducted annual census surveys of the Nipomo ~~lupine~~Lupine colonies within Occurrence #1 from 2007 to 2017. During this time, the total number of individuals ranged from 139 to 1,677 with the number of reproducing individuals ranging from 63 to 759 (or 10 percent to 66 percent of the total number of individuals counted). Given this information, and the occurrence of a persistent seed bank, it is difficult to fully delineate the spatial extent of occupied habitat without multiple years of surveys during varying weather conditions. Ten years typically encompasses the full range of wet and dry year variation in coastal California (USFWS 2021).

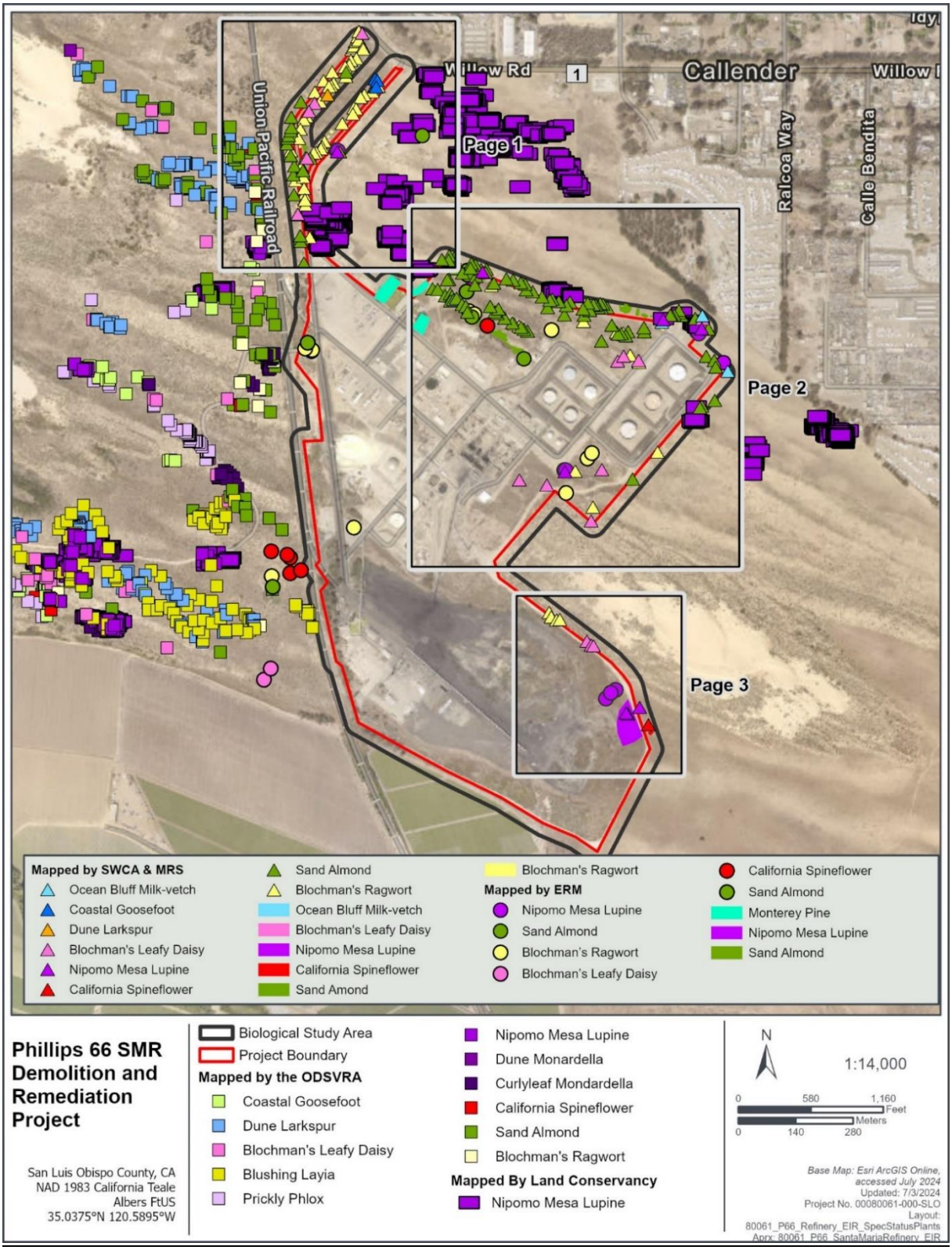
The primary threats to Nipomo Mesa ~~lupine~~Lupine include displacement and habitat loss from invasive species (especially perennial veldt grass), development activities, seed predation, stochastic loss and extinction, and climate change. The invasion of veldt grass was determined to be the single largest threat to the species (USFWS 2021). Veldt grass disrupts natural dune stabilization processes, contributes large amounts of biomass to the system, and suppresses germination of native annual species, including Nipomo Mesa ~~lupine~~Lupine (USFWS 2020). Germination is suppressed due to competition for space, sunlight, water and nutrients (California Invasive Plant Council [Cal-IPC] 2023). If allowed to persist, veldt grass can completely close the canopy and would dominate all of the open space within stands of coastal dune scrub vegetation, thereby reducing biodiversity by suppressing persistence of native, annual forbs. If a veldt grass invasion is not consistently managed, veldt grass could easily extirpate the extant Nipomo Mesa ~~lupine~~Lupine population (USFWS 2023a).

The Final USFWS Recovery Plan for Nipomo Mesa ~~lupine~~Lupine (2021) outlines recovery criteria for each occurrence. Currently, Occurrence #1 is the largest original, extant occurrence and is crucial to the recovery of the species (USFWS 2021). Based on expert opinion, a resilient state for Occurrence #1 is defined as not fewer than 1,000 reproducing individuals distributed across the spatial extent of the occurrence. Recovery actions outlined to for this species include: 1) protecting all currently unprotected habitat where the species occurs; 2) conducting outplanting activities at suitable sites to establish new occurrences; 3) managing habitat to reduce threats from non-native species (particularly veldt grass); and 4) collecting seed and deposit accessions into a permanent conservation seedbank (USFWS 2021).

Results of Surveys within the BSA from 2022, ~~and~~ 2023, and 2024

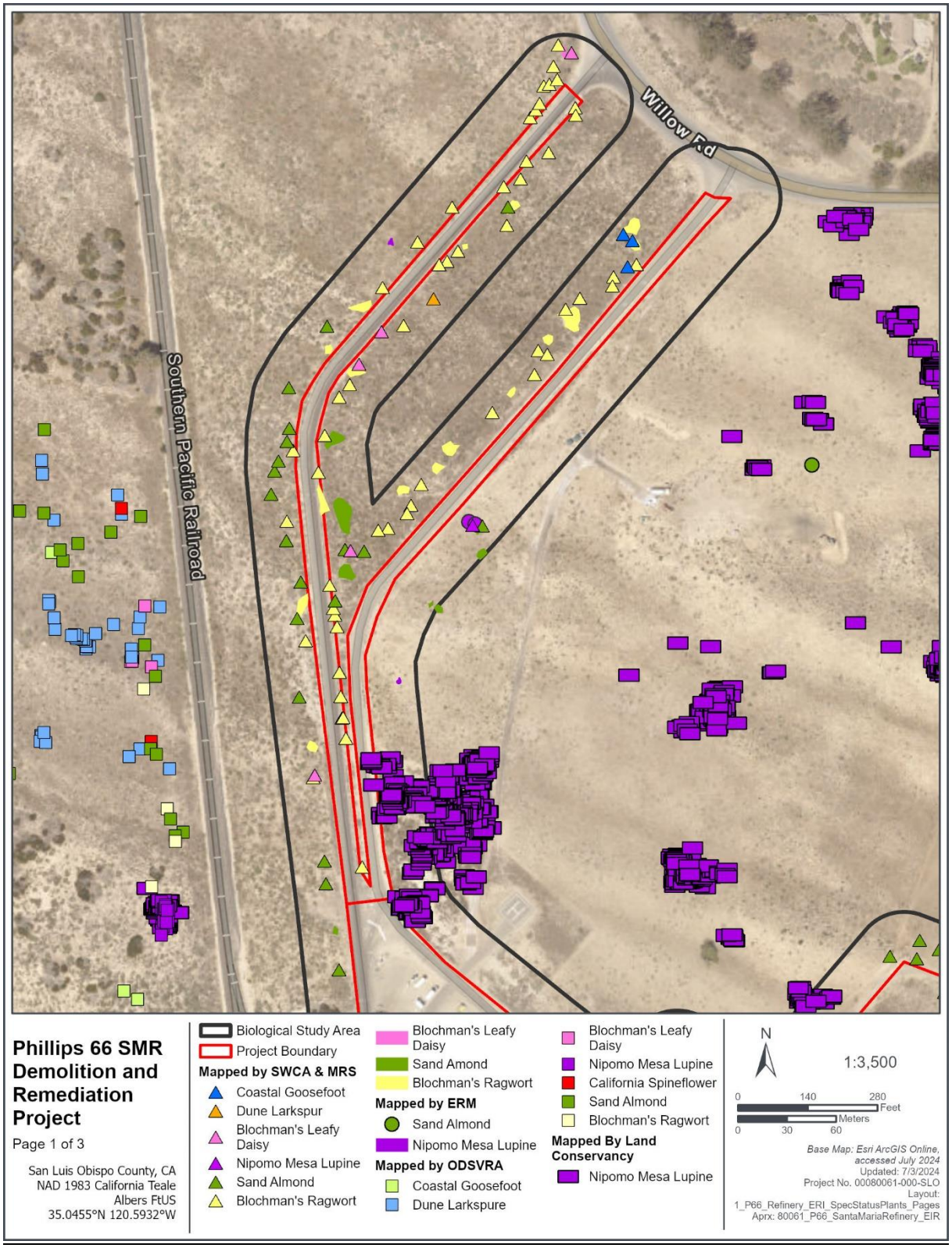
Nipomo Mesa ~~lupine~~Lupine was observed in several locations in the BSA during the 2022, ~~and~~ 2023, and 2024 botanical surveys, which are shown in Figure 4.4-9 and in detail~~s~~ in Figures 4.4-10 through 4.4-12. Within the fence line, a patch of ~~two~~ individual plants was observed near the coke pile area in the southeast corner of the Refinery (Figure 4.4-12) and ~~a single plant~~individual plants ~~was~~ were identified along the mid-eastern edge of the facility (Figure 4.4-11). Observed Nipomo Mesa Lupine individuals were sparse and did not occur in the same exact location or at the same numbers in 2022, 2023, and 2024. A greater number of individuals in larger patches have been reported in the past and were observed during recent surveys outside the northern SMA fence within and adjacent to the BSA including along the east site of the access road to the site (Figures 4.4-10 and 4.4-11). Figures 4.4-9 through 4.4-12 are intended to also show the extent of historical occurrences of a range of sensitive species. Details on the species and survey reports are included in Appendix D.

Figure 4.4-9 Locations of Special-Status Plant Species



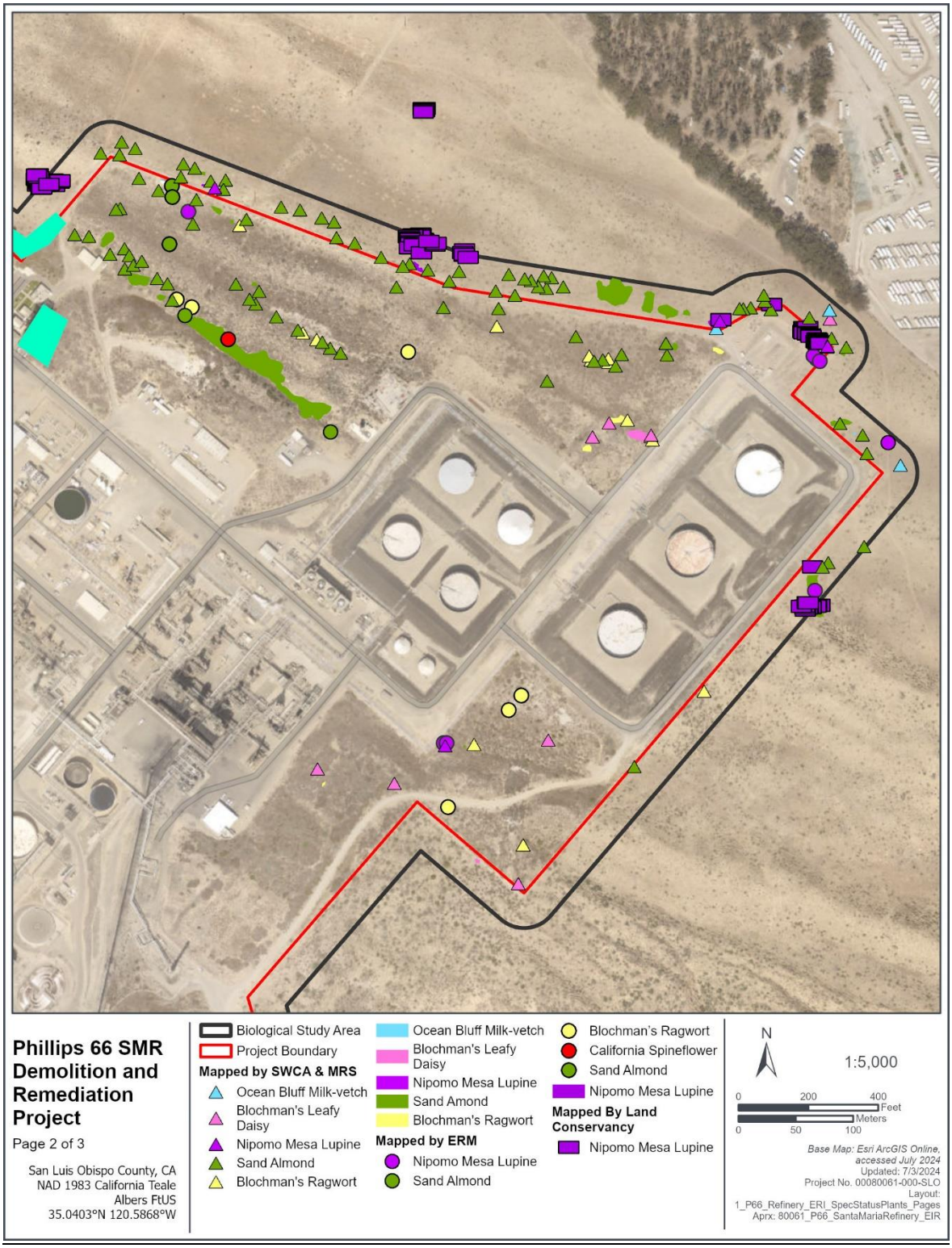
Source: ERM 2023/2024; SWCA 2023, USFWS 2021, SLO Land Conservancy and ODSVRA 2024

Figure 4.4-10 Locations of Special-Status Plant Species (Page 1)



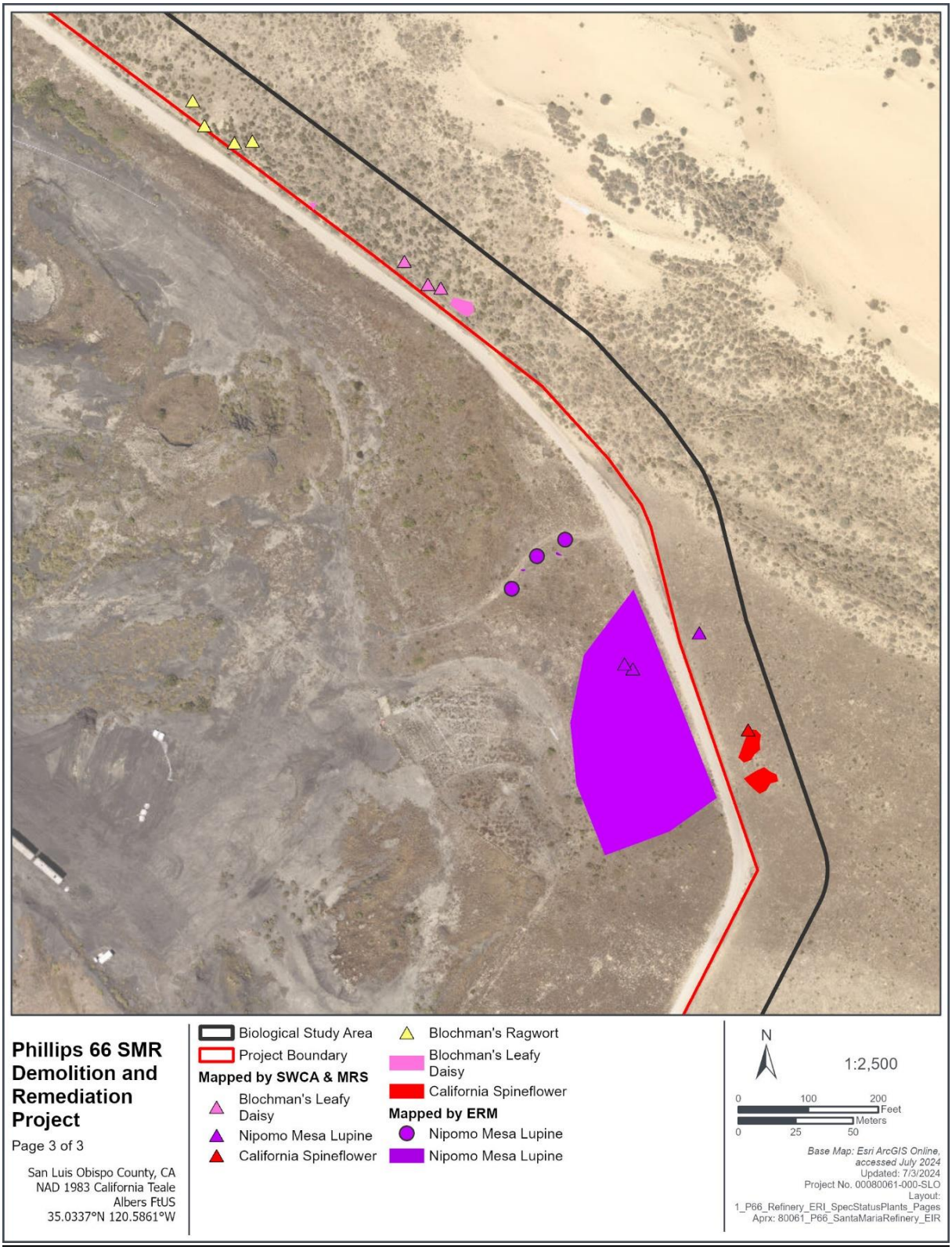
Source: ERM 2023/2024; SWCA 2023, USFWS 2024, SLO Land Conservancy and ODSVRA 2024.
Note: page 1 of 3 see Figure 4.4-9.

Figure 4.4-11 Locations of Special-Status Plant Species (Page 2)



Source: ERM 2023/2024; SWCA 2023, USFWS 2024, SLO Land Conservancy and ODSVRA 2024.
Note: page 2 of 3 see Figure 4.4-9.

Figure 4.4-12 Locations of Special-Status Plant Species (Page 3)



Source: ERM 2023/2024; SWCA 2023, USFWS 2024, SLO Land Conservancy and ODSVRA 2024
Note: page 3 of 3 see Figure 4.4-9.

Outside of the fence line, locations within the BSA were observed in the northeastern portion of the site (Figure 4.4-11), east of the Project site (Figure 4.4-12) and along the entry/exit roadway (Figure 4.4-10).

One individual was observed growing up through the asphalt emulsion coating (Figure 4.4-11 south of tank farm). This occurrence suggests that a seed bank still potentially persists within the more disturbed areas within the Refinery and populations may be able to expand with restoration efforts. The other occurrences were located immediately outside and along the northern Project fence line where approximately 35 individuals were mapped (Figure 4.4-9 and Figure 4.4-11). The plants were observed in the flatter area adjacent to the Project site outside the fence line within the BSA. The area immediately outside and adjacent to the Project fence line within the BSA appeared to be mimicking the conditions of the base of a stabilized dune, as fewer to no plants were observed further away from the Project site.

California Rare Plant Rank 1B

Blochman's Leafy Daisy

Blochman's leafy daisy (*Erigeron blochmaniae*) is a perennial rhizomatous herb of the sunflower family (Asteraceae). It has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California. This species is endemic to the sand dunes of the Central Coast, extending from Vandenberg Space Force Base in Santa Barbara County north to Morro Bay. This species is threatened by non-native invasive species, off-road vehicles, and loss of habitat.

Blochman's leafy daisy occurs in several areas in the BSA and the buffer area. During the 2023 surveys, it was found in several locations in the disturbed dune scrub habitats within the Project site (Figure 4.4-11). It was also found within the southeastern buffer area and in several locations adjacent to the access road (Figures 4.4-10 and 4.4-11). One of the largest polygons mapped was in front of the northern entrance sign adjacent to Highway 1 (Figure 4.4-10). The 2022 surveys conducted by ERM did not find Blochman's leafy daisy within the Project area, but only along the area west of the railroad (Figure 4.4-9). The lack of rainfall in 2022 likely significantly reduced the distribution of this species which is why it may not have been observed within the BSA in 2022; however, based on 2023 surveys when there was ample rainfall, this species does occur in the in within the Project site and could potentially be found in other suitable habitat areas within the BSA from year to year. Occurrences could potentially expand given proper restoration of the disturbed dune scrub habitat within the BSA.

Dune Larkspur

Dune larkspur (*Delphinium parryi* subsp. *blochmaniae*) is a perennial herbaceous plant in the buttercup family (*Ranuculaceae*) and occurs in chaparral and coastal dune communities with sandy or rocky soils. This species typically blooms from April to May and is found from 0 to 200 meters above sea level. Dune larkspur has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California.

One occurrence of dune larkspur was observed adjacent to the access road during the 2023 botanical surveys (Figure 4.4-10). The nearest documented CNDDB occurrence was observed in 1969 and is located south of the BSA in the proximity of the Los Berros Creek riparian corridor. The various coastal scrub in the Study Area provides suitable habitat for this species; however, it

was only found in one location during the 2023 survey and was not found in 2022. One occurrence was found by Arcadis in 2019 approximately 225 feet east of the northeastern corner of the BSA (Arcadis 2019), but it was not found during botanical surveys conducted by Arcadis in 2013 for the Rail Spur Project (Arcadis 2013a).

Coastal Goosefoot

Coastal goosefoot (*Chenopodium littoreum*) is an annual herbaceous plant in the goosefoot family (*Chenopodiaceae*). It occurs in coastal dune habitat in Los Angeles, Santa Barbara, and San Luis Obispo Counties. This species typically blooms from April to August and is found from 10 to 30 meters above sea level. Coastal goosefoot has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California.

Three coastal goosefoot plants were observed adjacent to the access road during the 2023 botanical surveys (Figure 4.4-10). The nearest documented CNDDB occurrence was approximately 0.17 mile north of the BSA in 2011. The coastal scrub in the BSA provides suitable habitat for this species; however, it was only found in one general location along the entrance road during the 2023 survey and was not found in 2022. It was also not found by Arcadis during their surveys in 2013, 2015, and 2019 (Arcadis 2013a, 2015a, and 2019).

California Rare Plant Rank 4

Blochman's Ragwort

Blochman's ragwort (*Senecio blochmaniae*) is a subshrub in the sunflower family (*Asteraceae*) that reaches 1.5 meters in height. The leaves are bright green and linear, with dried leaves remaining attached to the plant lower on stems. Blochman's ragwort is distributed on stabilized dunes from Point Conception north to Morro Bay. It has a CRPR of 4.2, a plant of limited distribution that is fairly endangered in California. It is threatened by development, invasive weeds, off-road vehicles, and other human activities.

Blochman's ragwort was the second most common special-status plant found within the BSA second to sand almond (Figures 4.4-9, 4.4-10, and 4.4-11). In the 2023 surveys, it was most prevalent adjacent to the entrance roads (Figure 4.4-10). A few locations were mapped within the Project site to the north and east and along the eastern buffer area (Figures 4.4-11 and 4.4-12). It frequently occurred at the base of larger shrubs. A few additional occurrences within the Project site on the western edge of the property were mapped in 2022.

California Spineflower

California spineflower (*Mucronea californica*) is a distinctive reddish annual of the buckwheat family (*Polygonaceae*). This species produces wiry branches that grow low to the ground and rarely grow taller than 25 centimeters. California spineflower grows on sandy soils and occurs in chaparral, cismontane woodland, coastal dunes, and coastal scrub communities. It has a CRPR of 4.2 species, a plant that is of limited distribution and fairly threatened in California.

California spineflower was found in two locations within the BSA and just outside of the BSA, west of the railroad. ERM found California spineflower in the northern portion of BSA amongst a patch of mapped sand almond during their survey in June 2022 (Figure 4.4-11). An additional patch was found along the southeastern buffer area, immediately east of the Project site, in surveys conducted in 2023 by SWCA (Figure 4.4-12).

Sand Almond

Sand almond (*Prunus fasciculate* var. *punctata*) is a CRPR 4.3 variety endemic to San Luis Obispo and Santa Barbara Counties. It is known to occur in sandy habitats in maritime chaparral, coastal dune and scrub, and woodland habitats below 200 meters elevation. It is a deciduous shrub that typically blooms between March and April.

Sand almond was the most abundant special-status plant found within the BSA (Figure 4.4-9). It was prevalent along the northern portion of the property, often comprising one of the dominate shrub species amongst a field of veldt grass. Most of the individuals of sand almond mapped were small and appeared to be resprouting shrubs that may have died back during the extensive drought years between 2011 and 2017 and between 2020 and 2022.

Ocean Bluff Milk-Vetch

Ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*) is a perennial herb in the pea family (*Fabeaceae*) that occurs on coastal bluffs and dunes from the San Francisco Bay south to Point Conception. It has a CRPR 4.2, having limited distribution and being fairly threatened in California.

Ocean bluff milk-vetch was found in a few areas along the northeastern buffer area just outside the Project site during the 2023 botanical surveys. It was listed on the plant species list by ERM in 2022, but not identified to the level of varietal; therefore, it's locations were not mapped. It was also observed during surveys in 2023 but also not mapped. MRS Senior Botanist, Lauren Brown, identified it as the rare varietal *nuttallii* and those occurrences were mapped (Figure 4.4-11). Assuming the occurrences found in 2022 and 2023 are also the varietal *nuttallii*, this species is likely more abundant on the property than mapped on the figures.

4.4.1.6 Special-Status Wildlife Species

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

- Wildlife that are listed or proposed for listing as threatened or endangered under the ESA (50 CFR 17.11 for listed animals and various *Federal Register* notices for proposed species).
- Wildlife that are candidates for possible future listing as threatened or endangered under the FESA.
- Wildlife that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380).
- Wildlife that are listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Wildlife that are Species of Special Concern (SSC) to the CDFW.
- Wildlife that are fully protected in California (CFGC Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Based on a CNDDB query and a review of existing literature, a total of 54 special-status wildlife species were assessed for their potential to occur in the BSA (refer to Appendix D). The list of

special-status animal species considered in Appendix D is regional; therefore, an analysis of the range, habitat preferences, and previous survey data for those species was conducted to identify which sensitive animal species have the potential to occur in or near the Project area. As a result of this analysis, it was determined that potentially suitable habitat is present for 19 special-status animal taxa (plus nesting birds and roosting bats), and they are likely to occur in or adjacent to the BSA. Marginally suitable habitat is present for seven additional special-status animal taxa; however, due to the marginal nature of the habitat present they are less likely to occur in or adjacent to the BSA. These species are further discussed in Table 4.4.3 and below. Species with no potential to occur are included in the table in Appendix D, but not included in Table 4.4.3 below except those that were specifically called out by the USFWS and/or CDFW in their letters on the Notice of Preparation (NOP) Scoping Report (USFWS 2023c, CDFW 2023d, and San Luis Obispo County 2023).

ERM did not conduct focused wildlife surveys in support of this Project (ERM 2023). Therefore, information in addition to CNDDB occurrences were consulted. This includes the wildlife surveys conducted by Arcadis in 2013 for the Rail Spur Project and in 2019 for the Line 300 Pipeline Replacement Project (Arcadis 2013b and 2019). Based on the wildlife surveys conducted by Arcadis in 2013 for the Rail Spur Project, seven sensitive wildlife species were observed adjacent to the BSA within the land owned by the Applicant (Phillips 66). These species are western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), ferruginous hawk (*Buteo regalis*), Bell's sparrow (*Amphispiza belli*), Cooper's hawk (*Accipiter cooperii*), and monarch butterfly (*Danaus plexippus*) (Arcadis 2013b). Arcadis conducted additional focused surveys for burrowing owl in 2013 to confirm whether the species was a year-round resident or overwintering individual. The results of this effort determined that the species was an overwintering individual (Arcadis 2013c). Even though they were not observed during surveys, two sensitive reptiles, Blainville's horned lizard (*Phrynosoma coronatum*) and silvery legless lizard (*Anniella pulchra pulchra*), are assumed to occupy the Project area due to the presence of suitable habitat and nearby documented occurrences.

Special-Status Animal Taxa with Potential to Occur in the BSA

Obscure Bumble Bee

Obscure bumble bee (*Bombus caliginosus*) is a State Special Animal and occurs along the Pacific Coast, from southern California to southern British Columbia, with scattered records from the east side of California's Central Valley. This species typically inhabits open, grassy coastal prairies and meadows (Williams et al. 2014). Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. (Hartfield et al. 2014). Key threats for this species appear to include climate change and habitat loss due to development and agricultural activity (Nature-Serve 2020). There are two historic CNDDB occurrences west of the BSA in the ODSVRA around Oso Flaco Lake and Pismo State Beach. Suitable habitat is present for the species in the BSA.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Insects			
Oso Flaco robber fly *Ablautus schlingeri*	Occur in sandy coastal backdune habitat. Found in San Luis Obispo County.	--/--/SA	**Suitable Conditions Present:** Suitable habitat in Project area. Species last reported in 1962.
obscure bumble bee *Bombus caliginosus*	Inhabits open grassy coastal prairies and Coast Range meadows. Nest underground and above ground in abandoned bird nests.	--/--/SA	**Suitable Conditions Present:** Suitable habitat in Project area.
Crotch bumble bee *Bombus crotchii*	Open grassland and scrub habitat. Nest primarily underground. Generalist forager. Select food plant genera include *Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, Boraginaceae*. Little is known about overwintering sites.	--/CE/--	**Suitable Conditions Present:** Suitable habitat in coast scrub and grassland areas.
western bumble bee *Bombus occidentalis*	A bumble bee that historically has had a wide range in the west coast of north America from British Columbia to central California and east to South Dakota. In California, populations are currently restricted to high elevation sites in the Sierra Nevada, though there have been few observations on the northern California coast. Requires meadows and grasslands with abundant floral resources.	--/CE/--	**Suitable Conditions Present:** Suitable habitat in coast scrub and grassland areas. There is a historic CNDDB occurrence from 1936 near Pismo Beach.
monarch butterfly *Danaus plexippus*	Occur along coast from northern Mendocino to Baja California, Mexico. Winter roosts in wind-protected tree groves (eucalyptus, Monterey pine [*Pinus radiata*], and cypress [*Cupressus* spp.]), with nectar and water sources nearby.	FC/--/SA	**Suitable Conditions Present:** The eucalyptus trees provide suitable winter roosting habitat, but there are no documented winter roost sites in the Project area. There is an unprocessed CNDDB occurrence 0.4 mile north, but it is not cited as a winter roosting area. The closest winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Morro Bay blue butterfly *Icaricia icarioides moroensis*	Locally common from March to July, this species flies only along the immediate coast of San Luis Obispo and western Santa Barbara Counties. Feeds on *Lupinus chamissonis*. This variety is restricted to the dunes at Vandenberg Space Force Base, Pismo/Guadalupe dune system and the dunes of Morro Bay.	--/--/SA	**Suitable Conditions Present:** Found at Oso Flaco Lake in 2004; *Lupinus chamissonis* is present in Project area.
Amphibians			
California red-legged frog *Rana draytonii*	Occur in aquatic habitats with little or no flow and surface water depths to at least 2.3 feet (0.7 meters). Presence of fairly sturdy underwater supports, such as cattails (*Typha* spp.).	FT /-- /SSC	**Marginal Conditions Present:** Marginally suitable aquatic habitat is present. The two areas PW 1 and PW 2 provide marginally suitable aquatic habitat. The fact that they provide a source of water makes them potentially attractive nonbreeding aquatic habitat. There is a CNDDB record 0.4 mile west of the Project area in a dune swale pond, which is within their known dispersal distance. There are also CNDDB occurrences in Oso Flaco Creek and its tributary, which is 0.4 mile south of the BSA. Based on these occurrences, the undeveloped areas of the BSA provide marginal potential upland dispersal habitat for frogs dispersing between dune swale ponds west of the BSA and the tributary to Oso Flaco Creek south of the BSA.
Reptiles			
Northern California legless lizard *Anniella pulchra*	Occur from southern edge of San Joaquin River in northern Contra Costa County south to Ventura County. Occur in scattered locations in San Joaquin Valley, along southern Sierra Nevada mountains, and on desert side of Tehachapi Mountains and part of	--/--/SSC	**Suitable Conditions Present:** Multiple CNDDB occurrences adjacent to Project area. Suitable sandy soils on site. Suitable habitat is present throughout the Project area. Species is likely to occur within the Project area.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
	San Gabriel Mountains. Sandy or loose loamy soils with high moisture content under sparse vegetation.		
Blainville's (coast) horned lizard *Phrynosoma blainvillii*	Frequent a wide variety of habitats, commonly occurring in lowlands along sandy washes, coastal sage scrub, and chaparral in arid and semi-arid climate conditions. Prefer friable, rocky, or shallow sandy soils.	--/--/SSC	**Suitable Conditions Present:** Suitable sandy soils on site. Suitable habitat present on the site. Closest CNDDB occurrence is 0.6 mile west on the Oceano dunes. One occurrence was observed by Arcadis in 2019 89 feet from the southeastern BSA boundary. Species is likely to occur within the BSA.
Birds			
Cooper's hawk *Accipiter cooperii*	Deciduous riparian woodland habitat throughout California. Cooper's hawks nest in deciduous, mixed-deciduous, and evergreen forests, as well as in suburban and urban environments. Cooper's hawks tend to nest in more open areas that have older and larger trees.	MBTA/§/WL	**Suitable Conditions Present:** CNDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Likely to forage on the site and occur intermittently throughout the year. Potentially suitable nesting habitat on infrastructure.
sharp-shinned hawk *Accipiter striatus*	A short distance migrant that nests in mixed forests and wooded. Prefers tall trees for nest building. Prey base includes small birds and mammals.	MBTA/§/WL	**Suitable Conditions Present:** CNDDB occurrence 1.8 miles east on the Monarch Dunes Golf Club. Likely to forage on the site and occur intermittently throughout the year. Potentially suitable nesting habitat on infrastructure and eucalyptus trees.
golden eagle *Aquila chrysaetos*	Usually occurring in mountainous areas with varying vegetative cover; removed from people. May forage in grasslands and other open habitats. Nests on cliff edges and rarely in tall trees.	MBTA, BGEPA/--/FP, Sec.3503.5	**Marginal Conditions Present:** Species may occur intermittently on the site. Closest CNDDB occurrences are Atascadero/Santa Margarita and Cachuma Lake. Not likely to nest on the site.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Bell's sparrow *Artemisiospiza* [*Amphispiza*] *belli belli*	Occurs in coastal sage scrub, chamise chaparral	MBTA/§/WL	**Suitable Conditions Present:** Suitable habitat for foraging throughout survey area, and suitable nesting habitat on infrastructure and sagebrush. No CNDDB occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b).
burrowing owl *Athene cunicularia*	Occur in open, dry grasslands, deserts, and scrublands. Subterranean nester, dependent on burrowing mammals.	MBTA/§ /SSC	**Suitable Conditions Present:** suitable scrub habitat available on site; over-winters on the site. Observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Closest CNDDB occurrence is on the Guadalupe oil fields 4.5 miles south in similar habitat.
ferruginous hawk *Buteo regalis*	(Wintering) open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats; eats lagomorphs, ground squirrels, and mice.	MBTA/--/WL	**Suitable Conditions Present:** Closest CNDDB occurrence is in San Luis Obispo, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Although the ferruginous hawks may pass through the area in the winter, nesting is not expected to occur in the Project areas.
northern harrier *Circus cyaneus*	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Permanent resident of the northeastern plateau and coastal areas; less common resident of the Central Valley. Widespread winter resident and migrant in suitable habitat.	MBTA/--/SSC	**Suitable Conditions Present; common winter resident:** CNDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur Project (Arcadis 2013b). Suitable foraging habitat on the site for this species.
white-tailed kite *Elanus leucurus*	Open grasslands, meadows, or marshlands for foraging close to isolated trees for nesting and perching.	MBTA/§/ FP	**Suitable Conditions Present:** Suitable habitat available for this species; species likely to occur on the site intermittently throughout the year. Potentially suitable nesting habitat in Eucalyptus and Monterey Pine trees on site.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
American peregrine falcon *Falco peregrinus*	Riparian areas and coastal and inland wetlands are important habitats yearlong, especially in nonbreeding seasons. Migrants occur along the coast, and in the western Sierra Nevada in spring and fall.	MBTA, Delisted/FP/--	**Suitable Conditions Present:** Suitable habitat for foraging throughout Project area, and suitable nesting habitat on infrastructure.
loggerheaded shrike *Lanius ludovicianua*	A predatory passerine that frequents open areas with scattered shrubs. Commonly observed foraging in grassland, desert scrubs, and waste places. Builds nests in isolated trees or shrubs in the vicinity of foraging areas.	MBTA/§/SSC	**Suitable Conditions Present:** One unprocessed CNDDB occurrence approximately 1.3 miles west of Project area and the species was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Suitable habitat on site for this species; likely to occur on the site intermittently throughout the year. Suitable nesting habitat in shrubs and potentially on infrastructure.
California black rail *Laterallus jamaicensis coturniculus*	Shore birds known to frequent tidal salt marshes. Utilize densely vegetated mud flats and high tide line in saltwater marsh systems.	--/ST/--	**Suitable Conditions Absent:** The BSA does not contain tidal salt marshes or densely vegetated mudflats.
California least tern *Sternula antillarum browni*	Largely a coastal species that feed on fish and nest on sandy dunes or beaches. Once a common species in California; currently nesting colonies are isolated to Southern California and scattered Bay Area beaches.	FE/SE/--	**Suitable Conditions Absent:** The site does not contain suitable foraging or nesting habitat.
Class Aves Other migratory bird species (nesting)	Annual grasslands, coastal scrub, chaparral, and oak woodlands may provide nesting habitat.	MBTA/§/--	**Suitable Conditions Present:** Suitable nesting habitat occurs throughout the site, including all of the structures, which may become more attractive to nesting birds as activity at the Refinery decreases.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Mammals			
pallid bat *Antrozous pallidus*	Prefer rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings.	--/--/SSC	**Marginal Conditions Present:** suitable foraging habitat present. Potentially suitable roosting habitat on infrastructure, particularly if left unused for an extended period of time.
Townsend's big-eared bat *Corynorhinus townsendii*	Occur in a wide variety of habitats; most common in mesic (wet) sites. May use trees for day and night roosts; however, require caves, mines, rock faces, bridges, or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	--/--/SSC	**Marginal Conditions Present:** suitable foraging habitat present. Potentially suitable roosting habitat on infrastructure, particularly if left unused for an extended period of time.
western red bat *Lasiurus blossevillii*	Roost primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. Mating occurs in August and September and young are born from late May through early July.	--/--/SSC	**Marginal Conditions Present:** Marginal to poor habitat suitability for this species. Marginal suitable habitat conditions present in eucalyptus trees.
Hoary bat *Lasiurus cinereus*	Occurs in open habitats and habitat mosaics with access to trees for cover. Roosts in dense foliage of medium to large trees.	--/SA/--	**Marginal Conditions Present:** Marginally suitable foraging habitat present. Marginally suitable roosting habitat present in eucalyptus trees.
Yuma myotis *Myotis yumanensis*	Near ponds, streams, lakes, or other water sources supporting midges, moths, and other small insects. Maternity roosts are often found in caves, mines, buildings, or tree cavities.	--/SA/--	**Marginal Conditions Present:** Potentially suitable foraging habitat present. The eucalyptus trees and infrastructure provide potential roosting habitat. This species is highly associated with water; therefore, the potential for this species to exist on the site is low.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
American badger *Taxidea taxus*	Occur in open stages of shrub, forest, and herbaceous habitats; need uncultivated ground with friable soils.	--/--/SSC	**Suitable Conditions Present:** Suitable sandy soils on site. Site provides suitable habitat and several potential burrow locations were observed during botanical surveys in 2023. Additionally, a badger has been observed in the restoration area in the southeastern part of the site (personal communication).

Source: Unless otherwise noted, all habitat and distribution data provided by the CNDDB (2023).
Status Codes:
-- = No status
Federal: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; CH = Federal Critical Habitat; PCH = Proposed Federal Critical Habitat; MBTA = Protected by Federal Migratory Bird Treaty Act; **State:** SE = State Endangered; ST = State Threatened; SCT = State Candidate Threatened, SCE = State Candidate Endangered; § = CA Fish and Game Code §3503 and §3503.5; **CDFW:** SSC = Species of Special Concern; FP = Fully Protected Species; SA = Not formally listed but included in CDFW "Special Animal" List; WL = Watch List
Rationale Terms: ***Species Present:*** Species was or has been observed in the survey area. ***Suitable Conditions Present:*** Survey area is within the species' range and supports the appropriate habitat, soils, elevation, and other habitat requirements. ***Marginal Conditions Present:*** Survey area is in the species' range and supports the appropriate habitat but other factors (past disturbances, presence of predators, etc.) may preclude species occurrence. ***Suitable Conditions Absent:*** Survey area is not in the species' range and/or does not support the appropriate habitat, soils, elevation, and/or other habitat requirements.

Crotch Bumble Bee
Crotch bumble bee (*Bombus crotchii*) is a candidate species for protection under the CESA. It inhabits open grassland and scrub habitats primarily in California, from Sacramento south into Mexico, and from the coast east into Nevada. Bumble bee colonies are annual with the queen mating in the fall before overwintering alone starting in October. In the spring the queen emerges and established a new colony by producing female workers and male drones. Not much is known about Crotch bumble bee overwintering sites (Xerces Society et al. 2018). Generally, bumble bees overwinter in soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Queens emerge between February and April (Thorp et al. 2010) and establish a colony.

Colonies are usually underground in abandoned holes made by ground squirrels, mice, and rats, or occasionally abandoned bird nests (Osborne et al. 2008). However, bumble bees may also nest above ground in tufts of grass or cavities in downed wood, rock walls or brush piles. Crotch bumble bees are generalist foragers, feeding on a variety of flowering plants (Xerces Society et al. 2018). Like other bumble bees, this species feeds on both the nectar and the pollen. Select food plant families include *Fabaceae*, *Apocynaceae*, *Asteraceae*, *Lamiaceae*, and *Boraginaceae* (Xerces Society et al. 2018). Threats to this species include loss of habitat due to agriculture and development and degradation of habitat due to invasive species, livestock grazing, herbicide use and decreases in small mammal population due to poisoning. The closest CNDDB occurrence is 26 miles north of the BSA in San Luis Obispo, however, the BSA is potentially within its historic range and there is potentially suitable habitat in the dune scrub and grassland areas in the BSA.

Western Bumble Bee
Western bumble bee (*Bombus occidentalis*) is a candidate species for protection under the CESA. Once commonly found in western United States, Canada, North Dakota, and throughout Alaska, they now appear to be absent from most of these areas as there has been a 93 percent decline in occupancy in the last two decades (Xerces Society et al. 2018). Western bumble bees primarily nest in late February through late October underground in abandoned small mammal burrows but may be found under brush piles, in old bird nests, and in dead trees or hollow logs. Overwintering sites utilized by mated queens include soft, disturbed soil, or under leaf litter or other debris (Xerces Society et al. 2018). The closest documented occurrence is a historic CNDDB occurrence from 1936 near Pismo Beach. However, suitable habitat is present in the BSA in coast scrub and grassland areas and Western bumble bees have the potential to be found on or within the vicinity of the BSA.

Monarch Butterfly
Monarch butterfly (*Danaus plexippus*) is a candidate species for protection under the FESA and listed as a CDFW Special Animal. It migrates in the fall to wintering locations along the coast of central and southern California and mainland Mexico. Monarch butterfly aggregates in eucalyptus, Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), and less commonly oak trees. The eucalyptus trees provide suitable winter roosting habitat, but there are no documented winter roost sites in the BSA. There is an unprocessed CNDDB occurrence 0.4 mile north, but it is not cited as a winter roosting area. The closest CNDDB winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve (CNDDB 2023).

California Red-legged Frog

California red-legged frogs (CRLF) (*Rana draytonii*) are listed as a Federal Threatened species under FESA and is a California SSC. CRLF is endemic to California and northern Baja California, historically ranging from Mendocino County south along the coast to Baja and east from the Northern Sacramento Valley to the foothills of the Sierra Nevada at elevations up to 5,000 feet. This species requires permanent or semi-permanent bodies of water, such as lakes, streams, and ponds with emergent vegetation. They use lowland and grassland areas to hunt and forage for food. Adult frogs consume invertebrates, mice, fish, frogs, and larvae of other amphibians. Tadpoles are thought to consume algae floating on the water's surface or growing on rocks and plants. Breeding typically occurs over a one-to-two-week period between late November and early April (depending on local environmental conditions) and females lay egg masses in the water which the male externally fertilizes. The egg masses are often attached to aquatic vegetation and tadpoles hatch approximately four weeks later. Most tadpoles metamorphose in four to seven months, but some would do so the next summer. Current threats to extant populations of red-legged frogs include nonnative predators, such as bullfrogs and centrarchid fishes, urban and agricultural development, and pesticide pollution (Nafis 2020).

PW 1 and PW 2 provide marginally suitable aquatic habitat for CRLF. The fact that they provide a source of water makes them potentially attractive nonbreeding aquatic habitat. The closest CNDDB record is 0.4 mile west of the BSA in a dune swale pond, which is within their known dispersal distance. There are also CNDDB occurrences in Oso Flaco Creek and its tributary, which is 0.4 mile south of the BSA. Based on these occurrences, the undeveloped areas of the BSA provide potential upland dispersal habitat for frogs dispersing between dune swale ponds west of the BSA and the tributary to Oso Flaco Creek south of the BSA and potentially suitable aquatic nonbreeding habitat because it provides a consistent water source year-round.

Northern California Legless Lizard

Northern California legless lizard (*Anniella pulchra*) is a CDFW SSC and occurs from Contra Costa County to Santa Barbara County. It inhabits friable soils in a variety of habitats from coastal dunes to oak woodlands and chaparral. Adapted to subterranean life, the legless lizard thrives near native coastal shrubs that produce an abundance of leaf litter and have strong roots systems (Kuhnz et al. 2005). Areas of exotic vegetation and open grassland do provide less suitable habitat for the species since these plant communities support smaller populations of insect prey and offer little protection from higher ground temperatures and soil desiccation (Thomson et al. 2016). There are multiple CNDDB occurrences located adjacent to BSA and suitable sandy soils are present throughout the BSA. Therefore, the species is likely to occur within the BSA.

Blainville's Horned Lizard

Blainville's horned lizard (*Phrynosoma blainvillii*) occurs in semi-arid mountains of western and southern California at elevations up to 8,000 feet. This species inhabits grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose, sandy soil. It is frequently found near native ant hills, which are its preferred food source. This species may also forage on beetles, wasps, grasshoppers, flies, and caterpillars. The breeding season is from May to September, and nests are constructed in loose soil (Zeiner et al. 1988–1990). Habitat conversion to housing and agriculture and the spread of nonnative ants (e.g., Argentine ants) have caused this species to decline. Historically, this lizard was extensively exploited by the pet and curio trade (Nafis 2020). As such, the Blainville's horned lizard is a California SSC. One Blainville's horned

lizard was observed approximately 89 feet from the southeastern BSA boundary during surveys conducted by Arcadis in 2019 (Arcadis 2019).

Cooper's Hawks
Cooper's hawks (*Accipiter cooperii*) are a California SSC and occur throughout the southern United States and Mexico. Nesting habitat for this hawk is primarily dense stands of coast live oak and riparian forests. Cooper's hawks nest and forage in close proximity to open water or riparian vegetation (Zeiner et al. 1988–1990). Prey for Cooper's hawks consists of birds, small mammals, amphibians, and reptiles. They are tolerant of human activity and would nest relatively close to developed and suburban areas. The CNDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Likely to forage in the BSA and occur intermittently throughout the year. There is potentially suitable nesting habitat on the infrastructure.

Western Burrowing Owl
Western burrowing owls (*Athene cunicularia*) is a California SSC that generally inhabit open grasslands, prairies, and fields with short-stature vegetation, but may also occupy agricultural and developed areas (Shuford and Gardali 2008). This species typically uses the burrows of ground squirrels and other small mammals for shelter, protection from predators, and rearing of chicks. Burrowing owls are active day and night, and can be seen roosting outside of burrow entrances during the day. Courtship and mating may begin as early as late December in California and continue into early spring. Incubation lasts 28–30 days and young disperse to nearby burrows by early fall. The primary threats to burrowing owls are the elimination of burrowing mammals through control programs and habitat loss (Klute et al. 2003). They are a SSC in the State of California.

The closest CNDDB occurrence for burrowing owls is on the Guadalupe oil fields approximately 4.5 miles south in similar habitat. Burrowing owls were observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Additionally, Arcadis conducted focused surveys for burrowing owls in 2013 to confirm whether the species was a year-round resident or overwintering individual. The results of this effort determined that the species was an overwintering individual (Arcadis 2013c). The BSA supports suitable habitat for over-wintering, and they are known to occur adjacent to the BSA.

Sharp-Shinned Hawk
Sharp-shinned hawk (*Accipiter striatus*) is a state watch list species that is known to range throughout high elevation forests in the Rocky Mountains, as well as large areas of Canada, Alaska, and much of the northeastern United States. Breeding grounds also extend into portions of northern California, Nevada, and Washington. This species inhabits a variety of habitats including aspen, pine, and fir forests, as well as urban and agricultural areas. Peak nesting season for this species is from March to June, but often extends through the summer. There is one CNDDB occurrence 1.8 miles east on the Monarch Dunes Golf Club (CNDDB 2023). The species likely forages within the BSA and may occur intermittently throughout the year. There is also potentially suitable nesting habitat on the infrastructure and eucalyptus trees present in the BSA.

Golden Eagle
Golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act (16 United States Code [U.S.C.] 668-668c) and designated as a Fully Protected Species under Section 3511 of the CFGC, designated by CDFW as a Fully Protected species (i.e., no permitted take or possession at any time), and is also protected under the federal Bald and Golden Eagle Protection Act (USFWS 2019d). Golden eagles typically occur in open and semi-open habitats, most commonly in mountainous areas with hunting grounds where prey is abundant. Golden eagles typically feed on small mammals and would nest in trees, on transmission towers, on cliffs, or other steep escarpments (Cornell Lab of Ornithology 2023). The typical nesting period for golden eagles is from January 1 through September 15. This species is threatened by loss of forage and nesting habitat, secondary pesticide poisoning, and collisions with man-made structures. There is marginally suitable habitat present in the BSA for this species and may occur intermittently on the site. However, the closest CNDDB occurrences are Atascadero/Santa Margarita and Cachuma Lake. They are not likely to nest within the BSA.

Bell's Sparrow
Bell's sparrow (*Artemisiospiza* [*Amphispiza*] *belli belli*) is a state watch list species that typically occurs in dense coastal chaparral and sagebrush scrub. The Bell's sparrow can often be seen running between bushes with its tail raised high. It builds a cuplike nest of twigs, grasses, bark, lined with finer materials, placed on the ground or up to 3-feet high in a shrub. Typically, 3 to 4 bluish eggs are laid in the spring; incubation lasts approximately 13 days and young fledge in 9 to 11 days (Ehrlich et al. 1988; Stokes 1996). Suitable habitat for foraging throughout survey area, and suitable nesting habitat on infrastructure and sagebrush. The CNDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013). The BSA contains suitable breeding habitat for this species.

Ferruginous Hawks
Ferruginous hawk (*Buteo regalis*) are also a state watch list species and are typically found in open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. This species hunts its prey from high mound perches or from flying low over grassland habitat. Roosting habitat include open areas usually in solitary trees or utility poles (Zeiner, et al. 1988–1990). This species generally arrives in California in September and departs by mid-April for breeding grounds in the northern United States and Canada. The closest CNDDB occurrence is in San Luis Obispo, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Although the ferruginous hawks may pass through the area in the winter, nesting is not expected to occur in the BSA.

Northern Harrier
Northern harrier (*Circus cyaneus*) is a California SSC that inhabits a range of habitats with low vegetation including meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. This species builds nests on the ground near marshes or in grasslands, usually near dense vegetation. Northern harriers feed on a variety of animals, such as small mammals, reptiles, amphibians, and birds. They occur year-round in California and at least some breeding populations may be resident. However, northern harriers can be found in much greater numbers more broadly during migration and winter than during the breeding season, which extends from March through August (Shuford and Gardali 2008). There were no CNDDB occurrences for this species within the search radius, but it was observed by Arcadis during surveys in 2013 for the

Rail Spur (Arcadis 2013b). The BSA contains suitable foraging habitat and potentially suitable nesting habitat on infrastructure.

White-Tailed Kite
The white-tailed kite (*Elanus leucurus*) is designated as a Fully Protected Species (i.e., no permitted take or possession at any time) under Section 3511 of the California Fish and Game Code (CFGC). They are resident to coastal valleys and lowlands of California where it inhabits herbaceous and open stands of various habitats near agricultural operations. Nest sites are typically placed on the top of a tall tree near or within riparian areas, with adjacent grasslands for foraging. Typical prey items include voles and other small diurnal mammals, but it would occasionally feed on birds, insects, reptiles, and amphibians (Zeiner et al. 1988–1990). Nesting occurs within thick, upper canopies of oaks, willows, or other tree stands in close proximity to open foraging area. Suitable habitat is available for this species in the BSA and the species is likely to occur intermittently throughout the year. Additionally, there is potentially suitable nesting habitat in Eucalyptus and Monterey Pine trees in the BSA.

American Peregrine Falcon
American peregrine falcon (*Falco peregrinus*) is a State Fully Protected species (nesting). It occurs all over the world. In North America, they are permanent residents of the northwest coast and breed in open landscapes with cliffs or skyscrapers. Nesting occurs up to 3,660 meters generally on rock and cliff ledges, ledges of buildings, bridges, or other structures. Forage occurs primarily on other bird species, especially rock pigeons (*Columba livia*) although they have been documented killing other birds as large as Sandhill cranes (*Grus canadensis*) and as small as hummingbirds (*Trochilidae* spp.). Population declines have been attributed to pesticides causing failed reproduction, however, this species has been delisted from the California and federal Endangered Species Act. Breeding populations are now considered stable or increasing with the ban of specific pesticides in the 1970's (Audubon 2020). There is suitable habitat for foraging throughout BSA, and marginally suitable nesting habitat on infrastructure.

Loggerhead Shrike
Loggerheaded shrike (*Lanius ludovicianua*) is a California SSC and a common resident of lowlands and foothills throughout California, occupying open habitats with scattered shrubs, trees, fence posts, and poles for perching opportunities. This species typically forages on insects but may also hunt for small reptiles, amphibians, and mammals, sometimes impaling them on sharp objects like barbed wire. Loggerhead shrikes build nests on stable branches in well-concealed dense shrubs or trees (Zeiner et al. 1988–1990). There is one unprocessed CNDDB occurrence approximately 1.3 miles west of BSA and the species was observed by Arcadis during surveys in 2013 for the Rail Spur (CNDDB 2023 and Arcadis 2013b). The BSA contains suitable habitat for this species, and it is likely to occur on the site.

American Badger
American badger, a CDFW SSC with a widespread range across the state (Brehme et al. 2015; CDFW 2016), is a permanent but uncommon resident in all parts of California, except for forested regions of the far northwestern corner, and is more abundant in dry, open areas of most shrub and forest habitats (CNDDB 2023). It requires friable soil to dig burrows for cover and breeding. The main food source for the species is fossorial rodents, mainly ground squirrels and pocket gophers (CDFW 2016). The breeding season for badgers is in summer and early fall, and females give birth

to litters usually in March and April (CDFW 2016). Suitable sandy soils are present within the BSA and several potential burrow locations were observed during botanical surveys by SWCA and MRS in 2023. Additionally, a badger has been observed in the restoration area in the southeastern part of the site (personal communication). The closest reported CNDDB occurrence of American badger is located approximately 350 feet west of the BSA, where an adult badger was observed at a den in the ODSVRA. Given the presence of suitable habitat with friable soils, observations of a badger on site and the proximity of CNDDB records, American badger presence is presumed confirmed.

Pallid Bat
The pallid bat (*Antrozous pallidus*) is a California SSC. The pallid bat is widespread throughout the western United States; southern British Columbia, Canada; and mainland and Baja California, Mexico (Hermanson and O'Shea 1983; Hall 1981). They prefer rocky outcrops, cliffs, and crevices for roosting (Hermanson and O'Shea 1983). Foraging habitats vary and include grasslands, oak savannahs and woodlands, riparian woodland, open pine forests, talus slopes, and agricultural areas. They predominantly prey upon a wide variety of insects (Zeiner et al. 1988–1990). Suitable foraging habitat present for this species in the BSA. Potentially suitable roosting habitat is present on the infrastructure, particularly if left unused for an extended period of time.

Townsend's Big Eared Bat
The Townsend's big eared bat (*Corynorhinus townsendii*) is a California SSC. In the United States, it occurs in a continuous distribution in all of the western states and east into western South Dakota, northwestern Nebraska, southwestern Kansas, western Oklahoma, and western Texas (Piaggio et al. 2009). Townsend's big-eared bat range is throughout California in a variety of habitats. Diet consists mostly of moths and other relatively slow-moving flying insects. This species is known to roost in caves, mines, tunnels, abandoned buildings and other structures, but is extremely sensitive to human disturbance and may desert roosts following a single human visit (Zeiner et al. 1988–1990). Males are often solitary during the spring and summer while the females remain in maternity colonies of fewer than 100 individuals (Zeiner et al. 1988–1990). This species hibernates individually or in groups less than a few dozen. Suitable foraging habitat is present in the BSA. Potentially suitable roosting habitat is present on infrastructure, particularly if left unused for an extended period of time.

Western Red Bat
The western red bat (*Lasiurus blossevillii*) is a California SSC. Western red bats roost on the underside of overhanging leaves (Pierson et al. 2002). In the Central Valley, they were found to be more abundant in remnant stands of cottonwood/sycamore riparian habitats, but also roosted extensively in orchards and were observed roosting in planted eucalyptus stands (Pierson et al. 2006). Marginally suitable habitat is present in the BSA in the eucalyptus trees.

Hoary Bat
The hoary bat (*Lasiurus cinereus*) is included on the CNDDB Special Animals List (CDFW 2023a). It is the most widespread of all North American bats (Zeiner et al. 1988–1990). Hoary bats generally roost and bear young in medium to large coniferous and deciduous trees with dense foliage. Females and young tend to roost at higher sites in tree. Marginally suitable foraging habitat present for this species in the BSA. Marginally suitable roosting habitat present in the eucalyptus trees.

Yuma Myotis
Yuma myotis (*Myotis yumanensis*) is included on the CNDDB Special Animals List (CDFW 2023a). They occur widely in western North America, from central Mexico to British Columbia, Montana, and New Mexico. It is common and widespread in California, in a wide variety of habitats ranging from sea level to 3300 meters (11,000 feet), but it is uncommon to rare above 2560 meters (8000 feet). Suitable habitats for the Yuma myotis are open forests and woodlands near water sources such as rivers, irrigation canals, ponds, streams, or creeks, which are used for foraging habitat. The Yuma myotis is known to roost in caves, abandoned buildings, and other structures. This species is known to form maternity colonies of several thousand individuals in caves or attics. Potentially suitable foraging habitat present in the BSA. The eucalyptus trees and infrastructure provide potential roosting habitat. This species is highly associated with water; therefore, the potential for this species to exist on the site is low.

Wildlife Corridors and Special Linkages
Wildlife corridors are natural habitats that link at least two distinct populations of wildlife that are separated by fragmented habitat (e.g., roads, urban environments, cultivated lands). No designated wildlife corridors were identified in the BSA. No apparent wildlife corridors were observed during the surveys by ERM in 2022. Aerial imagery also did not indicate the presence of corridors. In addition, the chain link fence surrounding the SMR acts as a barrier to large mammal movement through the BSA.

Monarch butterflies may be present in the area during the winter season and may utilize the site during migrations or may overwinter in portions of the Project site, specifically the Eucalyptus grove areas located along the southern border of the BSA. Monarch butterflies may potentially overwinter at or in the vicinity of the BSA and are most likely to be present during September through March.

4.4.2 Regulatory Setting

4.4.2.1 Federal Regulations

Endangered Species Act
The FESA of 1973 provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. “Critical Habitat” is a term within the FESA designed to guide actions by federal agencies and is defined as “an area occupied by a species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species.” Actions that jeopardize endangered or threatened species and/or critical habitat are considered a “take” under FESA. Take under federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Projects that would result in take of any federally listed endangered or threatened species, or critical habitats, are required to consult with the USFWS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan [HCP]) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The FESA does not protect plants unless there is a federal nexus. Plants may not be

removed from lands under federal jurisdiction, and activities with a federal nexus have the consultation requirement described above (16 United States Code [USC] 1536 – Interagency Cooperation).

Migratory Bird Treaty Act
All migratory, non-game bird species that are native to the United States or its territories are protected under the Federal MBTA of 1918 (50 CFR Section 10.13), as amended under the Migratory Bird Treaty Reform Act of 2004. The MBTA makes it illegal to purposefully take (pursue, hunt, shoot, wound, kill, trap, capture, or collect) any migratory bird, or the parts, nests, or eggs of such a bird, except under the terms of a valid federal permit. Migratory non-game native bird species are protected by international treaty under the Federal MBTA.

Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668)
The Bald and Golden Eagle Protection Act (16 United States Code [U.S.C.] 668-668c) was enacted in 1940 to protect bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), including their parts (i.e., feathers, nests, or eggs). Pursuant to the legislation, criminal penalties may ensue for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part (including feathers), nest, or egg thereof." In addition to direct negative interaction with eagles, the legislation also stipulated that human-induced alterations to a previously used nest site is prohibited (USFWS 2023d).

Coastal Zone Management Act
The Coastal Zone Management Act was implemented in 1972 and is overseen by the (NOAA) Office for Coastal Management, to protect areas and resources within the coastal zone (16 U.S.C. 1451 et seq.). Section 307 of the Coastal Zone Management Act delegates responsibility of coastal resources and areas to states willing to participate in a federally-consistent coastal management program. California's Coastal Zone is managed by the CCC under the California Coastal Act (CCA) and the California Coastal Management Program (CCMP) (Section 4.1.2.7). Certain activities require a federal consistency certification from the federal agency permitting the activity to the CCC to ensure, to the extent practicable, that the activity is consistent with the California Coastal Management Program.

Clean Water Act
The Federal Clean Water Act (CWA) of 1972 provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States, must obtain a state certification that the discharge complies with other provisions of CWA. The RWQCBs administer the certification program in California. Section 404 establishes U.S. Army Corps of Engineers (USACE) jurisdiction over fill materials in essentially all waterbodies, including wetlands. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative. Section 404 established a permit program administered by the USACE regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Section 404 guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

4.4.2.2 State Regulations

California Endangered Species Act

The CESA of 1970, like the FESA, contains a process for listing of species and regulating potential impacts to listed species. State threatened and endangered species include both plants and wildlife, but do not include invertebrates. The designation "rare species" applies only to California native plants. State threatened and endangered plant species are regulated largely under the Native Plant Preservation Act (NPPA) of 1977 in conjunction with the CESA. State threatened and endangered animal species are legally protected against take. The CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species to issue an Incidental Take Permit (ITP) for a state-listed threatened and endangered species only if specific criteria are met. Section 2080 of the CESA prohibits the take of species listed as threatened or endangered pursuant to the act. Section 2081 allows the CDFW to authorize take prohibited under Section 2080 provided that: (1) the taking is incidental to an otherwise lawful activity; (2) the taking would be minimized and fully mitigated; (3) the applicant ensures adequate funding for minimization and mitigation; and (4) the authorization would not jeopardize the continued existence of the listed species.

California Fish and Game Code

Section 3511 of the CFGC includes provisions to protect Fully Protected species, such as: (1) prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or license" to "take" the species; and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. The CDFW is unable to authorize incidental take of Fully Protected species when activities are proposed in areas inhabited by those species. Sections 3503 and 3503.5 of the CFGC state that it is unlawful to take, possess, or destroy the nest or eggs of any bird, with occasional exceptions. In addition, Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA. The CDFW also manages the NPPA (Fish and Game Code Section 1900, et seq.), which was enacted to identify, designate, and protect rare plants. In accordance with CDFW guidelines, CNPS CRPR 1B list plants are considered "rare" under the CESA and are evaluated in CEQA documents.

Fully Protected species may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. Information on these species can be found within Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the CFGC.

Section 1602 of the CFGC requires any person, state or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities would result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement (SAA) is required. An SAA lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for a term of not more than 5 years (for standard agreements) for the performance of activities subject to this section. Implementation of the proposed Project may require a Section 1602 SAA for any impacts within the banks of drainages and extending to

the outer edge of riparian vegetation (whichever is greater) if these areas are determined to be jurisdictional by the CDFW.

Public Resources Code Section 21003 (under CEQA) requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. Information such as species locations identified as part of surveys should therefore be required to be reported to the CNDDB database, for example (as per CDFW comment letter on this EIR; see Section 9.0). In addition, if the proposed Project would have an impact on fish and/or wildlife, and assessment of filing fees may be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) serves as the primary water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The various RWQCBs are charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the state, including those not under federal jurisdiction. The Porter-Cologne Act defines "waters of the state" very broadly, with no physical descriptors, and no interstate commerce limitation. In regulating discharges of dredged or fill material, therefore, the RWQCB jurisdiction is more broad than federal jurisdiction. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the state.

If there is no Clean Water Act (CWA) Section 404/401 nexus (such as in instances where waters of the state that are not considered waters of the United States could be impacted), compliance with the Porter-Cologne Act for impacts to waters of the state could be regulated by the RWQCB through the Waste Discharge Requirement (WDR) program, which could require obtaining a WDR permit instead of CWA Section 404/401 permits. If the Project does not qualify for an existing General Order WDR, in many situations, the new dredge/fill procedures would be followed to obtain an Individual WDR, which can be an extensive process.

California Coastal Act

The California Coastal Act (CCA) of 1976 mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the CCA. The CCA protects various natural resources, including Environmentally Sensitive Habitat Areas (ESHAs) (e.g., wetlands and dunes). The California Coastal Commission (CCC), which has regulatory jurisdiction over the Coastal Zone, typically uses a Local Coastal Program (LCP) from a local municipality as the standard of review if a Coastal Development Permit is required.

The CCC's regulations (California Code of Regulations Title 14 [14 CCR]) establish a "one parameter wetland definition" that only requires evidence of a single parameter to establish wetland conditions:

Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats (14 CCR Section 13577).

4.4.2.3 Local Regulations

San Luis Obispo County Coastal Plan Policies

The San Luis Obispo County Coastal Plan Policies (1988; revised 2007) provides general plan policies and identification of detailed land use recommendations in order to carry out the policies of the California Coastal Act of 1976. Related to biological resources, the Coastal Plan contains policies that are specific to environmentally sensitive habitat (Chapter 6), and coastal watershed (Chapter 9), which are mapped in the Land Use Element (LUE). Within Chapter 6 (Environmentally Sensitive Habitat) the Coastal Plan provides specific policies for the following areas mapped on the LUE combining designation maps: sensitive habitats, wetlands, coastal streams, terrestrial environments and marine habitats. None of these mapped designations are within the Project site. Chapter 9 (Coastal Watershed) includes streams, wetlands, and lakes. No streams, wetlands or lakes are located within the Project site.

Coastal Zone Land Use Ordinance

As part of the Project, the CZLUO (1988; revised November 2013) standards and associated findings for mapped combining designations in the LUE must be considered. Applicable combining designations are identified and discussed within section of Chapter 7 of the CZLUO. For biological resource impact analysis, the following combining designations have been considered as they relate to the Project.

Sensitive Resource Area (SRA) (Section 23.07.160 through 23.07.166)

CZLUO Section 23.07.160 describes the Sensitive Resource Area combining designation as only applied by the Official Maps (Part III) of the LUE to identify areas with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources. The purpose of these combining designation standards is to require that proposed uses be designed with consideration of the identified sensitive resources, and the need for their protection, and, where applicable, to satisfy the requirements of the California Coastal Act. The standards of Sections 23.07.160 through 23.07.166 apply to uses requiring a land use permit that are located within a SRA combining designation. The South County Area Plan was revised in September 2018 and does not indicate that the Project area is within a Sensitive Resource Area. However, there is SRA-designated land west of the UPRR, within the 100-foot buffer area portion of the BSA that extends from the eastern track of the rail line.

Environmentally Sensitive Habitat Area (Section 23.07.170)
CZLUO Section 23.07.170 describes the provisions that apply to development within or adjacent to (within 100 feet of the boundary of) an Environmentally Sensitive Habitat Area (ESHA) as defined by Section 23.11 (definitions). Section 23.07.170 indicates that approval of a land use permit for a project within or adjacent to ESHA shall not occur unless the applicable review body first finds that: (1) There will be no significant negative impact on the identified sensitive habitat and the proposed use will be consistent with the biological continuance of the habitat. (2) The proposed use will not significantly disrupt the habitat. Section 23.07.170 also specifies development standards to avoid any significant disruption or degradation of habitat values as well as requirements associated with development within ESHA. Circumstances in which a development project would be allowable within an ESHA include: resource dependent uses; coastal accessways; incidental public services and utilities in wetlands; habitat creation and enhancement; or restoration of damaged habitats.

Section 23.11 defines both Mapped ESHA and Unmapped ESHA. Mapped ESHA is defined as:

> *A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations. Is the same as an Environmentally Sensitive Habitat.*

Although no mapped ESHA occurs within the Project site a small portion does occur west of the railroad within the 100-foot buffer area of the BSA (Figure 4.4-7).

Unmapped ESHA is defined as:

> *A type of Sensitive Resources Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but it not limited to:*
>
> *a. Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas;*
>
> *b. Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources; and*
>
> *c. Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.*

The County conducted an independent assessment of the Project area to determine areas of unmapped ESHA prior to the acceptance of the Project application. This is discussed in greater detail in Section 4.4.1.4 above.

Wetlands, Wetland Setbacks (Section 23.07.172)
As noted under CZLUO Section 23.07.172d (Wetlands, Wetland setbacks) "new development shall be located a minimum of 100 feet from the upland extent of all wetlands, except as provided by subsection d(2)", unless a biological report determines that a greater setback should be provided. Permitted uses within the 100-foot wetland setback include passive recreation and educational uses, which are applicable to a more passive level of design. Subsection d(2) (Wetland setback adjustment) allows a reduction to the 100-foot buffer setback (but no less than 25 feet) provided mitigation is identified and the following findings are adopted:

1. The site would be physically unusable for the principal permitted use unless the setback is reduced.
2. The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered.
3. That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.

The nearest mapped wetland to the Project area is within Oso Flaco Creek. The Project area is greater than 2,000 feet from a tributary to the creek. The potential wetlands mapped within the Project area do not meet the Coastal Commission criteria for wetlands. This is discussed in more detail in Section 4.4.5 below.

Stream and Riparian Vegetation (Section 23.07.174)
CZLUO Section 23.07.174 states that coastal streams and adjacent riparian areas are environmentally sensitive habitats. The provisions of this section are intended to preserve and protect the natural hydrological system and ecological functions of coastal streams. As stated above, the coastal stream to the Project area would be a tributary to Oso Flaco Creek and it is greater than 2,000 feet from the Project.

Terrestrial Habitat Protection (Section 23.07.176)
CZLUO Section 23.07.176 states that it is intended to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitat. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal. As noted within the section "development shall be sited to minimize disruption of habitat", and includes the following development standards:

1. Revegetation. Native plants shall be used where vegetation is removed.
2. Area of disturbance. The area to be disturbed by development shall be shown on a site plan. The area in which grading is to occur shall be defined on site by readily-identifiable barriers that would protect the surrounding native habitat areas.

3. Trails. Any pedestrian or equestrian trails through the habitat shall be shown on the site plan and marked on the site. The biologist's evaluation required by Section 23.07.170a shall also include a review of impacts on the habitat that may be associated with trails.

The Project area is not located within an area that is currently within a Sensitive Habitat Protection combining designation. The nearest combining designation is located directly to the west of the railroad. However, all undeveloped areas of the Project site were designated as unmapped ESHA (see Section 4.4.1.4 above).

Mature Tree Protection (Section 23.05.062 and 064)
CZLUO Section 23.05.062 states that no person shall allow or cause the removal of any tree with trunks measuring eight inches or more in diameter at four feet above grade, without first obtaining a tree removal permit.

CZLUO Section 23.05.064 states that applications for tree removal in accordance with Section 23.05.062 are to be approved only when the following conditions are satisfied:

a. Tagging required. Trees proposed for removal shall be identified for field inspection by means of flagging, staking, paint spotting or other means readily visible but not detrimental to a healthy tree.

b. Removal criteria. A tree may be removed only when the tree is any of the following:

    1. Dead, diseased beyond reclamation, or hazardous;

    2. Crowded, with good horticultural practices dictating thinning;

    3. Interfering with existing utilities, structures or right-of-way improvements;

    4. Obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal;

    5. Inhibiting sunlight needed for either active or passive solar heating or cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree;

    6. In conflict with an approved fire safety plan where required by Section 23.05.080;

    7. To be replaced by a tree that would provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.

c. Replacement. Any tree removed to accommodate new development or because it is a safety hazard shall be replaced, in a location on the site and with a species common to the community, as approved by the Planning Director.

d. Tree removal within public view corridors. Tree removal within public view corridors (areas visible from collector or arterial roads) shall be minimized in accordance with Visual and Scenic Resources Policy 5.

e. Preservation of trees and natural vegetation. New development shall incorporate design techniques and methods that minimize the need for tree removal.

4.4.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County. Specifically, the Project would be considered to have a significant effect on biological resources if the effects exceed the significance criteria described below:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.4 Impact Assessment Methodology

The impact assessment focuses on identifying potential impacts associated with implementation of the Project and is based on the site's existing conditions, the regulatory setting, and the Project description. The emphasis is on determining the potential effects of the Project on federal, state, and locally regulated species and habitats in the BSA. Direct effects or impacts are those that are caused by a project and occur at the same time and place. Indirect effects or impacts are caused by a project but can occur later in time, are farther removed in distance, and are reasonably foreseeable and related to a project. Adverse impacts could occur if a project could result in temporary or permanent modification of sensitive communities or habitats occupied by special-status species, or directly affect special-status species.

4.4.5 Project-Specific Impacts and Mitigation Measures

Special-Status Species – General

Impact #	Impact Description	Residual Impact
BIO.1	Threshold a): Would the Project directly or indirectly impact special-status plant and wildlife species and their habitats?	Class II

Demolition and remediation activities would remove some infrastructure and all contaminated soils within the existing Refinery. This is anticipated to occur primarily within the developed areas, but additional earthwork may need to occur in existing vegetated areas.

Existing vegetation would remain intact unless an area needs to be disturbed to accomplish remediation (see Chapter 2.0, Project Description). Pending site investigations, it is not feasible to indicate the precise areas of remediation that would be required. In general, it is anticipated that much of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the Project site overlap with areas of potential ~~areas of~~ disturbance (Figure 4.4-13) (also refer to Appendix A Preliminary Grading Plan Sheet 16A and 17A. These areas are noted as "Disturbed ESHA" and further identified as "ESHA Area A" through "ESHA Area L"). There is evidence of historical debris or materials in these areas (Figure 4.4-13). For this analysis, and pending further confirmation studies, it is assumed that these areas contain some degree of contamination, and a portion of these areas would require remedial action to remove impacted material. Therefore, under a 'worst-case' scenario, Project activities could potentially impact up to 26.5 acres of vegetation. Table 4.4.4 provides a breakdown of these areas by vegetation alliance and/or land cover type and correspond to the areas mapped on Figure 4.4-13. In addition, the testing activities (core sampling using a mobile rig) may also impact some vegetated areas, which may include sensitive natural communities, habitat for special-status species and unmapped ESHA areas.

As per Section 2.6, Project Activities: Site Stabilization and Restoration, existing vegetation that does not require ground disturbance would be protected by installing temporary barriers such as fences to restrict access to vegetated areas. Signs would be installed to delineate revegetation areas. Temporary fencing and signage would be left in place until vegetation becomes established.

Figure 4.4-13 Vegetated Areas Where Potential Remediation Actions Could Occur

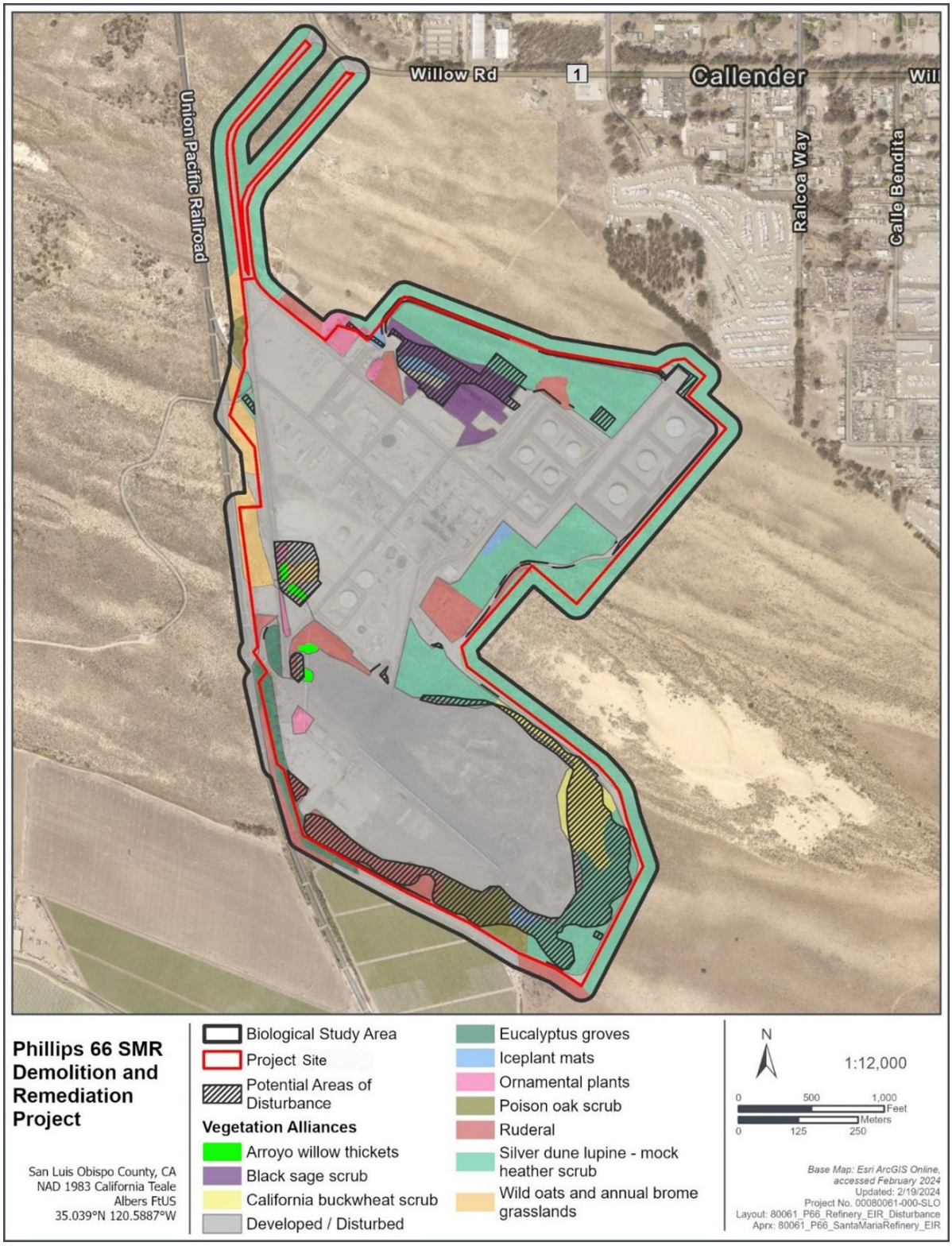


Table 4.4.4 Vegetated Areas Where Potential Remediation Actions Could Occur (i.e., potential areas of disturbance)

Vegetation Alliance and Land Cover Type	Potential Area of Disturbance (acres)
Arroyo willow thickets	0.3
Black sage scrub	3.0
California buckwheat scrub	4.1
Eucalyptus groves	0.1
Iceplant mats	1.0
Ornamental plants	0.3
Poison oak scrub	2.6
Ruderal/Disturbed	7.2
Silver dune lupine - mock heather scrub	7.3
Wild oats and annual brome grasslands	0.6
Grand Total	**26.5**

Source: Phillips 66 Application

Standard construction SWPPP BMPs would be implemented for sediment and erosion control during site demolition and site grading. Applicable BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers to reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

The BSA supports special-status plants and wildlife species listed in Section 4.4.1, Environmental Setting. The undeveloped areas provide habitat for special-status plant and wildlife species and the existing infrastructure has the potential to support nesting birds and raptors and roosting bats. Project activities, including demolition of existing structures and remediation activities, could result in impacts to special-status species and their habitats. Direct impacts could include trampling, being exposed to predation, being collected, being entombed, and loss of habitat. Indirect impacts could include stress and loss of reproductive success among relocated individuals, excessive noise resulting in site or nest abandonment, increased human activity resulting in changes to wildlife movement and behaviors, increased dust that could impact the suitability of potential roosting habitat or pollinator activity, vehicle use of the area exacerbating road kills, or introduction of invasive plant species that could change future habitat conditions. Project activities could produce a significant impact. Therefore, mitigation measures have been included below.

Mitigation Measures

BIO.1-1 ***Prepare and Implement a Worker Environmental Awareness Program (WEAP):*** *Prior to submittal of a County Permit, the Applicant shall prepare and submit a Worker Environmental Awareness Program (WEAP) for County approval. The submitted WEAP shall include the training program details described below, tracking and reporting criteria and examples of the forms to be used.*

The Applicant or its designee shall provide Worker Environmental Awareness Program (WEAP) training to all new personnel prior to beginning work on the Project. The training may be presented in the form of a video.

The training program shall be developed by the Lead Biologist to educate Project personnel about the Project's sensitive biological resources. A draft of the training program (i.e., video and written materials) shall be provided to the County for review and approval no fewer than 90 days prior to issuance of any construction permits ~~for any ground disturbance~~. The training may be conducted concurrent with other environmental training (e.g., cultural resources awareness training, safety training, etc.).

The WEAP training shall include, at a minimum:

- *An overview of the sensitive biological resources that are known or have the potential to occur in the Project area and surrounding habitat. This shall include nesting birds, special-status plants and wildlife, and sensitive habitats;*
- *An overview of the Project, Mitigation Monitoring and Reporting Program (MMRP), and regulatory permit conditions and the consequences of non-compliance with these requirements;*
- *An overview of the federal and State Endangered Species Acts, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, pertinent Fish and Game Code sections, and other applicable regulatory requirements and the consequences of non-compliance with these requirements;*
- *Functions, responsibilities, and authority of biological monitors and how they interact with Project personnel;*
- *Identify clear points of contact for biological monitors and construction personnel including who to contact should workers have questions regarding compliance with environmental documents and permit conditions;*
- *Project restrictions, such as Environmentally Sensitive Habitat Areas (ESHAs), required setbacks from sensitive biological resources, and avoidance buffers;*
- *Requirements to remain within authorized work areas and on approved access routes, with examples of flagging and signage used to designate these areas;*
- *Information on compliance with Project speed limits, control of litter and micro trash, smoking restrictions, wildfire minimization measures, spill containment and clean up, and the implementation of Construction Best Management Practices to protect biological resources (see mitigation measure BIO.1-2);*
- *Measures to reduce the potential to introduce or spread invasive weeds into the Project area, descriptions of the Project's weed control methods, and compliance requirements for Project personnel;*
- *Identify limitations for refueling near aquatic features or where spills may enter State or federal waters; and*

- *Explanation that wildlife must not be harmed or harassed including procedures for abiding by Project speed limits, covering pipes, securing excavations, and installing exit ramps to prevent wildlife entrapment.*

Training acknowledgement forms shall be signed by each person attesting that they understand and would abide by Project requirements. The Applicant or its designee shall provide the County, within a Monthly Compliance Report, the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. A hardhat sticker that can be easily verified in the field shall be distributed by the Applicant or its designee to indicate participation in the WEAP training.

Submittal Timing: *Prior to County permit issuance.* ***Approval Timing Trigger:*** *Training Program shall be approved prior to County Permit issuance, and provided to all new personnel prior to beginning work on the Project.* ***Responsible Party:*** *The Applicant or designee.* ***What is required:*** *Prepare and submit a Worker Environmental Awareness Program (WEAP) for implementation.* ***To whom it is submitted and approved by:*** *County Department of Planning and Building.*

BIO.1-2 ***Prepare and Submit a Biological Resources Adaptive Management and Monitoring Plan:*** *The Applicant or its designee shall prepare and submit a Biological Resources Adaptive Management and Monitoring Plan (BRAMMP) for implementation that encompasses all aspects of the biological resources protection and management at the site. A draft of the BRAAMP shall be provided to the County for review and approval no fewer than 90 days prior to issuance of any construction permits. The BRAMMP shall address:*

1. ***Baseline biological conditions*** *including sensitive vegetation and special-status species that have been recorded or could potentially occur on the Project site;*

2. ***Mitigation Measures:*** *An overview of existing and relevant mitigation measures prepared for the Project;*

3. ***Compliance:*** *Provide direction to maintain compliance with existing mitigation measures and federal, state, and local laws and regulations should CDFW or USFWS status designations for sensitive vegetation communities and special-status species change over the duration of the Project;*

4. ***Lead Biologist and Biological Monitor*** *requirements;*

5. ***Construction Best Management Practices****;*

6. ***Reporting*** *requirements;*

7. ***Surveys of Species****; and*

8. ***Wildlife Impact Avoidance and Minimization Measures****.*

Lead Biologist and Biological Monitors. *The Applicant shall retain a Lead Biologist for all measures requiring biological environmental mitigation. The Lead Biologist shall, at a minimum, hold a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; have at least three years of experience in field biology or construction monitoring; and have a demonstrable knowledge of the biological resources that are present or could be present in the Project area. The Lead Biologist shall be responsible for:*

1. *Serving as the primary point of contact for the County and regulatory agencies regarding biological resources mitigation and compliance.*

2. *Managing the site Biological Monitors and ensuring that procedures for verifying compliance with biological mitigations are implemented;*

3. *Establishing lines of communication and reporting methods;*

4. *Conducting compliance reporting and coordinating with the County's Environmental Monitor (EM.1);*

5. *Conducting worker environmental awareness training regarding environmentally sensitive areas and protected species (BIO.1-1);*

6. *Maintaining authority to stop work;*

7. *Immediately notifying the County in writing of dead or injured special-status species or any non-compliance with biological mitigation measures, permit conditions, or plan requirements; and*

8. *Conducting or overseeing bi-weekly site inspections during all Project activities at the site and communicating any remedial actions needed (i.e., trash, fencing repairs, weed maintenance, etc.) to maintain compliance with mitigation measures, permit conditions, and plan requirements.*

Monitoring shall be conducted full-time in areas where vegetation removal is required during the initial disturbances (site clearing or soil sampling) and be reduced to weekly and then monthly following initial disturbances. If wildlife is observed within the Project area during demolition and remediation activities, the crew should stop work, inform the site supervisor, and contact the Lead Biologist.

As part of the BRAMMP submittal for County approval, the Applicant shall submit the names and qualifications of their proposed Lead Biologist and supporting Biological Monitors (see below) to County Planning & Building. The contact information of the approved Lead Biologist shall be reproduced on every set of plans submitted for the Project. If the individual names of supporting/specialty Biological Monitors are not known, the specification can be to the level of company, with the understanding that the company would provide qualified personnel. Resumes shall be provided once the identifications of the Monitors are known.

Proposed Biological Monitors shall have a minimum of two years of experience in field biology or construction monitoring and demonstrated experience with the biological resources within the Project region. The responsibilities of the Biological Monitors shall be specified in the BRAMMP and include:

- *Performing preconstruction surveys and work area clearance sweeps;*
- *Compliance monitoring during Project activities, maintaining the authority to stop work when necessary;*
- *Ensuring maintenance of setbacks to ESHA and reporting when remediation may require relocation of disturbance area limits;*
- *Delineating biological resources, informing work crews regarding avoidance;*
- *Inspecting exclusionary fencing, work areas, and equipment to ensure wildlife is not trapped and relocating animals in harm's way;*
- *Verify entrapment hazards are addressed at the end of each day;*
- *Daily documentation of activities and reporting to Lead Biologist;*
- *Ensuring that construction BMPs are implemented;*
- *Ensuring wildlife impact avoidance measures are implemented; and*
- *Moving wildlife if needed.*

Construction Best Management Practices to Protect Biological Resources. *The following biological resources Best Management Practices and housekeeping measures shall be specified in the BRAMMP and implemented by the Applicant or its designee:*

1. *Photo-documentation of field conditions, including water resources within the Project work area and any off-road/overland access routes, shall be conducted prior to, during, and at completion of the Project. This documentation can then be utilized by regulatory agencies to confirm that site habitats impacted during demolition/remediation have been restored to preconstruction or better condition;*
2. *Prior to start of construction under each permit (i.e., mobilization or ground-disturbing activity), the boundaries of ESHA shall be clearly flagged or fenced so that the workers are aware of the limits of allowable site access and disturbance;*
3. *Vehicles/equipment shall be inspected for leaks daily (e.g., fuel, oil, hydraulic fluids, etc.) and repaired prior to work. Spill kits/absorbent clean-up materials should be available on site and disposed of properly. Spill pans should be placed under all equipment when not in use;*

4. Vehicles and equipment should remain on the existing paved/disturbed areas to the extent feasible;

~~4.~~5. Tire mats for vehicles and construction equipment shall be used in areas where soil testing and/~~.~~or remediation is required in vegetated areas to protect the vegetation.

~~5.~~6. General housekeeping, such as covering open excavations at night, maintaining wildlife-proof fencing, performing Project trash pick-up, dust control BMPs, and use of waste bins with lids on at all times, shall be maintained within the Project area;

~~6.~~7. Cover Excavations: The following note shall be reproduced on all plans and implemented throughout the Project: During construction, all trenches, holes, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and two or more feet deep shall be covered when workers or equipment are not actively working in the excavation. If any such excavations remain uncovered, they shall have an escape ramp of earth or a non-slip material with a 1:1 (45 degree) slope or flatter. All excavated areas shall be inspected for wildlife before backfilling;

~~7.~~8. Biodegradable Erosion Control: The Erosion Control Plan (see Section 2.7, EIR Project Description) shall specify and ensure that only biodegradable products are used, as verified by the County Environmental Monitor. During construction, use erosion control products made of natural fiber (biodegradable) to prevent wildlife from getting ensnared or strangled by monofilament, coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products; and

~~8.~~9. These measures shall be provided as notes on plans for every permit and included in the WEAP training for site workers. Additionally, all sensitive environmental areas to be avoided must be clearly identified on all construction, remediation, and demolition plans.

Reporting. *Reports shall be submitted to the County quarterly over the first 24-36 months of activity, and thereafter may be reduced as agreed upon by the County, until construction is complete and until all mitigation criteria have been signed off on by the County, CDFW, and USFWS. The reporting shall include:*

1. *Methods and results from the literature review and surveys discussed in the BRAMMP above;*

2. *Relevant photographs and maps documenting any new occurrences of sensitive vegetation communities or special-status species (as defined by the most recent status designations during the time of the resource/database review and surveys) observed or identified;*

3. *A brief summary or list of Project activities accomplished during the reporting year (e.g. this includes all remediation and Project-related activities);*

4. *A running tally of Project impacts and locations (e.g. a running tally on remediation activities within ESHA areas) based on the findings and results of all required mitigation measures under the permit. The findings shall be provided to the County for review, along with a recommendation for habitat mitigation for impacts under that permit. At the time of final inspection, final release of each permit, provisions for any additional mitigation shall be identified and implemented before the permit is finalized;*

5. *A description of any impacts that occurred to special-status species (include cause of impact, location, and disposition of any dead or injured individuals). If newly designated sensitive habitats or special-status species are present during surveys, the County shall be notified within 24 hours, and standard practices and protection measures shall be implemented in coordination with the County to avoid potential impacts. No handling of federal or state listed plants or wildlife shall occur without the applicable regulatory permits;*

6. *A description of avoidance, minimization, and mitigation measures implemented;*

7. *Monitoring results and survey forms; and*

8. *A description and figures of area restored and habitat preserved as mitigation for impacts to sensitive natural communities and special-status species.*

9. *Impacted areas shall be revegetated in ESHA or other vegetation, but unless the area is protected in perpetuity, that area shall not be counted towards the required replacement in tracking.*

Surveys. *Surveys shall be conducted for species as described in specific mitigation measures listed throughout this section and as listed below:*

a. Lupine Surveys (BIO.2-1)

b. Plant Surveys (BIO.3-1)

c. Monarch Butterfly Surveys (BIO.4-1)

d. Western, Crotch, and Obscure Bumble Bee Surveys (BIO.5-1)

e. Red-Legged Frog Surveys (BIO.6-1)

f. Lizard Relocation Surveys (BIO.7-1)

g. Nesting Bird Survey (BIO.8-1)

h. Burrowing Owl Surveys (BIO.8-2)

i. Bat Surveys (BIO.9-1)

j. Badger Den Survey (BIO.10-1)

The BRAMMP shall provide a section discussing the general approach to surveys and shall address the following items.

- *A literature review of relevant reports/databases (e.g., IPaC, CNDDB, CNPS, CCH, iNaturalist, eBird) to identify current sensitive vegetation communities and special-status species (as defined by the most recent status designations during the time of the review) that have been recorded in the vicinity (e.g., within five miles) of the Project site.*

- *Specifications of surveys procedures to include the most recent CDFW, USFWS, and/or CCC protocols. If survey protocols have not been established, the Applicant or its designee shall employ standard survey practices in coordination with the County.*

- *A table listing the timing and extent of surveys for the entire Project site.*

- *Details regarding what is required for all surveys, including reporting requirements and submission timing.*

Wildlife Impact Avoidance and Minimization Measures. *The following measures shall be included in WEAP training and described in the BRAMMP as to responsibilities for oversight and reporting, prior to County Permit issuance.*

1. *Throughout all activities at the SMR site, the Applicant or its designee shall undertake the following measures to avoid or minimize impacts to wildlife resources:*

    - *The Applicant or its designee shall specify and enforce a maximum 15 mile per hour vehicle speed limit on any unpaved roads or work areas within the Project area. No Project-related pedestrian or vehicle traffic would be permitted outside of defined work area boundaries;*

    - *Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding wildlife habitat;*

    - *Any soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to plants and wildlife and approved by the Lead Biologist;*

    - *To minimize disturbance to wildlife in surrounding habitat, unnecessary noise (e.g., loud radios, vehicle horns) shall be avoided; and*

    - *Potable and non-potable water sources, such as water buffalos and water truck tanks, shall be covered or otherwise secured to prevent animals (including birds) from entering. Water applied for dust abatement shall use the minimal amount needed to meet safety and air quality standards. Water sources (e.g., hydrants, J-stands) shall be checked periodically by biological monitors to*

ensure they are not creating open water sources due to leaking or consistently overfilling trucks.

2. *Trash. All trash, micro trash, and food-related waste shall be contained in vehicles or covered trash containers and removed from the site regularly.*

3. *Worker guidelines. Workers shall not feed wildlife or bring pets to the Project area. Except for law enforcement personnel, no workers or visitors shall bring firearms or weapons into the Project area.*

4. *Wildlife entrapment. Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate appropriate wildlife exit ramp(s) at a slope of no more than a 3:1 ratio, or other means to allow trapped animals to escape. Biological monitors shall provide guidance to work crews to ensure that wildlife ramps or other means are sufficient to allow trapped animals to escape. A biological monitor shall inspect excavations for trapped wildlife routinely throughout the day and at the end of each workday.*

5. *All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. No pipes or tubing would be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials would be inspected for wildlife before it is moved, buried, or capped.*

6. *Dead wildlife. Dead animals of non-special-status species found within the Project area shall be reported to the appropriate local animal control agency within 24 hours. A biological monitor shall safely move the carcass out of the road or work areas as needed. Dead animals of special-status species found in the Project area shall be reported to CDFW, NMFS, and/or USFWS within one workday and the carcass handled as directed by the regulatory authority.*

7. *Injured wildlife. The Applicant or its designee shall create and implement guidelines for dealing with injured or entrapped wildlife found on or near the Project area. These guidelines shall be provided to all Project biological monitors. If an animal is entrapped or entangled, a qualified biological monitor shall free the animal if feasible, or work with personnel to free the animal, in compliance with applicable safety regulations and Project requirements. If biological monitors cannot free the animal or the animal is too large or dangerous for monitors to handle, the Applicant or its designee shall contact and work with local animal control, CDFW, or other qualified parties to obtain assistance as soon as possible.*

8. *The Applicant or its designee shall ensure that one or more qualified biological monitors are properly trained (or receive training) in the safe and proper handling and transport of injured wildlife and are provided with the appropriate equipment. These trained and equipped monitors shall be available to capture and transport injured wildlife to a local wildlife rehabilitation center or veterinarian as needed.*

The Applicant shall bear the costs of any rehabilitation or veterinary treatment for any wildlife injured by Project-related activities. Any injured or entrapped special-status species found within or near the Project area shall be reported to the appropriate agencies within one workday.

***Submittal Timing**: Prior to County permit issuance. **Approval Trigger**: County issuance of permit. **Responsible Party**: The Applicant or designee. **What is required**: The BRAMMP for approval and implementation. **To whom it is submitted and approved by**: County Department of Planning and Building.*

BIO.1-3 ***Habitat Restoration and Revegetation Plan:*** *Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit for County review and approval a Habitat Restoration and Revegetation Plan (HRRP) that addresses restoration and revegetation related to all non-hardscaped areas that are being temporarily disturbed during demolition and remediation activities.*

The HRRP shall expand upon the site restoration activities described in the EIR Project Description Section 2.6 by providing detailed descriptions of: 1) the type and location of vegetation to be removed; 2) identify where restoration is occurring and appropriate seed mix and species to be used; 3) weed management criteria, incorporating the specific monitoring and success criteria mentioned below; and, 4) appropriate contingency measures if success criteria are not met.

Monitoring of the revegetation and restoration sites will continue annually for no fewer than five years. At a minimum, all revegetated sites shall have persisted successfully without irrigation or remedial planting for a minimum of two years prior to the completion of monitoring. Nonnative species percent cover cannot exceed 20 percent total cover in areas outside of ESHAs and 10 percent total cover within ESHAs, or as determined based on existing conditions with the approval of the County. This represents the minimum success criteria; however, the Applicant shall work with the County as needed to further refine quantitative and qualitative performance criteria as needed. Further refinement may take into consideration the existing site conditions including the area of existing Refinery infrastructure. Additionally, specific criteria may be different for the formerly vegetated areas versus the former hardscape areas.

The HRRP shall be submitted to and approved by the County of San Luis Obispo's Environmental Coordinator or their designee (see mitigation measure EM.1 in Chapter 4.0, Environmental Impacts Analysis), prior to issuance of permits. The HRRP shall specify how existing ESHA within and surrounding the Project site is quantified and tracked for impacts and replacement throughout construction, and provide the framework and responsibilities for minimizing impacts, salvaging seed, and managing stockpiles during remediation. Once approved, the HRRP would guide all restoration and monitoring activities. Any usable topsoil ~~with the potential to hold the seeds of sensitive species would~~shall be salvaged, stockpiled, and returned to the area from which it was removed for seed bank preservation ~~and used when revegetating the area~~. At a minimum the HRRP shall include the following:

- *Proposed species list for creation/enhancement;*
- *Planting/seeding methodology;*
- *Details on methodologies for salvage of special-status species;*
- *Irrigation plan;*
- *Weeding schedule;*
- *Success criteria;*
- *Monitoring methodology and schedule;*
- *Reporting requirements; and*
- *Adaptive management and a contingency plan.*

The Applicant or its designee shall submit the HRRP to California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS), in addition to the County, for joint-agency review and comment. The Applicant or its designee shall incorporate all requested revisions in coordination with the County for final approval, prior to County issuance of permits impacting or allowing removal of any of the above-mentioned special vegetated areas.

The Applicant shall be responsible for execution of the approved HRRP that would re-establish appropriate vegetation in disturbed ESHA and non-ESHA vegetated areas on the site, subject to monitoring and periodic inspection by the County, CDFW, and USFWS. Failure to adequately execute the plan or meet final success criteria shall be subject to the enforcement provisions by the County.

***Submittal Timing**: Prior to County permit issuance. **Approval Trigger**: County issuance of permit. **Responsible Party**: The Applicant or designee. **What is required**: The HRRP for approval and implementation. **To whom it is submitted and approved by**: County Department of Planning and Building.*

BIO.1-4 ***Weed Management Plan**. Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit a Weed Management Plan (WMP) describing the proposed methods of preventing and controlling Project-related spread of weeds or new weed infestations throughout Project remediation and restoration activities. The WMP shall outline the personnel, tasks, responsibilities and schedule for implementing the following:*

For the purpose of the WMP, "weeds" shall include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture or the California Invasive Plant Council (CAL-IPC). The WMP shall be implemented throughout all activities at the site and shall include the following components:

Background. An assessment of the Project's potential to cause the spread of noxious and invasive weeds into new areas, or to introduce new weeds into the Project area.

This section must list known and potential noxious and invasive weeds occurring in the Project area and in the general region and identify threat rankings and potential consequences of Project-related occurrence or spread for each species. This assessment shall include, but is not limited to, weeds that (1) are rated high or moderate for negative ecological impact in the CAL-IPC Inventory Database (CAL-IPC 2023), and (2) aid and promote the spread of wildfires. This section shall identify control goals for each species (e.g., eradication, suppression, or containment) likely to be found within the Project area.

Preconstruction Weed Inventory. The Applicant or its designee shall inventory all areas subject to Project-related vegetation removal or ground-disturbance. The weed inventory shall include vehicle and equipment access routes within the site and staging and storage yards. Weed occurrences shall be mapped and described according to density and area covered. The map shall be updated at least once a year.

Weed Prevention. The WMP shall specify methods to minimize potential transport of weed seeds within the site and from areas outside of the site. The WMP shall specify inspection procedures for equipment and materials entering the Project area. Vehicles and equipment shall be inspected and cleaned prior to entering specified points in the Project area and before leaving the site where weed occurrences must be locally contained. Heavy equipment (e.g., graders, bulldozers, cranes, etc.) shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed sources. Tires, tracks, outriggers, and undercarriages shall be carefully washed. Vehicles (e.g., pick-up trucks) that are frequently entering and exiting Project work sites shall be inspected and washed on an as-needed basis. Tools, such as chainsaws, hand clippers, pruners, etc. shall be cleaned of dirt and mud before entering Project work sites.

All equipment, vehicles, and tools shall be washed off site when possible. If off-site washing is infeasible, on-site cleaning stations shall be set up at specified locations to clean equipment, vehicles, and tools before entering unpaved work sites. Wash stations are to be located a minimum of 100 feet from sensitive habitats, including ESHAs. Wastewater from cleaning stations shall not be allowed to run off the cleaning station site. When equipment and vehicles are washed on site, a daily log must be kept stating the location, date and time, type of equipment, methods used, and personnel present. The log shall contain the signature of the responsible personnel. Written or electronic logs shall be available to the County upon request and a summary included in annual reporting.

Erosion control materials (e.g., fiber rolls or hay bales) must be certified free of weed seed before entering the Project area. The WMP must prohibit on-site storage or disposal of mulch or green waste that may contain weed material. Mulch or green waste that could contain weed material shall be removed from the site in a covered vehicle to prevent seed dispersal and transported to a licensed landfill or composting facility. The WMP shall specify guidelines for any soil, gravel, mulch, or fill material to be imported into the DCPP site or transported to an off-site location.

Weed Monitoring. The WMP shall specify methods of survey for weeds throughout the Project. It shall also specify qualifications of botanist Biological Monitors responsible for weed identification and monitoring. The WMP shall include a monitoring schedule to ensure timely detection and immediate control of weed infestations to prevent further spread. Surveying and monitoring for weed infestations shall occur at least two times per year and shall coincide with the detection periods for early and late season weeds. The WMP shall also include methods for marking weed locations and recording and communicating these locations to applicable personnel. The map of weed locations (discussed above) shall be updated at least once a year.

Weed Control. The WMP shall specify manual and chemical weed control methods to be employed. The WMP shall include only weed control measures with a demonstrated record of success for target weeds, based on the most recent information available. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any weed infestation is located, to ensure effective and timely weed control. Weed infestations must be controlled or eradicated as soon as possible upon discovery, and before they go to seed, to prevent further spread. All proposed weed control methods must minimize the extent of any disturbance to native vegetation, limit ingress and egress to defined work areas and access routes and avoid damage from herbicide use or other control methods to any environmentally sensitive resources in or adjacent to the site.

Any new weed infestations shall be treated at a minimum of at least once annually until eradication, suppression, or containment goals are met. For eradication, when no new seedlings or resprouts are observed for three consecutive, normal rainfall years, or five consecutive years regardless of rainfall, the weed occurrence can be considered eradicated and weed control efforts may cease.

Manual control shall specify well-timed removal of weeds or their seed heads with hand tools. Seed heads and plants shall be disposed of in accordance with the most recent guidelines from the County of San Luis Obispo Department of Agriculture/Weights and Measures.

The chemical control section of the WMP shall include specific and detailed plans for any herbicide use. It must indicate where herbicides would be used, which herbicides would be used, and specify techniques to be used to avoid drift or residual toxicity to native and special-status vegetation consistent with any County of San Luis Obispo Department of Agriculture/Weights and Measures guidelines. The WMP shall specify the herbicide mode of action and require only post-emergent herbicides be used in and within 50-feet of revegetation and natural areas in order to avoid disruption of native seed germination. Also, only grass-specific herbicides (graminicides) shall be used where sensitive broad-leaved plants are present to avoid impacts to sensitive plant species. All herbicide applications shall follow U.S. Environmental Protection Agency label instructions and be completed in accordance with federal, state, and local laws and regulations. Herbicide treatment shall only be implemented by a Licensed Qualified Applicator with the appropriate County permits. Herbicides shall not be applied during or within 72 hours of predicted rain or when wind velocities exceed six miles per hour.

Only water-safe herbicides shall be used within 100 feet of channels or other riparian or wetland features.

The Weed Management Plan shall detail the compliance tracking and reporting schedule of the above requirements and include sample reporting forms. Weed management compliance activities shall be reported to the County at least four times per year during active remediation and revegetation (i.e., the first 24-36 months from the first grading permit issuance). Based on completion of remediation efforts and progress of restoration activities at the Project site, the frequency and responsibility of management and reporting may be modified upon mutual agreement between the Applicant or its designee and the County.

***Submittal Timing**: Prior to County permit issuance. **Approval Trigger**: County issuance of permit. **Responsible Party**: The Applicant or designee. **What is required**: The WMP for approval and implementation. **To whom it is submitted and approved by**: County Department of Planning and Building.*

Residual Impacts

Implementation of mitigation measures BIO.1-1, BIO.1-2, BIO.1-3, and BIO.1-4 would minimize the direct and indirect impacts to special-status plants and wildlife and their habitats during construction, and with these training, avoidance, minimization, and mitigation measures (including those listed below), impacts would be **less than significant with mitigation (Class II).**

Special-Status Plants

Impact #	Impact Description	Residual Impact
BIO.2	Threshold a): Would the Project impact Nipomo Mesa ~~lupine~~Lupine, a state and federally endangered plant species?	Class II

Nipomo Mesa ~~lupine~~Lupine was observed in several locations in the BSA as well as within the Project site fence line during the 2022 and 2023 botanical surveys (see Section 4.4.1.5).

The Project could remove or affect up to 26.5 acres of ESHA which provides potential habitat for Nipomo Mesa ~~lupine~~Lupine (Figure 4.4-13). These 26.5 acres include areas presumed occupied and historically~~known to be~~ occupied (i.e., where plants have been observed) (Figures 4.4-9 through 4.4-13). Specifically, Disturbed ESHA Area J encompasses 16.87 acres of vegetated area around the coke storage area and overlaps with 0.72 acres of the Nipomo Mesa ~~lupine~~Lupine occurrence mapped in the southeast corner of the Refinery in 2022 by ERM (ERM 2023). In addition, the testing activities (core sampling using a mobile rig) may also impact some vegetated areas. The mobile rig could crush individuals if sampling is done during the blooming period and avoidance zones are not established, which could result in direct take. However, this can be avoided by restricting sampling windows, conducting preconstruction surveys for the plant, ensuring avoidance areas are delineated, and having a Biological Monitor present.

An unknown amount of direct take could also occur if dormant seeds are located in areas where core sampling is occurring, and core sampling occurs relatively close to existing or historical plant

areas. However, this small amount of disturbance would occur within the 26.5 acres identified on Figure 4.4-13 and can be addressed through retention of surface soils. Asphalt emulsion coating is defined as hardscape in Section 2.0, Project Description; however, there is a possibility that a seed bank persists in these areas that are relatively close to existing or historical plant areas. These areas would remain undisturbed unless remediation is required. If remediation activities occur in areas with asphalt emulsion coating, this could possibly result in direct impacts to Nipomo Mesa ~~lupine~~Lupine seed bank.

In addition to direct impacts, ground disturbance and remediation activities could have indirect impacts to plant populations through the interruption of pollinators via dust and noise disturbance. Little is known about Nipomo Mesa ~~lupine~~Lupine's breeding system. There is consensus among researchers that the species is likely capable of both selfing and outcrossing, although a specific pollinator has yet to be identified (USFWS 2020). If the ability for the plant to successfully outcross is diminished from demolition and remediation activities interrupting pollinator behavior, this could either reduce successful reproduction or further reduce genetic diversity by promoting selfing.

Indirect impacts could also occur from demolition and remediation activities through the alteration of microhabitat conditions. There are areas potentially requiring remediation along the existing roadways; several of these areas are adjacent to mapped occurrences of Nipomo Mesa ~~lupine~~Lupine. Approximately 35 individuals were mapped north of the Project site in 2023 and 70 in 2024 - areas A-H (see Figure 4.4-11). The fence around the SMR appeared to be creating a microenvironment akin to the base of a stabilized dune. Disturbances immediately inside the Project fence may have negative indirect impacts on adjacent occurrences through changes to microhabitat conditions. Nipomo Mesa ~~lupine~~Lupine are only known to occur in very specific microhabitat conditions (USFWS 2020). Subtle changes to the habitat in areas where plants have been documented could preclude seeds from successfully germinating and reproducing in the future. Therefore, these occurrences could be indirectly impacted by remediation activities unless avoidance and minimization measures (such as buffer areas) are implemented. Additional surveys during and after remediation activities are also necessary to determine the potential extent of indirect impacts.

~~Due to the known presence of Nipomo Mesa lupine within the Project site and immediately outside of the Project site, and the presence of suitable habitat in undocumented portions of the Project site, demolition and remediation activities could have significant direct and indirect impacts to Nipomo Mesa lupine.~~

~~Avoidance of all Nipomo Mesa lupine habitat is preferred; however, remediation activities could result in direct take of habitat and may potentially impact known occupied areas. If take were necessary, the Applicant must first obtain all necessary approvals and concurrence with the CDFW that are required for the take of a federal and state-listed plant.~~

The BSA encompasses a significant portion of what USFWS calls Occurrence #1 in the species' recovery plan (USFWS 2021). Achieving a resiliency for Occurrence #1 (which was defined as no fewer than 1,000 reproducing individuals) is critical for the recovery of the species (USFWS 2021). Significant impacts to suitable habitat within this Occurrence Area, particularly in areas where a dormant seed bank may persist, may jeopardize the recovery of the species unless

mitigation can sufficiently offset these impacts. Proposed mitigation that would prevent jeopardizing recovery consists of avoiding known population areas (i.e., where germination has been documented), preserving and managing known occupied habitat areas, restoring appropriate microhabitat conditions in disturbed habitat areas as to promote reoccupancy (i.e., germination and reproducing individuals), managing habitat to reduce or eliminate threats from non-native species (particularly veldt grass), and establishing a permanent conservation.

While avoidance is preferred, given the proximity of remediation activities to known and historical presence of Nipomo Mesa Lupine individuals as well as Nipomo Mesa Lupine habitat, there is a high potential for demolition and remediation activities to have significant direct and indirect impacts to Nipomo Mesa Lupine individuals, habitat, and seedbank, resulting in a significant impact to this species. Consultation with CDFW pursuant to Fish and Game Code section 2081 (b) will be necessary to obtain an Incidental Take permit required for the potential take of thea federal and state-listed plant.

Mitigation Measures

BIO.2-1 ***Nipomo Mesa Lupine Surveys:*** *The following measure shall be included in the BRAAMP and implemented as part of the biological monitoring. Additional site-wide surveys for Nipomo Mesa ~~lupine~~Lupine (NML) shall be conducted by a qualified botanist prior to initial construction permit issuance and annually thereafter until five years after demolition and remediation work is complete (or until site restoration requirements are met). Surveys after completion of demolition and remediation activities are required to quantify any indirect impacts to historically~~previously~~ occupied areas which would then require habitat creation and mitigation (see BIO.2-3). Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Each survey year shall also include a late bloom survey (May to December) to maximize detection (CDFW 2023a). ~~Surveys shall be done prior to the initial construction permits being submitted, and annually thereafter, with the u~~Updated information shall be incorporated into~~–~~ subsequent permits until all Project-related demolition and remediation permit activities are completed. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted to the County in support of construction permits. The results of NML surveys shall be included in the annual monitoring report required in measure BIO.1-2.*

Submittal: *See mitigation measure BIO.1-2 BRAMMP.*

BIO.2-2 ***Nipomo Mesa Lupine Permitting and Avoidance:*** *The Applicant shall consult with the CDFW to obtain an Incidental Take Permit (ITP) pursuant to Fish and Game Code Section 2081 subdivision (b). The Applicant shall submit a copy of the CDFW ITP to the County prior to issuance of any permit authorizing grading or belowground disturbance. The requirements of the ITP shall be included in the BRAAMP and HRRP. In addition, the following measures shall be contained in the BRAAMP, implemented as part of the biological monitoring and shall be reproduced on all plans. ~~Known locations~~*

– *~~l~~Locations of Nipomo Mesa ~~lupine~~Lupine, defined as ~~in~~within 25 feet of currently or historically occupied ~~either direct or indirect occupied or unoccupied~~ habitat (suitable habitat), shall be avoided unless soil disturbance or remediation is required and an ITP from ~~all necessary approvals and concurrence with the~~ CDFW ~~that are required~~ for the take of Nipomo Mesa ~~lupine~~Lupine ~~a federal and state listed plant~~ ~~is~~are first obtained. ~~Known~~*

– *Areas identified as ~~population areas plus~~suitable habitat for Nipomo Mesa ~~lupine~~Lupine based on current and historical occurrences ~~plus~~(including the ~~a~~ 25-foot buffer) shall be identified on all plans submitted to the County for approval. The known population boundaries mapped in previous years, plus any expansions observed during surveys conducted in the year of Project activities, plus a 25-foot buffer, would constitute ~~the known population area~~suitable habitat to be avoided ~~(which is different than the presumed occupied area)~~. If avoidance is not feasible, then mitigation as per BIO.2-3 is required for all areas impacted within the 25 foot buffer.*

– *A minimum of a 25-foot buffer shall be placed around all current and historical occurrences (the entire area constituting ~~known population~~suitable habitat) areas within 100-foot of Project activities to avoid potential indirect impacts and changes to microhabitats that support the species. These buffers shall be flagged/fenced and avoided during construction. A qualified biologist shall conduct preconstruction surveys in all areas and verify that all known ~~population~~ suitable habitat areas ~~plus a~~(including the 25-foot buffer) are properly flagged/fenced and shall have the authority to expand this buffer as needed based on site conditions and observed plants. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2.*

~~If an incidental take authorization is obtained and other measures implemented based on discussions with CDFW, the Applicant shall submit to the County a copy of the take authorization permit..~~

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

BIO.2-3 ***Nipomo Mesa Lupine Habitat Mitigation and Creation:*** *The County-approved HRRP (BIO.1-3) shall include methods for compensating for loss of ~~restoring and enhancing~~ Nipomo Mesa ~~lupine~~Lupine suitable habitat area (including the 25-foot buffer) affected by the project at a minimum 3:1 ratio ~~(based on square feet cover~~.*

Compensation for loss of individual ~~plant) for permanent impacts to individuals~~plants shall be required if project activities impact a location where plants have currently or historically been located, The individual plants shall be reproduced as part of the habitat creation area at a minimum 3:1 ratio (with 5-year viability) based on the average previous 5-year occurrences of plants impacted by project activities. The HRRP shall also focus on restoring and enhancing sensitive communities and rare plant associations immediately adjacent to known Nipomo Mesa ~~lupine~~Lupine populations in order to promote expansion of the existing ~~population~~populations (see ESHA mitigation

measure BIO.12-1). At a minimum, the HRRP shall include the following elements for the Nipomo Mesa Lupine:

1. *Identification of location(s), ratios, success criteria, amounts, size and types of plants to be replanted, as well as any other necessary components (e.g., temporary irrigation, amendments, etc.) to ensure successful reestablishment. These shall be developed in consultation with the CDFW during the ITP process.*

2. *Quantification of impacts based on actual activities and quantification of mitigation areas such that the replacement criteria are met (minimum 3:1 ratio). ~~(based on square feet cover of individual plant).~~*

3. *A program schedule and success criteria for a minimum five-year monitoring and reporting program that is structured to ensure the success of the HRRP.*

4. *Provide for the in-kind replacement of Nipomo Mesa ~~lupine~~Lupine individuals that are removed or damaged at a minimum 3:1 ratio ~~(based on square feet cover of individual plant)~~ within the designated restoration area(s) with 100% success in 5 years.*

5. *Identification of access and methods of materials transport to the restoration area(s), including personnel, vehicles, tools, plants, irrigation equipment, water, and all other similar supplies. Access shall not result in new or additional impacts to habitat and special-status species.*

6. *The required program shall incorporate an invasive species control program and be implemented by qualified personnel to ensure that the invasive species control program does not result in any additional impacts to Nipomo Mesa ~~lupine~~Lupine, or other rare species.*

7. *If individual Nipomo Mesa ~~lupine~~Lupine are to be impacted, a qualified biologist shall collect seed and deposit accessions into a permanent conservation seedbank established for the species at the Santa Barbara Botanic Garden or equivalent. The topsoil of impacted habitat shall be collected prior to ground disturbance (site clearing or soil sampling) in order to preserve the seed bank. Topsoil shall be relocated to restored habitat areas to promote the expansion of occupied habitat. Criteria shall be prepared in coordination with the USFWS and CDFW from non-impacted individuals to provide additional backup seeds to the U.S. Department of Agriculture's National Laboratory for Genetic Resource Preservation seed vault, located in Fort Collins, Colorado. The specifics of seed collection and details of the mitigation shall be provided in the HRRP.*

8. *The location(s) of proposed ~~restoration area~~habitat creation for mitigation shall be delineated and restored or (re)established ~~as~~with NML ~~population~~ suitable habitat area(s). ~~Restoration~~ Habitat creation areas shall be located within the larger Phillips 66 property~~area~~ (historical range of NML). If on-site ~~mitigation~~ habitat creation is not feasible or would not be biologically viable as determined by CDFW, and therefore would not adequately mitigate the loss of biological*

functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity shall be identified and shall be~~, preferably~~ within the Nipomo Dunes complex.

9. *The proposed ~~resto~~habitat creation ~~ration~~ area(s) shall be protected in perpetuity by an easement or deed restriction in a form approved by County Counsel. The easement shall either be an open space easement, or a conservation easement if required by the California Department of Fish and Wildlife and United States Fish and Wildlife Service, or if chosen by the Applicant. The easement shall be in a form approved by County Counsel and CDFW and/or USFWS if required by those agencies.*

10. *The HRRP shall address success criteria for reestablished areas based on CDFW criteria and funding shall be provided by the Applicant until these success criteria are achieved.*

Upon successful completion of the program and subsequent approval by the permitting resource agencies, the applicant shall consider providing non-profit organizations such as California Native Plant Society and The Land Conservancy with long term access to the restoration site for the purposes of education, and long-term maintenance of the restoration site. Long-term maintenance activities would only occur if permitted by the applicant and would require coordination with California Department of Fish and Wildlife and United States Fish and Wildlife Service. If restoration is onsite, access to the site is not guaranteed as a result of this measure. Funding for any future long-term maintenance activities shall be facilitated by the non-profit organization.

Submittal: *See mitigation measure BIO.1-3 HRRP.*

Residual Impacts

Direct and indirect impacts to Nipomo Mesa ~~lupine~~Lupine could occur as a result of demolition and remediation activities. Because the Phillips 66 property encompasses a significant portion of what USFWS calls Occurrence #1 in the species' recovery plan (USFWS 2021) and achieving resilience in Occurrence #1 is critical to the recovery of the species, the above avoidance and mitigation measures incorporate activities recommended as specific recovery actions. These include: obtaining an ITP from the CDFW for Nipomo Mesa ~~lupine~~Lupine, avoiding known population areas (i.e., where germination has been documented), preserving and managing known occupied habitat areas; restoring appropriate microhabitat conditions in disturbed habitat areas as to promote reoccupancy (i.e., germination and reproducing individuals); managing habitat to reduce or eliminate threats from non-native species (particularly veldt grass); and, establishing permanent conservation protection via easement or deed restriction in a form approved by County Counsel. Therefore, with implementation of mitigation measures, the Project would not preclude the recovery of Nipomo Mesa ~~lupine~~Lupine and impacts would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.3	Threshold a): Would the Project impact CRPR 1-4 plant species, specifically Blochman's leafy daisy, dune larkspur, Blochman's ragwort, California spineflower, sand almond, and ocean bluff milk-vetch?	Class II

Blochman's leafy daisy, dune larkspur, Blochman's ragwort, California spineflower, sand almond, and ocean bluff milk-vetch were found during botanical surveys in several locations within the BSA. In general, most of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the SMR Project site were identified as potentially containing historical debris or materials that may require remediation. These areas were identified as Disturbed ESHA and further broken down as Disturbed ESHA Areas A through L (refer to Preliminary Grading Plan Sheet 16A and 17A). Disturbed ESHA Area C contains known locations of Blochman's leafy daisy. Disturbed ESHA Areas B, C, E, and F contain known occurrences of Blochman's ragwort. Disturbed ESHA Area B contains a known occurrence of California spineflower and known occurrences of sand almond. Dune larkspur and ocean bluff milk-vetch were not observed within the areas identified for potential remediation activities, but suitable habitat for these species is present. Under a worst-case scenario, where all areas identified require remediation, Project activities could potentially impact up to 26.5 acres of suitable habitat for CRPR 1-4 species. In total, remediation activities in the areas labeled Disturbed ESHA overlap with one occurrence of Blochman's leafy daisy, eight occurrences of Blochman's ragwort, one occurrence of California spineflower, and 14 occurrences of sand almond. This would represent the direct impacts to CRPR 1-4 species as a result of Project activities.

Direct impacts could also occur to CRPR 1-4 plant species if the asphalt emulsion coating is proposed for removal. Several special-status plant species, including Blochman's leafy daisy, Blochman's ragwort and sand almond, were observed growing in areas with asphalt emulsion coating, suggesting that a seed bank still persists within the more disturbed areas of the SMR. Depending on how the asphalt emulsion coating is removed, direct impacts to the seed bank and to individual plants could occur.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to plant population through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species. There are areas of Disturbed ESHA mapped along the existing roadways within the Project site. Several of these areas, particularly along the northern access road, are adjacent to mapped occurrences of special-status species, including Blochman's ragwort, sand almond, and ocean bluff milk-vetch. These occurrences could be indirectly impacted by remediation activities unless avoidance and minimization measures are implemented.

Due to the known presence of multiple special-status plant species within the property boundary and immediately outside of the Project site, and the presence of suitable habitat in undocumented portions of the Project site, demolition of the existing SMR and soil remediation activities could have significant impacts on these populations unless appropriate mitigation measures are implemented.

Mitigation Measures

BIO.3-1 ***CRPR 1-4 Plant Species Surveys:*** *The following requirements shall be incorporated to the BRAMMP/HRRP and implemented upon approval by the County: Populations of special-status plants shall be avoided to the maximum extent practicable. Known population areas shall be identified on all demolition/grading plans submitted to the County for approval. Additional surveys shall be conducted prior to construction permits being issued (or prior to mobilization and ground-disturbing activity) and annually thereafter until demolition and Project-related remediation work is complete. Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted to the County in support of permits for any demolition or remediation activity.*

A minimum of a 25-foot buffer shall be placed around all known locations of special-status plant species within 100 feet of Project activities to avoid potential impacts to seed banks and microhabitats that support the species. Buffers shall be clearly shown on all demolition and remediation plans. Buffers shall be expanded by the Lead Biologist as needed, on site, if necessary. These buffers shall be flagged/fenced and avoided during construction. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2. The results of the surveys before and after construction in any area shall be compiled to an updated site plan and reported annually to the County for use with permit review in the subsequent year.

Submittal: *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

BIO.3-2 ***CRPR 1-4 Plant Species Salvage:*** *The following measure shall be included in the BRAMMP and HRRP prior to County permit issuance: If CRPR 1-4 species cannot be avoided, the individual plants shall be salvaged (e.g., plant placed in large nursery pot and/or seed collection) for use in habitat restoration activities once Project-related construction activities are complete. Details of the proposed salvage activity would be presented in the HRRP (refer to BIO.1-3). All plants directly salvaged or propagated from collected seed shall be monitored and must survive in good health or demonstrate stable or expanding populations, for a minimum of three years, post planting, for salvage to be considered successful. Details of the salvage methodology and reporting would be presented in the HRRP detailed under measure BIO.1-3.*

Submittal**:** *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

BIO.3-3 ***CRPR 1-3 Plant Species Habitat Creation:*** *The following measure and requirements shall be incorporated to the BRAMMP and HRRP prior to County permit issuance, and implemented as applicable: If CRPR 1-3 species cannot be avoided, impacts shall be mitigated through the restoration of suitable habitat at a minimum 2:1 ratio of individuals impacted to individuals restored, in coordination with the County*

Environmental Monitor. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation for impacts to CRPR 1-3 species may be achieved by either a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.

***Submittal*:** *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

BIO.3-4 ***CRPR 4 Plant Species Habitat Creation:*** *The following measure and requirements shall be incorporated to the BRAMMP and HRRP prior to County permit issuance, and implemented as applicable: If Project-related impacts result in the loss of more than 10 percent of the on-site population of any CRPR 4 plant species, compensatory mitigation shall be provided at a minimum 1:1 ratio of individuals impacted to individuals restored. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation shall be provided for all impacts that exceed the 10 percent threshold (e.g., impacts to 15 percent of a population would only require compensation for five percent or the amount of impacts that exceed the 10 percent threshold). Compensation for impacts to CRPR 4 species may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program at a 1:1 mitigation ratio (one acre preserved for each acre impacted). If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.*

***Submittal*:** *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

Residual Impacts

Direct and indirect impacts to CRPR 1-4 plant species, could occur as a result of demolition and remediation activities, these impacts would be offset through the restoration of populations at either a 2:1 ratio for impacts to populations of CRPR 1-3 plants and at a 1:1 for CRPR 4 plants. Individual plants, if impacted, would also either be salvaged or seed would be collected and used

for habitat restoration activities. With implementation of mitigation measures, impacts to CRPR 1-4 plant species would be **less than significant with mitigation (Class II).**

Special-Status Wildlife

Impact #	Impact Description	Residual Impact
BIO.4	Threshold a): Would the Project indirectly impact monarch butterflies?	Class II

The eucalyptus grove along the western edge of the Project area and Monterey pines in the North contain suitable winter roosting habitat for aggregating monarch butterflies, although there are currently no winter roosting records within the Project site. The closest non roosting record is 0.4 mile north and the closest known winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve. Given that monarchs are known to overwinter in the area, the potential for them to roost in the eucalyptus grove on site cannot be completely ruled out. Additionally, the Nipomo Mesa is largely under-surveyed for monarch butterfly aggregations due to private property access. Monarch butterflies require specific microclimatic conditions to survive the winter and are sensitive to any habitat modifications to their overwintering sites. If monarch butterflies were overwintering in the eucalyptus grove in the Project area during construction, they could be indirectly impacted by construction noise and dust. The mitigation measure has been included below to ensure that monarch butterflies would not be impacted during construction activities.

Mitigation Measures

BIO.4-1 ***Monarch Butterfly Preconstruction Surveys:*** *The following measure and requirements shall be incorporated into the BRAMMP prior to County permit issuance and implemented as applicable: If any project activities are scheduled between October 1st and the end of February, the Applicant or designee shall conduct preconstruction surveys of potential monarch butterfly overwintering habitat on site or adjacent to the site. The surveys shall be conducted by a qualified monarch butterfly biologist approved by the County. The resume of the proposed biologist along with the survey schedule shall be submitted to the County for review and approval no more than 14 days prior to beginning surveys. The proposed biologist must have demonstrated experience in monarch butterfly ecology and habitat in order to conduct the surveys.*

If site disturbance is proposed within 200 feet of potential monarch butterfly overwintering locations and will occur (i.e., permit issuance occurs) during the aggregation season (October 1 through the end of February), surveys shall be conducted from the Project site and/or public roads for three mornings at least one week prior to planned disturbance.

If clustering monarch butterflies are observed, the following shall be implemented:

1. *Site disturbance and construction activity within 200 feet of monarch butterfly overwintering habitat shall be prohibited while monarch butterflies are in an overwintering aggregation.*

2. *A 200-foot buffer shall be installed with T-posts and rope and labelled as Environmentally Sensitive Habitat every 75 to 100 feet during the occupation period.*

3. *Monitoring visits shall be conducted during daily active construction to document numbers and assure that no disturbance of the aggregation is caused by construction.*

4. *Reporting on the survey results and any protective measures implemented shall be submitted to the County by March 15 annually.*

Submittal: *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measure, impacts to monarch butterflies would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.5	Threshold a): Would the Project directly or indirectly impact western bumble bee and obscure bumble bee?	Class II

The dune scrub habitat, with an abundance of flowering plants, provides suitable habitat for western bumble bees, Crotch bumble bees, and obscure bumble bees. In general, there is limited distribution and population data for these species due to recent declines and general lack of systematic surveys across potential habitat. There are historic occurrences near the BSA for the western bumble bee and the obscure bumble bee. CDFW views these historic occurrences as important benchmarks for determining potential to occur. Therefore, a species-specific habitat assessment and targeted surveys are necessary to determine the potential to occur in the Project site, and if it does, whether it would be directly or indirectly impacted by Project activities.

In general, most of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the SMR Project site were identified as potentially containing historical debris or materials that may require remediation. These areas may potentially be occupied by western bumble bees. Therefore, under a 'worst-case scenario' Project activities could temporarily impact up to 26.5 acres of potentially suitable western bumble bee habitat. This would represent the potential direct impacts to western bumble bees as a result of Project activities.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to special-status bee populations through the disruption of foraging behavior from dust and noise disturbance. Because floral resources would be removed and restored during the course of this Project, there would be a temporal loss of food resources which may have an indirect impact on population levels. However, the net increase in quality and quantity of floral resources as a result of proposed restoration efforts should have a long-term benefit for the species.

If special-status bee species occur within the Project site demolition of the existing SMR could have significant impacts on these populations unless appropriate mitigation measures are implemented.

Mitigation measure BIO.5-1 requires a species-specific habitat assessment per CDFW guidelines outlined in *Survey Considerations for CESA Candidate Bumble Bee Species* (CDFW 2023c). Protocol surveys and an incidental take permit may also be required depending on consultation with CDFW to determine potential impacts and appropriate mitigation for this species.

Mitigation Measures

BIO.5-1 ***Surveys for Western, Crotch, and Obscure Bumble Bee and Implement Avoidance Measures:*** *The Applicant or its designee, within one year (and at least 90 days) prior to submittal of an application for a County permit, shall conduct visual surveys to determine the presence/absence of Western, Crotch, and Obscure bumble bees. The surveys shall be conducted by a County-approved qualified biologist(s) familiar with the species behavior and life history. The resume(s) of the proposed biologist(s) shall be submitted to the County, along with the survey schedule, for review and approval no more than 14 days prior to conducting surveys. CDFW survey protocols shall be implemented "Survey Considerations for CESA Candidate Bumble Bee Species" (CDFW 2023c). Survey results, including negative findings, shall be submitted to the County prior to permit issuance. If survey results are negative, no further actions are required. If Western, Crotch, and Obscure bumble bee nests/colonies (or potential nests/colonies) are determined to be present during surveys, the Applicant or its designee shall develop a plan in consultation with the County following CDFW guidance and in coordination with CDFW to protect the nest/colony site(s). No construction permits shall be issued until the plan has been approved by the County.*

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of mitigation measure BIO.5-1, impacts to western bumble bees would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.6	Threshold a): Would the Project have direct impacts to California red-legged frogs if they are present in PW 1 and PW 2?	Class II

PW 1 and PW 2 provide marginally suitable nonbreeding aquatic habitat for California red-legged frogs, a species listed as federally threatened under the FESA and an SSC by the CDFW. The presence of the SMR drainage systems has provided a consistent source of water, which may potentially attract frogs, particularly during the dry season. Given the proximity of CNDDB records 0.4 mile west of the Project area in a dune swale pond and 0.4 mile south in Oso Flaco Creek, frogs could disperse into these artificial water features. If frogs are present, as the water dries out frogs could potentially be displaced. Adult frogs dispersing from the drying water storage areas could be crushed or entombed during demolition and remediation activities. If tadpoles are successfully able to metamorphose prior to the water storage area drying, recently metamorphosed

frogs could also be crushed or entombed during demolition and remediation activities when dispersing away from the drying area. Mitigation measure BIO.6-1 has been included below to ensure that California red-legged frogs would not be impacted during demolition and remediation activities.

Mitigation Measures

BIO.6-1 ***Red-Legged Frog Assessment and Measures:*** *The following measure shall be included in the BRAMMP and HRRP submitted for County approval: At least 90 days prior to submittal of a County application for construction permit for the Project, The Applicant or its designee shall prepare a California red-legged frog site assessment. The assessment shall follow USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005) for artificial water features PW 1 and PW 2, submitted to USFWS for review and copied to the County. The assessment shall be conducted by a USFWS- and County-approved biologist, with the results provided to and approved by the County. The County shall receive the name and qualifications of the proposed biologist conducting surveys for approval prior to initiating the field work under the assessment. Within 14 days of completion of the final survey, the Applicant or its designee shall provide to the County a report describing the findings of the site assessment. If the survey results are negative, no further actions are required. If the site assessment report and surveys indicate that red legged frogs are determined to be present, the Applicant or its designee shall develop a plan in consultation with the County and in coordination with USFWS to protect the species in accordance with USFWS Guidance (USFWS 2005). The plan shall include measures to be taken to prevent red-legged frog impacts as required by USFWS, identify reception sites to relocate red-legged frogs if they need relocation, clearance surveys and fencing requirements, and, procedures for reporting of monitoring, handling, and relocation issues. The Applicant shall submit the plan (if applicable) to the County with documentation from the USFWS that consultation has been conducted and USFWS guidance is being followed.*

Submittal**:** *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measures, impacts to California red-legged frog would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.7	Threshold a): Would the Project directly or indirectly impact California legless lizard and Blainville's horned lizard?	Class II

Northern California legless lizard and Blainville's (coast) horned lizard likely occur in the Project area's sandy soils in areas of natural vegetation. Demolition and remediation activities that occur outside of current existing hardscape (with the exception of areas with asphalt emulsion coating) could result in direct impacts to these species. Demolition and remediation activities could result in individuals being crushed or entombed resulting in direct mortality. Indirect impacts could include stress and loss of reproductive success among relocated individuals, excessive noise

resulting permanent deafening, increased human activity resulting in changes to wildlife movement and behaviors, increased dust could potentially impact prey activity and availability, increased vehicle use of the area could also exacerbate road kills, and the introduction of invasive plant species that could change future habitat conditions.

Mitigation Measures

BIO.7-1 ***Lizard Relocation Surveys:*** *The following measure shall be included in the BRAMMP submitted for County approval prior to issuance of County construction permits: Relocation surveys for special-status reptiles shall be conducted in undeveloped areas where earthwork is required for Project activities such as remediation prior to permit issuance and mobilization, or as described. Surveys shall be performed during appropriate times of year when the species are active and can be located. The following measures shall apply.*

1. *Cover board and raking surveys for legless lizard shall be conducted between January and July. California legless lizards are not expected to move back into work areas after relocation; therefore, these surveys can be done well in advance of earthwork. The surveyor should utilize cover board methods in areas of disturbance where legless lizards are expected to be found (e.g., under shrubs, other vegetation, or debris).*

2. *Hand search surveys should be completed during times of year when the species are active and can be located and immediately prior to and during grading activities.*

3. *During initial ground disturbance activities, the biologist shall walk behind the grading equipment to capture California legless lizards that are unearthed by the equipment. The surveyor shall capture and relocate any legless lizards or other reptiles observed during the survey effort. The captured individuals shall be relocated from the remediation area and placed in suitable habitat outside of any current or future work areas.*

4. *Following the survey and monitoring efforts, for each new permit work area the biologist shall submit to the County a Project completion report that documents the survey date(s) and area limits surveyed, number of special-status reptiles and other reptiles captured and relocated, and a post-construction summary of the number of special-status reptiles or other reptiles taken during earthwork and remediation activities.*

5. *These requirements shall either be reproduced on each plan set submitted for permit, or included in the BRAMMP.*

Submittal**:** *See mitigation measure BIO.1-2 BRAMMP*.

Residual Impacts

With implementation of the mitigation measures, impacts to Northern California legless lizard and Blainville's horned lizard would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.8	Threshold a): Would the Project directly or indirectly impact special-status birds, raptors, and nesting birds?	Class II

Demolition and remediation activities would remove infrastructure and contaminated soil within the existing SMR areas. This could include up to 26.5 acres of vegetation clearing, evaluated as a 'worst case scenario'. Several special-status bird and raptor species have the potential to nest on site. These species include: Cooper's hawk, sharp-shinned hawk (*Accipiter striatus*), white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus*), Western burrowing owl, loggerhead shrike, and Bell's sparrow. The eucalyptus grove and Monterey pine trees on the site potentially provide suitable habitat for nesting raptors, and all the existing vegetation provides suitable habitat for nesting passerines. Additionally, several bird and raptor species may also nest on the existing infrastructure.

Migratory non-game native bird species are protected by international treaty under the MBTA (50 CFR Section 10.13). Sections 3503, 3503.5, and 3513 of the CFGC prohibit take (as defined therein) of all native birds and their active nests, including raptors and other migratory non-game birds (as listed under the federal MBTA). The following mitigations are intended to reduce potential impacts to nesting birds to a less-than-significant level.

Mitigation Measures

BIO.8-1 ***Nesting Bird Preconstruction Survey and Nest Avoidance:*** *The following measures shall be included in the Project BRAMMP prepared for County approval, prior to issuance of any County construction permits: Within 10 days prior to construction activities, including disassembling and demolition of existing structures, if permits are issued, or work occurs, between February 1 and September 15, nesting bird surveys shall be conducted. Surveys shall include a sufficient buffer area around the Project area, as determined by a qualified biologist, to the extent feasible. A sufficient buffer shall mean any area potentially affected by the Project. If surveys do not locate nesting birds, construction activities may begin. If nesting birds are located, no construction activities shall occur within 250 feet of nests or within 500 feet of raptors until chicks have fledged.*

The Project biologist may recommend a buffer decrease depending on site conditions (such as line-of-sight to the nest) and the birds' level of tolerance for construction activities. The biologist shall collect data on the birds' baseline behavior and their tolerance to disturbance by observing the birds at the nest prior to construction activities. If the birds are incubating, the biologist shall record how long they stay in the nest. If nestlings are present, the biologist shall record how frequently adults deliver food and visit the nest. The biologist shall also record the birds' reaction to the biologist and how close the biologist can get to the nest before the birds' behavior is altered or they show signs of stress or disturbance. The biologist shall set the reduced buffer distance based on these data. Nesting bird buffers may be reduced up to 50 feet, while raptor nest buffers may be reduced up to 250 feet. If nest buffers are reduced, the biologist shall monitor any construction activities that take place within 100 feet of nesting birds and 500 feet of raptor nests. If nesting birds show any signs of

disturbance, including changes in behavior, significantly reducing frequency of nests visits, or refusal to visit the nest, the biologist would stop work and increase the nest buffer.

If fully protected raptors are located within the Project area or within 500 feet of the Project area, a 500-foot no-disturbance buffer shall be implemented. If the 500-foot no-disturbance buffer cannot be feasibly implemented, the Lead Biologist shall contact CDFW to identify additional avoidance measures.

These requirements shall either be reproduced on each plan set submitted for construction permit or included in the BRAMMP for the Project.

Within 30 days following completion of the survey and monitoring efforts for each permit area (as applicable), the biologist shall submit to the County a Project completion report that documents the number of nests observed and actions taken to avoid impacts to nesting birds. An annual summary of activities and permits monitored shall be submitted to the County by December 1 for each nesting season through Project construction and remediation.

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

BIO.8-2 ***Burrowing Owl Preconstruction Surveys:*** *The following measure shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: The Applicant or its designee shall conduct preconstruction surveys for burrowing owl shall follow the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). In the event a burrowing owl is located, disturbance buffers shall be implemented as outlined in the CDFW Staff Report on Burrowing Owl Mitigation, unless a qualified biologist approved by the CDFW verifies through non-invasive methods that (1) the birds have not begun egg laying and incubation or (2) that juveniles from the occupied burrows are foraging independently and capable of independent survival. Burrows that are verified as unoccupied by the Lead Biologist may be made inaccessible to owls (e.g., by collapsing, covering, or other appropriate means). Annually and following Project completion, the biologist shall submit to the County a summary completion report that documents the locations, associated permits, results of preconstruction surveys conducted and actions taken to avoid impacts to burrowing owls.*

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measures, impacts to nesting birds would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.9	Threshold a): Would the Project directly or indirectly impact roosting bats?	Class II

Several special-status bat species including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), Hoary bat (*Lasiurus cinereus*), and Yuma myotis (*Myotis yumanensis*) could potentially roost in the trees and infrastructure on the Project site. Additionally, as facility operations stop and staff levels decrease, the infrastructure may become more attractive as potential roosting habitat. If bats are roosting in structures during demolition activities they could be killed, resulting in direct impacts. Demolition or remediation work adjacent to bat roost sites may cause roost abandonment which could lead to indirect impacts to bats. Therefore, Project activities, including demolition, tree removal, and remediation work, could result in take of bat species or disturbance of bat roosts. The mitigation measure below would ensure that bat species are not impacted.

Mitigation Measures

BIO.9-1 ***Bat Preconstruction Surveys and Measures:*** *The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: Upon Applicant submittal of demolition permits to County Planning and Building, the following shall be noted on plans: Prior to mobilization or initiation of demolition activity, the Applicant or its designee shall conduct preconstruction surveys of suitable roosting habitat features (e.g., structures and trees or snags to be removed that are greater than 20 inches diameter at breast height). Surveys shall be conducted within the Project site permitting area and a 300-foot buffer by a qualified biologist within 30 days of construction activities. Surveys shall occur during the appropriate time of day to maximize detectability to determine if bat species are roosting on site or near Project work areas. Surveys may include observational methods, echolocation monitoring, etc. to determine whether bats are present. A survey report shall be completed and submitted to the County that includes, but is not limited to, the survey methodology and biologist qualifications and, if bats are present, the colony size, roost location, and characteristics. If bats are not present and findings are negative, the report will indicate that the survey area is cleared for mobilization under the Permit.*

Passive Relocation of night roosts: If a bat night roost is found, the qualified biologist shall implement passive relocation measures, such as installation of one-way valves. A report summarizing all passive relocation activities and any follow-up to verify success shall be completed and submitted to the County prior to Permit issuance.

Day roosts and maternity colonies: If surveys confirm that bats daytime roost in areas that would be impacted by the Project, Phillips 66 shall maintain a 300-foot buffer around bat daytime roost sites during Project activities. Bat maternity colonies may not be disturbed. If a bat maternity colony is found or if a 300-foot buffer around bat daytime roost sites is not feasible, the Applicant would consult with CDFW and the County to determine what additional avoidance, minimization, and mitigation measures are necessary. An updated bat mitigation report shall be submitted to the

County and CDFW following implementation of any additional avoidance, minimization, and mitigation measures.

Submittal: *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measures, impacts to roosting bats would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.10	Threshold a): Would the Project directly or indirectly impact American badgers?	Class II

The American badger occurs in the Project area. Project activities, demolition, and remediation work that requires excavation and ground disturbance, particularly in natural habitat areas, could result in impacts to American badger adults or young or disturbance of natal dens and abandonment by adult badgers. During the winter, badgers do not truly hibernate but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Potential impacts could occur. Mitigation measures addressing surveys conducted for badger dens throughout the year Project activities occur would mitigate the impacts.

Mitigation Measures

BIO.10-1 ***Badger Den Preconstruction Survey and Relocation:*** *The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: Preconstruction surveys for American badger shall be conducted within 30 days prior to initiating any construction activities under any permit. Preconstruction surveys shall cover the immediate areas of permit limits for any proposed demolition and remediation activities plus a 500-foot buffer.*

If suitable American badger dens are identified within the disturbance footprint, den openings shall be monitored with tracking medium or an infrared camera for three consecutive nights to determine current use. If the den is not in use, the den shall be excavated and collapsed to ensure that no animals are present during construction. If the den is occupied during the non-maternity period, badgers may be relocated by first incrementally blocking the den over a three-day period, followed by slowly excavating the den (either by hand or with mechanized equipment under the direct supervision of a qualified biologist, removing no more than 4 inches at a time) before or after the rearing season (February 15–June 30). Passive relocation of American badgers shall be conducted under the direction of a qualified biologist after submittal of qualifications to, and approval by, the County.

If the preconstruction survey finds potential badger dens, the dens shall be inspected by the Lead Biologist to determine whether they are occupied. If a potential badger den is too long to completely inspect from the entrance, a fiber optic scope may be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to

prevent reuse of dens during construction. If badgers occupy active dens in proposed work areas between February and July, nursing young may be present.

To avoid disturbance and the possibility of direct impacts to adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, American badger dens determined to be occupied during the breeding season (February 15–June 30) shall be flagged. Between February and July, no grading or ground-disturbing activities shall occur within 100 feet of active badger dens to protect adults and nursing young. Buffers may be modified by the qualified biologist, provided the badgers are protected, and buffers only removed after the qualified biologist determines that the den is no longer in use.

If a potential den is located outside of the disturbance footprint but within 500 feet of ground-disturbing activities (including staging areas), dens shall be avoided by installation of highly visible orange construction fencing a minimum of 100 feet from the den, designating the area an Environmentally Sensitive Area. Fencing shall be installed in a manner that allows badgers to move through the fencing at will. No equipment, vehicles, or personnel shall be permitted within Environmentally Sensitive Areas without clear permission from a qualified biologist.

Following the survey, passive relocation activities and monitoring efforts, the biologist shall submit to the County a Project completion report that documents the permitting area, number of potential badger dens identified, the number occupied, and any avoidance or minimization measures implemented to avoid direct or indirect impacts to badgers. This information shall be included in the annual reporting.

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of mitigation measures impacts to American badger would be **less than significant with mitigation (Class II).**

Riparian Habitat or Other Sensitive Natural Community

Impact #	Impact Description	Residual Impact
BIO.11	Threshold b): Would the Project have the potential to impact silver dune lupine – mock heather scrub and Central Dune Scrub sensitive natural communities?	Class II

Approximately 33.4 acres of silver dune lupine - mock heather scrub was mapped within the SMR Project site and 33.67 acres within the 100-foot buffer area (Figure 4.4-4 and Table 4.4.1). This has been given a state rarity ranking of S3 and is considered a sensitive natural community by CDFW. In addition, there is the broader Central Dune Scrub sensitive natural community classification which includes the silver dune lupine - mock heather scrub described above and extends to the black sage scrub and California buckwheat scrub (which occurs in an existing restoration area). Impacts to these sensitive natural communities would be considered a significant impact under CEQA.

In general, it is anticipated that much of the vegetated areas within the Project site would not require ground disturbance. However, the full extent of earthwork required to fully remediate contaminated soils cannot be completely determined until further tests can be conducted. Therefore, the Applicant has identified vegetated areas within the SMR Project site that overlap with areas of potential historical debris or materials. These are the areas that, pending further confirmation studies, may require remedial action to remove impacted material. Under a 'worst-case' scenario, where all identified areas require remediation, Project activities could potentially impact up to 14.4 acres of Coastal Dune Scrub, of which 7.3 acres of that consists of silver dune lupine - mock heather scrub.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to Coastal Dune Scrub and silver dune lupine - mock heather scrub through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species.

Demolition and remediation activities could have significant direct and indirect impacts to Coastal Dune Scrub, which includes silver dune lupine - mock heather scrub habitat. Mitigation is proposed to reduce these Project impacts to less than significant. Mitigation would reduce Project impacts through the restoration and conservation of habitat. Additional on-site avoidance measures include worker training, fencing, and biological monitoring, would be put in place to minimize indirect impacts.

Mitigation Measures

BIO.11-1 ***Coastal Dune Scrub Avoidance:*** *The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: Demolition and remediation activities shall be done in such a manner as to minimize the removal of Coastal Dune Scrub habitat, which includes silver dune lupine - mock heather scrub. If the disturbance of this sensitive natural community cannot be avoided, and the removal is approved by the County, the impacted plant community shall be replaced at a minimum mitigation ratio of 2:1 for like kind habitat (i.e., silver dune lupine - mock heather scrub shall be replaced by restoring silver dune lupine - mock heather scrub, etc.). The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.*

Submittal**:** *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

Residual Impacts

With the implementation of the mitigation measure, impacts to Coastal Dune Scrub, including silver dune lupine - mock heather scrub, would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
BIO.12	Threshold b): Would the Project directly impact unmapped ESHA?	Class II

It was determined that all the vegetation alliances mapped, except for the developed areas, meet the definition of ESHA and were thus classified as unmapped ESHA (Figure 4.4-7 and Appendix D). Even though all these areas exhibit certain physical and biological characteristics that meet the definition of unmapped ESHA, some areas have been degraded and have less cover and diversity of dune scrub plant species. Nevertheless, because they are considered unmapped ESHA, impacts to these areas are considered potentially significant under CEQA.

The Applicant proposes to minimize impacts to unmapped ESHA to the extent practicable; however, some impacts are likely and unavoidable in order to remediate contaminated soils. Areas of potential historical debris or materials were mapped in vegetated areas within the Project site (refer to Preliminary Grading Plan Sheet 16A and 17A). These areas potentially contain historical debris or materials that may require remediation. All these areas were classified as unmapped ESHA, referred to on the grading plans as "Disturbed ESHA", and represent the areas where unmapped ESHA may be impacted by remediation activities. Therefore, under a 'worst-case' scenario (i.e., all areas require remediation) Project activities could potentially impact up to 26.5 acres of unmapped ESHA. Of this, the breakdown of impacted unmapped ESHA habitat into the vegetation alliances equates to: 7.4 acres of silver dune lupine – mock heather scrub, 4.1 acres of California buckwheat scrub, three acres of black sage scrub, 2.6 acres of poison oak scrub, 1.1 acres of iceplant mats, 0.6 acre of wild oats and annual brome grasslands, 0.34 acre of Arroyo willow thickets, 0.3 acre of ornamental plantings, and 7.2 acres of ruderal (with the potential for wildlife habitat, and resources from adjacent areas to move into and utilize areas with sandy soils and vegetation and the presence of isolated species within areas designated as ornamental, ice plant and ruderal).

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to unmapped ESHA through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species.

Demolition and remediation activities would have significant direct and indirect impacts to unmapped ESHA. Mitigation is proposed to reduce these Project impacts to less than significant. Mitigation would reduce Project impacts through the restoration and conservation of habitat to mitigate. Additional on-site avoidance measures include worker training, fencing, and biological monitoring, would be put in place to minimize indirect impacts.

Mitigation Measures

BIO.12-1 ***ESHA Protection Plan:*** *The Applicant shall prepare an ESHA Protection Plan that addresses the steps that will be taken to minimize the projects impacts to ESHA to be included in the HRRP. The plan shall require the following:*

- *Delineate the areas of ESHA within the Project area for each construction permit and identify on plans the square footage of ESHA, and Sensitive Communities, as applicable. The plans shall show the areas of ESHA that will be avoided and any of the areas of ESHA that will be impacted. Any disturbance or removal of ESHA must be approved by the County.*
- *Provide flagging or protective fencing as needed around the sensitive habitat area.*
- *The plan shall address measures to implement if activities require driving through any areas designated as ESHA (including site assessment and soil sampling activities). Measures shall include the Biological Monitor identifying the least disturbing access corridor, cutting vegetation at ground level within the access corridor, the use of mats to drive equipment over to reduce impacts to subsurface roots and topsoil, and the removal of mats in a timely manner.*
- *The Lead Biologist shall monitor all areas where ESHA is to be disturbed or removed. In cases of removal, the plants that can be saved shall be relocated*
- *Prior to each permit completion or final inspection, the Biologist shall quantify the area of ESHA impacted under the permit, and verify that the replacement vegetation is in kind at the ratio(s) specified.*
- *The final ESHA Impact Summary shall be provided to County Planning for review, and incorporated into the HRRP plan for the permit. A running total of ESHA impacted and replaced shall be maintained for the Project.*

The impacted ESHA shall be replaced at a mitigation ratio of 1:1. If the ESHA removed consists of Sensitive communities (e.g., Coastal Dune Scrub and silver dune lupine – mock heather scrub), it shall be replaced at a mitigation ratio of 2:1 consistent with mitigation measure BIO.11-1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of dune scrub communities, or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. An annual summary report of the impacted areas and mitigation acreage requirements, and updated mapping of impacted or removed ESHA within the identified Project ESHA areas shall be submitted to the County as the Project progresses, until Project permits are completed. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.

Submittal**:** *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

Residual Impacts

With the implementation of the mitigation measures, direct impacts to ESHA would be **less than significant with mitigation (Class II).**

State Or Federally Protected Wetlands (Marsh, Vernal Pools, etc.).)

Impact #	Impact Description	Residual Impact
BIO.13	Threshold c): Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Class III

Two NWI-mapped wetlands were noted within the survey area. When examined in the field, the two NWI- mapped wetlands were found to be upland habitats that lacked wetland characteristics and, therefore, were not considered state or federally protected wetlands. Two additional potentially jurisdictional areas PW 1 and PW 2 were mapped in the BSA, but it was concluded that these features do not meet the definition of federal or state waters or wetlands.

PW 1 does not meet the definition of waters of the U.S. because it is an isolated man-made treatment ponds constructed for the purpose of stormwater evaporation. It was also not considered a water of the state because the area retains runoff subject to regulation under a National Pollutant Discharge Elimination System (NPDES) permit (ERM 2023 and SWRCB 2021).

PW 2 does not meet the definition of waters of the U.S. because it is an isolated man-made treatment pond constructed for the purpose of petroleum coke pile cooling and dust suppression runoff collection. PW 2 does not meet the definition of a water of the state because it was mapped as 0.4 acre, is artificial, was not created by modification of a water of the state, is not compensatory mitigation, is not mentioned in a water quality control plan as a water of the state, and has not resulted from historic human activities that are no longer subject to ongoing operation and maintenance (ERM 2023 and SWRCB 2021).

Coastal Act Section 30121 classifies wetlands as sites that are at least periodically covered with water and are within the state and County Coastal Zones. However, CCC regulations at CCR Section 13577(b)(1) further specify that wetlands need to have a water table at, near, or above the land surface. This characteristic is not present at PW 1 or PW 2 because these features are artificially perched and not associated with the water table; these waters rapidly infiltrate when water inputs are not present. Therefore, neither PW 1 nor PW 2 were determined to be jurisdictional as Coastal Zone wetlands. PW 3 is also not a wetland; it does not exhibit wetland characteristics such as wetland hydrology or vegetation, and it lacks water table input.

No state or federally protected wetlands were identified within the Property boundary. Therefore, impacts would be **less than significant (Class III)** on state or federally protected wetlands or waters.

Migratory Wildlife Corridors and Native Wildlife Nursery Sites

Impact #	Impact Description	Residual Impact
BIO.14	Threshold d): Would the Project activities result in temporary impacts on the movement of wildlife species?	Class II

Demolition and remediation activities would occur on developed or previously disturbed lands. No known native wildlife nursery sites or wildlife corridors occur within these areas. Demolition and remediation activities would not interfere with established native resident or migratory wildlife corridors or nursery sites. However, suitable habitat for 16 special-status animal taxa (plus nesting birds and roosting bats) was observed in the Project site. Vegetation clearance and other Project activities would occur in portions of observed suitable habitats, and noise from activities may temporarily deter wildlife from the Project area, resulting in temporary impacts on the movement of wildlife species.

Mitigation Measures

See mitigation measures related to Monarch Butterfly's (BIO.4-1); Western, Crotch, and Obscure Bumble Bees (BIO.5-1); Red-Legged Frogs (BIO.6-1); Lizards (BIO.7-1); Nesting Birds (BIO.8-1); Burrowing Owls (BIO.8-2); Bats (BIO.9-1); and Badgers (BIO.10-1).

Residual Impacts

With the implementation of mitigation measures potential adverse impacts on wildlife corridors would be **less than significant with mitigation (Class II).**

Conflict with Local Policies Or Ordinances

Impact #	Impact Description	Residual Impact
BIO.15	Threshold e): Would the Project conflict with local policies or ordinances, such as the damage and degradation of ESHA?	Class II

Impacts to ESHA are proposed as part of the demolition and remediation plan (Appendix A). Section 23.07.170 (e) of the CZLUO states that "any project which has the potential to cause significant adverse impacts to an ESHA be redesigned or relocated so as to avoid the impact or reduce the impact to a less than significant level where complete avoidance is not possible."

In this case, based on the 'worst-case' scenario of the extent of remediation activities, the Project would impact 26.5 acres of unmapped ESHA. However, these impacts are the result of remediation activities and can be technically considered one of a number of the above listed allowable projects (see Section 4.4.2.3 listing of allowable projects within ESHA per Section 23.07.170 (e)(1)(v) of the CZLUO), including: "resource dependent projects" where the removal of the SMR facility is dependent on the SMR facility location as well as the contaminated soils located at that site for remediation of contaminated soils; and "habitat creation and enhancement" due to the potential damage to ESHA from the remediation phase of the Project and the requirement to create additional ESHA habitat. The allowable project defined as "restoration of damaged habitats" is less applicable as the Project does not proposed changing the site use and is restoring the ESHA

only due to the remediation of contaminated soils and the associated damage to ESHA from that activity.

Because the Project is located within and adjacent (within 100 feet) to unmapped ESHA and could impact this ESHA, the impact to ESHA could be significant unless mitigation measure BIO.12-1 is implemented. These types of impacts are potentially inconsistent with CZLUO's development standards covering ESHA with the applicable of mitigation.

Mitigation Measures

See mitigation measure BIO.12-1.

Residual Impacts

With implementation of mitigation measure BIO.12-1, the Project would be consistent with the CZLUO's development standards for projects within or adjacent to (within 100 feet of the boundary of) ESHA, since the mitigation measure would require minimizing impacts to ESHA to the maximum extent feasible and require the creation and restoration of any area impacted. Therefore, with mitigation measures impacts to ESHA would be **less than significant with mitigation (Class II).**

Protected Trees Within the Coastal Zone

Impact #	Impact Description	Residual Impact
BIO.16	Threshold e): Would the Project directly impact protected trees within the coastal zone (All trees with a diameter of 8 inches or more at 4 feet above grade) per Section 23.05.062 of the CZLUO?	Class II

Under the CZLUO Section 23.05.062, all trees with a diameter of eight inches or more at four feet above grade are protected. There is a grove of planted mature Monterey pine trees in the northern part of the Project site (Figure 4.4-9) and a grove of eucalyptus trees along the southwestern edge (Figure 4.4-4). At least one of the Monterey pine groves overlaps with potential remediation area Disturbed ESHA Area A and there is a small area of overlap with the eucalyptus grove and Disturbed ESHA Area K. Therefore, Project demolition and remediation activities may require the removal of trees. Removal of any of these trees would constitute a significant impact to protected trees within the coastal zone. Mitigation provides for tree avoidance or tree replacement.

Mitigation Measures

BIO.16-1 ***Tree Avoidance and Replacement:*** *The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: All trees with trunks equal to or greater than eight inches in diameter at four feet above grade shall be avoided to the maximum extent practicable. If avoidance is not feasible, the Applicant shall obtain a tree removal permit, as required pursuant to Section 23.05.064 of the CZLUO. Trees removed with trunks equal to or greater than eight inches in diameter at four feet above grade shall be replaced at the County*

standard 4:1 ratio, with in-kind species or a similar, native variety, and success is measured as 75% (three out of four) surviving at least five years.

The location of replacement trees shall either be on site or within the larger property owned by Phillips 66. Compensatory mitigation shall be a condition of the Grading or the Demolition permit that requires tree removal, and the proposed tree replacement species and location shall be identified with the Permit. Prior to the Permit Inspection, the proposed Tree Monitor and a Tree Replacement Monitoring Plan shall be provided to the County for review; the replacement trees shall be planted and verified by the County prior to final Permit signoff. Compensatory mitigation trees shall be caged for protection, provided with temporary irrigation, and monitored on a quarterly basis at minimum. Any required maintenance shall also occur on a quarterly basis, at minimum. Maintenance activities would include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control and would be dictated by the results of the quarterly monitoring effort. Supplemental water shall be provided for no more than three years after planting. Monitoring reports of the quarterly inspections and maintenance shall be prepared and submitted to the County on an annual basis. Tree replacement efforts shall achieve 75 percent success at the end of a five-year growth period (i.e., from planting date of the oldest 3 trees) and require no further maintenance for survival. The annual monitoring report submitted at Year 5 from installation of at least three replacement trees (for each mature tree removed) shall serve as a final completion report denoting success.

***Submittal*:** *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measure, impacts to protected trees would be **less than significant with mitigation (Class II).**

Habitat Conservation Plans

Impact #	Impact Description	Residual Impact
BIO.17	Threshold f): Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	Class III

According to the CDFW, there is no regional conservation plan (habitat conservation plan or natural community conservation plan) adopted within the County (CDFW 2023b). Project activities would not conflict with any approved local, regional, or state habitat conservation plans. Therefore, impacts would be **less than significant (Class III).**

4.4.6 Mitigation Measure Impacts to Other Issue Areas

None of the mitigation measures would produce impacts to other issue areas. Requirements entail mostly surveys and protection of existing areas. Requirements related to revegetation would

require ongoing water use, but water use would remain substantially below historical water use levels and would not produce any impacts (see Section 4.10, Hydrology and Water Quality).

4.4.7 Cumulative Impacts

For the purposes of this cumulative impacts analysis, there are five projects that are located within an approximately five-mile radius to the Project site where there is the potential for impacts related to biological resources to combine with the Project, potentially creating a cumulative impact (see Table 3.1 and Figure 3-1). These projects are:

- Phillips 66 Co. – SMR Site Remediation Project (Northern Inactive Waste Site [NIWS]);
- SMR Off-site Facilities Removal;
- Caballero Battery project;
- Dana Reserve Specific Plan; and
- Monarch Dunes Specific Plan Amendment.

Other projects are listed in Chapter 3.0, however, capping the geographic extent of this analysis at a five-mile radius is appropriate because the biological resources within this area (i.e., the Guadalupe Nipomo Dunes) are highly endemic. Therefore, the impacts from these projects are expected to be similar to those that would occur in and around the SMR Project area. Cumulative impacts could occur if other projects, in conjunction with the Project, would have impacts on biological resources that, when considered together, would be significant without mitigation.

The NIWS SMR Site Remediation Project resulted in impacts to Central Dune Scrub habitat including silver dune lupine – mock heather scrub in habitat areas known to support Nipomo Mesa L~~l~~upine and other CRPR plant species that occur within the SMR Project area boundary. Implementation of this project also included avoidance measures similar to those proposed in Section 4.4.5 above and also included the development and implementation of a Habitat Restoration Plan.

The combination of these projects has the cumulative impact of a temporal loss of habitat and consecutive disturbance events to wildlife through construction activities occurring in relatively close proximity to each other over consecutive years. However, through the demolition and remediation of the SMR plant, there would be a net decrease in the overall disturbance to wildlife in the area as a result of decreased activity from operations. Although there would potentially be a cumulative temporal loss of habitat, there is anticipated to be an overall net increase in the quality of habitat and an expansion of populations of special-status plant species from restoration activity. Restoration activity would also target the reduction of invasive weeds, which are currently decreasing the value of habitat areas for special-status plant and wildlife species.

The removal of the remaining SMR off-site facilities after completion of the Project are not likely to impact similar resources such as Central Dune Scrub habitat, silver dune lupine – mock heather scrub in habitat, or areas known to support Nipomo Mesa ~~lupine~~Lupine or other CRPR plant species and disturb nesting birds, due to their inland locations.

The Dana Reserve Specific Plan would result in a decrease in habitat for special-status plant and wildlife species. Both the Dana Reserve Specific Plan and the SMR Demolition and Remediation Project area contain sandy soils but support very different plant communities. The Dana Reserve Specific Plan area is dominated by oak woodland and forest, burton mesa chaparral, and non-native annual grassland. It does not provide suitable habitat for the Nipomo Mesa ~~lupine~~Lupine or several of the other special-status plant species that are more specifically tied to dune ecosystems. However, it does support a robust population of sand almond, which would be impacted by the proposed development. Implementation of mitigation measures would either protect or salvage existing sand almond bushes on the SMR Project site or replant sand almonds or restore sand almond habitat, such that there would be a net increase in this plant species on site. The Dana Reserve Specific Plan has similar mitigation measures to avoid, salvage and create additional habitat areas for this and similar sandy soil dependent species. Thus, cumulative impacts would be less than significant.

The Dana Reserve Specific Plan area and the SMR Demolition and Remediation Project area also provide suitable habitat for several similar special-status wildlife species, such as monarch butterflies, northern California legless lizard, Blainville's horned lizard, American badger, nesting birds and raptors, and roosting bats. The existing structures on site have been identified as potentially providing suitable nesting habitat for raptors; however, it is not comparable to the amount of suitable nesting habitat provided within the oak woodlands within the Dana Reserve Specific Plan that would be impacted by development. The demolition of the existing infrastructure and removal of mature trees in combination with the significant loss of oak woodland habitat from the Dana Reserve Specific Plan project, could potentially result in a significant cumulative loss of habitat for nesting birds and raptors and roosting bats. Implementation of mitigation measures would reduce Project impacts from the Dana Reserve project area. The Dana Reserve Specific Plan project incorporates similar avoidance and minimization measures, including habitat restoration and preservation; thus, cumulative impacts would be less than significant.

The Monarch Dunes Specific Plan Amendment may result in a net decrease in planned park area and potentially a net decrease in suit roosting habitat for monarch butterflies, nesting birds and raptors. The SMR Demolition and Remediation Project does not propose to remove the grove of eucalyptus trees; therefore, the only direct impacts to monarch butterflies and nesting birds and raptors would be through direct disturbance during demolition and remediation activities. These impacts would be minimized through the implementation of mitigation measures. If mature trees are removed, they would be replaced per mitigation measure. Therefore, the combination of the SMR Demolition and Remediation Project and the Monarch Dunes Specific Plan Amendment is not likely to result in significant cumulative impacts to monarch butterflies and nesting birds and raptors.

In general, impacts caused by the implementation of the Project would be temporary and would be reduced by the implementation of the specified mitigation measures. Moreover, due to the restorative nature of the Project, the long-term impacts on biological resources would ultimately be beneficial. Mitigation measures would result in the net increase in sensitive dune scrub habitat and habitat for special-status plant and wildlife species, including those that may also be impacted by the other projects listed above. Therefore, the anticipated cumulative loss of habitat that the

Project would contribute to would be less than cumulatively considerable and less than significant with mitigation.

4.4.8 References

Arcadis. 2013a. Phillips 66 Botanical Assessment, Santa Maria Refinery Rail Project, San Luis Obispo County, California. June 13, 2013.

Arcadis. 2013b. Phillips 66 Wildlife and Habitat Assessment, Santa Maria Refinery Rail Project, San Luis Obispo County, California. June 17, 2013.

Arcadis. 2013c. Phillips 66 Nesting Burrowing Owl Survey Report, Santa Maria Refinery Rail Project, San Luis Obispo County, California. August 25, 2013.

Arcadis. 2015a. Phillips 66 Sensitive Resources Report – Vegetation, Santa Maria Refinery Rail Project, San Luis Obispo County, California. February 2015; revised March 2015.

Arcadis. 2015b. 2015 Nipomo Lupine (*Lupinus nipomensis*) Survey Results Associated with the Proposed Rail Spur Project; April 2015.

Arcadis. 2019. 2019 Habitat Assessment Addendum – Santa Maria Refinery: Line 300 Pipeline Replacement Project, San Luis Obispo County, California. Prepared for Phillips 66 Pipeline LLC, project number P66300PP.1613. July 2019.

Audubon. 2020. Guide to North American Birds. Available at: https://www.audubon.org/field-guide/bird/peregrine-falcon.

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California. 2nd ed. University of California Press, Berkeley, California.

Brehme, C. S., Hathaway, S. A., Booth, R., Smith, B. H. and Fisher R. N. 2015. *Research Results of American Badgers in Western San Diego County, 2014*. Data Summary prepared for CDFW. San Diego, CA: U.S. Geological Survey.

California Department of Fish and Wildlife (CDFW). 2012. Staff Report on Burrowing Owl Mitigation State of California Natural Resources Agency Department of Fish and Game, March 7, 2012.

CDFW. 2016. California Wildlife Habitat Relationships. California Department of Fish and Wildlife, California Interagency Wildlife Task Group. CWHR version 9.0 personal computer program. Sacramento, CA.

CDFW. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. State of California Natural Resources Agency, Department of Fish and Wildlife. March 20.

CDFW. 2023a. Special Animals List, periodic publication. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline. Last updated April 2023. Accessed June 2023.

CDFW. 2023b. California Sensitive Natural Communities. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline. Last updated June 1, 2023. Accessed June 2023.

CDFW. 2023c. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. June 6, 2023. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=213150&inline. Accessed August 2023.

CDFW. 2023d. Letter from CDFW to the County of San Luis Obispo in response to the Notice or Preparation for the SMR Demolition and Remediation Project: (NOP) C-DRC2022-00048 Phillips 66 Santa Maria Refinery Demolition & Remediation Project SCH: 2023050020. Dated June 26, 2023.

California Invasive Plant Council (Cal-IPC). 2023. California Invasive Plant Inventory Database. Available at: https://www.cal-ipc.org/plants/inventory/. Accessed June 2023.

California Native Plant Society (CNPS). 2001. CNPS Botanical Survey Guidelines. California Native Plant Society. December 9, 1983, revised June 2, 2001. Available: https://cnps.org/wp-content/uploads/2018/03/cnps_survey_guidelines.pdf. Accessed February 19, 2024.

CNPS. 2023a. Inventory of Rare, Threatened, and Endangered Plants of California. Available at: http://www.rareplants.cnps.org/. Accessed June 2023.

CNPS. 2023b. A Manual of California Vegetation Online Edition. California Native Plant Society, Sacramento, CA. Available at: https://vegetation.cnps.org/. Accessed June 2023.

California Natural Diversity Database (CNDDB). 2023. RareFind Species List for Oceano, Guadalupe, Nipomo, Tar Spring Ridge, Pismo Beach, Arroyo Grande NE, Point Sal, and Santa Maria U.S. Geological Survey 7.5-Minute Quadrangles. Available at: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed May and June 2023.

Cornell Lab of Ornithology. 2023. All About Birds. Cornell Lab of Ornithology, Ithaca, New York. Available at: https://www.allaboutbirds.org/.

County of San Luis Obispo (County). 2022. Title 23 of the County Code, CZLUO, Local Coastal Program Available at: https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT23COZOLAUS.

County. 2023. ESHA GIS Data. Available at: https://opendata.slocounty.ca.gov/. Accessed June 2023.

Ehrlich, P.R., D.S. Dobkin, and D. White. 1988. The Birders Handbook: A Field Guide to the Natural History of North American Birds. Simon & Schuster Inc. 785 p.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January. Available at: https://www.nae.usace.army.mil/Portals/74/docs/regulatory/JurisdictionalLimits/wlman87.pdf.

ERM-West, Inc. (ERM). 2023. Biological Resources Technical Report: Santa Maria Refinery Demolition and Remediation Project. ERM Project No.: 0611383. Prepared for Phillips 66. October 28, 2022, revised February 15, 2023.

ERM-West, Inc. (ERM). 2024. Rare Plant Survey Data 2022 and 2024. Data provided June 17, 2024.

Goulson, D. 2010. *Bumblebees: behavior, ecology, and conservation.* Oxford University Press.

Hall, E.R. 1981. *The Mammals of North America*. 2 vols. New York, New York: John Wiley and Sons.

Hermanson, J.W., and T.J. O'Shea. 1983. *Antrozous pallidus*. *Mammalian Species* 213:1–8.

Holland, R. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=75893&inline. Accessed June 2023.

Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. S. Zimmerman. 2003. Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, D.C.

Kuhnz, L.A., R.K. Burton, P.N. Slattery, and J.M. Oakden. 2005. Microhabitats and Population Densities of California Legless Lizards, with Comments on Effectiveness of Various Techniques for Estimating Numbers of Fossorial Reptiles. Journal of Herpetology 39:395–402.

Nafis, G. 2020. California Herps - A Guide to the Amphibians and Reptiles of California. Available at: http://www.californiaherps.com/.

Oceano Dunes State Vehicular Recreation Area (ODSVRA). 2024. ODSVRA Rare Plant Survey Data 2020-2024 and the Land Conservancy of San Luis Obispo County Survey Data 2017 - 2020. Data Provided June 13, 2024.

Osborne, J. L., A. P. Martin, C. R. Shortall, A. D., Todd, D. Goulson, M. E. Knight, R. J. Hale, and R. A. Sanderson. 2008. Quantifying and comparing bumble bee nest densities in gardens and countryside habitats. Journal of Applied Ecology 45:784-792.

Piaggio, A.J., K.W. Navoy, and C.W. Stihlerz. 2009. Intraspecific Comparison of Population Structure, Genetic Diversity, and Dispersal among Three Subspecies of Townsend's Big-Eared Bats, *Corynorhinus townsendii townsendii*, *C. t. pallescens,* and the Endangered *C. t. virginianus*. *Conservation Genetics* 10:143–159.

Pierson, E.D., P. Collins, W. Rainey, P. Heady, and C. Corben. 2002. *Distribution, Status, and Habitat Associations of Bat Species on Vandenberg Air Force Base, Santa Barbara County, California*. Santa Barbara Museum of Natural History Technical Reports No. 1. 135 pp.

Pierson, E.D., W.E. Rainey, and C.C. Corben. 2006. *Distribution and Status of Red Bats (Lasiurus blossevillii) in California*. California Department of Fish and Game, Habitat

Conservation Planning Branch, Species Conservation and Recovery Program Report 2006-04, Sacramento, California.

Sawyer, John O. Keeler-Wolf, Todd. Evens, Julie M. 2009. A Manual of California vegetation. Second Edition. California Native Plant Society, Sacramento, California, USA. 1,300 pages. ISBN 978-0-943460-49-9.

Shuford, W.D. and T. Gardali, eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds No. I. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. Available at: https://wildlife.ca.gov/Conservation/SSC/Birds#book.

State Water Resources Control Board (SWRCB). 2021. State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Revised April 6, 2021.

Stokes, Donald W. and Lillian Q. Stokes. 1996. Field Guide to Birds: Western Region 1st Ed. Little, Brown and Company, New York. 519 P.

Thorp, R. W., S. Jepsen, S. F. Jordan, E. Evans, and S. H. Black. 2010. Petition to list Franklin's bumble bee as an Endangered Species under the U.S. Endangered Species Act, Submitted by The Xerces Society for Invertebrate Conservation. Available at: https://www.xerces.org/publications/policy-statements/petition-to-list-franklins-bumble-bee-under-esa-2010.

U.S. Department of Agriculture (USDA). 1984. Soil Survey of San Luis Obispo County, California, Coastal Part. Available at: https://books.google.com/books?hl=en&lr=&id=qRPVNHYu82UC&oi=fnd&pg=PP7&ots=Ns09j3loiI&sig=pLuu-vLnL1yfmUCWf7sQ4ESLW10#v=onepage&q&f=false. Accessed June 2023.

USFWS. 2020. Nipomo Mesa ~~lupine~~Lupine (*Lupinus nipomensis*) Species Report. U.S. Fish and Wildlife Service, Ventura Field Office. Ventura, California. Available at: https://ecos.fws.gov/docs/recovery_plan/Nipomo%20lupine%20Species%20Report.pdf.

USFWS. 2021. Recovery Plan for Nipomo Mesa ~~lupine~~Lupine (*Lupinus nipomensis*). U.S. Fish and Wildlife Service, Pacific Southwest Region. Ventura, California. Available at: https://ecos.fws.gov/docs/recovery_plan/Nipomo%20Lupine%20Recovery%20Plan.pdf.

USFWS. 2023a. Information for Planning and Consultation (IPaC) Resource List (Not for Consultation). Available at: http://ecos.fws.gov/ipac/. Accessed June 2023.

USFWS. 2023b. National Wetlands Inventory: Surface Waters and Wetlands Mapper. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed June 2023.

USFWS. 2023c. Comments on the Notice of Preparation and Notice of Scoping Meeting for the Phillips 66 Santa Maria Refinery Demolition and Remediation Project ED23-054/C-DRC2022-00048. Reference Number: 08EVEN00-2023-0082377. June 16, 2023.

USFWS. 2023d. Bald and Golden Eagle Protection Act. Available at: https://www.fws.gov/law/bald-and-golden-eagle-protection-act.

U.S. Geologic Survey (USGS). 2023. National Hydrography Dataset. Available at: https://www.usgs.gov/national-hydrography/national-hydrography-dataset. Accessed June 2023.

Western Regional Climate Center (WRCC). 2023. Historic records, Pismo Beach: 1949-2016. Available at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6943. Accessed June 2023.

Williams, P. H., R. W. Thorp, L. L. Richardson, and S. R. Colla. 2014. The Bumble bees of North America: An Identification guide. Princeton University Press, Princeton.

Xerces Society for Invertebrate Conservation, Defenders of Wildlife, and Center for Food Safety. 2018. A Petition to the State of California Fish and Game Commission to List: the Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*). October 2018. Available at: https://xerces.org/sites/default/files/2019-10/CESA-petition-Bombus-Oct2018.pdf. Accessed February 2024.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988–1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.