Biological Assessment of Castle & Cook Pacific Clay Mine Site in Riverside County, California

Pacific Clay Mine Site APN #s: 389-020-032, 390-130-020, 390-130-021, 390-160-001, 390-190-011, 390-190-012, 391-170-005, 391-170-007, 391-200-004, 391-200-007, 391-200-012, 391-230-002, 391-230-003, 391-230-004, 391-230-005, 391-230-009, 391-230-010, 391-240-001, & 391-800-011

1,374-Acres Surveyed

Report Developed For:
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Survey Dates
GLA Survey dates: March 31, April 10 & 30, May 14 & 15, June 3, 2008
TPA Survey dates: May 29 & 30, June 30, July 8

Report Date
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ACRONYMS

BLM	Bureau of Land Management
CCAR	Castle & Cooke Alberhill Ranch
CFGC	California Fish and Game Code
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CH	ESA Critical Habitat for FES
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSC	California Special Concern Species
CWA	Clean Water Act
FESA	Federal Endangered Species Act
EPD	Environmental Programs Department
FES	Listed Endangered Species under the ESA
FSC	Federal Species of Concern
FT	Federally Listed Threatened
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NEPSS	Narrow Endemic Plant Species Survey
SCE	Southern California Edison
SE	State Listed as Endangered
ST	State Listed as Threatened
T & E	Threatened & Endangered
TPA	The Planning Associates
CORPS	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

EXECUTIVE SUMMARY

Castle & Cook Alberhill Ranch (CCAR) requested The Planning Associates (TPA) to conduct a biological resources assessment for active 1,374 acre Pacific Clay Mine Site. Focused surveys for special status plant species were conducted and the presence of special status wildlife species or habitats capable of supporting special status species were assessed. Surveys included evaluation of habitat subject to the jurisdiction of the U.S. Army Corps of Engineers (CORPS) pursuant to Section 404 of the Clean Water Act and the California Department of Fish and Game (CDFG) pursuant to Section 1602 of the California Fish and Game Code (CFGC).

Two special-status plant species were observed during reconnaissance and focused surveys of the Site. These species include Parry's spineflower (*Chorizanthe parryi* var *parry*i: CNPS List 3.2) and Coulter's matilija poppy (*Romneya coulteri*: CNPS List 4). Neither of these two species is state or federally listed as a threatened or endangered species.

Three California Species of Special Concern were observed during site reconnaissance; the California horned lark, coast (San Diego) horned lizard, and the orange-throated whiptail. None of these species are state or federally listed as a threatened or endangered.

The western spadefoot toad (*Spea hammondii*) is a CDFG California Species of Special Concern and has potential for occurrence in temporary water ponding on the Site. A study in 2006 (SCE 2006) documents the on Site occurrence of the western spadefoot toad albeit in an area subject to mine development and increased mine traffic. This species is not state or federally listed as a threatened or endangered.

No federal or state threatened or endangered species were observed during the Site reconnaissance. The project site is not within any federally listed endangered species critical habitat.

Premised on the observational results of this Site study, the following recommendations are suggested to adequately identify biological resources to comport with the California Environmental Quality (CEQA) and the Federal Endangered Species Act (FESA).

Western Burrowing Owl Survey—The Project Site has the potential to support the western burrowing owl. It is recommend that Protocol level nesting season surveys pursuant to the Burrowing Owl Survey Protocol and Mitigation Guidelines prepared by the California Burrowing Owl Consortium be conducted to confirm the presence or absence of this species on site. The nesting survey season is February 1 through August 31, with peak nesting occurring from April 15 through July 15.

Coastal California Gnatcatcher Survey—The Project Site has the potential habitat to support the federal ESA listed threatened coastal California gnatcatcher (CAGN) although no CAGN were identified on Site. Any impacts to occupied habitat must occur outside of the breeding season, March 1 through August 31. Therefore, focused CAGN surveys pursuant to the USFWS CAGN Presence / Absence Survey Guidelines (February 28, 1997) are recommended to determine the presence / absence of CAGN on Site.
Least Bells Vireo Survey—The Project site has the potential to support the federally and state-listed endangered least Bell's Vireo (LBV) although no LBV were identified on Site. Protocol level surveys for LBV will be required to confirm the presence or absence of this species on the Site. The USFWS guidelines stipulate during the breeding season, eight surveys are to be conducted in all areas of suitable habitat with at least 10 days between Site visit.

Southwestern Willow Flycatcher Survey—The southern coast live oak riparian forest located in the northwestern corner of the Site has the potential to support the state and federal listed endangered southwestern willow flycatcher (SWF) although no SWF were identified on Site. Protocol surveys for SWF are required to confirm the presence or absence of this species on Site. The USFWS guidelines require five surveys conducted during the breeding season (May, June, and July) within suitable habitat.

Fairy Shrimp Survey—Due to the presence of numerous seasonal pools located on Site, protocol level wet season surveys should be conducted to determine if the pools support any state or federally listed fairy shrimp. To comport with CEQA, a presence / absence survey following USFWS protocol is required for the seasonal pool depressions to determine occurrence of listed fairy shrimp to include: the vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), and the Riverside fairy shrimp (*Streptocephalus woottoni*). A complete USFWS protocol survey to determine absence consists of either a wet-season survey followed by a dry-season survey or vice versa), or two wet-season surveys conducted during a five-year period pursuant to the USFWS' Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.

Stephens' Kangaroo Rat Fee—The Site is located in the Stephens' kangaroo rat (SKR) Fee Assessment Area (Riverside County Ordinance 663.10). In accordance with Riverside County Ordinance 663.10, a SKR mitigation fee payment of $500.00 per developed acre is required.

Vegetation Mapping—Project level mapping of the vegetation communities on site is required in order to comply with CEQA.

Native Trees—Several native coast live oak trees are located on Site, most notable in the northwest corner of the Site. The County of Riverside has a tree ordinance and requires a tree removal permit to remove native oak trees.

Jurisdictional Delineation—Potential CORPS and CDFG jurisdictional occur within the Project Site. It is recommended that a formal delineation be conducted to determine the limits of:

(1) CORPS jurisdiction pursuant to Section 404 of the Clean Water Act; and

(2) CDFG jurisdiction pursuant Division 2, Chapter 6, Section 1600 of the Fish and Game Code.

It is recommended:

(1) Future vegetation removal associated with development of the property be conducted outside of the Migratory Bird Treaty Act breeding season (February 15 to August 31); or

(2) A qualified biologist conduct a nesting bird survey within three days of proposed grading or land disturbance within the nesting season in order to prevent any potential violation of the Migratory Bird Treat Act.

Adapted from USGS Alberhill quadrangle

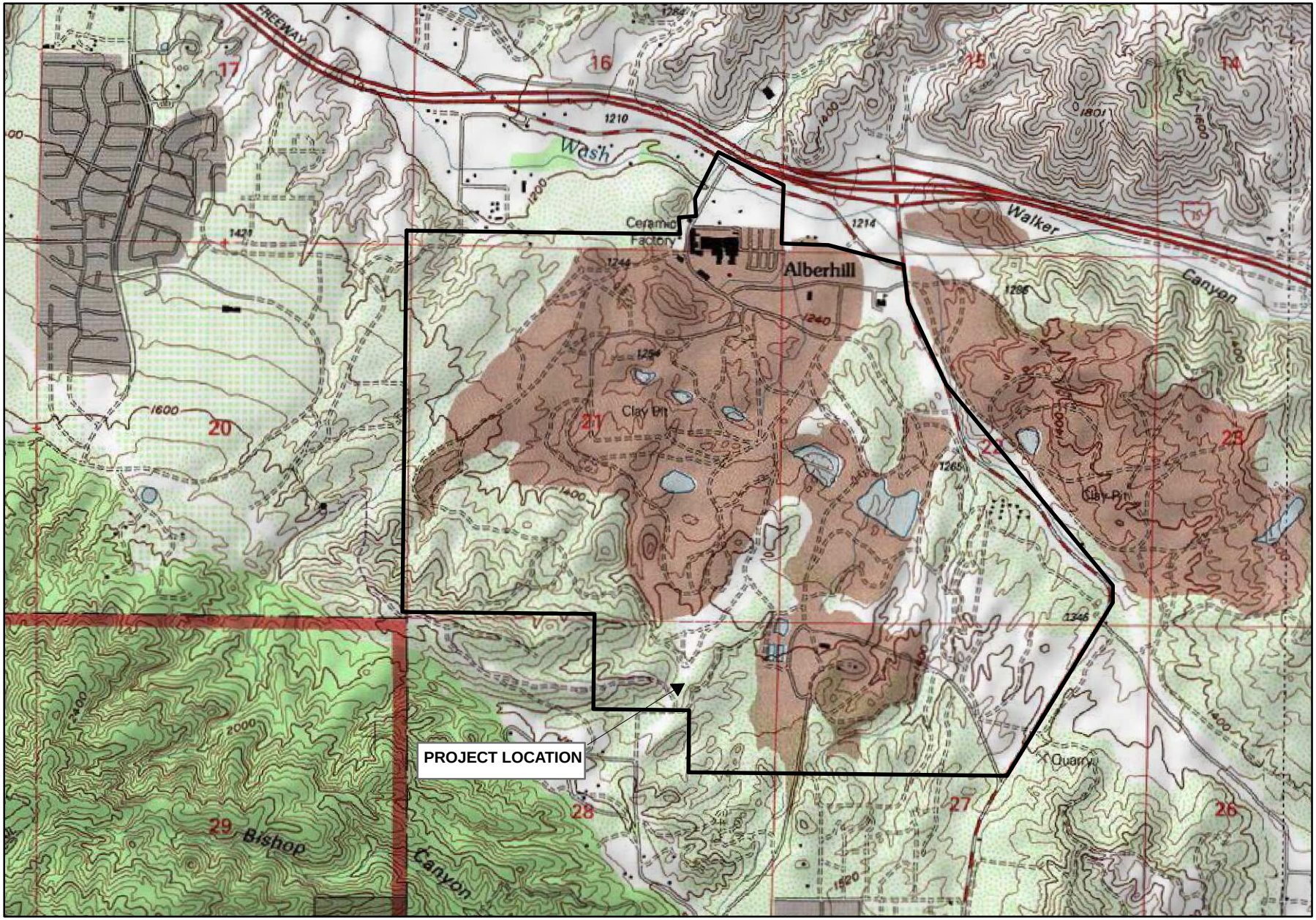
PACIFIC CLAY

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Adapted from USGS Alberhill quadrangle



NORTH

0 1,000 2,000 3,000

FEET

PACIFIC CLAY

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Biological Assessment of Castle & Cooke Pacific Clay Mine Site In Riverside County, California

1.0 Introduction

Glen Lukos Associates, Inc. (GLA) were contracted by The Planning Associates (TPA) to assist Dr. Jack Turner, Senior Projects Biologist (TPA) to perform a Phase I Biological Assessment on the 1,374 acre Pacific Clay Mine site (hereafter referenced as "the Site" or "the Project"). Focused surveys for special status plant species were conducted and the presence of special status wildlife species or habitats capable of supporting special status species were assessed. Additionally, areas were identified that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (CORPS) pursuant to Section 404 of the Clean Water Act and the California Department of Fish and Game (CDFG) pursuant to Section 1602 of the California Fish and Game Code.

2.0 Site Description

The 1,374-acre Pacific Clay Mine Site (Project) is located in Lake Elsinore, Riverside County, California (Exhibit 1). The Site is generally located south of Temescal Canyon road and Interstate 15, west of Lake Street, north of Running Deer road and existing residential development, and east of the Horsethief Canyon Residential Development. The Project contains an active mining operation within the central portion of the property and the remaining undeveloped area is dominated by chaparral, coastal sage scrub and annual grasslands dominated by aggressive exotic species (Exhibit 2). A total of 433 acres of the 1,374 acres has been previously disturbed by significant mining over the past 100 years. 941 acres remain either undisturbed or disturbed with minor grading activities.

Three blue-line drainages occur on site as depicted on the U.S. Geological 7.5 minute Elsinore, California topographic quadrangle, dated 1954 and photorevised in 1988. Although shown on the USGS map, only one "blue line" drainage, Temescal Creek along the I-15 freeway, remains relatively undisturbed from mining. Adjoining land uses include rural development south of Interstate 15 (I-15) and undeveloped land north of I-15, residential development and mining facilities to the east, residential development and undeveloped land to the south and west. The mine site is high disturbed and differs from

the topography described by the USGS quad. The Site is defined by the following Riverside County Assessor Parcel Numbers (APN):

389-020-032	390-190-012	391-200-012	391-230-009
390-130-020	391-170-005	391-230-002	391-230-010
390-130-021	391-170-007	391-230-003	391-240-001
390-160-001	391-200-004	391-230-004	391-800-011
390-190-011	391-200-007	391-230-005	

2.1 Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Exclusion

The Site is excluded from MSHCP jurisdiction and application as per a legal settlement agreement between Castle & Cooke and the County of Riverside. The property remains the subject of Section 10a of the federal Endangered Species Act covered by the Biological Opinion prepared for the 10a permit process of the MSHCP by the United States Fish and Wildlife Service.

3.0 Methodology

3.1 Focused Special Status Plant Survey

Prior to conducting the survey, a site-specific survey program was designed to accurately document the botanical resources within the Site and consisted of five components:

(1) Complete a literature search;
(2) Prepare a list of target special-status plant species that could occur on the site;
(3) Implement the focused surveys for special-status plants;
(4) Prepare a map depicting the location of special status plant specie observed on site, and
(5) Prepare a detailed compendium of all plant species observed on site during the survey.

3.2 Literature Review

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources include the following:

(1) California Native Plant Society Inventory of Rare and Endangered Plants of California, (6th edition). Rare Plant Advisory Committee. David Tibor,

Convening Editor. California Native Plant Society. Sacramento, C +388 pp; (CNPS 2001).

(2) California Natural Diversity Data Base (CNDDB) for the USGS 7.5' quadrangle; Alberhill, Lake Mathes, Steele Peak, Lake Elsinore, Wildomar, Sitton Peak, Canada Gobernadora, Santiago Peak, and Corona South quadrangels (CNDDB 2008);

(3) Final Biotechnical Report for the Valley–Ivyglen Transmission Line Project, Riverside County, CA. Volume I & II. Southern California Edison, October 2006, and

(3) MSHCP Document; Section 6.1.2, 6.1.3, and 6.3; Table 9.3 (County of Riverside 2003).

Although the Site is not constrained by MSHCP jurisdiction, the MSCHP was consulted in order to predict occurrences of plants and habitats of special concern are know to occur within the vicinity of the Site. The MSHCP is known from other nearby Lake Elsinore areas biological peer review to be significantly in error in reporting on area habitat. (MCA LEAP 2007). Other sources used to develop a list of target species for the survey program included the CNPS inventory (CNPS 2001). Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Site were developed and incorporated into a mapping and survey program to achieve the following goals:

(1) Prepare a detailed floristic compendium;

(2) Implement general reconnaissance field work and focused surveys to document the distribution and abundance of the rare, endangered, and sensitive plant species within the Site; and

(3) Prepare biological resource maps showing the distribution of the sensitive botanical resources associated within the Site.

3.3 Focused Special Status Plant Surveys

Focused surveys were conducted for the Site to determine the presence / absence of special status plants. Within the Site, biologists traversed each of the target habitats on foot to provide adequate coverage for surveys. All plant species encountered during the field surveys were identified and recorded following the guidelines adopted by CNPS (2001) and CDFG by Nelson (1984). A complete list of the plant specie observed is provided in Appendix A. Scientific nomenclature and common names used in this report

follow Hickman (1993), Munz (1974), and Roberts et al. (2004). Exhibit 3: [Biological Resources Map] provides locations of special-status plants observed with the Site.

A list of special-status plants evaluated for the Site through habitat assessments and focused surveys were suitable habitat is present is presented in Table 1. Species were evaluated based on a several factors including:

(1) Species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Site;

(2) Species identified by the CNPS as occurring (either currently or historically) on or in the vicinity of the Site;

(3) Any other special-status plants that are known to occur within the vicinity of the Site or for which suitable habitat exists on the Site; and

(4) Species identified on Site in the final biotechnical report for the Valley–Ivyglen Transmission Line project (2006).

3.4 Constraints Analysis

During the focused special status plant survey, biologists evaluated the Site for actual or potential presence of special-status or habitats capable of supporting special-status species. Site reconnaissance was conduced in such a manner as to allow inspection of the entire site by direct observation, including the use of binoculars. The site was inspected to determine whether any sensitive species, sensitive habitats, or potential CORPS and CDFG jurisdictional areas are present on Site.

In addition to site reconnaissance, evaluation of the property include a review of the CNDDB listings for the Alberhill, Lake Mathews, Steele Peak, Lake Elsinore, Wildomar, Sitton Peak, Canada Gobernadora, Santiago Peak, and Corona South Quadrangles, a review of the 2001 California Native Plant Society (CNPS) inventory, and a review of the NRCS soils map for the Site.

Since focused special-status plant survey includes an evaluation of each plant species with the potential to occur on Site, only the special status wildlife species with potential to occur on state are reviewed in the constrains analysis portion of this report.

4.0 RESULTS

4.1 Focused Special Status Plant Survey

Two special-status plant species were observed during reconnaissance and focused surveys of the Site. These species include Parry's spineflower (*Chorizanthe parryi* var *parry*i: CNPS List 3.2) and Coulter's matilija poppy (*Romneya coulteri*: CNPS List 4). Locations of these special status plant species are depicted in Exhibit 3: [Biological Resources Map]. These special-status species are discussed in detail below.

Parry's Spineflower

Parry's spineflower is an annual herb in the buckwheat family designated as a CNPS Lis 3.2 species. This species is known from Los Angeles, Riverside, and San Bernardino. Parry's spineflower is a small often overlooked plant that occurs in a variety of habitats including chaparral and coastal scrub. This species is associated with dry, rocky (sometimes sandy) soils from 40-1,705 meters (100-5,700 feet). Parry's spineflower sets blossom between April and June. This plant is not state or federally listed as threatened or endangered.

Parry's spineflower was observed in several locations on the Site. All occurrences were associated with dry rocky soils on ridges or ridge-like features. The locations and estimated number of this plant are detailed in Exhibit 3.

Coulter's matilija poppy

Coulter's matilija poppy is a perennial in the poppy family designated as a CNPS List 4 species. The species is know from the eastern slopes of the Santa Ana Mountains in Los Angeles, Orange, San Diego, and Riverside Counties in Southern California. This species is known to occur in dry rocky drainages, washes, and canyons, disturbed sage scrub and chaparral below 1,200 meters (3,940 feet) in elevation. This plant is known to be a fire follower and flowers from May through July. Coulter's matilija poppy occurs throughout the Site especially in the northwestern portion of the site adjacent to the drainage and in areas that have burned in the past. Locations of Coulter's matilija poppy are depicted in Exhibit 3. This plant is not state or federally listed as threatened or endangered.

A summary of all plants considered for the focused special status plant survey and constrains analysis is presented in Table 1. Species were considered for inclusion based on the following factors:

(1) Species identified by the March 2008 CNDDB as occurring (currently or historically) or in the vicinity of the Site; or

(2) Any other special-status species that are known to occur within the vicinity of the Site or for which potentially suitable habitat exists on Site.

Table 1. Special –status plants considered for focused special-status plant survey.

Species	Status	Habitat	Occurrence On Site
Bottle liverwort *Sphaerocarpos drewei*	Federal: None State: None CNPS: List 1B.1	Chaparral and coastal scrub openings. Known to occur from 90-600 meters (300-2,000 feet) MSL. Active following rains.	Low to moderate potential to occur on site, not observed during focused surveys.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: List 1B.1	Vernal pools. Known to occur below 660 meters (2,200 feet) MSL. Identifiable April – July.	Low potential to occur on site, not observed during focused surveys.
California satintail *Imperata brevifolia*	Federal: None State: None CNPS: List 2.1	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub (mesic). Flowers Sept. – May.	Low potential to occur on site, not observed during focused surveys.
California screw-moss *Tortula californica*	Federal: None State: None CNPS: List 1B.2	Sandy soils in chenopod scrub and valley and foothill grassland. Known to occur from 10-1,450 meters (30-4,800 feet) MSL. Active following rains.	Not expected to occur on site due to a lack of suitable habitat, not observed during focused surveys.
Campbell's liverwort *Geothallus tuberosus*	Federal: None State: None CNPS: List 1B.1	Coastal scrub (mesic) and vernal pools. Active following rains.	Low to moderate potential to occur on site, not observed during focused surveys.
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: List 1B.1	Sandy soils in Chaparral and coastal scrub. Active Jan – August.	Low potential to occur on site, not observed during focused surveys.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: List 1B.1	Marshes, playas, and vernal pools; usually alkaline soils. Blooms March – June.	Low potential to occur on site, not observed during focused surveys.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: List 4.2	Sage scrub and chaparral in rocky habitat; fire-follower.Blooms late Spring to Early Fall.	Observed on site
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: List 1B.2	Alkaline soils in coastal bluff scrub and coastal scrub. Known from 10-200 meters (30-700 feet) MSL. Active April – Oct.	Not expected to occur on site due to a lack of suitable habitat, not observed during focused surveys.

Species	Status	Habitat	Occurrence On Site
Hall's monardella *Monerdella macrantha* ssp. *hallii*	Federal: None State: None CNPS: List 1B.3	Openings of Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Usually on dry slopes and ridges. Active June – August	Low potential to occur on site, not observed during focused surveys.
Hammitt's clay-cress *Sibaropsis hammittii*	Federal: None State: None CNPS: List 1B.2	Chaparral and valley and foothill grassland. Associated with clay soils. Known from 700-1,065 meters (2,300 -3,500) MSL. Active March – April.	Low potential to occur on site, not observed during focused surveys.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CNPS: List 1B.2	Closed-cone coniferous forest, chaparral, and cismontane woodland. Known from 550-1,370 meters (1,800 -4,500 feet) MSL. Active April – July.	Low potential to occur on site, not observed during focused surveys
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal scrub, and valley and foothill grassland. Known from 180-850 meters (600-2,800 feet). Active June – July.	Low potential to occur on site, not observed during focused surveys.
Lemon lily *Lilium parryi*	Federal: None State: None CNPS: List 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest. Known from 1,300-2,800 meters (4,300-9,200 feet) MSL. Active July – August.	Low potential to occur on site, not observed during focused surveys.
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CNPS: List 3.1	Valley and foothill grassland and vernal pools with alkaline soils. Known from 20 to 640 meters (70- 2,100 feet) MSL. Active March – June.	Not expected to occur on site due to a lack of suitable habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal scrub, meadows, seeps, and valley and foothill grassland. Known from 30-1,450 meters (100-4,800 feet) MSL. Active April – July.	Low to moderate potential to occur on site, not observed during focused surveys.
Many-stemmed dudleya *Dudleya multicaulus*	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal scrub, and valley and foothill grassland. Often on clay soils or granitic outcrops. Known from below 800 meters (2,600 feet). Active May – July.	Low to moderate potential to occur on site, not observed during focused surveys.

Species	Status	Habitat	Occurrence On Site
Mesa horkelia *Horkelia cuneata* ssp. *puberula*	Federal: None State: None CNPS: List 1B.1	Sandy or gravelly soils in chaparral and coastal scrub. Known from 70 to 825 meters (200-2,700 feet) MSL. Active Feb. – Sept.	Not expected to occur on site. Known from few locations in Riverside County, not observed during focused surveys.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: List 1B.1	Clay soils supporting chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, and valley and foothill grassland. Known from 300-1,070 meters (1,000- 3,500 feet) MSL. Active March – May.	Low to moderate potential to occur on site, not observed during focused surveys.
Orcutt's brodiaea *Brodiaea orcuttii*	Federal: None State: None CNPS: List 1B.1	Clay and serpentine soils supporting grasslands or vernal pools, meadows, seeps, closed-cone coniferous forest. Known from below 1,600 meters (5,300 feet) MSL. Active May – July.	Low potential to occur on site, not observed during focused surveys.
Parish's meadowfoam *Limnanthes gracilis* ssp. *parishii*	Federal: None State: SE CNPS: List 1B.2	Lower montane coniferous forest, meadows and seeps, and vernal pools. Known from 550-2,000 meters (1,800-6,600 feet) MSL. Active April – June.	Low potential to occur on site, not observed during focused surveys.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: List 1B.1	Dry sometimes sandy soils in chaparral and coastal scrub. Known from 40-1,750 meters (100-5,700 feet) MSL. Active April – June.	Observed on site.
Parry's tetracoccus *Tetracoccus dioicus*	Federal: None State: None CNPS: List 1B.2	Dry rocky slopes in chaparral and coastal scrub. Known from 160-1,000 meters (500-3,300 feet) MSL. Active year-round.	Low potential to occur on site, not observed during focused surveys.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: List 1B.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Known from 100-1,700 meters (300-5,600 feet) MSL. Blooms May – July.	Low potential to occur on site, not observed during focused surveys.
Prostrate navarretia *Navarretia prostrata*	Federal: None State: None CNPS: List 1B.1	Vernal pools in coastal scrub and alkaline valley and foothill grassland. Known from 15-700 meters (50-2,300 feet) MSL. Blooms May – July.	Low potential to occur on site, not observed during focused surveys.

Species	Status	Habitat	Occurrence On Site
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CNPS: List 1B.1	Gabbro Chaparral. Known from 210- 800 meters (700-2,600 feet) MSL. Active year-round.	Not expected to occur on site, out of known range of species.
Rayless ragwort *Senecio aphanactis*	Federal: None State: None CNPS: List 2.2	Drying alkaline flats in chaparral, cismontane woodland, and coastal scrub. Known from 15-575 meters (50-1,900 feet) MSL. Active Jan. – April.	Not expected to occur due to a lack of suitable habitat.
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: List 1B.2	Dry soils in chaparral and coastal scrub. Known from below 500 meters (1,600 feet) MSL. Active Jan. – July.	Moderate potential to occur on site. Not observed during focused surveys.
Round-leaved filaree *Erodium macrophylla*	Federal: None State: None CNPS: List 1B.1	Clay soils supporting cismontane woodland and valley and foothill grassland. Known from 15-1,200 meters (50-3,900 feet) MSL. Active March – May.	Low potential to occur on site, not observed during focused surveys
Salt spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: List 2.2	Alkaline seeps, springs, and marshes. Known from below 1,500 meters (5,000 feet) MSL. Blooms March – June.	Not expected to occur due to a lack of suitable habitat.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: List 1B.2	Vernally moist sites; ie ditches, seeps, streams, in a variety of plant communities. Known from below 2,050 meters (6,700 feet) MSL. Blooms July – November.	Low to moderate potential to occur on site, not observed during focused surveys.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: List 1B.1	Open areas with coarse substrates near drainages or upland clay slopes, or the dry margins of vernal pools. Known from 20-420 meters (70-1,400 feet) MSL.	Low potential to occur, not observed during focused surveys.
San Diego button-celery *Erngium aristulatum* var. *parishii*	Federal: FE State: SE CNPS: List 1B.1	Vernal pools in coastal scrub, valley and foothill grassland. Known from 15-620 meters (50-2,000 feet) MSL. Blooms April – June.	Low potential to occur, not observed during focused surveys.
San Jacinto valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CNPS: List 1B.1	Playas, chenopod scrub, valley and foothill grassland (mesic), and vernal pools in the San Jacinto River Valley. Known from 370-520 meters (1,200-1,700 feet) MSL. Active April – August.	Not expected to occur on site due to a lack of suitable habitat. Out of known range of species.
San Miguel savory *Satureja chandleri*	Federal: None State: None CNPS: List 1B.1	Rocky areas in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Known from 110-1,210 meters (400-4, 000 feet) MSL. Active March – July.	Low potential to occur on site, not observed during focused plant surveys.

Species	Status	Habitat	Occurrence On Site
Santa Monica Mountains dudleya *Dudleya cymosa* ssp. *ovatifolia*	Federal: FT State: None CNPS: List 1B.2	Cracks and crevices of north facing rock outcrops and cliff faces in canyons, associated with chaparral and coastal scrub. Known from 150-1,700 meters (500-5,500 feet) MSL. Blooms March – June.	Not expected to occur on site, out of known range of species, not observed during focused surveys.
Santiago Peak phacelia *Phacelia suaveolens* ssp. *keckii*	Federal: None State: None CNPS: List 1B.3	Closed cone coniferous forest and chaparral. Known from 550-1,600 meters (1,800-5,200 feet) MSL. Blooms May – June.	Not expected to occur on site, Known from high elevations in the Santa Ana Mountians in Riverside Co., not observed during focused surveys.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: List 1B.1	Mature undisturbed floodplain terraces and benches with overbank deposits every 50-100 years from large washes and rivers. Known from 200-770 meters (600-2,500 feet) MSL. Blooms April – June.	Low potential to occur on site, not observed during focused surveys.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: List 1B.1	Alkaline areas in chenopod scrub, meadows and seeps, ditches, playas, riparian woodland, and valley and foothill grassland. Known from below 480 meters (1,600 feet) MSL. Active April – Sept.	Not expected to occur on site due to a lack of suitable habitat.
Southern skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CNPS: List 1B.2	Streambanks, or mesic areas in chaparral, and oak or pine woodland. Known from 435-2,000 meters (1,400 -6,600 feet) MSL. Blooms June – August.	Not expected to occur on site due to a lack of suitable habitat.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CNPS: List 1B.1	Margins of marshes, swamps, and vernal pools, or disturbed sites near the coast. Known from below 500 meters (1,500 feet) MSL. Active May – November	Not expected to occur on site, out of known range of species, not observed during focused surveys.
Sticky dudleya *Dudleya viscida*	Federal: None State: None CNPS: List 1B.2	Rocky areas in coastal bluff scrub, chaparral, and coastal scrub. Known from below 550 meters (1,800 feet) MSL. Blooms May – June.	Not expected to occur on site, out of known range of species, not observed during focused surveys.

Species	Status	Habitat	Occurrence On Site
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CNPS: List 1B.2	Chaparral. Known from 30-550 meters (100-1,800 feet) MSL. Active year-round.	Not expected to occur on site, out of known range of species, not observed during focused surveys.
Tecate cypress *Cupressus forbesii*	Federal: None State: None CNPS: List 1B.1	Closed-cone coniferous forest and chaparral. Known from 250-1,500 meters (800-4,900 feet) MSL. Active year-round.	Not expected to occur on site, out of known range of species.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: List 1B.1	Clay, loamy sand or alkaline soils in grasslands at edges of vernal pools or floodplains. Known from below 1,220 meters (4,000 feet) MSL. Blooms April – June.	Low potential to occur on site, not observed during focused surveys.
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: List 3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), and vernal pools. Known from below 1,000 meters 3,300 feet) MSL. Active March – June.	Low potential to occur on site, not observed during focused surveys.
White-bracted spineflower *Chorizanthe xantii* var. *leucotheca*	Federal: None State: None CNPS: List 1B.2	Mojavean desert scrub and pinyon and juniper woodland. Known from 300-1,200 meters (900-4,000 feet) MSL. Blooms April – June.	Not expected to occur on site due to a lack of suitable habitat.
White-rabbit tobacco *Psuedognaphalium leucocephalum*	Federal: None State: None CNPS: List 2.2	Sandy margins of washes or in debris cones blow steep canyons.	Low potential to occur on site, not observed during focused surveys.

Federal
FE - Federally Endangered
FT - Federally Threatened

State
SE - State Endangered
ST – State Threatened

CNPS
List 1B - Plants rare, threatened, or endangered in California and elsewhere.
List 2 - Plants rare, threatened, or endangered in California, but more common elsewhere.
List 3 – Plants about which more information is needed.

Threat Code extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Bottle liverwork

Bottle liverwort (*Sphaerocarpos drewei*) is a bryophyte native to California designated as a CNPS List 1B.1 species. In Southern California most collections of this plant are from San

Diego County. This bryophyte is found in openings n chaparral and coastal sage scrub. This species is known from 90-600 meters (300-2,000 feet and is active following rains.

Habitat exists on site for this species, however this species was not observed during focused surveys.

California Orcutt grass

California Orcutt grass (*Orcuttia californica*) is an annual herb in the grass family designated as a federally listed species under the Endangered Species Act (ESA); classified as endangered by the CDFG and identified by CNPS as a List 1B.1 species. This grass is known from Riverside, San Diego, and Ventra Counties as well as Baja California. Orcutt grass is typically associated with vernal pools below 660 meters (2,200 feet) and known from fewer than 25 locations. This grass sets flower from April to August.

Marginal habitat exists on site for this species, however this species was not observed during focused surveys.

California satintail

California satintail (*Imperata brevifolia*) is a perennial herb in the grass family designated as a CNPS List 2.1 species. This species is known to occur from throughout the southwestern United States. In California this plant is known from Los Angeles, Kern, San Bernardino, Ventura, and Riverside Counties. This plant is designated by the California Department of Food and Agriculture as a List B noxious weed. This plant is found in chaparral, coastal scrub, desert scrub, meadows, alkaline seeps and riparian scrub and flowers from September through May.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Campbell's liverwort

Campbell's liverwort (*Geothallus tuberosus*) is a bryophyte native to California designated as a CNPS List 1B.1 species. In Southern California, this species is found chiefly in San Diego with one collection from an area near Murietta in western Riverside County. Campbell's liverwort is found in mesic coastal sage scrub and vernal pools and is active following rains.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Chaparral sand verbena

Chaparral sand verbena (Abronia villosa aurita) is an annual herb in the verbena family and is designated as a CNPS List 1B.1 species. This species is known from several counties in Southern California including Orange, Riverside, and San Diego. Chaparral sand verbena is associated with sandy soils in chaparral coastal sage scrub from 80-1,600 meters (300-5,300 feet) and blossoms from January to August.

Marginal habitat exists on site for this species, however this species was not observed during focused surveys.

Coultern's goldenfields

Coulter's goldenfields (*Lasthenia glabrata coulteri*) is an annual herb in the sunflower family and is designated as a CNPS List 1B.1 species. This species is known from several counties including Los Angeles, Orange, Riverside, Santa Barbara, and San Bernardino. This species occurs within a variety of habitats usually with alkaline affinities including marshes, playas and vernal pools from below 1,500 meters (4,900 feet) and blooms from February to June.

Marginal habitat exists on site for this species, however this species was not observed during focused surveys.

Hall's monardella

Hall's monardella (*Monardella macrantha hallii*) is a perennial herb in the mint family designated as a CNPS List 1B.3 species. Hall's monardella is known to occur in San Diego, San Bernardino, Orange, and Riverside Counties in Southern California. Hall's monardella is found on dry slopes and ridges in openings of chaparral, woodland, and forest. In western Riverside County this species has been recorded on the northeast slope of Santiago Peak, the north slope of the Cahuilla Mountains, and within a drainage on the north slope of the Agua Tibia Mountains. This species occurs from 700-2,200 meters (2,300-7,200 feet).

Habitat exists on site for this species, however this species was not observed during focused surveys.

Hammitt's clay-cress

Hammitt's clay-cress (*Sibaropsis hammittii*) is an annual herb in the mustard family and designated as a CNPS List 1B.2 species. This plant is known from Riverside and San Diego counties in Southern California. Hammitt's clay-cress is associated with chaparral openings

and in grasslands with clay soils from 700-1,070 meters (2,300-5,300 feet). This species is closely associated with Forest Service Lands in the Santa Ana Mountains.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Heart-leaved pitcher sage

Heart-leaved pitcher sage (*Lepechinia cardiophylla*) is a perennial forb in the mint family designated as a CNPS List 1B.2 species. Heart-leaved pitcher sage is known from Orange, San Diego, and Riverside Counties in Southern California as well as Baja, Mexico. This plant is found in closed cone coniferous forests, chaparral, cismontane woodland from 550-1,370 meters (1,800-4,500 feet). In western Riverside County this species is known from Forest Service lands associated with the Santa Ana Mountains. Outside of the Forest Service Lands this species has been recorded in the foothills of the Santa Ana Mountains northwest of Lake Elsinore and in the hills southwest of Alberhill.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Intermediate mariposa lily

Intermediate mariposa lily (*Calochortus weedii var. intermedius*) is a perennial herb in the Lily family designated as a CNPS List 1B.2 species. The species is known from Los Angeles, Orange and Riverside Counties in Southern California. Intermediate mariposa lily occurs within a variety of habitats including chaparral, coastal scrub, and valley and foothill grassland. The species is associated with rocky soil from 180-855 meters (600-2,800 feet). The flowering period occurs from May to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Lemon lily

Lemon lily (*Lilium parryi*) is a bulbiferous perennial forb in the lily family designated as a CNPS List 1B.2 species. Lemon lily is known from Los Angeles, Riverside, San Bernardino, and San Diego Counties in Southern California. Lemon Lily is found in wet areas in meadows and in riparian and montane coniferous forests. Lemon lily is known to occur from 1,300-2,800 meters (4,300-9,200 feet). In western Riverside County this plant is known to be limited in range to the San Jacinto Mountains. This plant flowers from July through August.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Long-spined spineflower

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) is an annual herb in the buckwheat family designated as a CNPS List 1B.2 species. The species is known from several Riverside and San Diego Counties in Southern California and Baja California. In Riverside County , this species is often associated with clay soils and other special status species known to occur in clay soils such as *Chorizanthe procumbens*, *Harpagonella palmeri*, and *Allium munzii*. This species is known to occur from 30-1,450 meters (100-4,800 feet) MSL. Long-spined spineflower occurs in a variety of habitats including chaparral, coastal scrub, meadows and seeps, valley and foothill grassland. The Flowering period occurs from April to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Many-stemmed dudleya

Many-stemmed dudleya (*Dudleya multicaulis*) is a perennial forb in the stonecrop family designated as a CNPS List 1B.2 species. Many-stemmed dudleya is known from Orange, Los Angeles, Riverside, San Bernardino and San Diego Counties in Southern California. Many-stemmed dudleya occurs on clay soils or around granitic outcrops associated with chaparral, coastal scrub, and grassland from below 800 meters (2,600 feet). 10 populations of many-stemmed dudleya are documented in western Riverside County. Six of the 10 are located within the Temescal Canyon and Gavilan Hills areas. Many-stemmed dudleya is known to flower from May through July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Munz's Onion

Munz onion (Allium munzii) is a perennial bulbiferous herb in the lily family designated as federal endangered, state threatened, and a CNPS List 1B.1 species. Munz onion is known only from western Riverside County in the Temescal Canyom, Gavilan Plateau, and Skunk Hollow areas. Munz onion is found in opening of coastal sage scrub, pinyon-juniper woodland, and grassland habitat with clay soils from 300-1,070 meters (1,000-3,500 feet). Munz onion is known to flower from March through May.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Orcutt's brodiaea

Orcutt's brodiaea (*Brodiaea orcuttii*) is a bulbiferous perennial herb in the lily family designated as a CNPS List 1B.1 species. This species is known from Riverside, and San Diego Counties in Southern California as well as Baja California. Orcutt's brodiaea occurs in a variety of habitats including closed-cone coniferous forest, chaparral, cismontane woodland, meadows, seeps valley and foothill grassland and vernal pools. The species is associated with mesic, clay and sometimes serpentine soils from below 1,600 meters (5,300 feet). In western Riverside County this plant is known to occur on the Southern slopes of the Santa Ana Mountains and in the vicinity of the Santa Rosa Plateau. Orcutt's brodiaea is known to flower from May to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Parish's meadowfoam

Parish's meadowfoam (*Limnanthes gracilis* ssp. *parishii*) is a perennial forb in the meadow foam family designated as a State listed endangered as well as a CNPS 1B.2 species. This species is known from San Diego and Riverside Counties in Southern California. Parish's meadowfoam is found in seasonally wet meadows and the edges of vernal pools and intermittent streams from 550-2,000 meters (1,800-6,600 feet). In western Riverside county this plant is known from a single vernal pool located on the Santa Rosa Plateau. All other locations are from the Lake Cuyamaca region in San Diego County.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Parry's tetracoccus

Parry's spineflower *(Chorizanthe parryi var. parryi)* is an annual herb in the buckwheat family designated as a CNPS List 3.2 species. This species is known from Los Angeles, Riverside and San Bernardino. Parry's spineflower is a small often overlooked plant that occurs in a variety of habitats including chaparral and coastal scrub. This species is associated with dry, rocky (sometimes sandy) soils from 40-1,705 meters (100-5,700 feet). Parry's spineflower is known to flower between April to June.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Plummer's mariposa lily

Plummer's mariposa lily (*Calochortus plummerae*) is a bulbiferous perennial herb in the lily family designated as a CNPS List 1B.2 species. This species is known from several counties in Southern California including Los Angeles, Orange, Riverside, San Bernardino and Ventura. Plummer's mariposa lily occurs in a variety of habitats including chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. This species is associated with granitic and rocky soils from 100-1,700 meters (300-5,600 feet). In western Riverside County this species is known to occur in the foothills of the San Bernardino mountains, northeastern Santa Ana mountains, Box Springs Mountains, and in the vicinity of Lake Skinner. Plummer's mariposa lily is known to flower from May to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Prostrate nararretia

Prostrate navarretia (*Navarretia prostrata*) is an annual herb in the phlox family designated as a CNPS List 1B.1 species. Prostrate navarretia is known from several counties in Southern California including Los Angeles, Riverside, San Bernardino, San Diego. This species is known to occur in vernal pools within coastal scrub, and alkaline valley and foothill grassland. This species is known to occur from 15-700 meters (50-2,300 feet). In western Riverside County this species is known to occur on the Santa Rosa Plateau. The flowering period occurs from April to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Robinson's pepper-grass

Robinson's pepper-grass (*Lepidium virginicum* var*. robinsonii*) is an annual herb in the mustard family designated as a CNPS List 1B.2 species. This species is known from several counties in Southern California including Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego as well as Baja California. Robinson's pepper-grass is known to occur on rocky slopes or in fissures of rocks as well as among the shrubs within chaparral and coastal scrub below 500 meters (1,600 feet). Robinson's pepper-grass is known to flower from January to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Round-leaved filaree

Round-leaved filaree (*Erodium macrophyllum*) is an annual herb in the geranium family designated as a CNPS List 1B.1 species. The species is known from several counties in Southern California including Los Angeles, Riverside, Santa Barbara, and San Diego. The species occurs in cismontane woodland, valley and foothill grassland. Round-leaved filaree is associated with deep, heavy clay soils from 15-1,200 meters (50-3,900 feet). In western Riverside County round-leaved filaree is known to occur in Temescal Valley near Lake Elsinore, and Lake Skinner, and in the vicinity of Vail Lake. The flowering period occurs from March to May.

Habitat exists on site for this species, however this species was not observed during focused surveys.

San Bernardino aster

San Bernardino aster (*Symphyotrichum defoliatum*) is a perennial forb in the sunflower family designated as a CNPS List 1B.2 species. In Southern California, this species is known from Ventura, Kern, San Bernardino, Los Angeles, Orange, San Diego, and Riverside Counties. San Bernardino aster is found in vernally moist sites such as ditches, streams and springs in association with a variety of habitat. San Bernardino aster is known to flower from July through November.

Habitat exists on site for this species, however this species was not observed during focused surveys.

San Diego ambrosia

San Diego Ambrosia (*Ambrosia pumila*) is a rhizomatous perennial herb in the sunflower family designated as Federally listed endangered and a CNPS List 1B.1 species. This species is often found in open areas with coarse substrates adjacent to drainages or vernal pools or upland clay slopes within chaparral, coastal scrub, valley and foothill grassland. San Diego Ambrosia is known to occur from 20-415 meters (70-1,400 feet). San Diego ambrosia reproduces chiefly through the spread of its rhizomatous roots and is known to flower from May to September.
In western Riverside County this plant is known to occur in three locations within seasonally wet areas with alkaline soils in the Lake Elsinore and Murrieta area.

Habitat exists on site for this species, however this species was not observed during focused surveys.

San Diego button-celery

San Diego button-celery (*Eryngium aristulatum* var. *parishii*) is an annual/perennial herb in the carrot family designated as a federal and state listed endangered species as well as a CNPS List 1B.1 species. This species is known from Riverside, San Diego Counties in souther California as well as Baja California. San Diego button-celery occurs in vernal pools with clay soils in coastal scrub, and valley and foothill grassland. This species is known to occur from 20-620 meters (50-2,000 feet). In western Riverside County this species is known from four locations on the Santa Rosa Plateau. San Diego button-celery flowers from April to June.

Habitat exists on site for this species, however this species was not observed during focused surveys.

San Miguel savory

San Miguel savory (*Satureja chandleri*) is a perennial herb in the mint family designated as a CNPS List 1B.1 species. This species is known from Orange, Riverside, and San Diego Counties in Southern California as well as Baja California. San Miguel savory occurs in a variety of habitats including chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. This species is associated with rocky, gabbroic or metavolcanic soils from 120-1,075 meters (400-4,000 feet). In western Riverside County this species is known to occur on Steele Mountain, in the vicinity of the hogbacks, Santa Rosa Plataeu and associated hills, and in the Murrieta area. San Miguel savory flowers from March to July.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Slender-horned spineflower

Slender-horned spineflower (*Dodecahema leptoceras*) is an annual herb in the buckwheat family designated as a state and federal endangered species as well as a CNPS List 1B.1 species. This species is known from Los Angeles, Riverside and San Bernardino Counties in Southern California. Slender-horned spineflower is known to occur in chaparral, cismontane woodland, and alluvial fan coastal scrub on mature undisturbed floodplain terraces and benches adjacent to large rivers and washes that receive overbank deposits every 50 to 100 years. This species is known to occur from 200-760 meters (600-2,500 feet). The flowering period occurs from April to June.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Thread-leaved brodiaea

Thread-leaved brodiaea (*Brodiaea filifolia*) is a bulbiferous perennial herb in the lily family designated as federal threatened and state endangered as well as a CNPS List 1B.1. This species is known from Los Angeles, Orange, Riverside, San Bernardino and San Diego counties in Southern California. Thread-leaved brodiaea occurs in a variety of habitats including chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland and vernal pools. This species is often associated with clay soils from below 1,220 meters (4,000 feet). The flowering period occurs from March to June.

Habitat exists on site for this species, however this species was not observed during focused surveys.

Vernal barley

Vernal barely (*Hordeum intercedens*) is an annual herb in the grass family designated as a CNPS List 3.2 species. This species is known from Los Angeles, Orange, Riverside, Santa Barbara, San Diego and Ventura Counties in Southern California and other places including Santa Cruz Island, Santa Catalina Island, San Mateo, Santa Rosa Island and more. Vernal barely occurs in coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions) and vernal pools below 1,000 meters (3,300 feet). In western Riverside County this species is chiefly known from the San Jacinto River floodplain, and areas west of Hemet. Vernal barely is known to flower from March to June.

Habitat exists on site for this species, however this species was not observed during focused surveys.

White-rabbit tobacco

White-rabbit tobacco (*Pseudognaphalium leucocephalum*) is a perennial forb in the sunflower family designated as a CNPS List 2.2 species. This species is known from several Counties in Southern California including Orange, Riverside, San Bernardino, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo. This species occurs in the dry sandy creek bottoms, along the margins of washes or in debris cones below steep canyons from below 150 meters (. In western Riverside County this species is known from the San Timoteo Canyon and the Santa Mountains.

Habitat exists on site for this species, however this species was not observed during focused surveys.

4.2 Constraints Analysis

The Project Site is an active mining facility, composed of 433 acres of disturbed lands supporting ruderal vegetation, located in the central and northern areas. The southern areas outside of the mining facility are dominated by chaparral, with transitional areas of coastal sage scrub. Sage scrub and annual grasslands are located on the lower elevation areas in the eastern portions of the Site. Numerous artificial seasonal mining water holding basins and road ruts, as well as water detention basins associated with best management practices for mining activities, are located throughout the property. Several disconnected and connected drainage features traverse the Site, some of which support riparian vegetation including coast live oak riparian forest, southern willow scrub, alluvial fan sage scrub and mulefat scrub. Elevations on site ranges from 365-488 meters (1,200-1,600 feet). Adjoining land uses include rural development south of I-15 and undeveloped land north of I-15, residential development and mining facilities to the east, residential development and undeveloped land to the south and west.

Since the focused special status plant survey includes an evaluation of each plant species with the potential to occur on site only the special status wildlife species with potential to occur on site are reviewed in the constraints analysis portion of this report. Photographs depicting typical site conditions are provided in Appendix B. A complete list of all plant species observed on site is included in Appendix A.

Birds observed on the Site include the house finch (*Carpodacus mexicanus*), house wren (*Troglodytes aedon*), California towhee (*Pipilo crissalis*), great blue heron (*Ardea herodias*), western meadowlark (*Sturnella neglecta*), Anna's hummingbird (*Calyte anna*), California horned lark (*Eremophilia alpestris actia*), California thrasher (*Toxostoma redivivum*), killdeer (*Charadrius vociferous*), Costa's hummingbird (*Calypte coastae*), spotted towhee (*Pipilo erythrohthalmus*), lesser goldfinch (*Cardeulis psaltria*), Amrican crow (*Corvus brachyrhynchos*), northern rough-winged swallow (*Stelgidopteryx serripennis*), bushtit (*Psaltriarus minimus*), song sparrow (*Melospiza melodia*), western scrubjay (*Aphelocoma coerulescens*), wrentit (*Chamaea fasciata*), California quail (*Callipepla californica*), blue-gray gnatcatcher (*Polioptila nigriceps*), red-tailed hawk (*Buteo jamaicenesis*), and morning dove (*Zenaida macroura*).

Reptiles and amphibians observed within the Site include the western toad (*Bufo boreas*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), coast horned lizard (*Phrynosoma coronatum blainvillii*), and orange-throated whiptail (*Aspidoscelis hyperythra*).

Mammals observed within the Project Site include the California ground Squirrel (*Spermophilus beecheyi*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), Mountain lion (*Puma concolor*), kangaroo rat (*Dipodomys* sp.) and the woodrat (*Neotoma lepida*).

4.3 Special-Status Animals

Three special-status animals were observed during site reconnaissance on the Project Site; California horned lark, coast (San Diego) horned lizard, and the orange-throated whiptail. A summary of those species considered within the constraints analysis is found in Table 2. Species were considered based on

(1) Species identified by the March 2008 CNDDB as occurring (currently or historically) or in the vicinity of the Site; or

(2) Any other special-status species that are known to occur within the vicinity of the Site or for which potentially suitable habitat exists on Site.

Bell's sage sparrow

The Bell's sage sparrow (*Amphispiza belli belli*) is listed as a CDFG California Species of Special Concern. This species is a non-migratory subspecies that occurs in chaparral and sagebrush scrub from Baja California, Mexico to Central California. Nests are built low in shrubs or occasionally on the ground. Loss of suitable habitat is a major threat to this bird. Bell's sage sparrow are known to feed on the ground and low branches of shrubs. During the breeding season they feed primarily on insects, spiders, grasshoppers, and seeds, and then switch to feeding mostly on seeds during the winter.

During the six days of focused plant surveys and site reconnaissance no Bell's sage sparrow were observed on or near the site, however, suitable habitat exists on site, particularly in the chaparral habitat on site. Therefore, the Bell's sage sparrow has a high potential to breed and forage on the Project Site.

Table 2. Special-status wildlife considered for the constraints analysis.

Species Name	Status	Habitat Requirements	Occurrence on Site
American badger *Taxidea taxus*	Federal: None State: None CDFG: CSC	Grasslands, open plains, farmland, sometimes the edge of woods, with friable soils.	Not expected to occur due to lack of suitable habitat, not observed during focused plant surveys
Arroyo chub *Gila orcutti*	Federal: None State: None CDFG: CSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Not expected to occur due to lack of suitable habitat, not observed during focused plant surveys
Arroyo toad *Bufo californicus*	Federal: FE State: None CDFG: None	Breeds, forages, and/or aestivates in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Not expected to occur due to lack of suitable habitat, not observed during focused plant surveys
Western spadefoot toad *Spea hammondii*	Federal: None State: CSC CDFG: None	Breeds and forages in riparian habitat and ephemeral pools of grassland or scrub habitats.	Not observed during survey; identified from other surveys
Bald eagle *Haliaeetus leucocephalus*	Federal: FT State: SE CDFG: None	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Not expected to occur on site due to a lack of suitable habitat, not observed during focused plant surveys
Bell's sage sparrow *Amphispiza belli belli*	Federal: FSC State: None CDFG: CSC	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	High potential for occurrence, not observed during focused plant surveys
Burrowing owl *Athene cunicularia*	Federal: FSC State: None CDFG: CSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Low to moderate potential for occurrence, , not observed during focused plant surveys

Species Name	Status	Habitat Requirements	Occurrence on Site
California horned lark *Eremophila alpestris actia*	Federal: None State: None CDFG: CSC	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Observed on site
California mountain kingsnake (San Diego population) *Lampropeltis zonata* (*pulchra*)	Federal: None State: None CDFG: CSC	Inhabits a variety of habitats including valley-foothill hardwood, coniferous, chaparral, riparian, and wet meadows. Restricted to San Gabriel and San Jacinto Mountains.	Not expected to occur on site, out of known range, not observed during focused plant surveys
California red-legged frog *Rana aurora draytonii*	Federal: FT State: None CDFG: CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development.	Not expected to occur due to lack of suitable habitat, not observed during focused plant surveys
Coast range newt *Taricha torosa torosa*	Federal: None State: None CDFG: CSC	Frequents terrestrial habitats (grassland, woodland and forest) but breeds in ponds, reservoirs, and slow moving streams.	Low potential to occur on site due to marginal habitat, not observed during focused plant surveys
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	Federal: None State: None CDFG: CSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Low potential to occur on site due to lack of suitable habitat, not observed during focused plant surveys
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFG: CSC	Low elevation coastal sage scrub and coastal bluff scrub.	Moderate to high potential to occur on site, not observed during focused plant surveys
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFG: CSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	High potential to occur on site, not observed during focused plant surveys
Coast (San Diego) horned lizard *Phrynosoma coronatum blainvillei*	Federal: None State: None CDFG: CSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Observed on site
Cooper's hawk (nesting) *Accipiter cooperi*	Federal: None State: None CDFG: CSC	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Moderate potential to occur on site, not observed during focused plant surveys

Species Name	Status	Habitat Requirements	Occurrence on Site
Golden eagle *Aquila chrysaetos*	Federal: None State: None CDFG: CSC	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Low potential to forage on site, not observed during focused plant surveys
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE CDFG: None	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Low to moderate potential to occur on site, not observed during focused plant surveys
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: None CDFG: CSC	Areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Moderate potential to occur on site, not observed during focused plant surveys
Long-eared owl *Asio otus*	Federal: None State: None CDFG: CSC	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Low to moderate potential to occur on site, not observed in focused surveys
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFG: CSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Moderate potential to nest on site, not observed during focused plant surveys
Northern red-diamond Rattlesnake *Crotalus ruber ruber*	Federal: None State: None CDFG: CSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	High potential to occur on site, not observed during focused plant surveys
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: None CDFG: CSC	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	High potential to occur on site, not observed during focused plant surveys
Orange-throated whiptail *Aspidoscelis hyperythrus*	Federal: None State: None CDFG: CSC	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Observed on site
Pallid bat *Antrozous pallidus*	Federal: None State: None CDFG: CSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Low potential to occur on site, not observed during focused plant surveys

Species Name	Status	Habitat Requirements	Occurrence on Site
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: None CDFG: CSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian areas.	Not expected to occur on site due to a lack of suitable habitat, not observed during focused plant surveys
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None CDFG: None	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Low to moderate potential to occur on site, not observed during focused plant surveys
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None CDFG: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Low potential to occur on site, not observed during focused plant surveys
Rosy boa *Charina trivirgata roseofusca*	Federal: None State: None CDFG: CSC	Coastal sage scrub, chaparral, or mixed habitats, commonly with rocky soils and outcrops. Also in oak woodlands and riparian areas bordering scrub habitats.	High potential to occur on site, not observed during focused plant surveys
San Bernardino ringneck snake *Diadophis punctatus modestus*	Federal: None State: None CDFG: None Locally rare	Moist habitats including woodlands, forest, grasslands, chaparral, farms, and gardens.	Moderate potential to occur on site
San Diego black-tailed Jackrabbit *Lepus californicus bennettii*	Federal: None State: None CDFG: CSC	Occupies a variety of habitats, but is most common among shortgrass habitats. Also occurs in sage scrub, but needs open habitats.	Moderate to high potential to occur on site, not observed during focused plant surveys
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None CDFG: CSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	High potential to occur on site, not observed during focused plant surveys
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None CDFG: CSC	Seasonal vernal pools.	Low potential to occur on site, not observed during focused plant surveys

Species Name	Status	Habitat Requirements	Occurrence on Site
Santa Ana speckled dace *Rhinichthys osculus*	Federal: None State: None CDFG: CSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Not expected to occur on site due to a lack of suitable habitat, not observed during focused plant surveys
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None CDFG: CSC	Grass covered hillsides, coastal sage scrub, and chaparral.	High potential to occur on site, not observed during focused plant surveys
Southern steelhead - southern California ESU *Oncorhynchus mykiss irideus*	Federal: FE State: None CDFG: CSC	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county).	Not expected to occur on site due to a lack of suitable habitat, not observed during focused plant surveys
Southwestern pond turtle *Actinemys marmorata pallida*	Federal: None State: None CDFG: CSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Low potential to occur on site, not observed during focused plant surveys
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE CDFG: None	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Low to moderate potential to occur on site, not observed during focused plant surveys
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST CDFG: None	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Moderate to high potential to occur on site, not observed during focused plant surveys
Tricolored blackbird *Agelaius tricolor*	Federal: FSC State: None CDFG: CSC	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Not expected occur on site, not observed during focused plant surveys

Species Name	Status	Habitat Requirements	Occurrence on Site
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: None CDFG: CSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Low potential to occur on site, not observed during focused plant surveys
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFG: CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Moderate potential to occur on site, not observed during focused plant surveys
Western snowy plover *Charadrius alexandrinus nivosus*	Federal: FT State: None CDFG: CSC	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Not expected to occur on site, not observed during focused plant surveys
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: None State: SE CDFG: None	Dense, wide riparian woodlands with well-developed understories.	Not expected to occur on site, not observed during focused plant surveys
White-faced ibis (rookery site) *Plegadis chihi*	Federal: FSC State: None CDFG: CSC	Winter foraging occurs in wet meadows, marshes, ponds, lakes, rivers, and agricultural fields. Requires extensive marshes for nesting.	Moderate potential to occur on site, not observed during focused plant surveys
White-tailed kite (nesting) *Elanus leucurus*	Federal: FSC State: None CDFG: CFP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Moderate potential to nest on site, Moderate to high potential to forage on site, not observed during focused plant surveys
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: None CDFG: CSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Moderate potential to occur on site. Not observed during focused surveys
Yellow warbler (nesting) *Dendroica petechia brewsteri*	Federal: None State: None CDFG: CSC	Lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland.	Moderate potential to occur on site, not observed during focused plant surveys
Yuma myotis *Myotis yumanensis*	Federal: None State: None CDFG: CSC	Optimal habitat is open forests and woodlands with sources of water over which to feed. Distribution is tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Low potential to occur on site, not observed during focused plant surveys

Federal	State	CDFG
FE – Federally Endangered	SE – State Endangered	CSC – California Species of Concern
FT – Federally Threatened	ST – State Threatened	CFP – California Fully-Protected Species
FPT – Federally Proposed Threatened		
FSC – Federal Species of Concern		

Western burrowing owl

The western burrowing owl (*Athene cunicularia*) is a CDFG California Species of Special Concern and Federal Species of Concern. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrub characterized by low-growing vegetation. They are also known to inhabit other open areas such as airports, open fields, cemeteries, and golf courses. Burrows are essential for successful breeding. This owl will occupy abandoned rodent burrows and man-made structures such as culverts, pipes, and debris piles. The western burrowing owl is known to nest between February and August.

During the six days of focused plant surveys and site reconnaissance no western burrowing owl or diagnostic sign were observed on or near the site, however, suitable habitat exists on site. In addition ground squirrels were observed throughout the disturbed portions of the site. Therefore the burrowing owl has a low to moderate potential to occur within the ruderal/non-native grassland areas and the disturbed areas where ground squirrel burrows or man-made structures are located.

It is recommended that focused breeding season protocol surveys be conducted pursuant to the *Burrowing Owl Survey Protocol and Mitigation Guidelines* prepared by the California Burrowing Owl Consortium. The nesting survey season is February 1 through August 31, with the peak nesting season occurring from April 15 through July 15.

California horned lark

The California horned (*Eremophila alpestris actia*) lark is listed as a CDFG California Species of Special Concern. This species breeds from Alaska southward to Mexico, and winters in the southern part of its breeding range. This bird prefers open, barren country with bare ground or short grasses where trees are absent. The California horned lark nests in a basket woven of fine grass or other plant materials, lined with finer material, placed in a depression or cavity in ground. California horned larks are known to feed mostly on seeds, grains, and in the warmer months small insects.

The California horned lark was observed foraging within the ruderal/non-native grassland and disturbed open areas throughout the Project Site.

Coast range newt

The Coast Range California newt (*Taricha torosa torosa*), a CDFG California Species of Special Concern, occurs in the Coast Ranges, Transverse Ranges, and Peninsular Ranges from central Mendocino County to San Diego County. In western Riverside county caost range newts are known to occur in coastal drainages in extreme western Riverside county, specifically, southeast of Lake Elsinore, along highway 74, and southwest Corona. It is commonly found in or near seasonal or permanent streams under cover of trees. Adults are sedentary during the dry season and become active after the first fall rains. Breeding occurs in shallow pools and eggs are attached to vegetation or rocks. Breeding adults and aquatic larvae are active during the day and at night. Coast range newts are known to prey on earthworms, insects, snails, and other small invertebrates.

During the six days of focused plant surveys and site reconnaissance no coast range newts were observed on or near the site, however, suitable habitat exists on site. Therefore, the coast range newt has a low potential to occur within the undeveloped natural drainage courses, specifically within the vegetated riparian habitat located in the northwestern corner of the Project Site.

Coastal cactus wren

The cactus wren (*Campylorhynchus brunneicapillus couesi*) in Southern California is considered to comprise two distinct subspecies (*C.b. sandiegensis* and *C.b. anthonyi).* The coastal cactus wren (*C.b.sandiegenssis*) occurs in coastal Orange and San Diego Counties, extending into Mexico, while the coastal-slope populations in Riverside, San Bernardino, Los Angeles, Ventura, and northern Orange Counties are classified as (*C.b. anthonyi*), the same subspecies that occurs in the deserts of California and Western Arizona. The *sandiegensis* subspecies is considered a CDFG California Species of Special Concern, but *anthonyi* is not considered to be rare or sensitive. The coastal cactus wren is usually associated with habitats dominated by prickly-pear or cholla cactus. The coastal cactus wren is known to forage on the ground in low vegetation for insects and other small invertebrates, and is also known to feed on cactus fruits, other seeds and sometimes nectar.

During the six days of focused plant surveys and site reconnaissance no coastal cactus wren were observed on or near the site. The coastal cactus wren has a low potential to forage only within the chaparral habitat located within the Project Site, but is not expected to nest on site due to the lack of extensive prickly-pear or cholla cactus on site.

Coastal California gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*: CAGN) is a federally listed threatened species and a CDFG California Species of Special Concern. This small songbird is a year-round, obligate resident of coastal sage scrub communities in Southern California and northwestern Baja California, Mexico. CAGN is insectivorous, and nests and forages in moderately dense stands of sage scrub occurring on arid hillsides, mesas, and in washes. CAGN generally occur below 1,200 feet in elevation. Coastal sage scrub communities dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*) are preferred by this species. CAGN are known to feed primarily on insects which may include wasps, bees, ants, and a variety of leaf and plant hoppers. They are also known to feed on grasshoppers, spiders, and ants. Loss and fragmentation of suitable habitat due to expanding development have been major factors in the decline of this bird in Southern California.

During the six days of focused plant surveys and site reconnaissance no CAGN were observed or heard on or near the site, however, suitable habitat exists throughout much of the undisturbed scrub on site, particularly in the northwest portion of the site. Therefore, CAGN has moderate to high potential to occur within the sage scrub habitat located within the Project Site.

Any impacts to occupied habitat must occur outside of the breeding season, March 1 through August 31 as determined through a Section 7 or Section 10 consultation with USFWS. Therefore, focused California Gnatcatcher surveys pursuant to the USFWS Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines (February 28, 1997) are recommended to determine the presence/absence of the coastal California gnatcatcher.

Coast patch-nosed snake

The coast patch-nose snake (*Salvadora hexalepis virgultea*) is designated as a CDFG California Species of Special Concern. This snake is known to inhabit a wide variety of habitats including rocky hillsides, plains, sandy flats and rocky open areas in scrub and chaparral from Central to Southern California. The coast patch nosed snake is a diurnal species active throughout the days of months with milder temperatures and during the mornings and evenings of the warmer summer months. The coast patch nosed snake is known to feed opportunistically on a wide variety of prey including small mammals, lizards, and the eggs of lizards and snakes.

During the six days of focused plant surveys and site reconnaissance no coast patch-nose snake were observed on or near the site, however, suitable habitat exists throughout the

Project Site. Therefore, due to the wide range and generalist nature of the species the coast patch-nosed snake has a high potential to occur within the chaparral habitat located on site.

Coast (San Diego) horned lizard

The coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillei*) is a CDFG California Species of Special Concern. This lizard inhabits coastal sage scrub and chaparral habitats characterized with sandy, rocky, or shallow soils. The coast (San Diego) horned lizard is a diurnally active species and is known to be active when daytime temperatures are between 19°C and 40°C. During the summer months, when midday temperatures are above 40°C they bury themselves in the sand and wait to emerge when temperatures are in their optimal range. The coast (San Diego) horned lizard is known to prey primarily on harvester ants (*Pogonomyrmex* sp.), but may also feed opportunistically on other slow moving insects such as beetles, flies, and caterpillars.

The coast (San Diego) horned lizard was observed within alluvial fan scrub and chaparral habitat within the Project Site.

Cooper's hawk

The Cooper's hawk (*Accipiter cooperi*) is a CDFG California Species of Special Concern. Cooper's hawks are found in woodland habitats. The Cooper's hawk is a wide-ranging species in North America that breeds from British Columbia eastward to Nova Scotia and southward to northern Mexico and Florida. Its nesting range includes southern British Columbia, northwestern Montana, Wyoming, eastern North Dakota, southern Manitoba, western Ontario, northern Michigan, southern Ontario, southern Quebec, Maine, and Nova Scotia, south to Baja California, south-central Texas, Louisiana, central Mississippi, central Alabama, and central Florida. The Cooper's hawk inhabits riparian areas and oak woodlands, most commonly in montane canyons. They are also known to occupy trees in and adjacent to residential and commercial urban areas. Cooper's hawks are known to prey primarily on birds but they are known to eat small mammals, reptiles, amphibians, insects and fish.

During the six days of focused plant surveys and site reconnaissance no Cooper's hawks were observed on or near the Project Site, however, suitable foraging and nesting habitat exists on site. Therefore, the Cooper's hawk has a moderate potential to forage throughout the Project Site and a moderate potential to nest within the vegetated riparian habitat located in the northwestern corner of the Project Site.

Golden eagle

The golden eagle (*Aquila chrysaetos*) is designated as a CDFG California Species of Special Concern. This species occurs in rolling foothills, mountain areas, sage-juniper flats, and deserts. The golden eagle occurs throughout the western United States. In western Riverside county the golden eagle has been reported throughout the central and foothill portions of the county. It prefers to nest in cliff-walled canyons in rugged mountainous terrain and sometimes large trees in open areas. Large open areas are required for foraging. Golden eagles are known to prey primarily on hares, rabbits, other small mammals, birds and reptiles.

During the six days of focused plant surveys and site reconnaissance no golden eagle were observed on or near the Project Site, however, due to suitable foraging habitat existing on site, the golden eagle has a low potential to forage only within the undisturbed areas of the Project Site.

Least Bell's vireo

Least bell's vireo (*Vireo bellii pusillus*) is a state and federally listed endangered migratory songbird that breeds in riparian habitats in Southern California. This vireo nests and forages almost exclusively in multi-layered riparian woodland habitats. Least Bell's vireo winter in southern Baja California, Mexico, and typically migrate between mid March and early April to Southern California and northwestern Baja California, where they remain until late September.

Historically, least Bell's vireo was abundant in riparian habitats throughout the central valley, coastal Southern California, and in scattered oases and canyons in California deserts. Populations have declined dramatically this century owing to widespread destruction and degradation of riparian habitats and brood-parasitism by the brown-headed cowbird *(Molothrus ater*). The USFWS listed the least Bell's vireo as an endangered species in 1986. The largest LBV populations in Southern California are currently located at the Prado Basin in Riverside County, and along the Tijuana River, the San Luis Rey River, the San Diego River, the Santa Margarita River and other drainages in Camp Pendelton, San Diego County. During the last decade, least Bell's vireo has begun to exhibit a substantial recovery due in large measure to management, including trapping to remove brown-headed cowbirds from areas occupied by the vireo. Habitat restoration has also provided additional habitat areas for this species, contributing to its recovery. Least Bell's vireo are known to feed primarily in the willow stands on bugs and insects such as beetles, bees, wasps, ants, snails, grasshoppers, moths, and butterflies.

During the six days of focused plant surveys and site reconnaissance no Least Bells Vireo were observed or heard, however suitable habitat exists on site. Therefore, the least Bell's vireo has a low to moderate potential to occur within the vegetated riparian habitat located in the northwestern corner of the property.

It is recommended that protocol level surveys pursuant to the USFWS Least Bell's Vireo Survey Guidelines, January 1, 2001 be conducted by a qualified biologist during the breeding season (April 10 through July 31).

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is designated as a CDFG California Species of Special Concern. Loggerhead shrikes are known to inhabit lands adjacent to open areas. The loggerhead shrike is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, and grasslands. Loggerhead shikes are known to feed primarily on insects, small mammals, amphibians, reptiles, and fish.

During the six days of focused plant surveys and site reconnaissance no loggerhead shrike were observed or heard on or adjacent to the Project Site, however, suitable habitat exist on site. Therefore, the loggerhead shrike has a moderate potential to occur throughout the Project Site in the disturbed or open areas of the Project Site.

Long-eared owl

The long-eared owl (*Asio otus*), which is a CDFG California Species of Special Concern, is a resident that breeds in riparian habitats and thick oak woodlands in Southern California. Breeding habitat must include thickly wooded areas for nesting and roosting with nearby open spaces for hunting. Roosting sites are usually in the heaviest forest cover available. These owls may roost communally during the winter, returning to the same roosting sites each year. Lon eared owls are known to occur throughout much of western North America. In western Riverside County, the long eared owl is considered to be a rare transient and winter visitant and few known breeding locations have been documented. Long eared owls are known to prey primarily on rodents, and occasionally on other birds including other owls.

During the six days of focused plant surveys and site reconnaissance no long eared owls were observed on site, however, suitable habitat exists on the Project Site. Therefore, the long-eared owl has a low potential to occur within the vegetated riparian habitat located in the northwestern corner of the property.

Northern harrier

The northern harrier (*Circus cyaneus*) is designated as a CDFG California Species of Special Concern. This species ranges across all of North America, while wintering across most of the southern United States and into Mexico. The northern harrier is now one of the rarest nesting

raptors in southwestern California. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields, requiring open habitats for foraging. The northern harrier is primarily known to prey on small mammals, birds, frogs, small reptiles, insects, and occasionally fish.

During the six days of focused plant surveys and site reconnaissance no northern harrier were observed on or adjacent to the Project Site, however, there is suitable foraging habitat on site. Therefore, the northern harrier has a low potential to occur on the Project Site.

Northern red-diamondback rattlesnake

The northern red-diamond rattlesnake (*Crotalus ruber ruber*) has been designated as a CDFG California Species of Special Concern. This snake inhabits chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains below 4,000 feet in elevation. This species is known to occur throughout western Riverside County. The northern red-diamond rattlesnake occurs in rocky areas or dense vegetation and requires rodent burrows or cracks in rocks for cover. The northern red-diamond rattlesnake preys primarily on mice, rats, gophers, ground squirrels, rabbits, and reptiles.

During the six days of focused plant surveys and site reconnaissance no red diamond rattlesnakes were observed on or adjacent to the Project Site, however, suitable habitat exists throughout the Project Site. Therefore, the northern red-diamond rattlesnake has a high potential to occur within the Project Site.

Northwestern San Diego pocket mouse

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) is designated as a CDFG California Species of Special Concern. This species inhabits coastal sage scrub, grassland, and chaparral habitats in western San Diego and southwestern Riverside Counties. The northwestern San Diego pocket is primarily a nocturnal species and feeds primarily on seeds.

During the six days of focused plant surveys and site reconnaissance no northwestern San Diego pocket mouse were observed on or near the Project Site, however, suitable habitat exists on site. Therefore, the northwestern San Diego pocket mouse has a high potential to occur within the chaparral habitat located on site.

Orange-throated whiptail

The orange-throated whiptail (*Aspidoscelis hyperythrus*) is designated as a CDFG California Species of Special Concern. This lizard is known from coastal sage scrub, chaparral, and

valley-foothill hardwood habitats throughout southern California including San Bernardino, Riverside, Los Angeles, Orange and San Diego Counties. It prefers washes and other sandy areas with patches of brush and rocks.
The orange-throated whiptail feeds primarily on ants and termites.

The orange-throated whiptail was observed within alluvial fan scrub and chaparral habitat within the Project Site.

Pallid bat

The Pallid bat (*Antrozous pallidus*) is designated as a CDFG California Species of Special Concern, as well as sensitive by the U.S. Forest Service and Bureau of Land Management. The pallid bat is considered a generalists in their roosting requirements – using of a variety of structures including rock crevices, tree hollows, mines, caves, and human structures. However, they are intolerant of human disturbance and threatened by roost damage and destruction. Pallid bats are insectivores that feed on a wide variety of large arthropod prey that they typically capture on or near the ground.

During the six days of focused plant surveys and site reconnaissance no pallid bats were observed on the Project Site, however, the site does support suitable foraging habitat. Therefore, the pallid bat has a low potential to forage only, within the chaparral and riparian habitat located on site.

Quino checkerspot butterfly

The Quino checkerspot butterfly (*Euphydryas editha quino*) is designated as a federally listed endangered species. Currently, the Quino checkerspot butterfly is known only from scattered locations in San Diego and western Riverside Counties, and northwestern Baja California, Mexico. The Quino checkerspot butterfly has two distinct life phases that require different food sources. Quino checkerspot butterfly larvae feed primarily on the small annual California plantain (*Plantago erecta*) and owl's clover (*Castilleja exserta*), the adult phase feeds primarily on nectar from small annual wildflowers. The adult Quino checkerspot butterfly has been observed on sparsely vegetated hilltops, ridgelines and is occasionally associated with rock outcrops that support annual wildflowers. They have been known to move through disturbed areas in order to access suitable feeding grounds. The decline of this butterfly is not completely understood, although habitat destruction and degradation are two of the primary causes.

During the six days of focused plant surveys and site reconnaissance no Quino checkerspot butterfly were observed on or adjacent to the Project Site, however, suitable habitat requirements exist on site. Therefore, the Quino checkerspot butterfly has a low potential to occur within the Project Site. According to the 2005 USFWS Quino Checkerspot Survey

Map. The project is outside of the recommended Quino Checkerspot survrey area, therefore no surveys are required for this Project Site.

Riverside fairy shrimp

The Riverside fairy shrimp (*Streptocephalus woottoni*) is federally listed as endangered. The Riverside fairy shrimp is restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, stock ponds and other human modified depressions (Eng, Belk, and Eriksen 1990, U.S. Fish and Wildlife Service 1993, U.S. Fish and Wildlife Service 2001). Riverside fairy shrimp prefer warm-water pools that have low to moderate dissolved solids, are less predictable, and remained filled for extended periods of time (Eriksen and Belk 1999). Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, and may persist through May (U.S. Fish and Wildlife Service 1998). All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation. In Riverside County, Riverside fairy shrimp have been found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils (U.S. Fish and Wildlife Service 1998). None of these soils are mapped within the Project Site.

During the six days of focused plant surveys and site reconnaissance no Riverside fairy shrimp were observed within the Project Site, however, due to the presence of numerous seasonal pools there is a low potential to occur on site. Therefore, it is recommended that protocol surveys be conducted. To satisfy CEQA requirements, a presence/absence survey following USFWS protocol will be required for the seasonal pool depressions to determine the presence/absence of listed fairy shrimp, including the vernal pool fairy shrimp (*Branchinecta lynchi*) and Riverside fairy shrimp (*Streptocephalus woottoni*). A complete USFWS protocol survey to determine absence consists of either a wet-season survey followed by a dry-season survey (or vice versa), or two wet-season surveys conducted during a five-year period pursuant to the USFWS' *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.*

Rosy boa

The rosy boa (*Charina trivirgata roseofusca*) is designated as a CDFG California Species of Special Concern. This species occurs from Los Angeles County, southwestern San Bernardino County, south through western Riverside and San Diego County to Baja California. This species although widespread, is generally sparsely distributed in rocky chaparral and coastal sage scrub habitats. The rosy boa feeds primarily on small mammals including mice and rats, young woodrats, and occasionally birds.

During the six days of focused plant surveys and site reconnaissance the rosy boa was not observed in or adjacent to the Project Site, however, suitable habitat exists throughout the

Project Site. Therefore, the rosy boa has a high potential to occur within the sage scrub and chaparral habitat located on site.

San Bernardino ringneck snake

The San Bernardino ringneck snake (*Diadophis punctatus modestus*) is not a federally or state listed species or considered sensitive by CDFG, however, the San Bernardino ringneck snake is a Forest Service sensitive species and is considered a locally rare species in southern California. This species has been recorded throughout much of western Riverside County. This snake prefers moist habitats including woodlands, forest, grassland, chaparral, farms, and gardens. These include soils that are slightly damp but not wet or soggy. This species requires abundant shelter in the form of a surface mat of dead vegetation and/or loose objects such as flat rocks, boards, or trash and screening shrubs or trees with open canopies sparse enough to permit abundant sunshine to reach the ground. Regardless, ringneck snakes appear to be most common in open, relatively rocky areas within valley-foothill, mixed chaparral, and annual grass habitats (Zeiner et al. 1988). This species is known to feed on earthworms, salamanders, lizards, frogs, and insects.

During the six days of focused plant surveys and site reconnaissance the San Bernardino ringneck snake was not observed on or near the Project Site, however, appropriate habitat exists on site in the vegetated riparian habitat located in the northwestern corner of the Project Site. Therefore, the San Bernardino ringneck snake has a moderate potential to occur within the Project Site.

San Diego black-tailed jackrabbit

The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is designated as a CDFG California Species of Special Concern. This species occurs in cismontane areas within grassland, coastal sage scrub and chaparral habitats throughout Southern California. Records indicate that the San Diego black-tailed jackrabbit has been observed throughout western Riverside County. The San Diego black-tailed jackrabbit is considered a herbivore, focusing on grasses and forbs.

During the six days of focused plant surveys and site reconnaissance no San Diego black-tailed jackrabbit were observed in or adjacent to the Project Site, however, suitable habitat exists throughout much of the Project Site. Therefore, the San Diego black-tailed jackrabbit has a moderate to high potential to occur within suitable habitat within the Project Site.

San Diego desert woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*) is designated as a CDFG California Species of Special Concern. This species is known to occur from San Diego to San

Luis Obispo Counties in Southern California, and is considered present throughout western Riverside County in suitable habitat. This species inhabits coastal sage scrub, chaparral, woodlands, and desert areas. The San Diego desert woodrat is known to feed primarily on leaves, seeds, berries, and flowers.

During the six days of focused plant surveys and site reconnaissance woodrat middens were observed on site, however, no woodrats were observed on or adjacent to the Project Site. Therefore, there is a high potential to breed and forage within the chaparral and vegetated riparian habitats located within the Project Site.

San Diego fairy shrimp

The San Diego fairy shrimp (*Branchinecta sandiegonensis*) is listed as Federally Endangered and is endemic to vernal (ephemeral) pools on the west coast of the U.S. Development from egg to reproductive adult only takes two weeks. When laid, eggs fall to the soil surface, develop to the early embryo stage, and finally become dormant cysts until the next wet season. Major threats are habitat loss due to agricultural and urban development, alteration of wetland hydrology by draining, off-road vehicle activity, cattle grazing, and replacement by other fairy shrimp species that are habitat generalists.

During the six days of focused plant surveys and site reconnaissance no San Diego fairy shrimp were observed within the Project Site, however, due to the presence of numerous seasonal pools there is a low potential to occur on site.

Direct and indirect impacts to the San Diego fairy shrimp will require a take authorization under the Federal Endangered Species Act (FESA). To satisfy CEQA requirements, a presence/absence survey following USFWS protocol will be required for the seasonal pool depressions to determine the presence/absence of listed fairy shrimp, including the vernal pool fairy shrimp (*Branchinecta lynchi*) and Riverside fairy shrimp (*Streptocephalus woottoni*). A complete USFWS protocol survey to determine absence consists of either a wet-season survey followed by a dry-season survey (or vice versa), or two wet-season surveys conducted during a five-year period pursuant to the USFWS' *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*.

Southern California rufous-crowned sparrow

The southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is designated as a CDFG California Species of Special Concern. This species is a year-round resident of Southern California. This species is known to inhabit open coastal sage scrub, open chaparral, and other dry habitats. The southern California rufous-crowned sparrow is

known to forage on the ground in leaf litter beneath shrubs. This species is known to feed on insects and seeds, grasses, and the shoots of forbs.

During the six days of focused plant surveys and site reconnaissance southern California rufous-crowned sparrow were observed on or adjacent to the Project Site, however, suitable habitat exists on site particularly within the chaparral habitat. Therefore, the southern California rufous crowned sparrow has a high potential to occur on site.

Southwestern pond turtle

The southwestern pond turtle (*Actinemys marmorata pallida*) is a CDFG California Species of Special Concern. This aquatic turtle is associated with permanent or semi-permanent pools and streams. The southwestern pond turtle is known to occur west of the Cascade-Sierra crest from Baja California north to San Francisco. In western Riverside County the southwestern pond turtle is known to occur along the Santa Ana River to Chino creek, along the eastern slopes of the Santa Ana and Elsinore mountains to Temecula adjacent to Interstate 15. The southwestern pond turtle is usually rare or absent in reservoirs, canals, or other bodies of water heavily altered by humans. Southwestern pond turtles are usually present near the banks or in adjacent backwater habitats where the current is relatively slow and where abundant emergent basking sites are present. Dense growths of woody vegetation along the edges of a watercourse, may shade potential emergent basking sites, and make otherwise suitable habitats unsuitable for pond turtles. The southwestern pond turtle is known to feed on dead animal material, plant material, small fish, crustaceans, worms, and insects.

During the six days of focused plant surveys and site reconnaissance no southwestern pond turtle were observed on or adjacent to the Project Site, however, marginally suitable habitat exists on site. Therefore, the southwestern pond turtle has a low potential to occur within the intermittent to permanent manmade pools located on site.

Southwestern willow flycatcher

The state and federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) is a small, insectivorous songbird, which is drab olive-brown above with a white throat and a pale yellow belly. It is one of four subspecies of willow flycatchers recognized in North America, and is distinguished by subtle differences in color and morphology. Although the subspecies occupy distinct breeding ranges, northern subspecies (*E. t. brewsteri* and *E. t. adastus*) do pass through southern California during migration.

Southwestern willow flycatcher breed in riparian habitats along rivers, streams, or other wetlands characterized by dense willows and shrubs in woodlands with standing water. Willow flycatcher

subspecies winter in Mexico and Central America, and typically arrive at breeding sites in the southwest in mid-May and remain until late August.

Historically, southwestern willow flycatcher were abundant in riparian habitats throughout Southern California, Arizona, New Mexico, southwestern Colorado, southern Nevada and Utah, western Texas, and extreme northern Mexico. Southwestern willow flycatcher currently occupies a small fraction of its former range. The decline has been attributed to widespread destruction and degradation of riparian habitats and brood-parasitism by the brown-headed cowbird. As a result, the southwestern willow flycatcher was listed by CDFG as an endangered species in1991and was federally listed as endangered in 1995. Currently, less than 100 breeding pairs are known in Southern California. Most southwestern willow flycatchers are located at Prado Dam in Riverside County, the Kern Valley Nature Reserve, Kern County, the San Luis Rey River, Camp Pendelton Marine Corps Base in San Diego County, the San Ynez River, and Santa Barbara County. The southwestern willow flycatcher feeds on insects taken during flight or from foliage.

During the six days of focused plant surveys and site reconnaissance no southwestern willow flycatchers were observed or heard on or adjacent to the Project Site, however, suitable habitat does exist on site within the vegetated riparian habitat located in the northwestern corner of the property. Therefore, the southwestern willow flycatcher has a low potential to occur on site.

It is recommended that protocol level surveys pursuant to the 2000 USFWS guidelines be conducted by a qualified biologist, with a Section 10(a)(1)(A) permit, during the breeding season (April through July).

Stephens' kangaroo rat

The Stephens' kangaroo rat (*Dipodomys stephensi*) is designated as federal and state-endangered species. This species occurs in Riverside County and northern San Diego County. This species inhabits open grasslands or sparse shrub-lands with less than 50% vegetation cover during the summer months. Stephens' kangaroo rat is primarily a nocturnal species that is known to feed primarily seeds from filaree (*Erodium* sp.) and brome grasses (*Bromus* sp.).

During the six days of focused plant surveys and site reconnaissance no Stephens' kangaroo rat were observed on or adjacent to the Project Site, however, suitable habitat exists on site within the ruderal/non-native grassland and disturbed sage scrub habitats located on site. Therefore, the Stephens' kangaroo rat has a moderate potential to occur on site. The Project Site is located in the Stephens' Kangaroo Rat Fee Assessment Area (Riverside County Ordinance 663.10). In accordance with Riverside County Ordinance 663.10, a Stephens' Kangaroo Rat Mitigation Fee payment of $500.00 per developed acre is required.

Two-striped garter snake

The two-striped garter snake (*Thamnophis hammondii*) is a CDFG California Species of Special Concern. This species requires year-round or near year-round water with riparian or emergent vegetation for shelter, and is commonly found in willow-lined streams with rocky substrates. The two striped garter snake is has been recorded in all the National Forests adjacent to Riverside County, Temecula Creek, Temescal Wash, the San Jacinto River, and has the potential to be present in any stream providing suitable habitat. Loss of wetland habitat is the major threat to this species.

During the six days of focused plant surveys and site reconnaissance no two striped garter snakes were observed on or adjacent to the Project Site, however, suitable habitat exists on site. Therefore, the two-striped garter snake has a low potential to occur within undeveloped natural drainage courses, specifically within the vegetated riparian habitat located in the northwestern corner of the Project Site.

Western mastiff bat

The western mastiff bat (*Eumops perotis californicus*) is a CDFG California Species of Special Concern and a Federal Species of Concern. It is a colonial, cliff-roosting species whose distribution is constrained to areas where there are significant rock features offering suitable roosting habitat. Roosts of this species are usually within crevices high above the ground, and maternity colonies may consist of 30 to several hundred bats (less than 100 is more typical). Major threats to the species are urban expansion and activities that disturb or destroy cliff habitat. This species is known to occur in the southwestern United States south to Central America. In California, mastiff bats are most frequently encountered acoustically, as it forages over open areas, such as oak woodland, chaparral, grassland, and agricultural areas. The species is a fast-flying moth specialist (although its diet includes a variety of other insects) that typically emerges relatively late in the evening, can cover an extensive area, and be detected throughout the night. Unlike other bat species that hibernate through the cold season, this species is active periodically throughout the year (Remington 2003).

During the six days of focused plant surveys and site reconnaissance no western mastiff bat were observed on or adjacent to the site. The western mastiff bat has a moderate potential to forage only, within the chaparral and riparian habitat located on site.

Western spadefoot toad

The western spadefoot toad (*Spea hammondii*) is a CDFG California Species of Special Concern. This species is known to occur west of the Cascade-Sierra crest from Shasta

County south to Baja Mexico. In western Riverside County, the western spadefoot toad is known to be widely distributed in suitable habitat. Suitable habitat for the western spadefoot toad consists primarily of grassland or scrub habitats associated with temporary pools, which are essential for breeding and egg laying. The duration of standing water in the temporary pools is critical, which must be present for at least three or more weeks in order for the larvae to metamorphose. These breeding pools must be free of fish, bullfrogs, and crayfish in order for the species to successfully reproduce and metamorphose. Spadefoot toads also use riparian habitats with suitable pool resources for breeding, which must also be free of exotic pests.

During the six days of focused plant surveys and site reconnaissance no western spadefoot toads were observed or heard on or adjacent to the Project Site, however the western spadefoot toad has been identified on this Site from other studies (SCE 2006).

White-faced Ibis

The white-faced ibis (*Plegadis chihi*) is designated as a federal species of concern as well as a CDFG California Species of Concern. This species is known to occur from Oregon to North Dakota south to Mexico. The white-faced ibis has been observed throughout suitable habitats in western Riverside County. The white-faced ibis prefers to occupy areas containing wet, muddy ground including marshes, wet meadows, ponds, irrigated fields, rivers, and estuaries. The white-faced ibis nests primarily in dense fresh water emergent wetlands. The white-faced ibis feeds primarily on insects, crustaceans, earthworms, small fish and small amphibians.

During the six days of focused plant surveys and site reconnaissance no white-faced ibis were observed on or adjacent to the site, however, due to the presence of riparian areas and ponds suitable habitat exists on site. Therefore there is a moderate potential for this species to occur on site.

White-tailed kite

The white-tailed kite (*Elanus leucurus*) is designated as a CDFG California Species of Special Concern. The current range of the white-tailed kite in North America includes California, Oregon, southern Washington, southern Texas and Florida. This species was threatened with extinction in North America during the early twentieth century, but since 1960 the population and range of this raptor in North America has improved markedly.

In California, the white-tailed kite is a common to uncommon year-round resident in coastal and valley lowlands. It is rarely found away from agricultural areas. It inhabits herbaceous and open stages of most habitats mostly in cismontane California. Kites appear to track prey populations and may be found almost anywhere adequate prey occurs.

Southern California populations appear to be in decline during the last few years, part of which is likely explained by the cyclical population fluctuations typical of this species, and part of which may be due to decreases in agricultural areas which are used as winter foraging areas (Bloom 2003).

During the six days of focused plant surveys and site reconnaissance no white-tailed kites were observed on or adjacent to the site, however, suitable nesting habitat exists within the vegetated riparian habitat located in the northwest corner of the Project Site. Therefore, the white-tailed kite has a moderate potential to occur on site.

Yellow-breasted chat

The yellow-breasted chat (*Icteria virens*) is designated as a CDFG California Species of Special Concern. This migratory songbird breeds in riparian habitats in Southern California and is also found in habitat similar to that required by the least Bell's vireo. This species summers throughout much of North America and winters from northern Mexico south to Panama. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams. The yellow-breasted chat feeds primarily on insects gleaned from foliage of shrubs and low trees. They are also known to eat berries and small fruit.

During the six days of focused plant surveys and site reconnaissance no yellow-breasted chat were observed on or adjacent to the site, however, suitable habitat exits on site within the vegetated riparian habitat located in the northwest corner of the Project Site. Therefore, the yellow-breasted chat has a moderate potential to occur on site.

Yellow Warbler

The yellow warbler (*Dendroica petechia brewsteri*) is designated as a CDFG California Species of Special Concern. This species is known to breed throughout much of North America including northern Alaska, and winters from southern California, Arizona, and the gulf coast south to central South America. This species is a migratory songbird that breeds in riparian habitats in Southern California and exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams.

During the six days of focused plant surveys and site reconnaissance no yellow warblers were observed on or adjacent to the Project Site, however, suitable habitat exists on site within the vegetated riparian habitat located in the northwest corner of the Project Site. Therefore, the yellow warbler has a moderate potential to occur on site.

Yuma myotis

The Yuma myotis (*Myotis yumanensis*) is designated as a Federal Species of Concern and Bureau of Land Management (BLM) sensitive species. The Yuma myotis are cave-dwelling species that will also roost in old buildings. This species forages at night around areas of open water and in wooded canyon bottoms.

During the six days of focused plant surveys and site reconnaissance the Yuma myotis was not observed on or adjacent to the Project Site, however suitable foraging habitat exists within the vegetated riparian habitat located in the northwest corner of the Project Site. Therefore, the Yuma myotis has a low potential to forage on site.

4.4 Special-Status Habitats

A review of the March 2008 CNDDB identified the following special-status habitats as occurring within the Alberhill, Lake Mathews, Steele Peak, Lake Elsinore, Wildomar, Sitton Peak, Canada Gobernadora, Santiago Peak, and Corona South quadrangles: canyon live oak ravine forest, southern coast live riparian forest, southern cottonwood willow riparian forest, southern interior basalt flow vernal pool, southern interior cypress forest, southern mixed riparian forest, southern riparian forest, southern sycamore alder riparian woodland, southern willow scrub, and valley needle grass grassland.

The Site supports two special-status habitats; southern coast live oak riparian forest and southern willow scrub. These special-status habitats are located in central and northwest corner of the Site. Impacts to the southern coast live oak riparian forest and southern willow scrub would be considered significant under CEQA prior to mitigation to offset the impacts.

4.5 Soil Map Review

The Soil Conservation Service (National Resource Conservation Service or NRCS) has mapped the following soil types as occurring in the general vicinity of the Project Site: Altamont, Cieneba, Crouch, Garretson, Gorgonia, Hanford, Honcut, Lodo, Ramona, Riverwash, Temescal, Terrace Escarpments, and Tujunga. The Altamont soil is located in the southern-central portion of the Site and has been severely disturbed by mining operations.

4.6 Critical Habitat

The Site is not located within any Critical Habitat Areas as designated by the U.S. Fish and Wildlife Service under the ESA. The Project is within the Stephens' kangaroo rat Fee Assessment Area.

4.7 Migratory Bird Treaty

The 1450-acre Pacific Clay Mine Site currently contains chaparral, sage scrub, alluvial fan scrub, and ruderal / non-native grassland that has potential to support nesting birds. Impacts to nesting birds are prohibited under the Migratory Bird Treaty Act.

4.8 Native Trees

Two species of native trees were located within the southern coast live oak riparian forest located in the northwest corner of the Site, which includes coast live oak (*Quercus agrifolia*) and arroyo willow (*Salix lasiolepis*). The oak trees and willows are large, mature, and in good health. The City of Lake Elsinore does not have a native tree ordinance; however, the County of Riverside has a tree ordinance and requires a tree removal permit to remove native oak trees.

4.9 Foraging Habitat

Foraging habitat for raptors is considered moderate for the Project Site, particularly for the American kestrel and red-tailed hawk with intermittent (possibly seasonal) use by northern harriers. Turkey vultures and Cooper's hawks and are expected to occasional visitors.

5.0 U.S. Army Corps of Engineers and California Department Fish & Game Jurisdiction

The Site was reviewed (not formally delineated) for the presence of CORPS and CDFG jurisdictional waters. Potential CORPS and CDFG jurisdictional waters were located on the Project Site. Three multiple jurisdictional drainage features that support both CORPS and CDFG indicators such as bed, bank, channel, and vegetated riparian habitat were observed on the Site but in some cases the areas have been disturbed by the 10 years of on going mining activities. In some cases, the drainage features may have been disconnected from the receiving tributary. These observations are a general overview of potential jurisdictions and not a formal jurisdictional delineation.

5.1 CORPS Jurisdiction

The ACOR has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The CORPS and Environmental Protection Agency (EPA) recently clarified and simplified the definition of "fill material" to include any "material placed in waters of the United States where the material has the effect of:

(i) Replacing any portion of a water of the United States with dry land; or
(ii) Changing the bottom elevation of any portion of the waters of the United States."

Examples include, but are not limited to sand, rock, clay, construction debris, wood chips and "materials used to create any structure or infrastructure in the waters of the United States. The term "waters of the United States" includes the following:

(1) All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;
(2) All interstate waters including interstate wetlands;
(3) All waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters;
    (i) Which are or could be used by interstate or foreign travelers for recreational or their purposes; or
    (ii) From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or
    (iii) Which are used or could be used for industrial purpose by industries in interstate commerce ...
(4) All impoundments of water mentioned above;
(5) All tributaries of waters mentioned above;
(6) The territorial seas; and
(7) All wetlands adjacent to the waters mentioned above.

Note: Waste treatment systems including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition are not waters of the United States.

(8) Waters of the United States do not include prior converted cropland. Not withstanding the determinations of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

In the absence of wetlands, the limits of CORPS jurisdiction in non-tidal waters such as intermittent streams, extend to the OHWM Under this definition, and in the absence of

wetlands, the limits of the CORPS' jurisdiction in non–tidal waters extend to the ordinary high water mark (OHWM), which is defined at 33 CFR 328.3(e) as:

> … that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CRF §328.3(e).
>
> Wetlands, a subset of jurisdictional waters, are jointly defined by the CORPS and EPA as:
>
> ... that line on the shore established b the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the water of soil destruction of terrestrial vegetation, the presence of litter and debris or other appropriate means that consider the characteristics of the surrounding area
>
> … those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CRF §328.3(b).

The term "wetlands" a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the CORPS published a manual to guide its field personnel in determining jurisdictional wetland boundaries. In 1989 the Federal Interagency Committee for Wetland Delineation developed an updated methodology, which was adopted by the CORPS, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency (EPA), and SCS, which replaced the 1987 Wetland Delineation Manual. The use of this 1989 manual was perceived by many to excessively increase the jurisdictional limits of wetlands. After several congressional hearings, EPA, CORPS, SCS, and USFWS published proposed 1991 revisions to the 1989 manual. A few days afterwards, the President signed the Energy and Water Development Appropriations Act of 1992 that, in effect, prohibits the use of the 1989 manual. Because the 1991, proposed revisions to the 1989 manual have not yet been adopted, the only remaining valid methodology is the 1987 Wetland Delineation Manual. The methodology set forth in the 1987 Wetland Delineation Manual generally requires that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual provides great detail in methodology and allows for

varying special conditions, a wetland should normally meet each of the following three criteria:

(1) More than 50% of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands);

(2) Soils must exhibit physical and /or chemical characteristics indicative of permanent or periodic saturation (e.g., a leyed color, or mottles with a matrix of low chroma indicating relatively consistent fluctuation between aerobic and anaerobic conditions); and

(3) Hydrologic characteristics must indicate that the ground is saturated within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year.

Wetlands generally include swamps, marshes, bogs, and similar areas. The U.S. Supreme Court on 09 January 2001 issued the decision, Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers et al (SWANCC), which greatly changed wetland regulation. The SWANCC decision limited the scope of the CORPS Section 404 CWA regulatory permitting program as applied to isolated waters. The intrastate waters that is not tributary or adjacent to navigable water or tributaries (i.e., wetland conditions). Overall the Court held that Congress did not intend for isolated, non-navigable water conditions to be covered within Section 404 of the CWA, sine they are not considered to be true "waters of the U.S."

5.2 Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in the State of California. The RWQCB draws its authority to regulate discharges to surface waters from the Federal CWA and the California Porter–Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the United States included wetlands (isolated and non–isolated conditions).

Section 401 of the CWA gives the RWQCB the authority to regulate through 401 Certification any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill materials permitted by the ACOR pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide "certification that there is reasonable assurance that an activity, which may result in the discharge to waters of the United States, will not violated water quality standards." Water Quality Certification must be based on a finding that the proposed discharge will comply with the quality of standards of which are found as numeric and narrative objectives in each of the nine (9) Regional Board's Basin Plan.

5.3 Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter–Cologne has become an important tool in the post SWANCC era, with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect it waster quality jus file a Report of Waste Discharge (should there be no Section 404 nexus). Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB also interprets this to include fill discharged into water bodies.

5.4 California Department of Fish and Game

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to Section s1600–1607 of the California Fish and Game Code. Legislation that took effect on 01 January 2004 repealed Fish and Gem Code sections 1600–1607 and added Fish and Game Code sections 1600-1616. The most important issue to note with this change is that now there is no separation between private/public notifications (previously 1601/1603). Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game code requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following :

1) Substantially obstruct or divert the natural flow of a river, stream, or lake;
2) Substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
3) Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

This notification process is referred to as a 1602 Streambed Alteration Agreement (SAA). Perennial, intermittent, and ephemeral streams, rivers and lakes in the state are covered in CDFG Section 1602.

The CDFG jurisdictional limits are not as clearly defined by regulation as those of the CORPS. While they closely resemble the limits described by ACOR regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence of absence of hydric soils and saturated soil conditions. Generally, the CDFG takes jurisdiction to the top of bank of the stream or the outer limit of the adjacent riparian vegetation (outer drip line), which ever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or

streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Potential jurisdictional waters were observed on Site, including evidence of an ordinary high water make (OHWM), bed, bank, channel, and vegetated riparian habitat. Since CORPS jurisdiction may be present, the Site most likely would be subject to regulation pursuant to Section 404 of the Clean Water Act.

Since CDFG jurisdiction closely parallels that of the CORPS, and evidence of CORPS jurisdiction occurs on Site, a CDFG Section 1602 Streambed Alteration would be required to implement the Project.

The coincident finding of CORPS and CDFG jurisdictional features and indicators on the project site, a Section 404 Permit is required prior to impacting the Site. Since a Section 404 Permit is required for the Project, a Section 401 Water Quality Certification is also required. Since no listed state or federal endangered species were identified on site, no consultation with the USFWS under the federal ESA would be required.

6.0 CONCLUSIONS & RECOMMENDATIONS

Premised on the preceding observational results the following recommendations are suggested to adequately identify biological resources to comport with CEQA and FESA.

Western Burrowing Owl Survey

The Project Site has the potential to support the western burrowing owl. It is recommend that Protocol level nesting season surveys pursuant to the Burrowing Owl Survey Protocol and Mitigation Guidelines prepared by the California Burrowing Owl Consortium be conducted to confirm the presence or absence of this species on site. The nesting survey season is February 1 through August 31, with peak nesting occurring from April 15 through July 15.

Coastal California Gnatcatcher Survey

The Project Site has the potential habitat to support the federal ESA listed threatened coastal California gnatcatcher (CAGN) although no CAGN were identified on Site. Any impacts to occupied habitat must occur outside of the breeding season, March 1 through August 31. Therefore, focused CAGN surveys pursuant to the USFWS CAGN Presence / Absence Survey Guidelines (February 28, 1997) are recommended to determine the presence / absence of CAGN on Site.

Least Bells Vireo Survey

The Project site has the potential to support the federally and state-listed endangered least Bell's Vireo (LBV) although no LBV were identified on Site. Protocol level surveys for LBV will be required to confirm the presence or absence of this species on the Site. The USFWS guidelines stipulate during the breeding season, eight surveys are to be conducted in all areas of suitable habitat with at least 10 days between Site visit.

Southwestern Willow Flycatcher Survey

The southern coast live oak riparian forest located in the northwestern corner of the Site has the potential to support the state and federal listed endangered southwestern willow flycatcher (SWF) although no SWF were identified on Site. Protocol surveys for SWF are required to confirm the presence or absence of this species on Site. The USFWS guidelines require five surveys conducted during the breeding season (May, June, and July) within suitable habitat.

Fairy Shrimp Survey

Due to the presence of numerous seasonal pools located on Site, protocol level wet season surveys should be conducted to determine if the pools support any state or federally listed fairy shrimp. To comport with CEQA, a presence / absence survey following USFWS protocol is required for the seasonal pool depressions to determine occurrence of listed fairy shrimp to include: the vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), and the Riverside fairy shrimp (*Streptocephalus woottoni*). A complete USFWS protocol survey to determine absence consists of either a wet-season survey followed by a dry-season survey or vice versa), or two wet-season surveys conducted during a five-year period pursuant to the USFWS' Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods.

Stephens' Kangaroo Rat Fee

The Site is located in the Stephens' kangaroo rat (SKR) Fee Assessment Area (Riverside County Ordinance 663.10). In accordance with Riverside County Ordinance 663.10, a SKR mitigation fee payment of $500.00 per developed acre is required.

Special Status Plant Species

The Site contains suitable habitat for sensitive plant species. Focused special status plant surveys were conducted during the 2008 growing season.

Vegetation Mapping

Project level mapping of the vegetation communities on site is required in order to comply with CEQA.

Native Trees

Several native coast live oak trees are located on Site, most notable in the northwest corner of the Site. The County of Riverside has a tree ordinance and requires a tree removal permit to remove native oak trees.

Pre-Construction Nesting Bird Surveys

It is recommended:

(1) Future vegetation removal associated with development of the property be conducted outside of the Migratory Bird Treaty Act breeding season (February 15 to August 31); or

(2) A qualified biologist conduct a nesting bird survey within three days of proposed grading or land disturbance within the nesting season in order to prevent any potential violation of the Migratory Bird Treat Act.

Jurisdictional Delineation

Potential CORPS and CDFG jurisdictional occur within the Project Site. It is recommended that a formal delineation be conducted to determine the limits of:

(3) CORPS jurisdiction pursuant to Section 404 of the Clean Water Act; and

(4) CDFG jurisdiction pursuant Division 2, Chapter 6, Section 1600 of the Fish and Game Code.

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Appendix A
Floral Compendium

FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual (Hickman 1993) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory (Tibor 2001). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004). An asterisk (*) denotes a non-native species.

Scientific Name	Common Name
SELAGINELLACEAE	**Spike-Moss Family**
Selaginella bigelovii	Bigelow's spike-moss
POLYPODIOPHYTA	**FERNS**
PTERIDACEAE	**Lip Fern Family**
Pentagramma triangularis triangularis	goldenback fern

GYMNOSPERMS

CONIFEROPHYTA	**CONE-BEARING PLANTS**
PINACEAE	**Pine Family**
Pinus halepensis	aleppo pine
MAGNOLIOPHYTA DICOTYLEDONS	**FLOWERING PLANTS DICOTS**
AMARANTHACEAE	**Amaranth Family**
Amaranthus blitoides	prostrate pigweed
ANACARDIACEAE	**Sumac Family**
Malosma laurina	laurel sumac
Rhus ovata	sugar bush
Rhus trilobata	squaw bush
**Schinus molle*	Peruvian pepper tree
Toxicodendron diversilobum	poison oak
APIACEAE	**Carrot Family**
**Apium graveolens*	common celery
Bowlesia incana	American bowlesia
Daucus pusillus	rattlesnake weed

Sanicula bipinnatifida	purple sanicle
ASCLEPIADACEAE	**Milkweed Family**
Sarcostemma cynanchoides ssp. *hartwegii*	Hartweg's milkvine
ASTERACEAE	**Sunflower Family**
Acourtia microcephala	sacapellote
Ambrosia acanthicarpa	annual bur-sage
Artemisia californica	California sagebrush
Artemisia douglasiana	California mugwort
Artemisia dracunculus	tarragon
Baccharis emoryi	Emory baccharis
Baccharis salicifolia	mulefat
Bebbia juncea	sweetbush
Brickellia californica	California brickellbush
**Carduus pycnocephalus*	Italian thistle
**Centaurea melitensis*	tocalote
**Centaurea solstitialis*	yellow star-thistle
Chaenactis artemisiifolia	artemisia-leaved pincushion
Chaenactis glabriuscula var. *glabriuscula*	yellow pincushion
**Chamomilla suaveolens*	pineapple weed
**Cirsium vulgare*	bull thistle
Conyza canadensis	common horseweed
Corethrogyne filaginifolia var. *californica*	California aster
Deinandra fasciculata	fascicled tarweed
Encelia californica	California encelia
Encelia farinosa	brittlebush
Ericameria palmeri var. *pachylepis*	Box Springs goldenbush
Erigeron foliosus var. *foliosus*	leafy daisy
Eriophyllum confertiflorum var. *confertiflorum*	golden yarrow
Eriophyllum multicaule	many stemmed wolly daisy
Filago californica	California filago
**Filago gallica*	narrow-leaved filago
Gnaphalium bicolor	bicolored cudweed
Gnaphalium californicum	California everlasting
Gnaphalium canescens ssp. *microcephalum*	white everlasting
Gutierrezia californica	California matchweed
**Hedypnois cretica*	crete hedypnois
Helianthus annuus	western sunflower
Helianthus gracilentus	slender sunflower
Heterotheca grandiflora	telegraph weed
Dienandra sp.	tarplant

Isocoma menziesii var. *menziesii*	Menzies' goldenbush
**Lactuca serriola*	prickly lettuce
Lasthenia californica	coastal goldfields
Layia platyglossa	common tidy-tips
Lepidospartum squamatum	scale-broom
Malacothrix saxatilis var. *tenuifolia*	cliff malacothrix
**Pluchea sericea*	desert arrow weed
Psilocarphus brevissimus var. *brevissimus*	woolly-marbles
**Pulicaria paludosa*	Spanish sunflower
Rafinesquia californica	California chicory
Senecio flaccidus var. *douglasii*	sand-wash butterweed
**Senecio vulgaris*	common groundsel
**Sonchus asper* ssp. *asper*	prickly sow-thistle
**Sonchus oleraceus*	common sow-thistle
Stephanomeria exigua ssp. *deanei*	Dean's wreath-plant
Stephanomeria virgata ssp. *virgata*	tall wreath-plant
Stylocline gnaphalioides	everlasting nest-straw
Tetradymia comosa	cotton-thorn
Xanthium strumarium	common cocklebur
BORAGINACEAE	**Borage Family**
Amsinckia menziesii var. *intermedia*	common fiddleneck
Cryptantha intermedia	common cryptantha
Heliotropium curassavicum	salt heliotrope
Pectocarya linearis ssp. *ferocula*	slender pectocarya
Pectocarya penicillata	winged pectocarya
BRASSICACEAE	**Mustard Family**
**Brassica nigra*	black mustard
**Hirschfeldia incana*	shortpod mustard
Lepidium nitidum var. *nitidum*	shining peppergrass
**Sisymbrium irio*	London rocket
**Sisymbrium orientale*	oriental sisymbrium
Thysanocarpus curvipes	lacepod
CACTACEAE	**Cactus Family**
Opuntia littoralis	coastal prickly pear
Opuntia parryi	cane cholla
CAPRIFOLIACEAE	**Honeysuckle Family**
Sambucus mexicana	Mexican elderberry

CARYOPHYLLACEAE	**Pink Family**
**Spergularia bocconei*	Boccone's sand spurry
Spergularia marina	salt-marsh sand spurry
**Stellaria media*	common chickweed
CHENOPODIACEAE	**Goosefoot Family**
**Atriplex semibaccata*	Australian saltbush
**Atriplex suberecta*	sprawling saltbush
**Bassia hyssopifolia*	five-hook bassia
**Chenopodium album*	lamb's quarters
Chenopodium californicum	California goosefoot
**Salsola tragus*	Russian-thistle
CISTACEAE	**Rock-Rose Family**
Helianthemum scoparium	peak rush-rose
CONVOLVULACEAE	**Morning-Glory Family**
Calystegia macrostegia	morning-glory
**Convolvulus arvensis*	field bindweed
CRASSULACEAE	**Stonecrop Family**
Crassula connata	sand pygmy-stonecrop
Dudleya lanceolata	lance-leaved dudleya
Dudleya pulverulenta ssp. *pulverulenta*	chalk dudleya
CUCURBITACEAE	**Gourd Family**
Cucurbita foetidissima	calabazilla
Marah macrocarpus	wild cucumber
CUSCUTACEAE	**Dodder Family**
Cuscuta californica	California witch's hair
EUPHORBIACEAE	**Spurge Family**
Chamaesyce albomarginata	rattlesnake spurge
Croton californicus	California croton
Croton setigerus	doveweed
**Ricinis communis*	castor bean
Stillingia linearifolia	linear leaved stillingia
FABACEAE	**Legume Family**
Astragalus didymocarpus var. *didymocarpus*	white dwarf locoweed
Astragalus tricopodus var. *tricopodus*	Southern California locoweed

Lotus scoparius var. *scoparius*	coastal deerweed
Lotus strigosus	strigose lotus
Lupinus bicolor	miniature lupine
Lupinus succulentus	arroyo lupine
**Medicago polymorpha*	California burclover
**Melilotus alba*	white sweetclover
**Melilotus indica*	yellow sweetclover
Trifolium willdenovii	tomcat clover
**Vicia villosa*	winter vetch
FAGACEAE	**Beech Family**
Quercus agrifolia var. *agrifolia*	coast live oak
Quercus berberidifolia	California scrub oak
GERANIACEAE	**Geranium Family**
**Erodium botrys*	long-beaked filaree
**Erodium cicutarium*	red-stemmed filaree
HYDROPHYLLACEAE	**Waterleaf Family**
Emmenanthe penduliflora var. *penduliflora*	whispering bells
Eriodictyon crassifolium	thick-leaved yerba santa
Eucrypta chrysanthemifolia var. *chrysanthemifolia*	common eucrypta
Nemophila menziesii	baby blue eyes
Phacelia cicutaria var. *hispida*	caterpillar phacelia
Phacelia distans	common phacelia
Phacelia minor	wild canterbury bells
Pholistoma racemosum	San Diego fiesta flower
LAMIACEAE	**Mint Family**
**Marrubium vulgare*	horehound
Salvia apiana	white sage
Salvia columbariae	chia
Salvia mellifera	black sage
LOASACEAE	**Stick-Leaf Family**
Mentzelia micrantha	small-flowered stick-leaf
MALVACEAE	**Mallow Family**
Malacothamnus fasciculatus	chaparral bush mallow
**Malva parviflora*	cheeseweed
MYRTACEAE	**Myrtle Family**
**Eucalyptus globulus*	Tasmanian blue gum

NYCTAGINACEAE	**Four O'Clock Family**
Mirabilis californica	California wishbone bush
ONAGRACEAE	**Evening Primrose Family**
Camissonia bistorta	southern suncup
Camissonia californica	California suncup
Camissonia micrantha	small primrose
Clarkia purpurea ssp. *quadrivulnera*	four-spot clarkia
Epilobium ciliatum ssp. *ciliatum*	green willow-herb
PAEONIACEAE	**Peony Family**
Paeonia californica	California peony
PAPAVERACEAE	**Poppy Family**
Dendromecon rigida	bush poppy
Dicentra chrysantha	golden ear-drops
Eschscholzia californica	California poppy
Platystemon californicus	California creampuffs
Romneya coulteri	Coulter's matilija poppy
PLANTAGINACEAE	**Plantain Family**
Plantago elongata	California alkali plantain
Plantago erecta	California plantain
PLATANACEAE	**Sycamore Family**
Platanus racemosa	western sycamore
POLEMONIACEAE	**Phlox Family**
Eriastrum sapphirinum	sapphire woolly-star
Gilia angelensis	grassland gilia
Navarretia hamata ssp. *leptantha*	southern hooked navarretia
POLYGONACEAE	**Buckwheat Family**
Chorizanthe parryi var. *parryi*	Parry's spineflower
Eriogonum elongatum var. *elongatum*	long-stemmed buckwheat
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile var. *gracile*	slender eriogonum
**Polygonum arenastrum*	common knotweed
Pterostegia drymarioides	granny's hairnet
**Rumex crispus*	curly dock

PORTULACACEAE	**Purslane Family**
Calandrinia ciliata	red maids
Calyptridium monandrum	common pussypaws
Claytonia perfoliata var. *perfoliata*	miner's lettuce
PRIMULACEAE	**Primrose Family**
**Anagallis arvensis*	scarlet pimpernel
RANUNCULACEAE	**Buttercup Family**
Delphinium parryi subsp. *parryi*	Parry's larkspur
Ranunculus californicus	California buttercup
RHAMNACEAE	**Buckthorn Family**
Ceanothus crassifolius	hoaryleaf ceanothus
Rhamnus crocea	spiny redberry
Rhamnus ilicifolia	holly-leaved redberry
ROSACEAE	**Rose Family**
Adenostoma fasciculatum	chamise
RUBIACEAE	**Madder Family**
Galium angustifolium ssp. *angustifolium*	narrow-leaved bedstraw
Galium aparine	common bedstraw
SALICACEAE	**Willow Family**
Populus fremontii ssp. *fremontii*	western cottonwood
Salix exigua	narrow-leaved willow
Salix gooddingii	Goodding's black willow
SAXIFRAGACEAE	**Saxifrage Family**
Jepsonia parryi	coast jepsonia
SCROPHULARIACEAE	**Figwort Family**
Antirrhinum coulterianum	white snapdragon
Keckiella antirrhinoides var. *antirrhinoides*	yellow bush-penstemon
Mimulus brevipes	slope semaphore
Mimulus fremontii	Fremont's monkey flower
Mimulus guttatus	seep monkey flower
Penstemon spectabilis var. *spectabilis*	royal penstemon
Scrophularia californica	California figwort

SIMAROUBACEAE	**Simarouba Family**
**Ailanthus altissima*	tree of heaven
SOLANACEAE	**Nightshade Family**
Datura wrightii	jimsonweed
**Nicotiana glauca*	tree tobacco
Nicotiana quadrivalis	indian tobacco
Solanum douglasii	Douglas' nightshade
Solanum xanti	chaparral nightshade
TAMARICACEAE	**Tamarisk Family**
**Tamarix ramosissima*	Mediterranean tamarisk
URTICACEAE	**Nettle Family**
Hesperocnide tenella	western nettle
Urtica dioica ssp. *holosericea*	hoary nettle
VERBENACEAE	**Vervain Family**
Verbena lasiostachys	western verbena
VIOLACEAE	**Violet Family**
Viola pedunculata	johnny jump-ups
VITACEAE	**Grape Family**
Vitis girdiana	desert wild grape

MAGNOLIOPHYTA MONOCOTYLEDONES — FLOWERING PLANTS MONOCOTS

CYPERACEAE	**Sedge Family**
Cyperus esculentus	yellow umbrella-sedge
JUNCACEAE	**Rush Family**
Juncus mexicanus	Mexican rush
Juncus xiphioides	iris-leaved rush
LILIACEAE	**Lily Family**
Bloomeria crocea	common golden stars
Calochortus splendens	splendid mariposa lily
Calochortus weedyii var. *weedyii*	Weed's mariposa lily

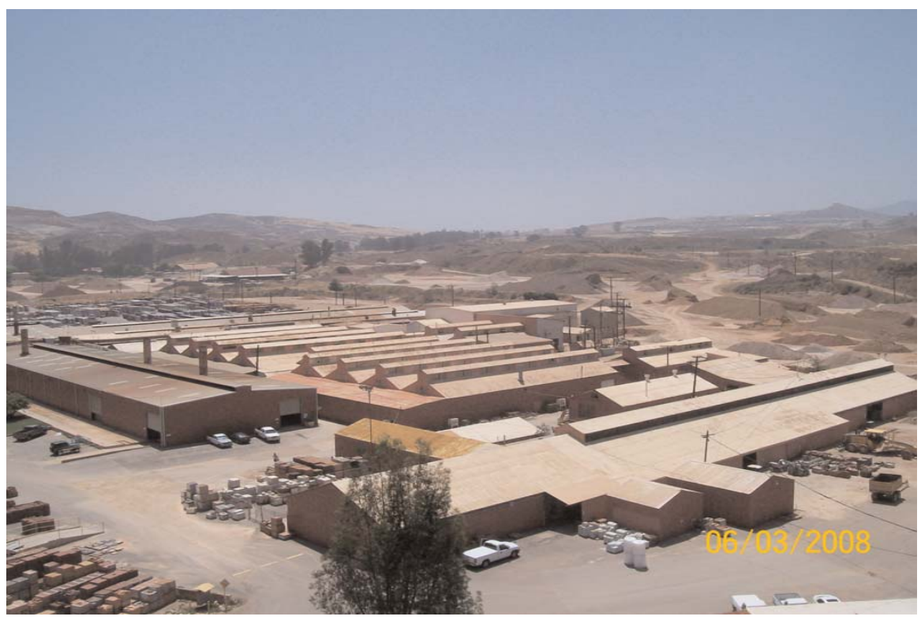
Dichelostemma capitatum ssp. *capitatum*	blue dicks
Muilla maritima	rough muilla
Yucca whipplei	our lord's candle
POACEAE	**Grass Family**
**Avena fatua*	common wild oat
**Bromus diandrus*	ripgut grass
**Bromus hordeaceus*	soft chess
**Bromus madritensis* ssp. *rubens*	foxtail chess
**Hordeum murinum* ssp. *leporinum*	bare barley
**Lamarckia aurea*	goldentop
Leymus condensatus	giant wild-rye
Leymus triticoides	beardless wild-rye
**Lolium perenne*	perennial ryegrass
Melica imperfecta	small-flowered melic
Nassella lepida	foothill needlegrass
Nassella pulchra	purple needlegrass
**Polypogon monspeliensis*	rabbitfoot grass
**Schismus barbatus*	Mediterranean grass
**Vulpia myuros* var. *myuros*	rattail fescue
TYPHACEAE	**Cat-Tail Family**
Typha domingensis	southern cat-tail

Appendix B
Site Photos

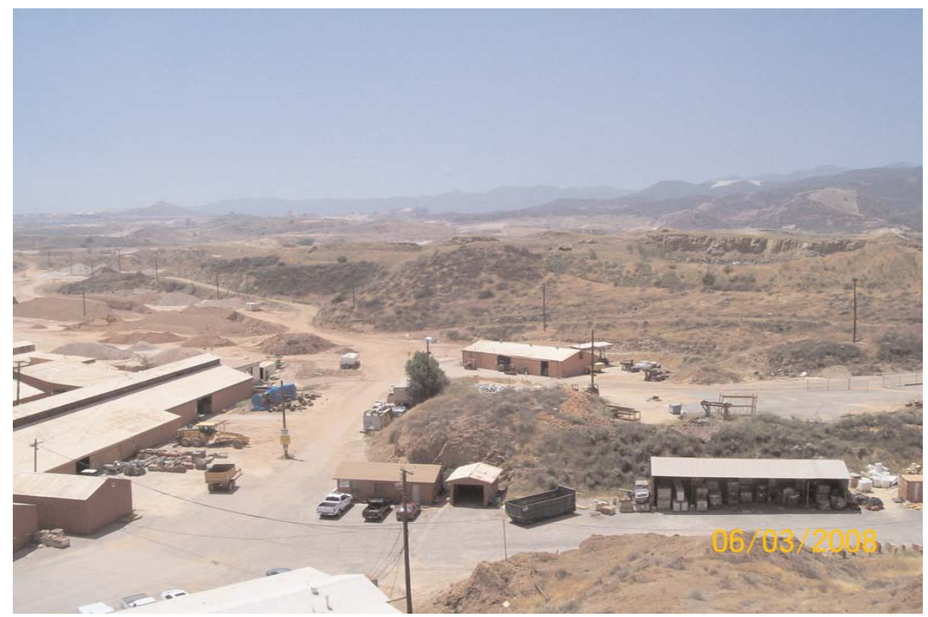
X:\0363-THE REST\0365-16CLAY\365-16.GIS\BIO_GIS\365-16BiologicalResourcesMap.mxd
June 20, 2008

Photograph 1: Looking up the hill located just west of the entrance to the Pacific Clay MIne Site. This photograph depicts an area on site where Parry's spine-flower was observed.

Photograph 2: This photograph depicts some of the mining facilities in the fore-ground, in the background you can see some of the typical habitat located in the central portion of the Project Site. This photograph is looking south over the Site.



Photograph 3: View from the top of the hill depicted in Photograph1. This photo-graph is looking southeast over the mining facilities.



Photograph 4: This photograph is looking south-southeast over some of the mining facilities.

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Exhibit 4

PACIFIC CLAY MINE

Site Photographs

Photograph 5: This photograph depicts a typical holding pond on site, This artificial pond contained tadpoles of western toad.

Photograph 6: This Photograph depicts the largest drainage on site. Photograph is facing south looking upstream.

Photograph 7: This photograph depicts the upper portion of the drainage in Photograph 6. Photograph is facing downstream and north.

Photograph 8: This photograph depicts some of the riparian vegetation and surrounding lands in the central portion of the Project Site.

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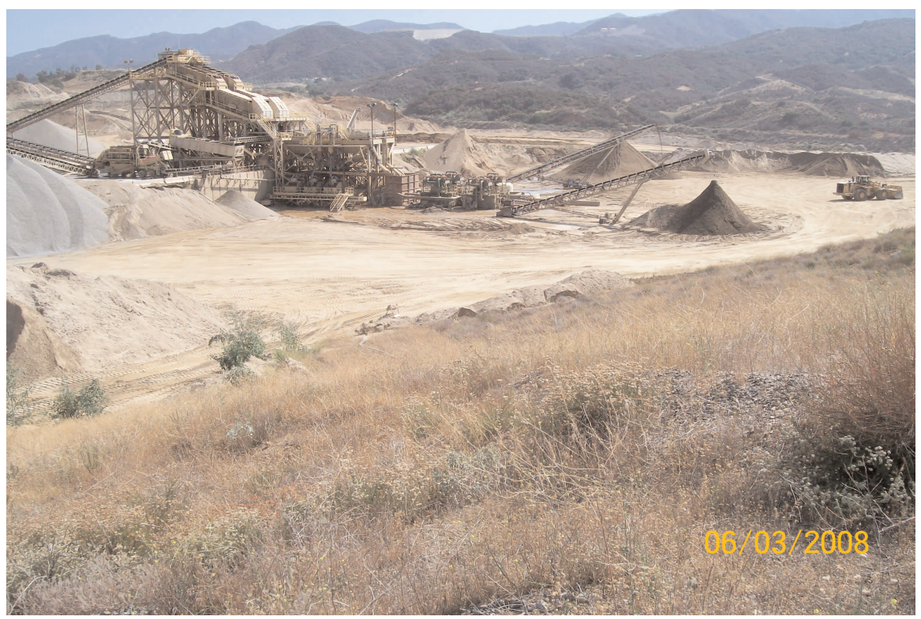
Exhibit 4

PACIFIC CLAY MINE

Site Photographs

Photograph 9: This photograph depicts the vegetation and land use in the central portion of the Project Site. Photo is looking north-northeast.

Photograph 10: This photograph depicts the disturbed mining operation on site. The area to the left of the hill was historically mapped as containing altamont clay soils.



Photograph 11: This photograph depicts the large mining operation located on site mentioned in the previous photograph.

Photograph 12: This photograph depicts some of the ponds and associated habitat located on site. This photograph is facing southwest.

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Exhibit 4

PACIFIC CLAY MINE

Site Photographs