

APPENDIX C

BIOLOGICAL RESOURCES ASSESSMENT

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CIELO VISTA

ORANGE COUNTY, CALIFORNIA



MARCH 2013

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CIELO VISTA

ORANGE COUNTY, CALIFORNIA

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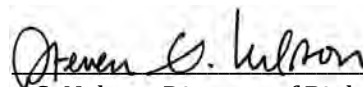
MARCH 2013

Biological Resources Assessment

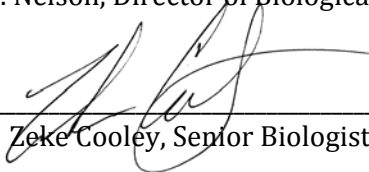
Cielo Vista
Orange County, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a supplemental biological resources assessment for the above-referenced project.

PCR Services Corporation



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March 2013

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1.0 INTRODUCTION

1.1 BACKGROUND AND PURPOSE

This report presents the findings of a biological resources assessment conducted by **PCR Services Corporation (PCR)** for the Cielo Vista Project. For purposes of this analysis, the “project site” is defined to include approximately 84.60-acre (83.90 acres on-site and 0.70 acre off-site) in unincorporated Orange County, California.¹ The purpose of this study is to satisfy the requirements of the California Environmental Quality Act (CEQA). Sage Community Group (Project Applicant) is requesting approvals from the County of Orange (the County) and Responsible Agencies (Agencies) that would allow the project site to be utilized as a single-family residential community and a passive open space area.

1.2 SOURCES

This assessment of biological resources is based on information compiled through field reconnaissance and appropriate reference materials. A general biological survey and vegetation mapping was conducted. A jurisdictional delineation, sensitive plant species surveys, and focused surveys for coastal California gnatcatcher (*Polioptila californica californica*), least Bell’s vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*) were also conducted. The information sources used in preparation of this Biological Resource Assessment are provided in **Section 10.0, References**.

1.3 PROJECT SITE LOCATION

The approximately 84.60-acre project site is generally located north of the 91 Freeway, east of Imperial Highway, and west of the 71 Freeway, as shown in **Figure 1, Regional Map**. Specifically, the project site is located east of Dorinda Road, north of Via del Agua, and south of Casino Ridge Road. The project site can be found on the U.S. Geological Survey (USGS) 7.5’ Yorba Linda Quadrangle, within an unincorporated section of the Canyon de Santa Ana Landgrant, T. 3 S., R. 8 W, as shown in **Figure 2, Vicinity Map**. Surrounding land uses include residential development to the west, north and south, and undeveloped open space to the east.

The topography consists of moderate to steep sloping hills and is relatively variable throughout the project site. Elevations range from approximately 600 feet above mean sea level (MSL) in the southern portion of the project site to approximately 875 feet above MSL in the northeastern portion of the project site.

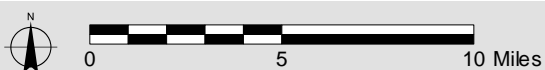
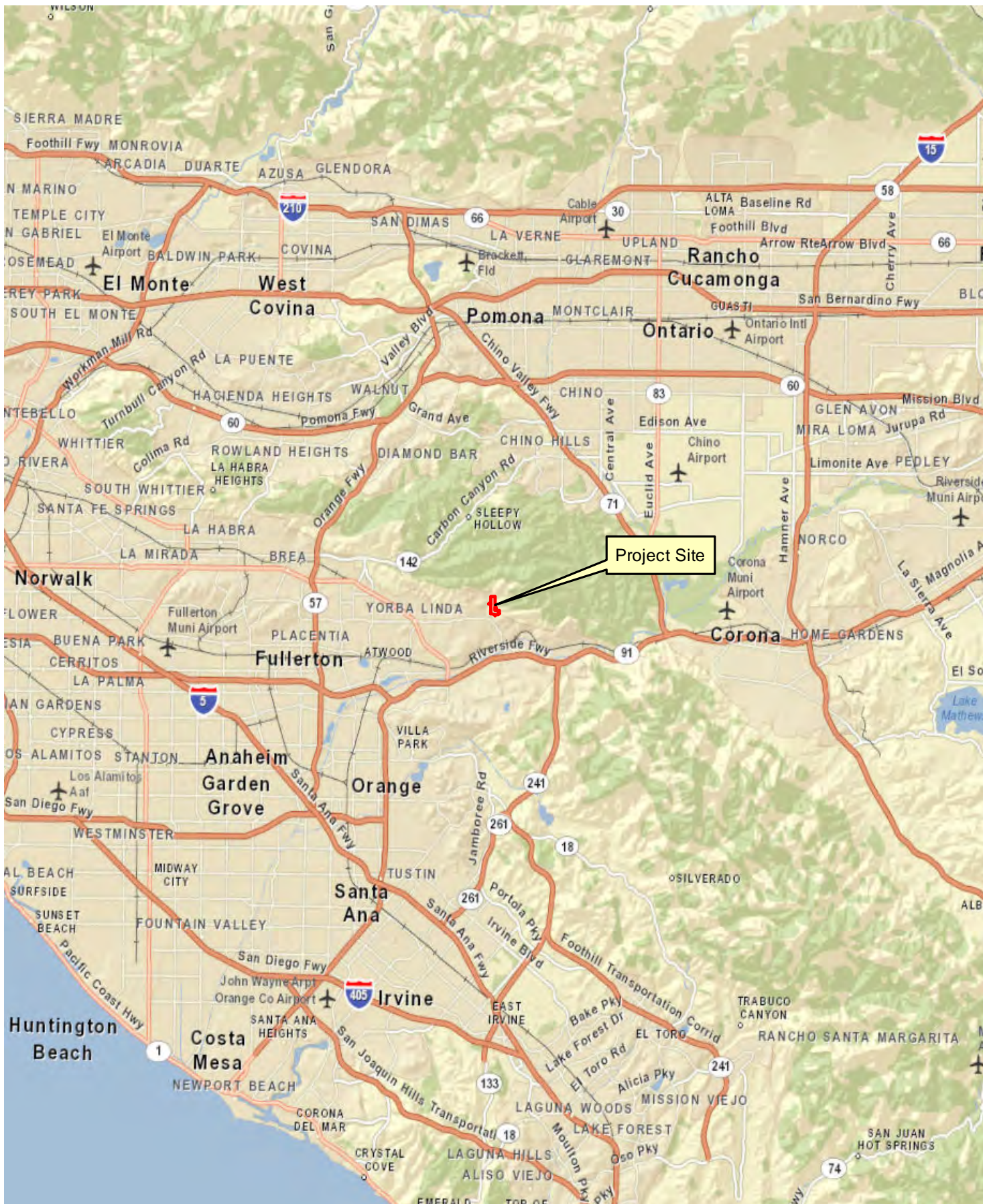
1.4 SCOPE OF STUDY

The scope of this Biological Resources Assessment encompasses:

1. This introduction;
2. Description of the proposed project;

¹ The area owned by the Project Applicant is 83.90 acres, which is the acreage indicated in the Area Plan prepared for the project. Since project implementation would require modest off-site improvements in the form of minor grading activities, the “project site” in this analysis also includes those areas subject to off-site improvements.

3. Description of methods of study;
4. Description of existing conditions;
5. Description of the proposed project's regulatory setting;
6. The establishment of significance thresholds;
7. Evaluation of potential project impacts; and,
8. Summary of potential significant project impacts, mitigation measures, and level of significance after mitigation.

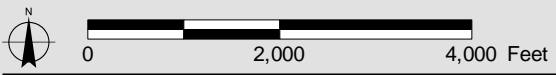
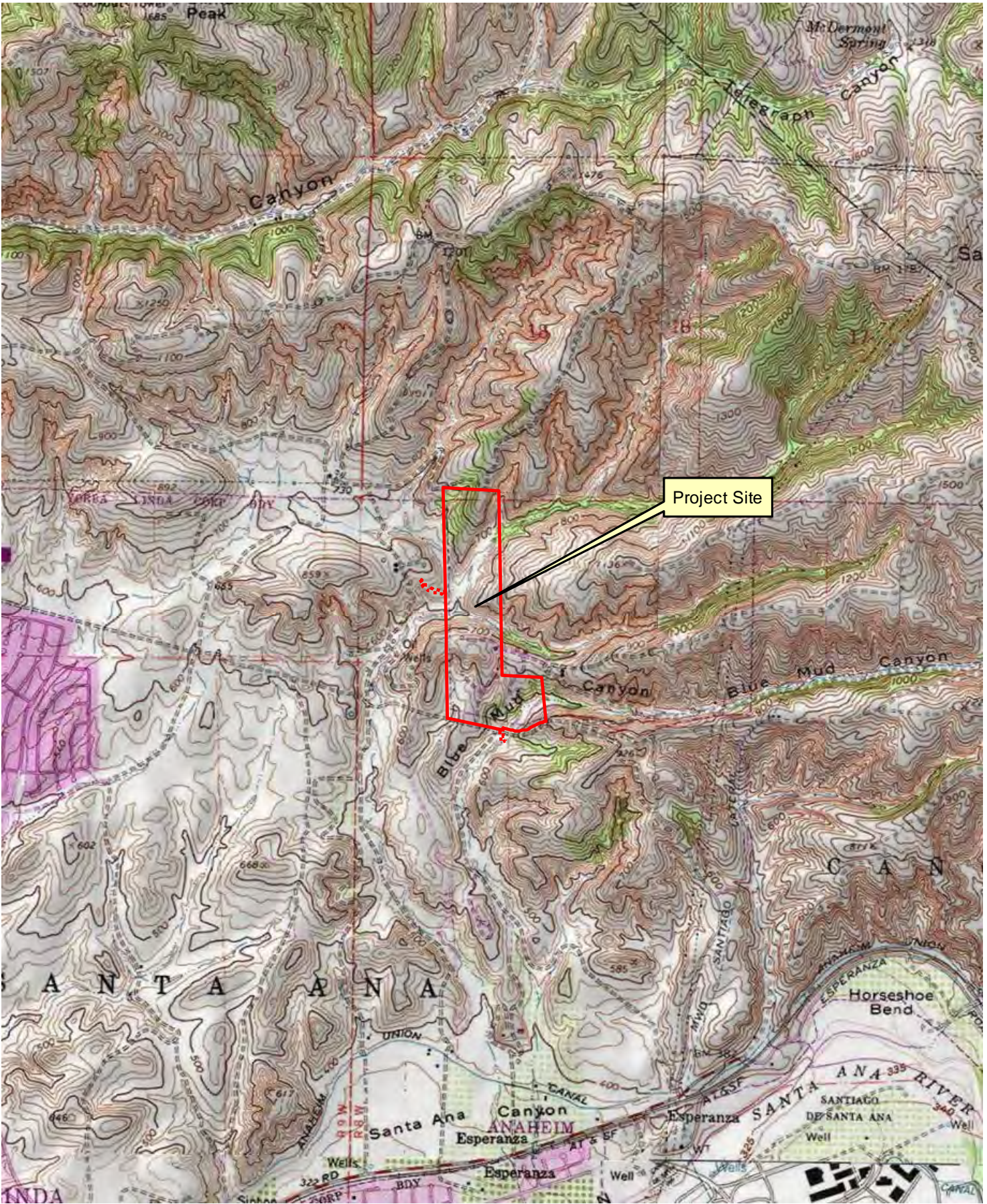


Regional Map

FIGURE

1

Cielo Vista
Source: ESRI Street Map, 2009; PCR Services Corporation, 2013.



Vicinity Map

FIGURE

2

Source: USGS Topographic Series (Yorba Linda, Prado Dam, CA); PCR Services Corporation, 2013.

Cielo Vista

2.0 PROJECT DESCRIPTION

2.1 PROJECT DESCRIPTION

The proposed project would allow the project site to be utilized as a single-family residential community and natural open space area. Each of these areas will be developed as described below. The extent of the grading will encompass approximately 58.92 acres (58.22 acres on-site and 0.70 acre off-site) of the 84.60-acre project site, as shown in **Figure 3, Proposed Development**. The 0.70 acre off-site area, which is located in the eastern and the southern portions of the proposed project, would include necessary road improvements for site access.

2.1.1 Single-Family Residential Community

The project applicant proposes to establish a maximum of 112 single-family residences on approximately 48 gross acres. This community would include residential lots with a minimum lot size of approximately 7,200 square feet with home sites averaging 14,811 square feet.

2.1.2 Public Natural Open Space Area

The project applicant proposes permanent retention of approximately 36 gross acres as permanent open space, of which 25 acres will be preserved as natural open space.

2.2 AVOIDANCE FEATURES

The following biological resources which will be avoided by the proposed project are described below. In addition, the County and responsible agencies have existing on-going requirements related to biological resources which will also serve to lessen, reduce, and/or avoid potential impacts to biological resources. These requirements are described further below in Section 2.3, *Standard Conditions*.

- The proposed project will permanently retain approximately 36 gross acres of open space.
- Natural topographical features forming drainages and slopes are retained within permanent open space areas of the project site.
- Approximately 16.23 acres of the project site will be avoided. The proposed project will avoid approximately 5.13 acres of sensitive natural communities, including 0.62 acre of blue elderberry woodland, 0.25 acre of southern willow scrub, 1.77 acres of blue elderberry woodland/laurel sumac chaparral, and 2.49 acres of encelia scrub.

2.3 STANDARD CONDITIONS

There are a number of performance criteria and standard conditions that must be met as part of any review and approval of the proposed project. These include compliance with all of the terms, provisions, and requirements with applicable laws that relate to Federal, State, and local regulating agencies related to potential impacts to sensitive plant and wildlife species, wetlands, riparian habitats, and blue lined stream courses.

2.3.1 State of California Fish and Game Code, Section 1602

Prior to the issuance of any grading permit within California Department of Fish and Wildlife (CDFW) jurisdiction, the project applicant will comply with Section 1602 of the California Fish and Game Code. This section requires any entity (e.g., person, State or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must first notify the CDFW of the proposed project. In the course of this notification process, the CDFW will review the proposed project as it affects streambed habitats within the project area. The CDFW may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse effects within CDFW jurisdictional limits.

2.3.2 Federal Clean Water Act (CWA), Section 404

Prior to the issuance of any grading permit within U.S. Army Corps of Engineers (USACE) jurisdiction, the project applicant will comply with Section 404 of the Federal Clean Water Act (CWA). This section regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The permit review process entails an assessment of potential adverse effects to USACE jurisdictional “waters of the U.S.” and wetlands.

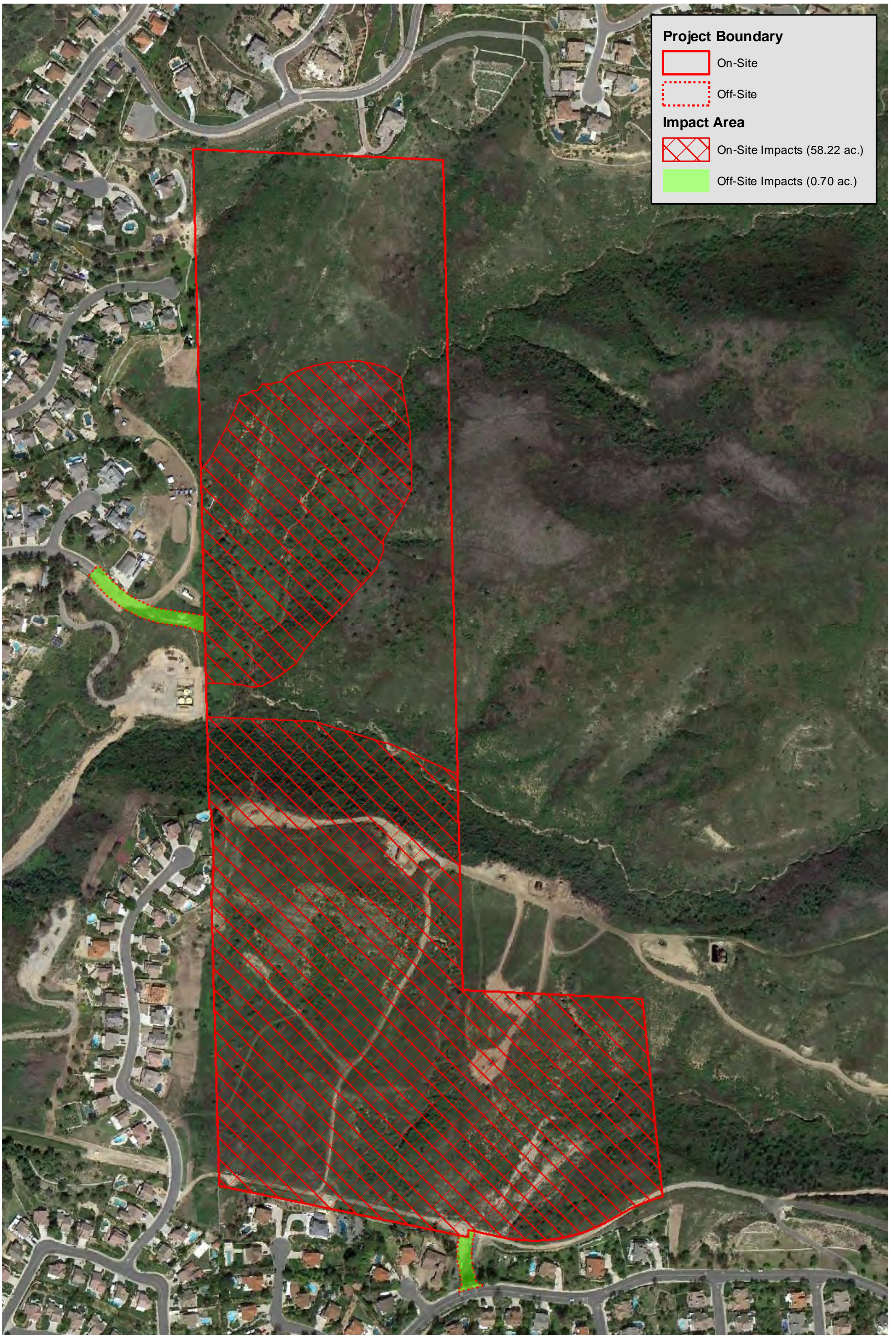
2.3.3 Federal Clean Water Act (CWA), Section 401

Prior to the issuance of any grading permit within Regional Water Quality Control Board (RWQCB) jurisdiction, the project applicant will comply with Section 401 of the CWA that requires:

“any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.”

Before the USACE will issue a Section 404 permit, the project applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that addresses the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the than under the Federal CWA.



Project Boundary

- On-Site
- Off-Site

Impact Area

- On-Site Impacts (58.22 ac.)
- Off-Site Impacts (0.70 ac.)

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3.0 METHODS OF STUDY

3.1 APPROACH

This assessment of biological resources is based on information compiled through field reconnaissance and appropriate reference materials. A general biological survey and vegetation mapping was conducted. A jurisdictional delineation, sensitive plant species surveys, and focused surveys for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher were also conducted.

3.2 LITERATURE REVIEW

This assessment of biological resources began with a review of relevant literature on the biological resources of the project site and surrounding vicinity. The California Natural Diversity Database (CNDDDB), a CDFW species account database, was reviewed for all pertinent information regarding the localities of known observations of sensitive species and habitats in the vicinity of the project site. The vicinity of the project site includes the Anaheim, Orange, Black Star Canyon, Baldwin Park, San Dimas, Ontario, La Habra, Yorba Linda and Prado Dam topographic quadrangles. Federal register listings, protocols, and species data provided by the United States Fish and Wildlife Service (USFWS) and CDFW were reviewed in conjunction with anticipated Federally and State listed species potentially occurring within the vicinity. In addition, numerous regional flora and fauna field guides were utilized to assist in the identification of species and suitable habitats. Documentation of previous assessments and surveys conducted on the project site was also reviewed. A list of all relevant references reviewed is included in **Section 10.0, References**.

3.3 FIELD INVESTIGATIONS

A general biological survey and vegetation mapping was conducted by PCR biologists Zeke Cooley and Maile Tanaka on May 23, 2012 to document natural communities and existing conditions. During the course of this survey, an inventory of all plant and wildlife species observed was compiled. Survey coverage of the entire project site, with special attention to sensitive habitats or those areas potentially supporting sensitive flora or fauna, was ensured using aerial photographs. PCR biologists Zeke Cooley and Bob Huttar conducted sensitive plant surveys on April 26, 2012, and Maile Tanaka and Mr. Huttar conducted sensitive plant surveys on July 6, 2012. Cereus Environmental biologist Jason Berkley conducted coastal California gnatcatcher surveys between April 14 and June 1, 2012; Mr. Berkley, Mr. Cooley, and Ms. Tanaka conducted least Bell's vireo surveys between April 18 and July 9, 2012; and Mr. Berkley conducted southwestern willow flycatcher surveys between May 19 and July 9, 2012. On June 5 and June 11, 2012, PCR environmental scientist Amir Morales and Mr. Cooley conducted a jurisdictional delineation.

3.3.1 Natural Community Mapping

Natural communities were mapped directly in the field utilizing a 250-scale (1"=250') aerial photograph. Community names and descriptions follow the Orange County Habitat Classification System (OCHCS) (Gray and Bramlet 1992). After completing the fieldwork, the natural community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages.

3.3.2 General Plant Inventory

All plant species observed during surveys were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Baldwin (2012). Common plant names, when not available from Hickman, were taken from Munz (1974) and McAuley (1996). Because common names vary significantly between references, scientific names are included upon initial mention of each species; common names consistent throughout the report are employed thereafter. All plant species observed are included in the Appendix A, *Floral and Faunal Compendium*, attached. Sensitive plant species are discussed below in Section 3.3.3, *Sensitive Plant Surveys*.

3.3.3 Sensitive Plant Surveys

Sensitive plants include those listed by the USFWS, CDFW, and California Native Plant Society (CNPS) (particularly species with a California Rare Plant Rank (CPRP) of Lists 1A, 1B, and 2).

Sensitive plant species that have potential to occur on-site include:

- chaparral sand verbena (*Abronia villosa* var. *aurita*),
- Braunton's milk-vetch (*Astragalus brautonii*),
- round-leaved filaree (*California macrophylla*),
- Plummer's mariposa lily (*Calochortus plummerae*),
- foothill mariposa lily (*Calochortus weedii* var. *intermedius*),
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*),
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*),
- long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*),
- slender-horned spineflower (*Dodecahema leptoceras*),
- many-stemmed dudleya (*Dudleya multicaulis*),
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*),
- mesa horkelia (*Horkelia cuneata* ssp. *puberula*),
- Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*),
- Allen's pentachaeta (*Pentachaeta aurea* ssp. *allenii*),
- south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*),
- Brand's star phacelia (*Phacelia stellaris*),
- white rabbit-tobacco (*Pseudognaphalium leucocephalum*),
- chaparral ragwort (*Senecio aphanactis*),
- salt spring checkerbloom (*Sidalcea neomexicana*), and
- San Bernardino aster (*Symphyotrichum defoliatum*).

Focused surveys for these species were conducted in April and July 2012 to encompass the blooming periods of all potentially present species.

3.3.4 General Wildlife Inventory

All wildlife species observed within the project site, as well as diagnostic sign (call, tracks, nests, scat, remains, or other sign), were recorded in field notes. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (2012) for birds, and Jameson and Peeters (1988) for mammals. Scientific names are used during the first mention of a species; common names only are used in the remainder of the text. A list of all wildlife species detected is included in Appendix A, *Floral and Faunal Compendium*, attached. Sensitive wildlife species are discussed below in Section 3.3.5, *Sensitive Wildlife Species*.

3.3.5 Sensitive Wildlife Species Surveys

Due to the presence of suitable habitat on-site, surveys were performed for three sensitive wildlife species. Focused surveys were conducted to determine the presence and abundance, or absence, of the following species:

- Coastal California gnatcatcher
- Least Bell's vireo
- Southwestern willow flycatcher

3.3.6 Regional Connectivity/Wildlife Movement Corridor

The analysis of wildlife movement in preparation of this document is based on information compiled from the literature, analysis of aerial photographs and topographic maps, direct observations made in the field during survey work, and an analysis of existing wildlife movement functions. Relative to corridor issues, the focus of this assessment is to determine if the change of the existing land use within the project site will have significant impacts on the regional wildlife movement associated with the project site and the immediate vicinity.

3.3.7 Jurisdictional Delineation

A jurisdictional delineation of all existing drainage features was conducted by PCR environmental scientist Amir Morales and biologist Zeke Cooley on June 5 and June 11, 2012 to assess the extent of "waters of the U.S.," "waters of the State" and/or wetlands under the jurisdiction of the USACE/RWQCB, and/or streambed and associated riparian habitat under the jurisdiction of the CDFW. Detailed methodology and results of the jurisdictional delineation are included in *Investigation of Jurisdictional Waters of the U.S. and State for the Cielo Vista Project Site* under separate cover (PCR 2012a).

4.0 EXISTING CONDITIONS

4.1 CHARACTERISTICS OF THE PROJECT SITE AND SURROUNDING AREA

The majority of the 84.60-acre project site consists of a mix of natural and disturbed communities, with the exception of several operational and abandoned oil wells and various dirt access roads and trails which traverse the southern portion of the project site. The project site has been subject to a mineral lease for oil production as part of the Esperanza Oil Field. Oil production facilities within the project site include four operational wells, one abandoned well, one idle well and tank batteries, unimproved oil field service roads, and unimproved drill pad sites scattered throughout the southern portion of the project site. A Southern California Gas Company easement of approximately 100 feet in width crosses the northwesterly edge of the project site.

The topography of the project site is characterized by moderate to steep sloping hillsides with scrub and chaparral vegetation. Elevations range from approximately 600 feet MSL in the southern portions of the site to approximately 875 feet above MSL at the highest point in the northern portion of the site. Surrounding land uses consist of residential development to the immediate north, west, and south, and undeveloped vacant land supporting oil rigs to the east. The expansive open space area of Chino Hills State Park lies to the north of the project site.

4.2 NATURAL COMMUNITIES

Descriptions of each of the natural communities found within the project site are provided below and are based on the OCHCS and PCR findings. Locations of each of the natural communities are shown in **Figure 4, Natural Communities**. **Table 1, Natural Communities** lists each of the natural communities observed as well as the acreage within the project site. Representative photographs of natural communities found within the project site are included in **Figure 5, Site Photographs**.

4.2.1 Blue Elderberry Woodland (OCHCS – 8.4)

Blue elderberry woodland is dominated by blue elderberry (*Sambucus nigra* ssp. *caerulea*). Associated species include poison hemlock (*Conium maculatum*), giant wild rye (*Leymus condensatus*), California bush sunflower (*Encelia californica*), chaparral bushmallow (*Malacothamnus fasciculatus*), Southern California black walnut (*Juglans californica* var. *californica*), California sagebrush (*Artemisia californica*), western ragweed (*Ambrosia psilostachya*), fuchsia-flowered gooseberry (*Ribes speciosum*), western bindweed (*Calystegia macrostegia*), golden yarrow (*Eriophyllum confertiflorum*), fennel (*Foeniculum vulgare*), short-podded mustard (*Hirshfeldia incana*), and sweetclover (*Melilotus* sp.). Blue elderberry woodland comprises 5.21 acres within the central and southern portions of the project site.

4.2.2 Laurel Sumac Chaparral (OCHCS – 3.0)

Laurel sumac chaparral is dominated by laurel sumac (*Malosma laurina*). Associated species include blue elderberry, California sagebrush, fennel, and short-podded mustard. Laurel sumac chaparral comprises 0.70 acre within the southern portion of the project site.

Table 1
Natural Communities

Natural Community	OCHCS^a Code	On-Site (acres)	Off-Site (acres)	Total (acres)
Blue Elderberry Woodland	8.4	5.21		5.21
Laurel Sumac Chaparral	3.0	0.70		0.70
Chaparral Bushmallow Scrub	2.3.11	6.20		6.20
Mixed Coastal Sage Scrub	2.3.10	9.05		9.05
Mule Fat Scrub	7.3	0.60		0.60
Southern Willow Scrub	7.2	1.50		1.50
Blue Elderberry Woodland/Laurel Sumac Chaparral	8.4/3.0	2.28		2.28
Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub	8.4/3.0/ 2.3.10	2.57		2.57
Encelia Scrub	2.5	8.12		8.12
Chaparral Bushmallow/Encelia Scrub	2.3.11/2.5	9.14		9.14
Ruderal	4.6	18.17		18.17
Ruderal/Sagebrush Scrub	4.6/2.3.6	1.48		1.48
Ruderal/Blue Elderberry Woodland	4.6/8.4	8.27	0.26	8.53
Ruderal/Mixed Coastal Sage Scrub	4.6/2.3.10	1.43		1.43
Ruderal/Encelia Scrub	4.6/2.5	5.17		5.17
Ruderal/Chaparral Bushmallow Scrub	4.6/2.3.11	0.40		0.40
Ruderal/Mule Fat Scrub	4.6/7.3	0.39		0.39
Disturbed	16.1	3.22	0.44	3.66
Total		83.90	0.70	84.60

^a Orange County Habitat Classification System.

Source: PCR Services Corporation, 2013.

4.2.3 Chaparral Bushmallow Scrub (OCHCS - 2.3.11)

Chaparral bushmallow scrub is dominated by dense stands of chaparral bushmallow. This community is characterized by monocultures of chaparral bushmallow with sparse open areas containing Pomona locoweed (*Astragalus pomonensis*), laurel sumac, California bush sunflower, short-podded mustard. Chaparral bushmallow scrub comprises 6.20 acres within the central portion of the project site.

4.2.4 Mixed Coastal Sage Scrub (OCHCS - 2.3.10)

Mixed coastal sage scrub is dominated by a mixed community of California sagebrush, California bush sunflower, and black sage (*Salvia mellifera*). Associated species observed within this community include chaparral bushmallow, tocalote (*Centaurea melitensis*), laurel sumac, blue elderberry, California buckwheat (*Eriogonum fasciculatum*), purple sage (*Salvia leucophylla*), white sage (*Salvia apiana*), giant wild rye, California aster (*Corethrogyne flaginifolia*), needlegrass (*Nassella* sp.), purple nightshade (*Solanum xanti*),



Photograph 1: View of Chaparral Bushmallow Scrub in the eastern portion of the project site.



Photograph 2: View of Encelia Scrub in the eastern portion of the project site.



Photograph 3: View of Mixed Sage Scrub in the central portion of the project site.



Photograph 4: View of a Ruderal community in the foreground and Blue Elderberry Woodland in the background.

and blue-eyed-grass (*Sisyrinchium bellum*). Mixed coastal sage scrub comprises 9.05 acres within the southern portion of the project site.

4.2.5 Mule Fat Scrub (OCHCS - 7.3)

Mule fat scrub is dominated by mule fat (*Baccharis salicifolia*) and is typically found in association with drainage features and riparian areas. Associated species include native Southern California black walnut, California sagebrush, cliff malacothrix (*Malacothrix saxatilis*), western verbena (*Verbena lasiostachys*), Pomona locoweed and mugwort (*Artemisia douglasiana*), as well as the non-native and invasive tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), short-podded mustard, poison hemlock, tocalote, and cheeseweed (*Malva parviflora*). Mule fat scrub comprises 0.60 acre within the southern portion of the project study area.

4.2.6 Southern Willow Scrub (OCHCS - 7.2)

Southern willow scrub is a community comprised of several species of willows. Dominant species within this community include black willow (*Salix gooddingii*) and red willow (*Salix laevigata*), with a subdominance of poison oak (*Toxicodendron diversilobum*). Associated species include arroyo willow (*Salix lasiolepis*), cattail (*Typha* sp.), mugwort, blue elderberry, southern California black walnut, poison hemlock, Douglas' nightshade (*Solanum douglasii*), wild cucumber (*Marah macrocarpus*), coyote brush (*Baccharis pilularis*), water-cress (*Rorippa nasturtium-aquaticum*), giant wild rye, and cliff malacothrix. Southern willow scrub comprises 1.50 acres within the western portion of the project study area. This vegetation also includes the non-native and invasive castor bean, tree tobacco, fennel, Mexican fan palm (*Washingtonia robusta*), gum tree (*Eucalyptus* sp.), annual beard grass (*Polypogon monspeliensis*), and smilo grass (*Piptatherum miliaceum*).

4.2.7 Blue Elderberry Woodland/Laurel Sumac Chaparral (OCHCS – 8.4/3.0)

Blue elderberry woodland/laurel sumac chaparral is dominated by blue elderberry with a subdominance of laurel sumac. Associated species include California sagebrush, black sage, fennel, and short-podded mustard. Blue elderberry woodland/laurel sumac chaparral comprises 2.28 acres within the northern portion of the project site.

4.2.8 Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub (OCHCS – 8.4/3.0/2.3.10)

Blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub is dominated by blue elderberry with a subdominance of laurel sumac and an understory of mixed coastal sage scrub species. Associated species include California sagebrush, California bush sunflower, black sage, fennel, and short-podded mustard. Blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub comprises 2.57 acres within the southern portion of the project site.

4.2.9 Encelia Scrub (OCHCS - 2.5)

Encelia scrub is dominated by California bush sunflower. Associated species include chaparral bushmallow, laurel sumac, short-podded mustard, black sage, blue elderberry, sugar bush (*Rhus ovata*), tocalote, saw-

toothed goldenbush (*Hazardia squarrosa*), toyon (*Heteromeles arbutifolia*), California sagebrush, horehound (*Marrubium vulgare*), rattlesnake weed (*Chamaesyce albomarginata*), narrow-leaf milkweed (*Asclepias fascicularis*), tree tobacco, cliff malacothrix, sow thistle (*Sonchus* sp.), Italian thistle (*Carduus pycnocephalus*), Palmer's goldenbush (*Ericameria palmeri*), red-stemmed filaree (*Erodium cicutarium*), milk thistle (*Silybum marianum*), deerweed (*Lotus scoparius*), coastal goldenbush (*Isocoma menziesii*), fountain grass (*Pennisetum setaceum*), lemonadeberry (*Rhus integrifolia*), fascicled tarweed (*Hemizonia fasciculata*), needlegrass, rattlesnake spurge (*Euphorbia serpens*), and Douglas' nightshade. Encelia scrub comprises 8.12 acres within the northern and southern portions of the project site.

4.2.10 Chaparral Bushmallow/Encelia Scrub (OCHCS - 2.3.11/2.5)

Chaparral bushmallow/encelia scrub is dominated by chaparral bushmallow. Associated species include laurel sumac, purple sage, horseweed (*Conyza canadensis*), tree tobacco, milk thistle, California sagebrush, tocalote, and blue elderberry. Chaparral bushmallow/encelia scrub comprises 9.14 acres within the central portion of the project site.

4.2.11 Ruderal (OCHCS - 4.6)

Ruderal areas are dominated by weedy non-native species and exhibit signs of previous disturbance. Species observed within this community include Mexican fan palm, short-podded mustard, fennel, black mustard (*Brassica nigra*), blue elderberry, California bush sunflower, Palmer's goldenbush, milk thistle, western verbena, tocalote, curly dock (*Rumex* sp.), western sycamore (*Platanus racemosa*), Peruvian pepper tree (*Schinus molle*), and prickly pear (*Opuntia littoralis*). Ruderal areas comprise 18.17 acres on-site within the northern and southern portions of the project study area. As described below, ruderal species also pervade several native plant assemblages on-site.

4.2.12 Ruderal/Sagebrush Scrub (OCHCS - 4.6/2.3.6)

Ruderal/sagebrush scrub is dominated by weedy non-native species and California sagebrush. Species observed within this community include short-podded mustard and western ragweed. Ruderal/sagebrush scrub comprise 1.48 acres within the central and southeastern portions of the project site.

4.2.13 Ruderal/Blue Elderberry Woodland (OCHCS - 4.6/8.4)

Within the central portion of the project site, ruderal/blue elderberry woodland comprises 8.53 acres (8.27 acres on-site and 0.26 acre off-site) and is characterized by a dominance of weedy, ruderal species and those species found within blue elderberry woodland.

4.2.14 Ruderal/Mixed Coastal Sage Scrub (OCHCS - 4.6/2.3.10)

Within the southern portion of the project site, ruderal/mixed coastal sage scrub comprises 1.43 acres and is characterized by a dominance of weedy, ruderal species and those species found within mixed coastal sage scrub. California figwort (*Scrophularia californica*) was also observed within this community.

4.2.15 Ruderal/Encelia Scrub (OCHCS - 4.6/2.5)

Within the central and southern portions of the project site, ruderal/encelia scrub comprises 5.17 acres and is characterized by a dominance of weedy, ruderal species and those species found within encelia scrub.

4.2.16 Ruderal/Chaparral Bushmallow Scrub (OCHCS - 4.6/2.3.11)

Within the central portion of the project site, ruderal/chaparral bushmallow scrub comprises 0.40 acre and is characterized by a dominance of weedy, ruderal species and those species found within chaparral bushmallow scrub.

4.2.17 Ruderal/Mule Fat Scrub (OCHCS - 4.6/7.3)

Within the southwestern portion of the project site, ruderal/mule fat scrub comprises 0.39 acre and is characterized by a dominance of weedy, ruderal species and those species found within Mule Fat Scrub. Other species observed within this community include chaparral bushmallow, fennel, blue elderberry, and Peruvian pepper tree.

4.2.18 Disturbed (OCHCS - 16.1)

Disturbed areas within the project site include areas of little to no vegetation and are comprised of dirt roads, fuel modification areas, and cleared pads supporting oil rigs. Disturbed areas comprise 3.66 acres (3.22 acres on-site and 0.44 acre off-site) within the southern portion of the project site. Associated species are comprised predominantly of weedy species and include Russian thistle (*Salsola tragus*), tree tobacco, bristly ox-tongue (*Picris echioides*), fennel, short-podded mustard, tocalote, calabazilla (*Cucurbita foetidissima*), fascicled tarweed, foxtail chess (*Bromus madritensis*), wild oat (*Avena* sp.), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), cheeseweed, Italian thistle, horseweed, castor bean, and sweetclover.

4.3 GENERAL PLANT INVENTORY

The natural communities discussed above are composed of numerous plant species. Observations regarding the plant species present were made during all field visits to the project site. All plant species observed during surveys are indicated in Appendix A, *Floral and Faunal Compendium*. Sensitive plant species occurring or potentially occurring within the project site are discussed below in Section 4.7.3, *Sensitive Plant Species*.

4.4 GENERAL WILDLIFE INVENTORY

The natural communities discussed above provide habitat for wildlife species. While a few wildlife species are entirely dependent on a single community, the entire mosaic of all the communities within the project site and adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within the project site and as part of the regional ecosystem. Wildlife species observed, as well as those expected to occur, within the project site are indicated in Appendix A, *Floral and Faunal Compendium*. Sensitive wildlife species occurring or potentially occurring are discussed below in Section 4.7.4, *Sensitive Wildlife Species*.

4.5 WILDLIFE MOVEMENT

4.5.1 Overview

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic material (MacArthur and Wilson 1967; Soulé 1987; Harris and Gallagher 1989; Bennet 1990).

Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “metapopulation.” The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population’s genetic variability is generally associated with an increase in a population’s health and long-term viability.

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983, Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and, (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as “wildlife corridor,” “travel route,” and “wildlife crossing” to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food,

and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

4.5.2 Wildlife Movement Within the Project Site

As previously described, wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of each of these types of movement is species specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds on a “local” level to home ranges encompassing many square-miles for large mammals moving on a “regional” level. The location of the project site supports limited wildlife movement due to surrounding development.

Movement on a smaller or “local” scale occurs throughout the surrounding vicinity as well as within the project site itself. Data gathered from biological surveys indicates that the project site contains habitat that supports a number of species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species may be entirely contained within the project site and immediate vicinity. Populations of animals such as insects, amphibians, reptiles, small mammals, and a few bird species may find all their resource requirements without moving far or outside of the project site at all. Occasionally, individuals expanding their home range or dispersing from their parental range will attempt to move outside of the project site.

From a regional perspective, the project site abuts a large area of privately owned open space along the eastern boundary of the project site, which is contiguous with open space connecting to Chino Hills State Park (to the north and east). The project site is situated approximately 0.7 mile southeast of Chino Hills State Park, 1.25 miles southwest of San Juan Hill, and 1.5 miles north of the Santa Ana River. The project site is also 4.5 miles north of Warner and Conrock Basins, 4.5 miles southeast of the Carbon Canyon Dam, and 5.4 miles northwest of Sierra Peak (Cleveland National Forest). Due to the past urbanization of the region, large open space areas in the immediate vicinity of the project site are limited to Chino Hills State Park, San Juan Hill, and the Santa Ana River (refer to **Figure 6, Aerial Photograph**). The project site is bounded by residential development to the north, south, and west. Thus, the development surrounding the project site would deter the movement of larger mammals through the project site that require larger home range areas and dispersal distances or dense vegetative cover. However, species that are less restricted in movement pathway requirements or are adapted to urban areas (e.g., raccoon, skunk, coyote, birds) likely move through the project site. Although the project site provides live-in habitat for wildlife and may support movement on a local scale, it does not function as a regional wildlife movement corridor since it does not connect two or more habitat patches due to the surrounding development. Furthermore, the South Coast

Wildlands Missing Linkages (Penrod 2001) report was consulted and the project site was found not to be located within any of the linkages. Impacts to wildlife movement are discussed in Section 7.2.4, Impacts to Wildlife Movement and Migratory Species, below.

4.6 JURISDICTIONAL WATERS AND WETLANDS

PCR environmental scientist Amir Morales and biologist Ezekiel Cooley examined the project site on June 5 and June 11, 2012 to assess the extent of USACE/RWQCB and CDFW jurisdictional waters within the project site.² The project site contains two mainstem drainage features (referred to in this report as Drainages A and B) and six tributary drainage features (referred to in this report as Tributaries A1, A1.1, A2, A3, B1, and B2). Drainage A is an unnamed tributary to the Santa Ana River, while Drainage B is associated with Blue Mud Canyon based on the USGS Yorba Linda Quadrangle map. Both mainstem drainage features are conveyed into storm drains within developed communities downstream that ultimately convey flow directly to the Santa Ana River. The project site contains a total of approximately 6,836 linear feet of streambed and approximately 0.87 acre of USACE/RWQCB jurisdictional “waters of the U.S.” and 2.07 acres of CDFW jurisdictional streambed and associated riparian habitat, of which 0.29 acre are wetlands as summarized in **Figure 7, Jurisdictional Features** and **Table 2, Jurisdictional Features**.

Drainage A is an unnamed USGS blue line tributary with canyon headwaters that initiate off-site approximately 1-mile to the east. Drainage A is consistent with the classification of an ephemeral stream for approximately 1,244 linear feet prior to supporting an intermittent stream for the remaining 583 linear feet of on-site drainage based on the presence of groundwater within the channel observed to support jurisdictional wetlands. There are 4 tributaries associated with Drainage A; Drainage A1, A1.1, A2, and A3. The groundwater observed within the drainage feature appears to be seepage associated with persistent nuisance flows conveyed by Drainage A1 that have saturated the surrounding area.

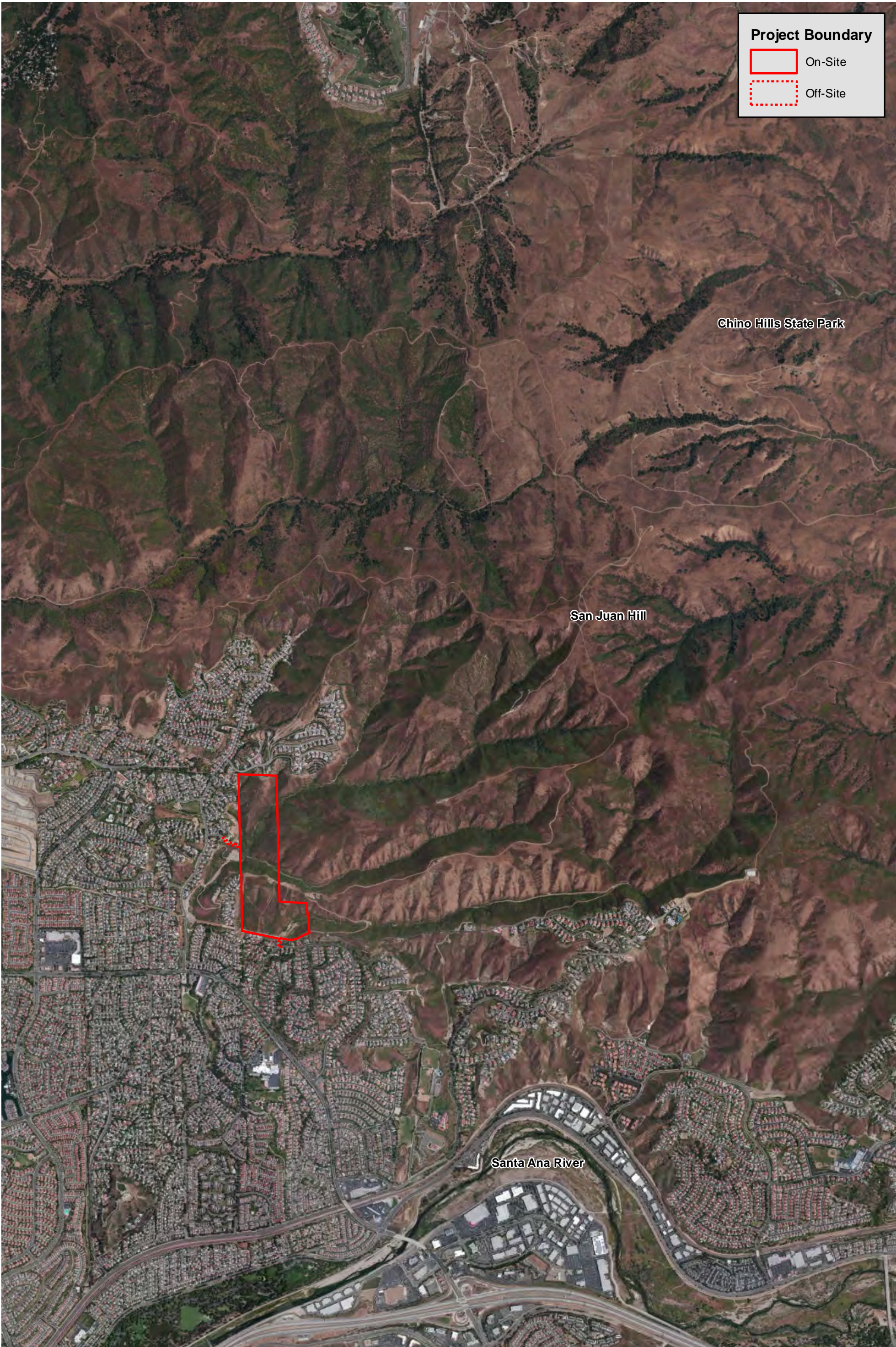
Drainage B is an ephemeral drainage that initiates within steep canyon topography associated with Blue Mud Canyon, with headwaters located approximately 2.5 miles east of the project site. The drainage feature enters the site along the eastern project boundary approximately 350 feet north of the southeast corner of the property and extends for approximately 923 linear feet in a southwest trending orientation. There are 2 tributaries associated with Drainage B; Drainage B1, and B2.

Further details of the jurisdictional delineation are provided in the *Investigation of Jurisdictional Waters of the U.S. and State for the Cielo Vista Project Site* prepared by PCR under separate cover (PCR 2012a).


4.7 SENSITIVE BIOLOGICAL RESOURCES


The following discussion describes the plant and wildlife species present, or potentially present, within the project site that have been afforded special recognition by Federal, State, or local resource conservation agencies and organizations. These species have declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by either Federal or State resource management agencies, or both, as threatened or endangered, under provisions of the Federal and State Endangered Species Acts (FESA and CESA, respectively).

² The extent of RWQCB jurisdiction is presumed to be consistent with the extent USACE jurisdiction.



Project Boundary

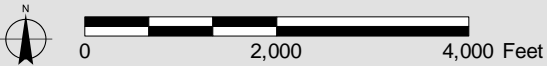
 On-Site

 Off-Site

Chino Hills State Park

San Juan Hill

Santa Ana River

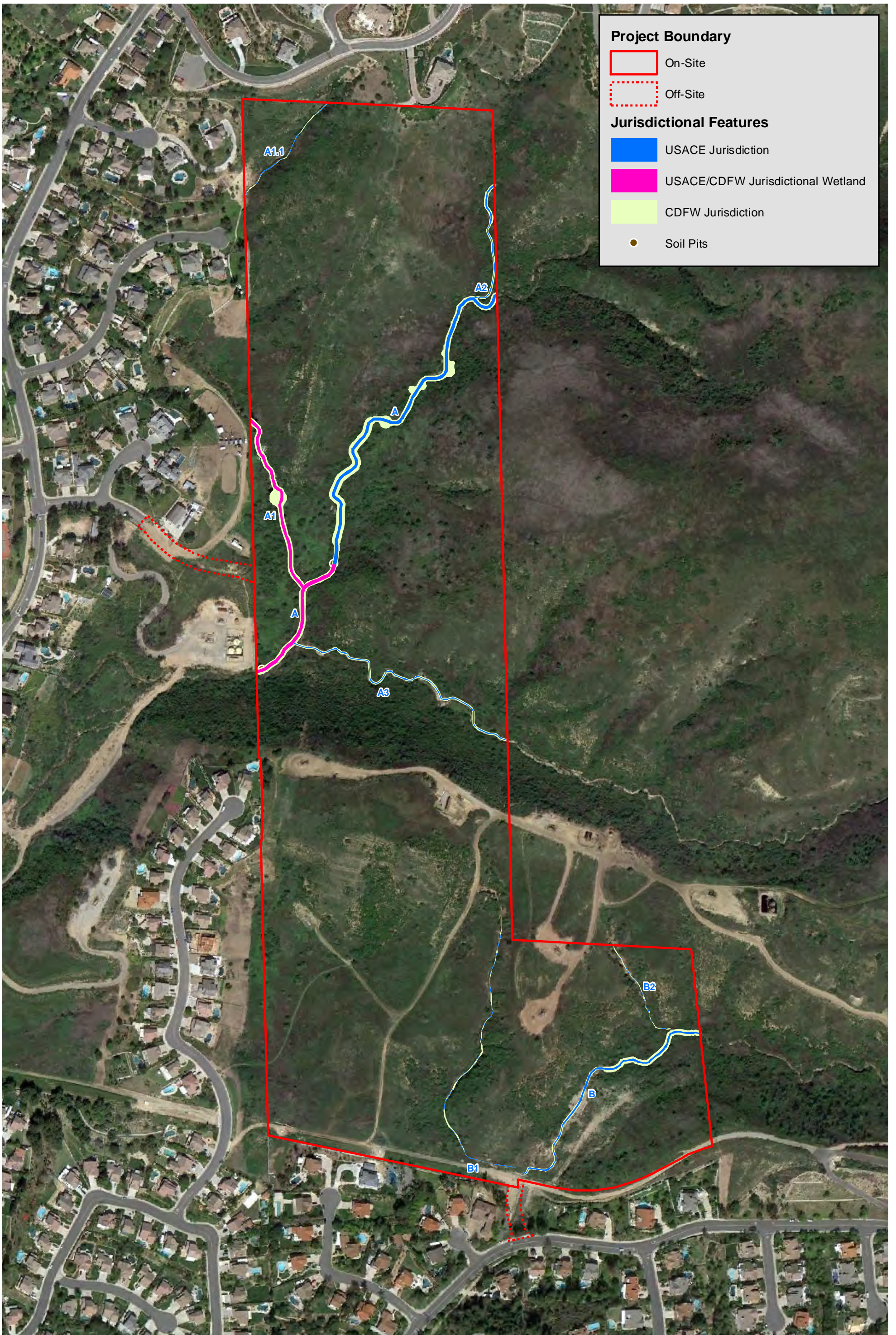


Aerial Photograph

FIGURE

6

Cielo Vista
Source: Aerial Express, 2010; PCR Services Corporation, 2013.



Project Boundary

- On-Site
- Off-Site

Jurisdictional Features

- USACE Jurisdiction
- USACE/CDFW Jurisdictional Wetland
- CDFW Jurisdiction
- Soil Pits

Table 2

Jurisdictional Features

Drainage Name	Drainage Name	Drainage Name	Drainage Name	Drainage Name
Drainage A	1,827	0.31 (0.14)	0.89 (0.14)	Intermittent
Drainage A1	640	(0.15)	0.18 (0.15)	Perennial
Drainage A1.1	444	0.01	0.03	Ephemeral
Drainage A2	469	0.04	0.10	Ephemeral
Drainage A3	978	0.07	0.18	Ephemeral
Drainage B	923	0.11	0.29	Ephemeral
Drainage B1	1,160	0.03	0.08	Ephemeral
Drainage B2	395	0.01	0.03	Ephemeral
Total	6,836	0.58 (0.29)	1.78 (0.29)	
Grand Total	6,836	0.87	2.07	

^a Jurisdictional acreages often overlap and are therefore not additive (e.g., USACE acreages are included in the total CDFW jurisdictional acreages).

^b Acreages in parentheses indicate wetlands.

Source: PCR Services Corporation, 2013.

4.7.1 Sensitive Resource Classification

Federal Protection and Classifications

The FESA of 1973 defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. . Of legal note, the FESA does not protect or regulate Federal threatened or endangered listed plant species on private property unless a federal action, such as regulatory permit approval or federal funding, is involved.

All references to Federally-protected species in this report include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment the following acronyms are used for Federal status species:

- FE Federally-listed as Endangered
- FT Federally-listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened

- FPD Federally proposed for delisting
- FC Federal candidate species (former C1 species)

State of California Protection and Classifications

California's Endangered Species Act (CESA) defines an endangered species as:

"...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease."

The State defines a threatened species as:

"a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species."

Candidate species are defined as:

"...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list."

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

"no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided."

Under the CESA, "take" is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively.

California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Informally listed species are not protected per se, but warrant consideration in the preparation of biological assessments. For some species, the CNDDDB is

only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. The CNDDDB records represent both specific and generalized information and mapping of observed species; thus, it is more often than not used as an indicator of the potential presence of special status species on a particular project site and is without regulatory authority.

For the purposes of this assessment, the following acronyms are used for State status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened
- SFP State Fully Protected
- SSC California Species of Special Concern

The NCCP/HCP provides permits for the take of all covered and conditionally covered species so long as the conditions imposed are satisfied.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (CNPS 2001). The list serves as the candidate list for listing as Threatened and Endangered by CDFW. CNPS has developed five CRPR categories of rarity:

- List 1A Presumed extinct in California.
- 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 we need more information – a review list.
- List 4 Plants of limited distribution – a watch list.

The CNPS recently added “threat ranks” which parallel the ranks used by the CNDDDB. These ranks are added as a decimal code after the CRPR List (e.g., List 1B.1). The threat codes are as follows:

- .1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- .2 – Fairly endangered in California (20-80% occurrences threatened);
- .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

Sensitive species that occur or potentially could occur within the project site are based on one or more of the following: (1) the direct observation of the species on the property during one of the biological surveys; (2) a record reported in the CNDDDB; and (3) the project site is within known distribution of a species and contains appropriate habitat.

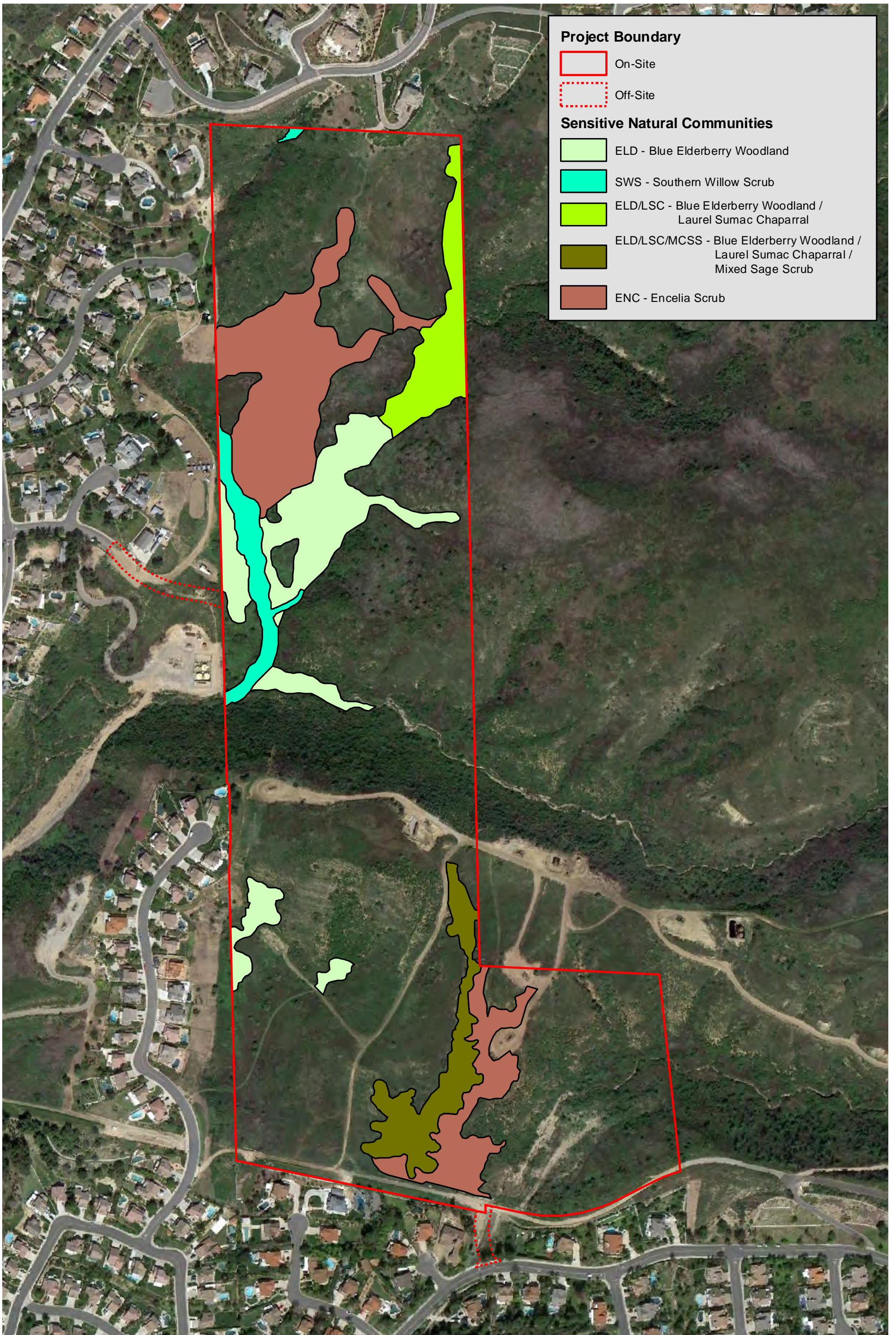
4.7.2 Sensitive Natural Communities/Habitat

As shown in **Figure 8, Sensitive Natural Communities**, the study area supports five natural communities that are CNDDDB high inventory priority communities and are considered sensitive due to their decline in the region and/or their ability to support sensitive species: blue elderberry woodland (CNDDDB Code 63.410.00), southern willow scrub (CNDDDB Code 61.211.05), blue elderberry woodland/laurel sumac chaparral (CNDDDB Code 63.410.00), blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub (CNDDDB Code 63.410.00), and encelia scrub (CNDDDB Code 32.050.00) (CDFG 2010). The study area supports 5.21 acres of blue elderberry woodland in the central and southern portion of the study area, 2.28 acres of blue elderberry woodland/laurel sumac chaparral and 2.57 acres of blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub within the northern and southern portions of the project site respectively. The study area also supports 1.50 acres of southern willow scrub and 8.12 acres of encelia scrub within the western and central portions of the study area respectively. For purposes of clarification, Southern California black walnut (*Juglans californica* var. *californica*) woodland is also considered to be a sensitive natural community. However, this species does not constitute its own monotypic woodland structure on the project site as is seen elsewhere in the region where entire hillsides exhibit extensive canopies of walnuts. Rather, it is present as individual and small groups of trees scattered among the other on-site upland and riparian natural communities. Southern California black walnut, itself, is a CRPR List 4.2 species [“Watch List” plants of limited distribution; fairly endangered in California (20-80% occurrences threatened)]. A total of 47 southern California black walnuts occur within the project site. However, this species is not of high sensitivity.

4.7.3 Sensitive Plant Species

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFW, and species considered sensitive by the CNPS (particularly CRPR Lists 1A, 1B, and 2). Several sensitive plant species were reported in the CNDDDB from the vicinity and are discussed in further detail below. One special status plant species was observed within the project site: southern California black walnut. A discussion of each sensitive plant species potentially present on the property is presented in **Appendix B, Sensitive Plant Species Table**.

The following plant species have been documented to occur within the region, but are not expected to occur due to lack of suitable habitat or because the project site is outside of the known range or elevation for these species: Tecate cypress (*Cupressus forbesii*), Malibu baccharis (*Baccharis malibuensis*), southern tarplant (*Centromadia parryi* ssp. *australis*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), Coulter’s goldfields (*Lasthenia glabrata* ssp. *coulteri*), rigid fringedpod (*Thysanocarpus rigidus*), Coulter’s saltbush (*Atriplex coulteri*), Parish’s brittlescale (*Atriplex parishii*), Davidson’s saltscale (*Atriplex sernana* var. *davidsonii*), Santa Barbara morning glory (*Calystegia sepium* ssp. *binghamiae*), California saw-grass (*Cladium californicum*), heart-leaved pitcher sage (*Lepechinia cardiophylla*), Jokerst’s monardella (*Monardella australis* ssp. *jokersti*), California beardtongue (*Penstemon californicus*), prostrate vernal pool navarretia (*Navarretia prostrata*), vernal barley (*Hordeum intercedens*), chaparral nolina (*Nolina cismontana*).



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Sensitive plant species that have potential to occur on-site include chaparral sand verbena, Braunton's milk-vetch, round-leaved filaree, Plummer's mariposa lily, foothill mariposa lily, San Fernando Valley spineflower, Parry's spineflower, long-spined spineflower, slender-horned spineflower, many-stemmed dudleya, Santa Ana River woollystar, mesa horkelia, Robinson's pepper-grass, Allen's pentachaeta, south coast branching phacelia, white rabbit-tobacco, chaparral ragwort, salt spring checkerbloom and San Bernardino aster. Focused sensitive plant surveys were conducted in April and July 2012 for these species. No sensitive plant species were observed on site during these surveys.

4.7.4 Sensitive Wildlife Species

Sensitive wildlife include those species listed as Endangered or Threatened under the FESA or CESA, candidates for listing by the USFWS or CDFW, and species of special concern to the CDFW. A number of sensitive wildlife species known to occur in the region were reported in the CNDDDB. Three sensitive wildlife species which were observed on-site include yellow-breasted chat (*Icteria virens*), least Bell's vireo, and yellow warbler (*Setophaga petechia*). A discussion of each sensitive wildlife species potentially present within the project site is presented in **Appendix C, Sensitive Wildlife Species Table**.

The following wildlife species have been documented to occur within the region, but are not expected to occur due to lack of suitable habitat or because the project site is outside of the known range for these species: San Diego fairy shrimp (*Branchinecta sandiegonensis*), Santa Ana sucker (*Catostomus santaanae*), western spadefoot (*Spea hammondi*), northern leopard frog (*Lithobates pipiens*), western pond turtle (*Actinemys marmorata*), bank swallow (*Riparia riparia*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), grasshopper sparrow (*Ammodramus savannarum*), tri-colored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), Mexican long-tongued bat (*Choeronycteris mexicana*), and American badger (*Taxidea taxus*).

Sensitive wildlife species that were observed or have potential to occur on-site include coast range newt (*Taricha torosa torosa*), coast patch-nosed snake (*Salvadora hexalepis virgulata*), red-diamond rattlesnake (*Crotalus ruber*), two-striped garter snake (*Thamnophis hammondi*), coast horned lizard (*Phrynosoma coronatum*), orange-throated whiptail (*Cnemidophorus hyperythrus*), western mastiff bat (*Eumops perotis californicus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), long-eared owl (*Asio otus*), coastal California gnatcatcher, southwestern willow flycatcher (*Empidonax traillii extimus*), pallid bat (*Antrozous pallidus*), western yellow bat (*Lasiurus xanthinus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

Due to the presence of suitable habitat, focused surveys were conducted for coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher, these species as well as the golden eagle are discussed in further detail below.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a Federal Threatened (FT) and SSC species. Focused surveys were conducted for this species by PCR in 2006 (PCR 2006a) and 2012 (PCR 2012b). No coastal California gnatcatchers were observed on-site during either focused survey.

Least Bell's Vireo

The least Bell's vireo is a Federal Endangered (FE) and State Endangered (SE) species. Focused surveys were conducted for this species by PCR in 2006 (PCR 2006b) and PCR in 2012 (PCR 2012c). No least Bell's vireo were observed within the project site during the 2006 focused surveys; however, this species was observed in 2012. During the 2012 surveys conducted by PCR, one pair and a fledgling were observed in the southern willow scrub in the eastern portion of the project site and a pair of nesting least Bell's vireo and their 2 fledglings were observed within the canopy of the mule fat scrub in the southern portion of the site. The location of least Bell's vireo observations on-site are shown in **Figure 9, Sensitive Wildlife Species**.

Least Bell's vireo is not characteristically associated with mule fat scrub, rather preferring vegetation typically dominated by willows (*Salix* spp.) in southern California. However, with the increase in population numbers in Southern California in recent years it may be speculated that the species is recolonizing historically used habitats other than willow scrub and willow woodland.

Prior to the vireo's listing in 1986, it had become extirpated from most of its historic range, numbering 300 pairs statewide (Kus 2002). Populations were confined to eight counties south of Santa Barbara, with the majority of birds occurring in San Diego County. In the decade since its listing, the least Bell's vireo population increased ten-fold since its listing under federal ESA in 1986 (51 FR 16474). Population growth has been greatest in San Diego County (621 percent increase) and Riverside County (2,997 percent increase) (USFWS 2006). However, the vireo has not yet recolonized historical breeding range in the San Joaquin and Sacramento valleys (USFWS 2006). The northernmost sighting in recent years was a nesting pair of vireos near Gilroy (Santa Clara County) in 1997 (Roberson et al., 1997). However, more than half of the extant vireo population occurs on drainages within Marine Corps Base Camp Pendleton in San Diego County and Prado Basin in Riverside County (USFWS 1998).

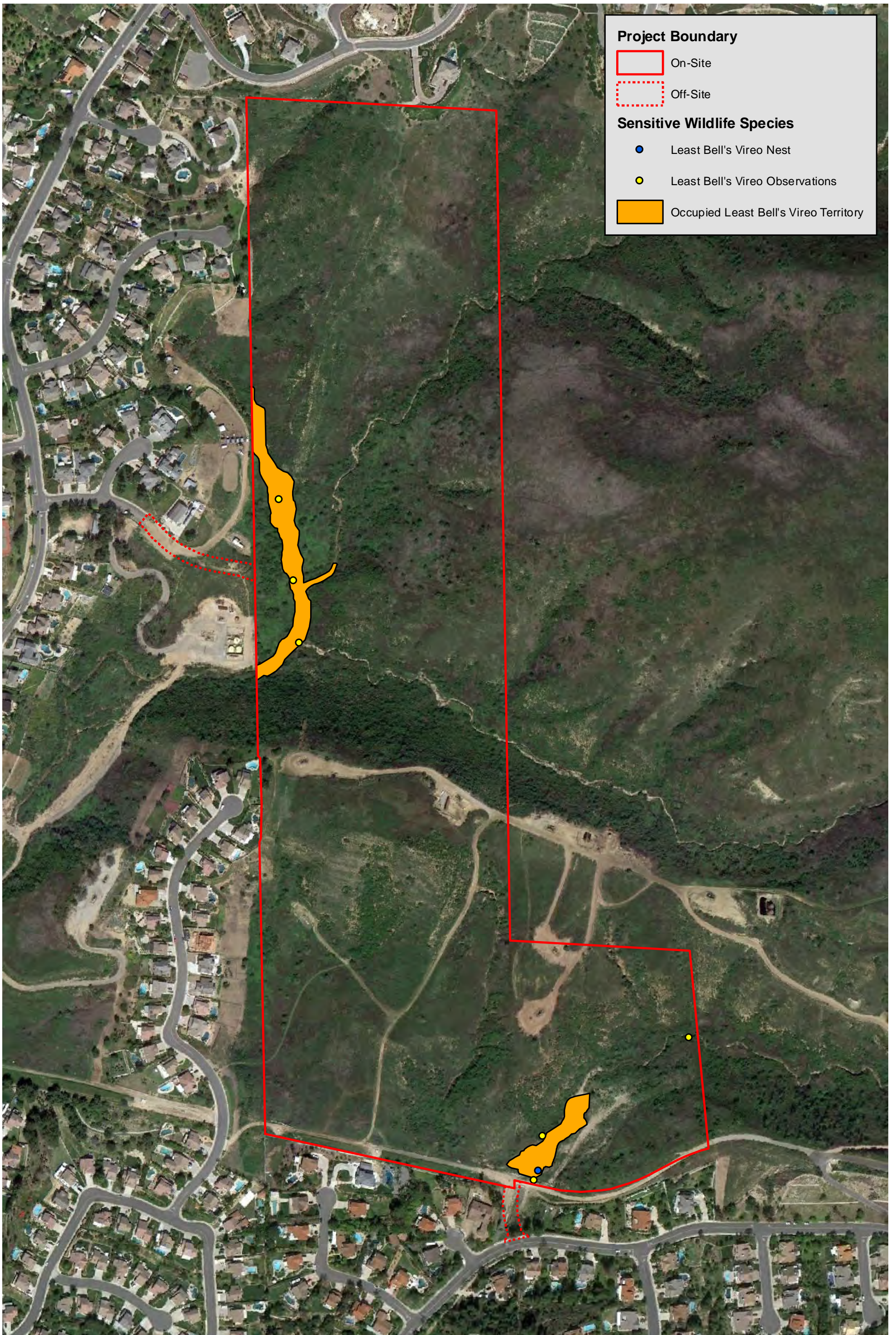
The project site is not located within the Federal Critical Habitat boundaries for the least Bell's vireo (see 59 FR 4845).

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a FE and SE species. Focused surveys were conducted for this species by PCR in 2006 (PCR 2006c) and PCR in 2012 (PCR 2012d). No southwestern willow flycatchers were observed on-site during focused surveys.

Golden Eagle

The golden eagle is a State Fully Protected (SFP) species that nests in cliffs and large trees in open areas. The golden eagle requires open terrain such as grasslands, deserts, savannahs, and shrub habitats for hunting (Carnie 1954). The project site does provide suitable foraging habitat for this species. However, no suitable nesting habitat occurs on-site.



Project Boundary

- On-Site
- Off-Site

Sensitive Wildlife Species

- Least Bell's Vireo Nest
- Least Bell's Vireo Observations
- Occupied Least Bell's Vireo Territory

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5.0 APPROACH TO THE ANALYSIS

5.1 REGULATORY SETTING

Sensitive species are provided protection by either Federal or State resource management agencies, or both, under provisions of the FESA and CESA. The following provides a discussion of Federal Regulations, State of California Regulations, and CNPS.

5.1.1 Federal Regulations

As previously discussed in Section 4.8.1, Sensitive Resource Classification, under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to “take” any listed species. In a case where a property owner seeks permission from a Federal agency for an action which could affect a Federally-listed plant and animal species, the property owner and agency are required to consult with USFWS to obtain appropriate permits. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

5.1.2 State of California Regulations

As previously discussed in Section 4.8.1, Sensitive Resource Classification, Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species. Exceptions authorized by the State to allow “take” require permits or memoranda of understanding and can be authorized for “endangered species, threatened species, or candidate species for scientific, educational, or management purposes.” Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required by an initiator prior to disturbance.

5.1.3 California Native Plant Society

As previously discussed in Section 4.8.1, Sensitive Resource Classification, the CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California which classifies plant species into categories of rarity (CNPS 2001). Informally listed species are not protected per se, but warrant consideration in the preparation of biological assessments.

6.0 THRESHOLDS OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance threshold criteria which mirror the policy statement contained in the CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State to:

“Prevent the elimination of fish or wildlife species due to man’s activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...”

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7, Thresholds of Significance, each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the State CEQA Guidelines, Appendix G, *Environmental Checklist Form*. Section 15065(a) states that a project may have a significant effect where:

“The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species...”

Appendix G of the State CEQA Guidelines is more specific in addressing biological resources and encompasses a broader range of resources to be considered, including: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; Federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and, adopted HCPs. This is done in the form of a checklist of questions to be answered during the Initial Study leading to the preparation of the appropriate environmental documentation for a project [i.e., Negative Declaration, Mitigated Negative Declaration, or Environmental Impacts Report (EIR)]. Because these questions are derived from standards in other laws, regulations, and other commonly used thresholds, it is reasonable to use these standards as a basis for defining significance thresholds in an EIR. Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following conditions would result from implementation of the proposed project.

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

Threshold BIO-B	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service.
Threshold BIO-C	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
Threshold BIO-D	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
Threshold BIO-E	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
Threshold BIO-F	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

For the purposes of this impact analysis the following definitions apply:

- “Substantial adverse effect” means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive natural community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) compared and contrasted to the interrelated biological components and systems of the Chino Hills State Park, the Orange County NCCP area, and the Prado Dam Basin.
- “Conflict” means contradiction of a magnitude, which based on foreseeable circumstances would preclude or prevent substantial compliance.
- “Rare” means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA. This would be especially true if the Project contributed in a measurable “significant way” to the demise of a rare threaten or endangered species.

7.0 PROJECT RELATED IMPACTS

7.1 APPROACH TO THE ANALYSIS

For the purpose of this section, Project-related impacts to biological resources take two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or natural communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability. Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual habitation/operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites. The CEQA evaluation of indirect impacts will consider the quality and quantity of loss relative to the wildlife and habitat found on the project site compared to that which is preserved in the surrounding areas (i.e., Orange County NCCP, Chino Hills State Park and Prado Basin).

The determination of impacts in this analysis is based on both the features of the Project and the biological functions and values of the occupied habitat and/or sensitivity of plant and wildlife species to be affected. Based on the Project development footprint, impacts to sensitive plant species and habitats, as well as federally protected wetlands, were delineated using GIS technology in order to maximize the accuracy of the analysis.

The biological values and functions of wildlife resources within, adjacent to, and outside the immediate and into the regional area to be affected directly and indirectly by the Project were determined by consideration of multiple factors. These factors included the overall size of habitats to be affected, the quality of the affected habitats, the project study area’s historic land uses, disturbance history, the project study area’s surrounding environment and impacts of the surrounding areas on the project site, regional relation to existing preservation areas and programs, the quality of on-site floral and faunal abundance and species diversity, the presence of sensitive and special-status plant and wildlife species, the project study area’s importance or lack of importance to regional preserved populations of those species found on the project site, and the extent to which on-site habitats and species are unique, limited, or restricted in distribution on a regional basis. The CEQA analysis is comprehensive in its biological assessment and therefore has as its essential focus the on-site sensitive natural communities and occupied habitats found on-site. The CEQA analysis evaluates the role of the on-site biological resources, that is, whether they contribute a significant or *de minimis* role in the regional biological systems and the relative impacts on special-status species and their long term survival throughout the region.

The analysis of wildlife movement on and near the project site is based on information compiled from the literature, analysis of aerial photographs and topographic maps, direct observations and recordings made in

the field during survey work, and an analysis of existing wildlife movement functions and values. Relative to corridor issues, the focus of the analysis was to determine if the change of the existing land use within the project study area would have significant impacts on the regional wildlife movement associated with the project study area and the immediate vicinity.

7.2 IMPACT ANALYSIS

7.2.1 Impacts to Sensitive Species

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

Less than Significant with Mitigation Incorporated

7.2.1.1 Impacts to Sensitive Plant Species

Implementation of the proposed project would result in the direct removal of numerous common plant species within the project site. A list of plant species observed within the project site is included in Appendix A, *Floral and Faunal Compendium*. Common plant species present within the project site occur in large numbers throughout the region and their removal does not meet the significance thresholds defined in Section 6.0, *Thresholds of Significance* above. Therefore, impacts to common plant species would be considered a less than significant impact and no mitigation measures would be required.

Many of the sensitive plant species discussed in Section 4.7.3, *Sensitive Plant Species* may occur within the region, but are not expected to occur within the project site due to the lack of suitable habitat or because the project site is outside of the known range or elevation for these species. These species include Tecate cypress, Malibu baccharis, southern tarplant, smooth tarplant, Coulter's goldfields, rigid fringe-pod, Coulter's saltbush, Parish's brittlescale, Davidson's saltscale, Santa Barbara morning glory, California saw-grass, heart-leaved pitcher sage, Jokerst's monardella, California beardtongue, prostrate vernal pool navarretia, vernal barley, and chaparral nolina. Therefore, no impacts would occur to these sensitive plant species and no mitigation measures would be required.

Focused sensitive plant surveys were conducted in April and July 2012 to determine the presence/absence of sensitive plant species with potential to occur on-site. These species include chaparral sand verbena, Braunton's milk-vetch, round-leaved filaree, Plummer's mariposa lily, foothill mariposa lily, San Fernando Valley spineflower, Parry's spineflower, long-spined spineflower, slender-horned spineflower, many-stemmed dudleya, Santa Ana River woollystar, mesa horkelia, Robinson's pepper-grass, Allen's pentachaeta, south coast branching phacelia, white rabbit-tobacco, chaparral ragwort, salt spring checkerbloom and San Bernardino aster. No sensitive plant species were observed to occur on site; therefore no impacts to these species are expected.

7.2.1.2 Impacts to Sensitive Wildlife Species

The proposed project would affect wildlife resources through the removal and disruption of habitat and the resulting displacement of wildlife, resulting in a less diverse and abundant local faunal population. A list of

wildlife species observed within the project site is included in Appendix A, *Floral and Faunal Compendium*. It is reasonable to assume population losses of common wildlife species will be correlated with the loss of the habitats they use. Adverse impacts on wildlife are generally associated with the degree of habitat loss from the standpoint of physical character, quality, diversity, and abundance of vegetation. Project implementation in the short and long term would result in direct removal of wildlife habitat and the potential mortality of common wildlife species existing on-site as well as the displacement of more mobile species to suitable habitat areas nearby. However, these impacts would not be expected to reduce general wildlife populations below self-sustaining levels within the region. Impacts on common wildlife species are considered less than significant.

Potential adverse indirect impacts on vegetation and wildlife would be related to increased vehicular traffic and the corresponding increase in noise, as well as the threat of road kill by traffic; an increase in human intrusion, including hikers and bicyclists; an increase in litter, pollutants, dust, oil, and other human debris; and an increase in nighttime lighting. Common wildlife species using habitats on-site would avoid habitats affected by these “spillover” impacts, thereby decreasing diversity beyond the actual development envelope. These indirect impacts would not be expected to reduce general wildlife populations below self-sustaining levels within the region and are considered less than significant and no mitigation measures would be required.

Several of the sensitive wildlife species are discussed in Section 4.7.4, *Sensitive Wildlife Species* but are not expected to occur within the project site due to the lack of suitable habitat or because the project site is outside of the known range for these species. These species include San Diego fairy shrimp, Santa Ana sucker, western spadefoot, northern leopard frog, western pond turtle, bank swallow, western yellow-billed cuckoo, grasshopper sparrow, tri-colored blackbird, burrowing owl, coastal cactus wren, pocketed free-tailed bat, big free-tailed bat, Mexican long-tongued bat, and American badger. Therefore, no impacts to these sensitive wildlife species would occur and no mitigation measures would be required.

Several additional sensitive wildlife species were observed or have at least a moderate potential to occur within the project site. Sensitive wildlife species which were observed on-site include yellow-breasted chat, least Bell’s vireo, yellow warbler and red-diamond rattlesnake. Additional sensitive wildlife species with potential to occur on-site include coast range newt, coast patch-nosed snake, two-striped garter snake, coast horned lizard, orange-throated whiptail, western mastiff bat, San Diego black-tailed jackrabbit, golden eagle, white-tailed kite, long-eared owl, coastal California gnatcatcher, southwestern willow flycatcher, pallid bat, western yellow bat, northwestern San Diego pocket mouse, and San Diego desert woodrat. Focused surveys were conducted for coastal California gnatcatcher, least Bell’s vireo, and southwestern willow flycatcher in 2012, and are discussed in further detail below.

Coast patch-nosed snake, red-diamond rattlesnake, coast range newt, coast horned lizard, orange-throated whiptail, yellow warbler, yellow-breasted chat, long-eared owl, western yellow bat, western mastiff bat, pallid bat, San Diego black-tailed jackrabbit, and northwestern San Diego pocket mouse are considered SSC by the CDFW and do not carry a Federal or State listing as threatened or endangered. Due to the small amount of acreage that will be impacted by the proposed project in relation to the regional habitat available in the immediately adjacent open space, the loss of individuals as a result of the proposed project would not be expected to reduce regional population numbers. Therefore, impacts to these sensitive wildlife species are considered adverse but less than significant and no mitigation measures would be required.

Coastal California Gnatcatcher

No coastal California gnatcatcher were observed on-site during focused surveys conducted by PCR in 2006 (PCR 2006a) and 2012 (PCR 2012b). The results of focused surveys for the coastal California gnatcatcher were negative. Therefore, this species is not expected to occur on-site, and impacts to the coastal California gnatcatcher would be considered less than significant and no mitigation measures would be required.

Southwestern Willow Flycatcher

No southwestern willow flycatcher were observed on-site during focused surveys conducted by PCR in 2006 (PCR 2006c) and 2012 (PCR 2012d). Therefore, this species is not expected to occur on-site, and no impacts to the southwestern willow flycatcher would occur and no mitigation measures would be required.

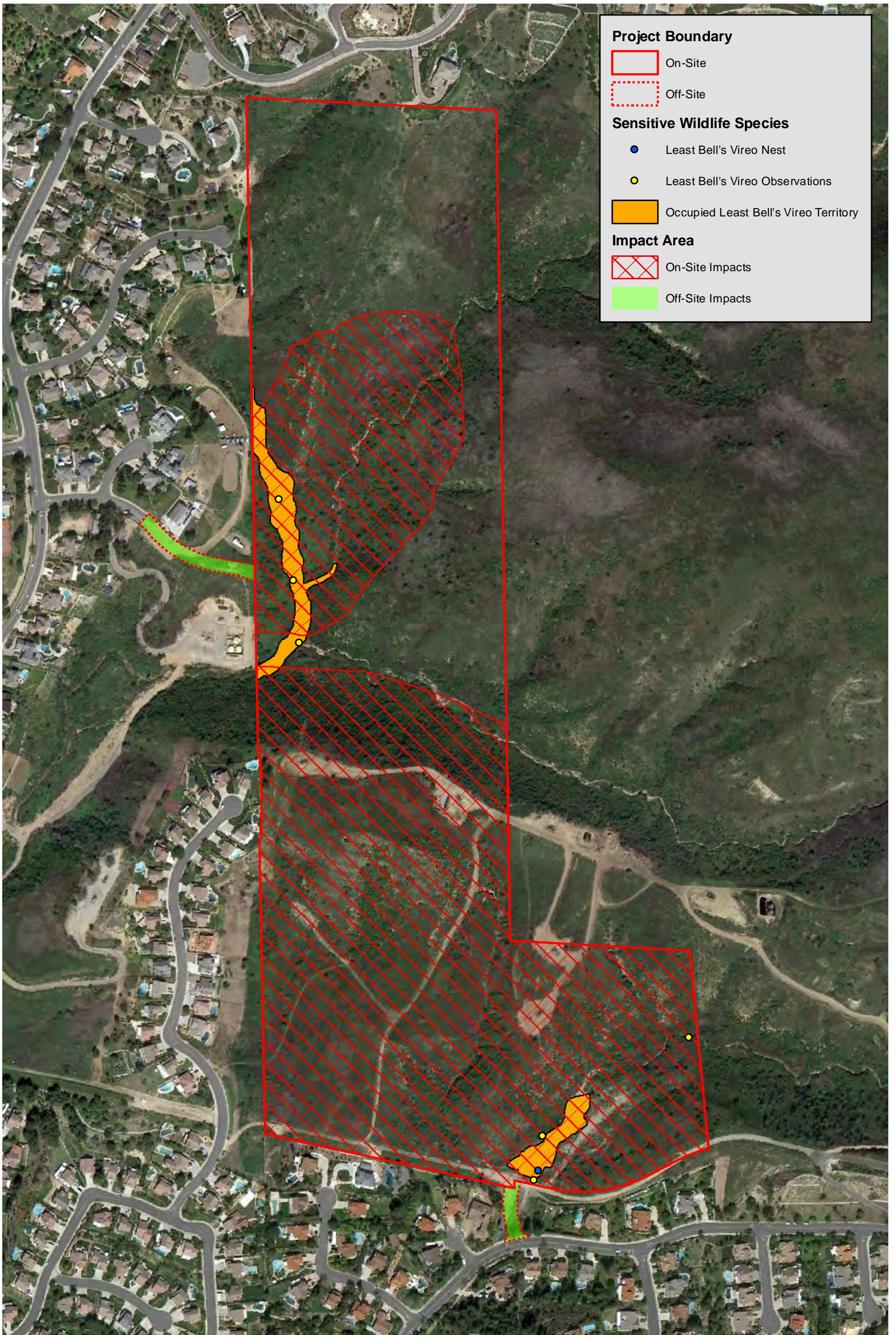
Least Bell's Vireo

No least Bell's vireo were observed on-site by PCR in 2006 (PCR 2006b); however, this species was observed in 2012 (PCR 2012c). The proposed project would impact habitat supporting the least Bell's vireo. A total of 1.64 acre of permanent impacts will occur to least Bell's vireo territory (refer to **Figure 10, Impacts to Sensitive Wildlife Species**). Impacts to the least Bell's vireo are considered potentially significant. Mitigation measures described in Section 8.2.1 below would reduce these impacts to a less than significant level.

Golden Eagle

As previously stated, the golden eagle is a State Fully Protected species. Although the project site supports foraging habitat for the golden eagle, there is not suitable nesting habitat on-site. Therefore, this species is not expected to nest on-site and the proposed project would not result in direct impacts to nest sites. Additionally, the project would not indirectly impact nest sites, as the known nests within the area are located over 3 miles away within Chino Hills State Park (CNDDDB 2012), and ridgelines of San Juan Hill provide a visual and acoustic barrier between the project site and the known nests.

The project site does provide suitable foraging habitat for this species. The project would result in impacts to potential foraging habitat; however, the habitat is of moderate to low quality due to disturbances associated with human activities (e.g., introduction of non-native vegetation, on-going oil production activities, passive recreation) on-site and immediately adjacent to the project site. Additionally, the project site shares three borders with suburban development; thus, there is constant human activity in the immediately surrounding vicinity. Farther to the north and northeast of the project site, there is ample higher quality open space within Chino Hills State Park that would provide more attractive foraging habitat, should golden eagles utilize this area for foraging. Thus, while impacts to foraging habitat are adverse, the proposed project would not result in a significant impact to this species under Threshold BIO-A (as referenced in Section 6.0) and no mitigation is required.



Project Boundary

- On-Site
- Off-Site

Sensitive Wildlife Species

- Least Bell's Vireo Nest
- Least Bell's Vireo Observations
- Occupied Least Bell's Vireo Territory

Impact Area

- On-Site Impacts
- Off-Site Impacts

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7.2.2 Impacts to Sensitive Natural Communities

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

Less than Significant

Implementation of the proposed project would result in the removal of 0.70 acre of laurel sumac chaparral, 5.42 acres of chaparral bushmallow scrub, 9.05 acres of mixed coastal sage scrub, 0.60 acre of mule fat scrub, 0.50 acre of chaparral bushmallow/encelia scrub, 10.33 acres of ruderal, 1.48 acres of ruderal/sagebrush scrub, 6.58 acres (6.32 acres on-site and 0.26 acre off-site) of ruderal/blue elderberry woodland, 1.43 acres of ruderal/mixed coastal sage scrub, 3.79 acres of ruderal/encelia scrub, 0.40 acre of ruderal/chaparral bushmallow scrub, 0.39 acre of ruderal/mule fat scrub, and 3.65 acres (3.21 acres on-site and 0.44 acre off-site) of disturbed (refer to **Table 3, Impacts to Natural Communities** and

Figure 11, Impacts to Natural Communities). None of these natural communities represent sensitive natural communities (CDFG 2003) and their removal does not meet the significance thresholds defined in Section 6.0, *Threshold of Significance* above. Therefore impacts to these natural communities would be considered a less than significant impact and no mitigation measures would be required.

The project site supports several natural communities that are considered to be sensitive and regulated by the CDFW. The proposed project will impact 4.60 acres of Blue elderberry woodland, 1.25 acres of southern willow scrub, 0.51 acre of blue elderberry woodland/laurel sumac chaparral, 2.57 acres of blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub, and 5.63 acres of encelia scrub which are all considered sensitive natural communities by CDFW (refer to Table 3 and **Figure 12, Impacts to Sensitive Natural Communities**).

It should be noted that due to the 2008 wildfire that burned the project study area, most of the natural vegetation communities within the project study area continue to exhibit signs of the fire and subsequent invasion by invasive species. Although some of these communities have markedly recovered from the fire, all of the sensitive natural communities found within the project study area have a component of non-native invasive exotic species as well. These natural communities are considered to be of low to moderate quality (rather than high quality) due to their ability to still provide cover and resources for limited wildlife species. Specifically blue elderberry-dominated communities (blue elderberry woodland, blue elderberry woodland/laurel sumac chaparral, and blue elderberry woodland/laurel sumac chaparral/mixed coastal sage scrub) that occur adjacent to least Bell's vireo territories may provide cover and foraging habitat for the least Bell's vireo, yellow breasted chat, and yellow warbler. In contrast, the encelia scrub offers moderate to low quality habitat as the current state of the community is due to the natural (i.e., fire) and anthropogenic disturbances that have occurred on-site, and the higher density of pioneer species that still persist in this community. Impacts to sensitive natural communities are considered less than significant given their diminished functions and values as habitat and the relative abundance of these vegetation communities

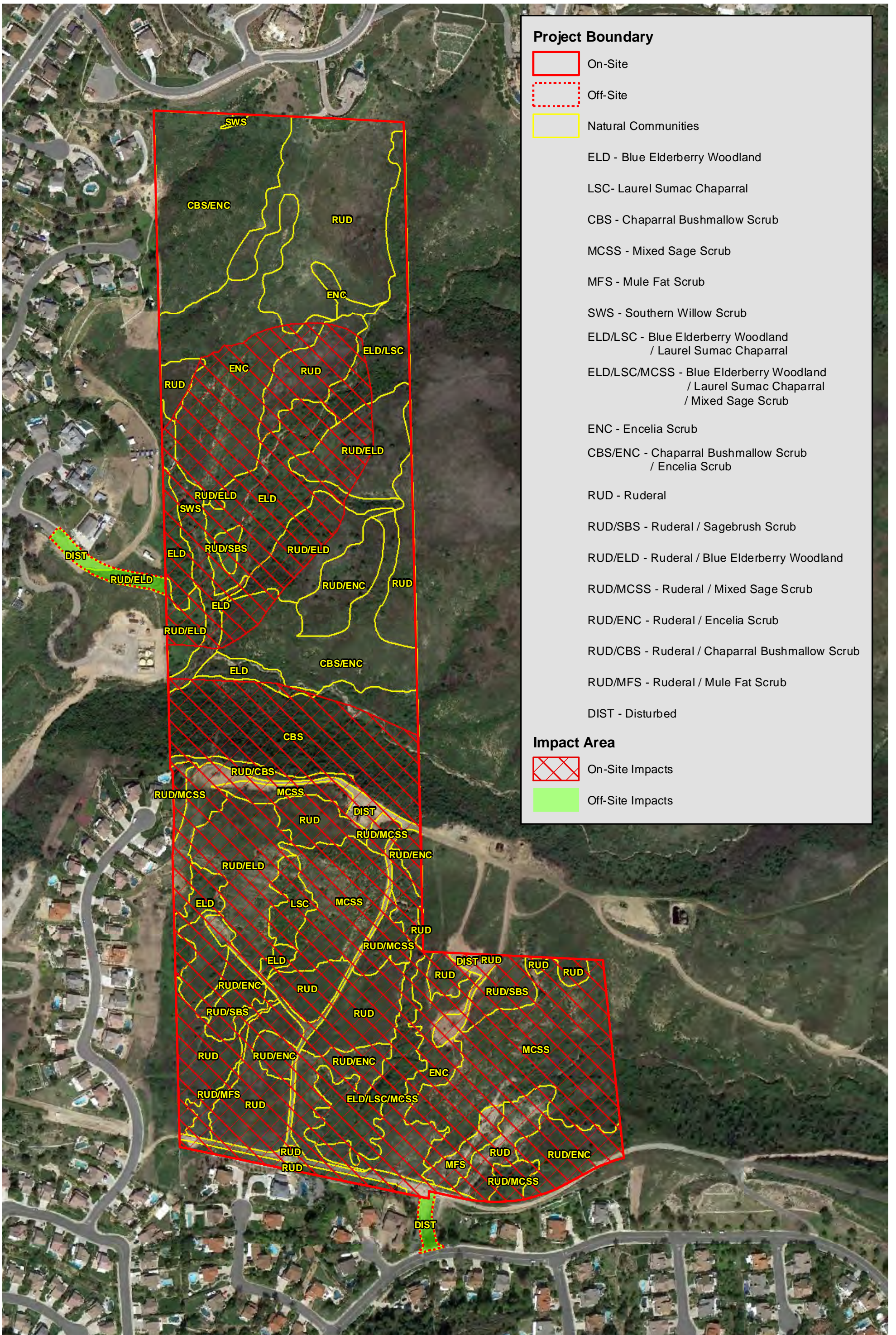
Table 3

Impacts to Natural Communities

Natural Community	OCHCS ^a Code	On-Site Impacts (acres)	Off-Site Impacts (acres)	Total Impacts (acres)	Avoided (acres)
Blue Elderberry Woodland	8.4	4.60		4.60	0.61
Laurel Sumac Chaparral	3.0	0.70		0.70	0.00
Chaparral Bushmallow Scrub	2.3.11	5.42		5.42	0.78
Mixed Coastal Sage Scrub	2.3.10	9.05		9.05	0.00
Mule Fat Scrub	7.3	0.60		0.60	0.00
Southern Willow Scrub	7.2	1.25		1.25	0.25
Blue Elderberry Woodland/Laurel Sumac Chaparral	8.4/3.0	0.51		0.51	1.77
Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub	8.4/3.0/ 2.3.10	2.57		2.57	0.00
Encelia Scrub	2.5	5.63		5.63	2.49
Chaparral Bushmallow/Encelia Scrub	2.3.11/2.5	0.50		0.50	8.64
Ruderal	4.6	10.33		10.33	7.84
Ruderal/Sagebrush Scrub	4.6/2.3.6	1.48		1.48	0.00
Ruderal/Blue Elderberry Woodland	4.6/8.4	6.32	0.26	6.58	1.95
Ruderal/Mixed Coastal Sage Scrub	4.6/2.3.10	1.43		1.43	0.00
Ruderal/Encelia Scrub	4.6/2.5	3.79		3.79	1.38
Ruderal/Chaparral Bushmallow Scrub	4.6/2.3.11	0.40		0.40	0.00
Ruderal/Mule Fat Scrub	4.6/7.3	0.39		0.39	0.00
Disturbed	16.1	3.21	0.44	3.65	0.01
Total		58.18	0.70	58.88	25.72

^a Orange County Habitat Classification System.

Source: PCR Services Corporation, 2013.



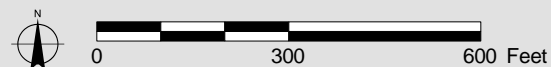
Project Boundary

- On-Site
- Off-Site
- Natural Communities

- ELD - Blue Elderberry Woodland
- LSC- Laurel Sumac Chaparral
- CBS - Chaparral Bushmallow Scrub
- MCSS - Mixed Sage Scrub
- MFS - Mule Fat Scrub
- SWS - Southern Willow Scrub
- ELD/LSC - Blue Elderberry Woodland / Laurel Sumac Chaparral
- ELD/LSC/MCSS - Blue Elderberry Woodland / Laurel Sumac Chaparral / Mixed Sage Scrub
- ENC - Encelia Scrub
- CBS/ENC - Chaparral Bushmallow Scrub / Encelia Scrub
- RUD - Ruderal
- RUD/SBS - Ruderal / Sagebrush Scrub
- RUD/ELD - Ruderal / Blue Elderberry Woodland
- RUD/MCSS - Ruderal / Mixed Sage Scrub
- RUD/ENC - Ruderal / Encelia Scrub
- RUD/CBS - Ruderal / Chaparral Bushmallow Scrub
- RUD/MFS - Ruderal / Mule Fat Scrub
- DIST - Disturbed

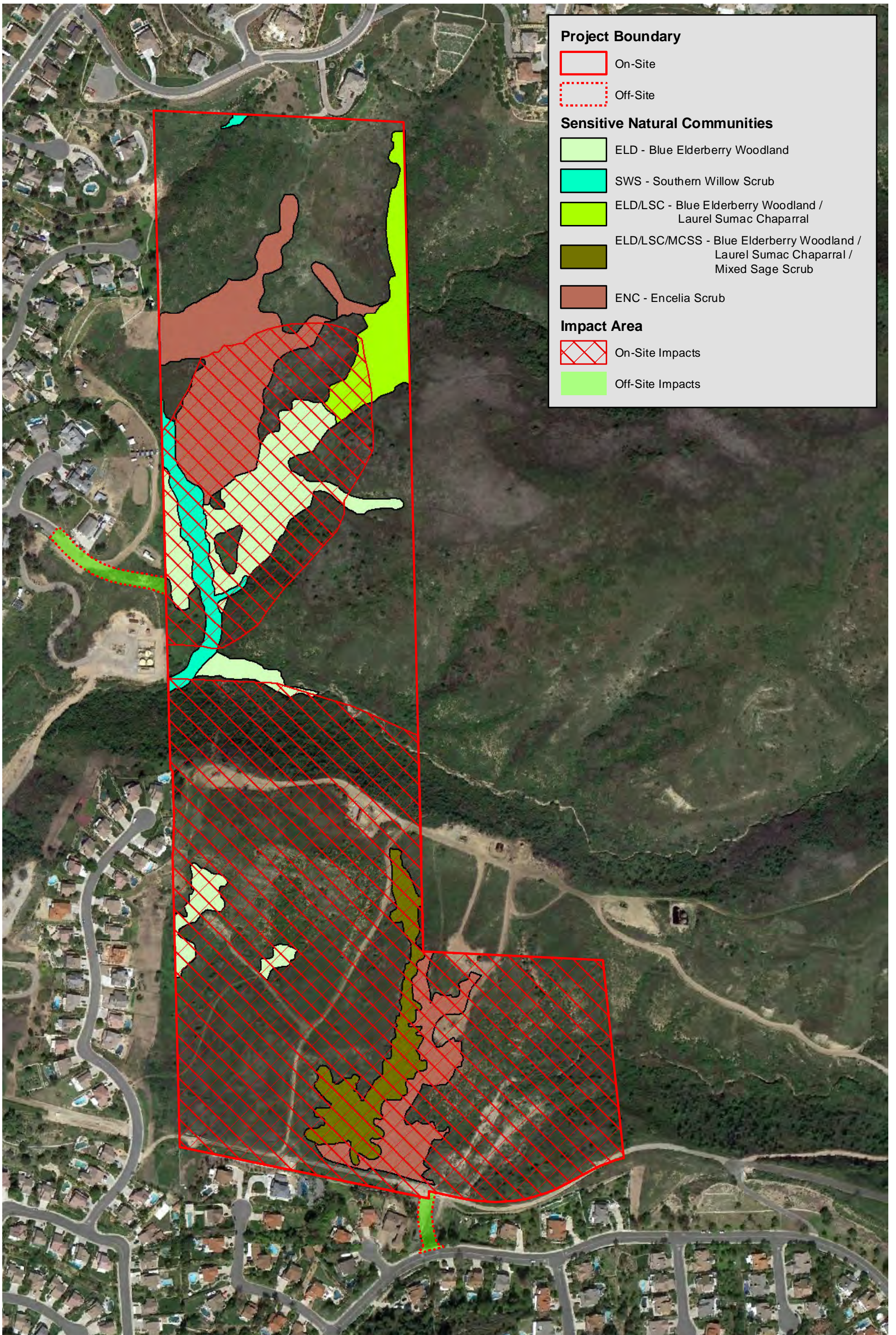
Impact Area

- On-Site Impacts
- Off-Site Impacts



Impacts to Natural Communities

FIGURE



throughout the region, much of which is protected in government preserves. Therefore, mitigation measures for impacts to sensitive communities in and of themselves are not warranted.

7.2.3 Impacts to Wetlands

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant with Mitigation Incorporated

The proposed project would result in impacts to 0.42 acre of USACE/RWQCB “waters of the U.S.”, 1.38 acres of CDFW jurisdictional streambed and associated riparian habitat, and 0.24 acre of USACE/RWQCB and CDFW jurisdictional wetland (**Table 4, Impacts to Jurisdictional Features** and **Figure 13, Impacts to Jurisdictional Features**). Impacts to jurisdictional waters are considered potentially significant. Mitigation measures described in Section 8.2.3 below would reduce these impacts to a less than significant level.

Table 4

Impacts to Jurisdictional Features

Drainage Name	Length (feet)	USACE Jurisdiction (acres)^{a,b}	CDFW Jurisdiction (acres)^{a,b}	Flow Classification
Drainage A	1,409	0.25 (0.10)	0.74 (0.10)	Intermittent
Drainage A1	640	0.00(0.14)	0.18 (0.14)	Perennial
Drainage A1.1	0	0.00	0.00	Ephemeral
Drainage A2	0	0.00	0.00	Ephemeral
Drainage A3	316	0.02	0.06	Ephemeral
Drainage B	923	0.11	0.29	Ephemeral
Drainage B1	1,160	0.03	0.08	Ephemeral
Drainage B2	395	0.01	0.03	Ephemeral
Total	4,842	0.42 (0.24)	1.38 (0.24)	
Grand Total	4,842	0.66	1.62	

^a Jurisdictional acreages often overlap and are therefore not additive (e.g., USACE acreages are included in the total CDFW jurisdictional acreages).

^b Acreages in parentheses indicate wetlands.

Source: PCR Services Corporation, 2013.

7.2.4 Impacts to Wildlife Movement and Migratory Species

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant with Mitigation Incorporated

7.2.4.1 Impacts to Wildlife Movement

The habitat associated with the project site provides live-in habitat for wildlife and may support some movement on a local scale; however, it does not function as a regional wildlife movement corridor since it does not connect two or more habitat patches due to the surrounding development, as discussed in Section 4.5.2, *Wildlife Movement Within the Project Site* above. Therefore, this habitat does not likely function to facilitate regional wildlife movement due to the extensive urbanization that has occurred on north, south, and west sides of the project site. As such, impacts are considered less than significant and no mitigation is required.

7.2.4.2 Impacts to Migratory Species

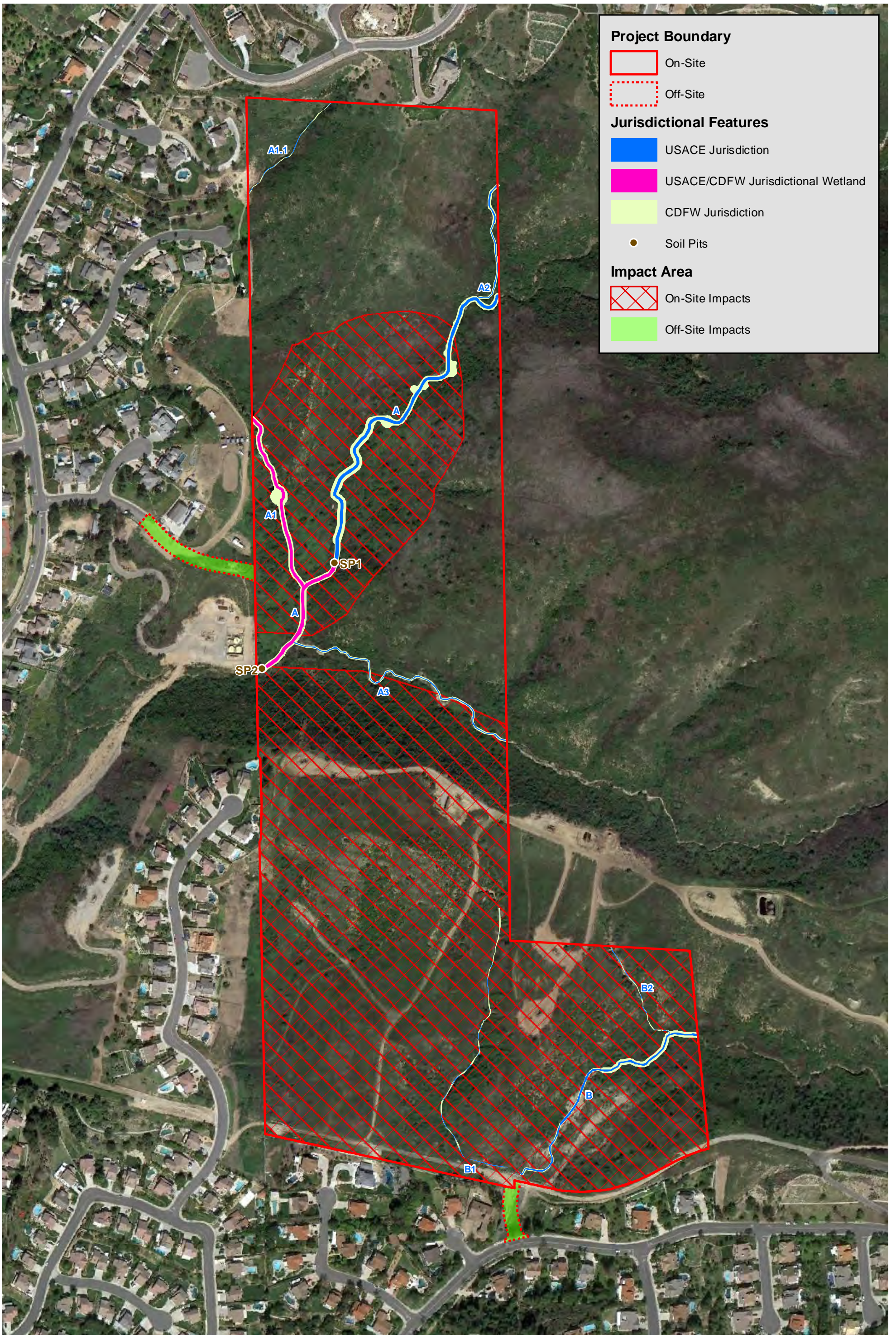
The project site has the potential to support both raptor and songbird nests due to the presence of trees, shrubs, and ground cover. Nesting activity typically occurs from February 15 to August 31. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.). In addition, nests and eggs are protected under Fish and Game Code Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact of the proposed project as defined by the thresholds of significance (Threshold BIO-D) in Section 6.0 above. Impacts to raptor and songbird nests are considered potentially significant. Mitigation measures described in Section 8.2.4 below would reduce these impacts to a less than significant level.

7.2.5 Consistency with Local Policies and Ordinances

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

The project is located within unincorporated Orange County in an area that is not subject to a local tree preservation policy or ordinance. Therefore, the proposed project would not conflict with any local policies or ordinances.



Project Boundary

- On-Site
- Off-Site

Jurisdictional Features

- USACE Jurisdiction
- USACE/CDFW Jurisdictional Wetland
- CDFW Jurisdiction
- Soil Pits

Impact Area

- On-Site Impacts
- Off-Site Impacts

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7.2.6 Consistency with Adopted Natural Community Conservation Plan

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The project is located within an unincorporated area of northern Orange County. The project site is not within an approved local, regional, or state habitat conservation plan, and is located outside of the County of Orange Central/Coastal Subregion Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP). Therefore, the proposed project would not conflict with a NCCP/HCP.

8.0 MITIGATION MEASURES

8.1 APPROACH

Mitigation measures are recommended for those impacts determined to be significant to sensitive biological resources. Mitigation measures for impacts considered to be “significant” were developed in an effort to reduce such impacts to a level of “insignificance,” while at the same time allowing the project applicant an opportunity to realize development goals. As stated in CEQA Guidelines Section 15370 mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

8.2 MITIGATION MEASURES FOR SIGNIFICANT IMPACTS

The following mitigation measures address potentially significant impacts from implementation of the proposed project.

8.2.1 Measures to Mitigate Potentially Significant Impacts to Sensitive Wildlife Species

Prior to impacts in least Bell’s vireo occupied habitat (i.e., southern willow scrub and mule fat scrub), as shown in Figure 10, *Impacts to Sensitive Wildlife Species*, the project applicant will be required to obtain regulatory permits by way of an authorization pursuant to FESA and CESA. In the event that Federal and/or State regulatory permits are required by the USACE and/or CDFW, consultation between those agencies and the USFWS will likely be required in compliance with Section 7 of the FESA and/or Section 2080.1 of the California Fish and Game Code. In the absence of Federal and/or State regulatory permits for permanent impacts to jurisdictional features, compliance with FESA and/or CESA may be obtained through Section 10(a) and/or Section 2080.1, respectively. This statute imposes the obligation on federal agencies to ensure that their actions (such as issuing federal CWA permits for this project) are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated critical habitat. This obligation is enforced through the procedural requirement that agencies, such as the USACE, initiate consultation with USFWS on any actions that may affect a threatened or endangered species. During the FESA Section 7 consultation anticipated for this project, USFWS will gather all relevant information concerning the proposed project and the potential project-related impacts on the least Bell’s vireo (i.e., the project applicant will submit a species-specific Biological Assessment), prepare its opinion with respect to whether the project is likely to jeopardize the continued existence of the species (i.e., the USFWS will issue a Biological Opinion), and recommend mitigation/conservation measures where appropriate. The following is typically

incorporated into the Biological Assessment as proposed mitigation for potential impacts to least Bell's vireo:

1. On- and/or off-site replacement and/or enhancement of least Bell's vireo habitat at a ratio no less than 2:1, or as directed by the lead agency (i.e., County of Orange), and in coordination with the USFWS and CDFW, if warranted. Off-site replacement may include, but is not limited to, the purchase of mitigation credits at an agency-approved off-site mitigation bank supporting least Bell's vireo.

8.2.2 Measures to Mitigate Potentially Significant Impacts to Jurisdictional Features

Prior to the issuance of a grading permit, the project applicant will be required to obtain regulatory permits by way of a CWA Section 404 permit, a CWA Section 401 Water Quality Certification, and/or a California Fish and Game Code Section 1602 Streambed Alteration Agreement for impacts to jurisdictional features regulated by the USACE, RWQCB, and/or CDFW, respectively as depicted on Figure 13, *Impacts to Jurisdictional Features*.

The following measures will likely be required by the Agencies:

1. On- and/or off-site replacement of USACE/RWQCB jurisdictional "waters of the U.S."/"waters of the State" at a ratio no less than 2:1 for permanent impacts, and for temporary impacts, restore impact area to pre-project conditions (i.e., pre-project contours and revegetate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.
2. On- and/or off-site replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for permanent impacts, and for temporary impacts, restore impact area to pre-project conditions (i.e., pre-project contours and revegetate). Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank.

8.2.3 Measures to Mitigate Potentially Significant Impacts to Migratory or Nesting Birds

Prior to project impacts in areas potentially containing raptor and songbird nests, the project applicant should demonstrate to the satisfaction of the County that either of the following have been or will be accomplished.

1. Vegetation removal activities should be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds.
2. Any construction activities that occur during the nesting season (February 15 to August 31 for songbirds; January 15 to August 31 for raptors) would require that all suitable habitat be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors), or as determined by the biological monitor, will be delineated, flagged, and avoided until the nesting cycle is complete as determined by the biological monitor to minimize impacts.

9.0 IMPACTS AFTER MITIGATION

9.1 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project, inclusive of project design features and mitigation measures, would have less than significant impacts to sensitive wildlife species, sensitive natural communities, jurisdictional features, and migratory or nesting birds.

9.2 CUMULATIVE IMPACTS

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. “Related projects” refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. CEQA deems a cumulative impact analysis to be adequate if a list of “related projects” is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

The analysis of the cumulative impacts of the Project, involved several criteria to establish the scope of the assessment. First, for impacts related to sensitive wildlife species, sensitive natural communities, jurisdictional features, and migratory or nesting birds, the geographic extent was established to encompass the region from the City of Yorba Linda to the west, north to Chino Hills State Park, south to the Santa Ana River, and east beyond California State Route 71 into Prado Basin. This region is developed to the west and south, with undeveloped open space areas to the north and east. This area is thought to provide a meaningful, regional ecological and biological unit upon which to base the cumulative impact analysis for impacts to a wide range of wildlife species.

Second, the assessment considered past, present, and reasonably foreseeable projects within the vicinity. Third, potentially affected resources were categorized and addressed in accordance with their status and sensitivity (i.e., scarcity), significance (i.e., importance to habitat functions and values), and role in ecosystem sustainability (i.e., contribution to biological diversity). In this manner, all resources potentially affected are considered; however, focus is placed on those resources upon which cumulative impacts potentially have the greatest cause-and-effect implications. Finally, the analysis considers cumulative impacts to be additive, as well as potentially synergistic in their effects. Thus, the concept of thresholds for impacts, beyond which resource functions and values are lost despite the persistence of resources in limited amounts, is taken into consideration.

Eighteen related projects have been identified within the cumulative impacts study area and are listed below. Seventeen of the 18 related projects are proposed within currently developed suburban areas. The Yorba Linda Estates residential project is the only related project that will result in development along the wildland urban interface and is proposed to be located immediately to the east of the Cielo Vista project.

1. North Yorba Linda Estates
2. Yorba Linda Estates (Murdock Property)

3. Hover/Bastanchury Holding Co.
4. Yorba Linda Town Center
5. Oakcrest Terrace
6. Canal Annex - Savi Ranch
7. Nixon Archive Site
8. SWC Bastanchury / Lakeview
9. Friends Christian High School
10. Prospect (Greenhouse)
11. Wabash & Rose
12. Yorba Linda / Prospect
13. Postal Annex SE Lemon & Eureka
14. 4622 Plumosa
15. Lakeview & Mariposa
16. Palisades at Vista del Verde
17. Mountain Park
18. La Floresta Development

Implementation of the proposed project would result in the direct removal of numerous common plant species within the project area. Common plant species present within the study area occur in large numbers throughout the region, particularly within the preserved open space areas of Chino Hills State Park, and their removal, in addition to their removal as a result of related projects will not be cumulatively considerable. Many of the sensitive plant species discussed in Section 4.7.3, Sensitive Plant Species, may occur within the region, but are not expected to occur within the project site due to the lack of suitable habitat, the project site being outside of the known geographical range or elevational range for these species, or due to the negative results of focused sensitive plant surveys. For the sensitive plant species observed within the project site (i.e., individual Southern California black walnut trees), as described above in Section 7.2.1.1, in Orange County, substantial walnut woodlands occur in Tonner Canyon; this species also occurs on mesic, north-facing slopes of Telegraph Canyon near Yorba Linda, throughout Chino Hills near the Prado Basin, and in Carbon Canyon near Brea Canyon Road (Reiser 1994). Furthermore, impacts to 44 Southern California black walnut trees are not expected to result in contributing to cumulatively considerable impacts to this CRPR List 4.2 species.

Several special status fish and wildlife species are known to occur within the cumulative impacts study area but are not expected to occur on-site due to lack of suitable habitat or because the project area is outside of the known elevational range or geographical range for the species. Sensitive fish and wildlife species that may have some potential to occur due to the presence of suitable habitat on-site include coast range newt, coast patch-nosed snake, red-diamond rattlesnake, two-striped garter snake, coast horned lizard, orange-throated whiptail, western mastiff bat, San Diego black-tailed jackrabbit, white-tailed kite, long-eared owl, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, yellow warbler, yellow-

breasted chat, pallid bat, western yellow bat, northwestern San Diego pocket mouse, and San Diego desert woodrat.

Coast patch-nosed snake, red-diamond rattlesnake, coast range newt, coast horned lizard, orange-throated whiptail, yellow warbler, yellow-breasted chat, long-eared owl, western yellow bat, western mastiff bat, pallid bat, San Diego black-tailed jackrabbit, and northwestern San Diego pocket mouse are California Species of Special Concern, but are not Federal- or State-listed species. Implementation of the proposed project will impact habitat which may potentially be used by these species; however, if these SSC species are present within the study area, any loss of individuals from implementation of the proposed project in a cumulative impact context would not threaten regional populations due to the large areas of habitat surrounding the study area that will be available for these species to utilize (e.g., particularly within the preserved open space areas of Chino Hills State Park).

Least Bell's vireo, yellow breasted chat, and yellow warbler were observed on-site. Impacts to least Bell's vireo are potentially significant, and the mitigation discussed above under Mitigation Measure 8.2.1 shall apply. With implementation of the proposed mitigation measure to replace habitat for the least Bell's vireo that is to be impacted by the project at a minimum 2:1 ratio, thus increasing the amount of suitable habitat for this species in the cumulative impacts study area over that which exists today, the project's contribution to cumulative loss of least Bell's vireo in the study area will not be cumulatively considerable in the context of baseline conditions.

As discussed in Section 7.2.1.2, impacts to yellow breasted chat and yellow warbler are considered less than significant due to the small amount of acreage that will be impacted by the proposed project in relation to the regional habitat available in the immediately adjacent open space. As a result, habitat loss would not contribute measurably to a cumulative impact. Within the context of the cumulative study area, impacts to habitat supporting these two species (i.e., 1.25 acres of southern willow scrub and 0.60 acre of mule fat scrub) would not be cumulatively considerable in the context of baseline conditions. Furthermore, mitigation for least Bell's vireo will increase the amount of suitable habitat for these species in the cumulative impacts study area over that which exists today.

Implementation of the proposed project will impact 0.45 acre of USACE/RWQCB "waters of the U.S.", 1.50 acres of CDFW jurisdictional streambed and associated riparian habitat, and 0.24 acre of USACE/RWQCB and CDFW jurisdictional wetland. Implementation of Mitigation Measure 8.2.2 at a minimum 2:1 ratio would replace more than the jurisdictional acreage present on-site proposed to be impacted by the project. Thus, this impact will not contribute to cumulatively considerable impacts to jurisdictional resources within the region and will increase the acreage of jurisdictional resources in the cumulative impacts study area over that which exists today.

Two corridors described in the Missing Linkages (Penrod 2001) report occur within the cumulative impacts study area. The Coal Canyon Linkage which connects the Chino Hills to the Santa Ana Mountains and the Puente Chino Hills Linkage which connects the Puente Hills to the Chino Hills. However the project site will not impact either of the linkages, as it is located on the eastern boundary of the Chino Hills habitat block and is bounded by residential development to the north, south, and west. Thus, this impact will not contribute to cumulatively considerable impacts to corridors in the study area.

The loss of approximately 65.54 acres of foraging and nesting habitat is not expected to substantially affect migratory species to a point where their survival in the region is threatened. These species are relatively mobile and are expected to locate additional foraging and nesting habitat remaining in the region. Furthermore, the following measures have been taken to avoid potential impacts to migratory species. Vegetation removal activities shall be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds. Any construction activities that occur during the nesting season (February 15 to August 31 for songbirds; January 15 to August 31 for raptors) will require that all suitable habitat be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors), or as determined by the biological monitor, will be delineated, flagged, and avoided until the nesting cycle is complete to minimize impacts. As such, impacts would not be considered cumulatively significant.

There are no inconsistencies with County of Orange local policies and ordinances that would contribute to cumulative impacts.

There are no inconsistencies with local habitat conservation plans that would contribute to cumulative impacts.

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APPENDIX A: FLORAL AND FAUNAL COMPENDIUM

Appendix A: Floral and Faunal Compendium

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME

COMMON NAME

Anacardiaceae

Malosma laurina

Rhus integrifolia

Rhus ovata

* *Schinus molle*

Toxicodendron diversilobum

Apiaceae

* *Conium maculatum*

* *Foeniculum vulgare*

Asclepiadaceae

Asclepias fascicularis

Asteraceae

Acourtia microcephala

Ambrosia psilostachya

Artemisia californica

Artemisia douglasiana

Baccharis pilularis

Baccharis salicifolia

* *Carduus pycnocephalus*

* *Centaurea melitensis*

* *Conyza canadensis*

Corethrogyne filaginifolia

Deinandra fasciculata

Encelia californica

Ericameria palmeri var. *palmeri*

Ericameria pinifolia

Eriophyllum confertiflorum

Hazardia squarrosa

Heterotheca grandiflora

Isocoma menziesii

* *Lactuca serriola*

Malacothrix saxatilis

* *Picris echioides*

Pseudognaphalium californicum

* *Silybum marianum*

* *Sonchus asper* ssp. *asper*

* *Sonchus oleraceus*

Stephanomeria exigua

Stephanomeria virgata

Sumac or Cashew Family

laurel sumac

lemonadeberry

sugar bush

Peruvian pepper tree

poison oak

Carrot Family

poison hemlock

fennel

Milkweed Family

narrow-leaf milkweed

Sunflower Family

sacapellote

western ragweed (sandbur)

California sagebrush

mugwort

coyote brush

mule fat

Italian thistle

tocalote

horseweed

California aster

fascicled tarweed

California bush sunflower

Palmer's goldenbush

pinebush

golden yarrow

saw-toothed goldenbush

telegraph weed

coastal goldenbush

prickly lettuce

cliff malacothrix

bristly ox-tongue

California everlasting

milk thistle

prickly sow thistle

common sow thistle

small wirelettuce

twiggy wreathplant

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Brassicaceae	Mustard Family
* <i>Brassica nigra</i>	black mustard
* <i>Hirschfeldia incana</i>	short-podded mustard
<i>Nasturtium officinale</i>	water-cress
Cactaceae	Cactus Family
* <i>Opuntia ficus-indica</i>	Indian fig
<i>Opuntia littoralis</i>	coastal prickly pear
Caprifoliaceae	Honeysuckle Family
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry
Chenopodiaceae	Goosefoot Family
<i>Atriplex</i> sp.	atriplex
* <i>Chenopodium album</i>	lamb's quarters
* <i>Chenopodium murale</i>	nettle-leaved goosefoot
* <i>Salsola tragus</i>	Russian thistle
Cistaceae	Rock-Rose Family
<i>Helianthemum scoparium</i>	peak rush-rose
Convolvulaceae	Morning-Glory Family
<i>Calystegia macrostegia</i>	western bindweed
Cucurbitaceae	Gourd Family
<i>Cucurbita foetidissima</i>	calabazilla
<i>Marah macrocarpus</i>	wild cucumber
Cuscutaceae	Dodder Family
<i>Cuscuta californica</i>	California dodder
Euphorbiaceae	Spurge Family
<i>Chamaesyce albomarginata</i>	rattlesnake weed
<i>Croton setigurus</i>	doveweed
* <i>Euphorbia serpens</i>	rattlesnake spurge
* <i>Ricinus communis</i>	castor bean
Fabaceae	Legume Family
* <i>Acacia longifolia</i>	Sydney golden wattle
<i>Acmispon glaber</i> var. <i>glaber</i>	deerweed
<i>Astragalus pomonensis</i>	Pomona rattleweed
<i>Lupinus sparsiflorus</i>	Coulter's lupine
* <i>Melilotus alba</i>	white sweetclover
* <i>Melilotus indicus</i>	sourclover
Geraniaceae	Geranium Family
* <i>Erodium cicutarium</i>	red-stemmed filaree
Grossulariaceae	Gooseberry Family
<i>Ribes speciosum</i>	fuchsia-flowered gooseberry

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME

COMMON NAME

Hydrophyllaceae

Phacelia cicutaria

Waterleaf Family

caterpillar phacelia

Juglandaceae

Juglans californica var. *californica*

* *Juglans regia*

Walnut Family

Southern California black walnut

English walnut

Lamiaceae

* *Marrubium vulgare*

Salvia apiana

Salvia leucophylla

Salvia mellifera

Mint Family

horehound

white sage

purple sage

black sage

Malvaceae

Malacothamnus fasciculatus

* *Malva parviflora*

Mallow Family

chaparral bushmallow

cheeseweed

Myoporaceae

* *Myoporum laetum*

Myoporum Family

myoporum

Myrtaceae

* *Eucalyptus* sp.

Myrtle Family

gum tree

Nyctaginaceae

Mirabilis californica

Four O'Clock Family

California wishbone bush

Onagraceae

Oenothera speciosa

Evening Primrose Family

pink evening primrose

Platanaceae

Platanus racemosa

Sycamore Family

western sycamore

Polygonaceae

Eriogonum fasciculatum

* *Rumex crispus*

Buckwheat Family

California buckwheat

curly dock

Primulaceae

* *Anagallis arvensis*

Primrose Family

scarlet pimpernel

Rhamnaceae

Rhamnus ilicifolia

Buckthorn Family

holly-leaf redberry

Rosaceae

Heteromeles arbutifolia

Rose Family

toyon

Salicaceae

Salix gooddingii

Salix laevigata

Salix lasiolepis

Willow Family

black willow

red willow

arroyo willow

Saururaceae

Anemopsis californica

Lizard's-Tail Family

yerba mansa

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME

Scrophulariaceae

Mimulus aurantiacus

Scrophularia californica

Simaroubaceae

* *Ailanthus altissima*

Solanaceae

* *Nicotiana glauca*

Solanum douglasii

Solanum xanti

Tamaricaceae

* *Tamarix ramosissima*

Urticaceae

* *Urtica urens*

Verbenaceae

Verbena lasiostachys

COMMON NAME

Figwort Family

orange bush monkey-flower

California figwort

Quassia Family

tree of heaven

Nightshade Family

tree tobacco

Douglas' nightshade

chaparral nightshade

Tamarisk Family

Mediterranean tamarisk

Nettle Family

dwarf nettle

Vervain Family

western verbena

ANGIOSPERMS (MONOCOTYLEDONS)

SCIENTIFIC NAME

COMMON NAME

Arecaceae

* *Washingtonia robusta*

Palm Family

Mexican fan palm

Cyperaceae

* *Cyperus involucratus*

Sedge Family

umbrella-sedge

Iridaceae

Sisyrinchium bellum

Iris Family

blue-eyed-grass

Liliaceae

Bloomeria crocea

Dichelostemma capitatum

Lily Family

common goldenstar

blue dicks

Poaceae

Agrostis viridis

* *Avena barbata*

* *Bromus diandrus*

* *Bromus hordeaceus*

* *Bromus madritensis ssp. rubens*

Leymus condensatus

Nassella sp.

* *Phalaris minor*

Piptatherum miliaceum

* *Polypogon monspeliensis*

* *Schismus barbatus*

Grass Family

water bent

slender wild oat

ripgut grass

soft chess

foxtail chess

giant wild rye

needlegrass

Mediterranean canary grass

smilo grass

annual beard grass

Mediterranean schismus

Typhaceae

Typha sp.

Cattail Family

narrow-leaved cattail

REPTILES**SCIENTIFIC NAME****COMMON NAME****LACERTILIA****LIZARDS****Phrynosomatidae****Zebratail, Earless, Horned, Spiny, Fringe-Toed Lizards***Sceloporus occidentalis*

western fence lizard

SERPENTES**SNAKES****Viperidae****Vipers***Crotalus ruber*

red diamond rattlesnake

BIRDS

SCIENTIFIC NAME

COMMON NAME

Odontophoridae

Callipepla californica

Quails

California quail

Cathartidae

Cathartes aura

New World Vultures

turkey vulture

Accipitridae

Buteo jamaicensis

Hawks

red-tailed hawk

Falconidae

Falco sparverius

Falcons

American kestrel

Laridae

Larus delawarensis

Gulls and Terns

ring-billed gull

Columbidae

Columba livia

Zenaida macroura

Pigeons and Doves

rock dove

mourning dove

Trochilidae

Calypte anna

Selasphorus rufus

Selasphorus sasin

Hummingbirds

Anna's hummingbird

rufous hummingbird

Allen's hummingbird

Cuculidae

Geococcyx californianus

Cuckoos and Roadrunners

greater roadrunner

Tytonidae

Tyto alba

Barn Owls

barn owl

Picidae

Melanerpes formicivorus

Picoides nuttallii

Woodpeckers

acorn woodpecker

Nuttall's woodpecker

Tyrannidae

Myiarchus cinerascens

Sayornis nigricans

Tyrannus verticalis

Tyrannus vociferans

Tyrant Flycatchers

ash-throated flycatcher

black phoebe

western kingbird

Cassin's kingbird

Vireonidae

Psaltriparus minimus

Vireonidae

bush tit

Corvidae

Aphelocoma californica

Corvus brachyrhynchos

Corvus corax

Jays and Crows

western scrub-jay

American crow

common raven

BIRDS**SCIENTIFIC NAME****COMMON NAME****Hirundinidae***Hirundo rustica**Icterus bullockii**Icterus cucullatus**Petrochelidon pyrrhonota**Stelgidopteryx serripennis***Troglodytidae***Thryomanes bewickii**Troglodytes aedon***Sylviidae***Chamaea fasciata***Turdidae***Catharus guttatus**Sialia mexicana**Turdus migratorius***Mimidae***Mimus polyglottos**Toxostoma redivivum***Ptilonotidae***Phainopepla nitens***Parulidae***Geothlypis trichas**Icteria virens**Oreothlypis celata**Setophaga coronata**Setophaga petechia***Emberizidae***Aimophila ruficeps**Chondestes grammacus**Melospiza melodia**Melospiza crissalis**Pipilo maculatus**Zonotrichia leucophrys***Swallows**

barn swallow

Bullock's oriole

hooded oriole

cliff swallow

northern rough-winged swallow

Wrens

Bewick's wren

house wren

Wrentits

wrentit

Thrushes

hermit thrush

western bluebird

American robin

Thrashers

northern mockingbird

California thrasher

Silky-flycatchers

phainopepla

Wood Warblers

common yellowthroat

yellow-breasted chat

orange-crowned warbler

yellow-rumped warbler

yellow warbler

Emberizine Sparrows and Allies

rufous-crowned sparrow

lark sparrow

song sparrow

California towhee

spotted towhee

white-crowned sparrow

BIRDS

SCIENTIFIC NAME

COMMON NAME

Cardinalidae

Passerina amoena

Passerina caerulea

Pheucticus melanocephalus

Piranga ludoviciana

Fringillidae

Carpodacus mexicanus

Spinus psaltria

Spinus tristis

Buntings, Grosbeaks, and Tanagers

Lazuli bunting

blue grosbeak

black-headed grosbeak

western tanager

Finches

house finch

lesser goldfinch

American goldfinch

MAMMALS

SCIENTIFIC NAME

COMMON NAME

Cervidae

Odocoileus virginianus

Deer

white-tailed deer

Canidae

Canis latrans

Dogs

coyote

Leporidae

Sylvilagus audubonii sanctidiegi

Hares and Rabbits

Audobon's cottontail

Sciuridae

Spermophilus beecheyi

Squirrels and Chipmunks

California ground squirrel

APPENDIX B: SENSITIVE PLANT SPECIES TABLE

Appendix B

Sensitive Plant Species Table

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
GYMNOSPERMS								
Cupressaceae	Cypress Family							
<i>Hesperocypris forbesii</i>	Tecate cypress	N/A	None	None	1B.1	Chaparral, closed cone coniferous forest.	Orange and San Diego Cos., Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
ANGIOSPERMS (DICOTYLEDONS)								
Asteraceae	Sunflower Family							
<i>Baccharis malibuensis</i>	Malibu baccharis	Aug.	None	None	1B.1	Chaparral, coastal scrub, cismontane woodland, and riparian woodland; 500-850 ft.	Los Angeles and Orange.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
<i>Centromadia parryi ssp. australis</i>	southern tarplant	May-Nov.	None	None	1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools; 0 - 425 m.	Los Angeles, Orange, Santa Barbara, San Diego, Ventura Cos., Santa Catalina Isl., Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
<i>Centromadia pungens ssp. laevis</i>	smooth tarplant	Apr.-Sep.	None	None	1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland/ alkaline; 0 - 640 m.	Los Angeles, Orange, Santa Barbara, San Diego, Ventura Cos., Santa Catalina Isl., Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
<i>Lasthenia glabrata</i> <i>ssp. coulteri</i>	Coulter's goldfields	Feb.-Jun.	None	None	1B.1	Marshes and swamps (coastal salt), playas, vernal pools; below 4,000 ft.	All of southern California coast; Riverside, San Bernardino Cos.; Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
<i>Pentachaeta aurea</i> <i>ssp. allenii</i>	Allen's pentachaeta	Mar.-June	None	None	1B.1	Valley and foothill grasslands, coastal scrub; occurs in openings in scrub or grassland.	Orange County	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	(July)Aug.-Nov.(Dec. uncommon)	None	None	2.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland/ sandy, gravelly; 0-2100 m.	Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties; Arizona, Baja California, New Mexico, Texas, and Sonora, Mexico	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Senecio aphanactis</i>	chaparral ragwort	Jan.-Apr.	None	None	2.2	Cismontane woodland and coastal scrub on drying alkaline flats, chaparral; 15 - 800 m.	Throughout California.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	Jul.-Nov.	None	None	1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland (vernally mesic/near ditches, streams, springs); 7-6,700 ft.	Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
Boraginaceae	Borage Family							
<i>Phacelia ramosissima</i> var. <i>austrolitoralis</i>	south coast branching phacelia	Mar.-Aug.	None	None	3.2	Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt)/sandy, sometimes rocky; 5 – 300 m.	All of southern California coast; Riverside, San Bernardino Cos.; Baja CA.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Phacelia stellaris</i>	Brand's star phacelia	Mar.-Jun.	FC	None	1B.1	Coastal dunes, coastal scrub	All of southern California coast; Riverside, San Bernardino Cos.; Baja CA.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Brassicaceae	Mustard Family							
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	Jan.-July	None	None	1B.2	Chaparral, coastal scrub; 1 – 885 m.	All of southern California coast; Riverside, San Bernardino Cos.; Baja CA.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Thysanocarpus rigidus</i>	rigid fringepod	Feb.-May	None	None	1B.2	Dry, rocky slopes; 600 - 2200 m.	All of southern California coast; Riverside, San Bernardino Cos.; Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
Chenopodiaceae	Goosefoot Family							
<i>Atriplex coulteri</i>	Coulter's saltbush	Mar.-Oct.	None	None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grasslands in clay and alkaline areas; 10-1510 ft.	All of Southern California coast, channel islands, Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
<i>Atriplex parishii</i>	Parish's brittle-scale	Apr.-Oct.	None	None	1B.1	Chenopod scrub, playas, vernal pools; 80-6,200 ft.	Los Angeles, Orange, Riverside, San Bernardino, San Diego Cos.; Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
<i>Atriplex serenana</i> var. <i>dauidsonii</i>	Davidson's saltscare	Apr.-Oct.	None	None	1B.2	Coastal bluff scrub, coastal scrub in alkaline areas; 33-660 ft.	All of southern California coast, Channel Islands.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
Convolvulaceae	Morning Glory Family							
<i>Calystegia sepium</i> ssp. <i>binghamiae</i>	Santa Barbara morning glory	Apr.-May	None	None	1B.1	Marshes and swamps (coastal) , Riparian scrub (alluvial) historically associated with wetland and marshy places, but possibly drier places as well; 0 – 220 m.	All of Southern California coast, channel islands.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
Crassulaceae	Stonecrop Family							
<i>Dudleya multicaulis</i>	many-stemmed dudleya	Apr.-July	None	None	1B.2	Chaparral, Coastal scrub, valley and foothill grassland/ often clay; 15 - 790 m.	All of Southern California coast, channel islands.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Cyperaceae	Sedge Family							
<i>Cladium californicum</i>	California saw-grass	June-Sep.	None	None	2.2	Meadows and seeps, marshes and swamps alkaline or freshwater; 60 – 600 m.	All of Southern California coast, channel islands.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
Fabaceae	Pea Family							
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	Jan.-Aug.	FE	None	1B.1	Chaparral, coastal scrub, and valley and foothill grasslands; gravely clay soils over granite/limestone; 13-2,000 ft.	Los Angeles, Orange, Riverside, and Ventura Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Geraniaceae	Geranium							
<i>California macrophylla</i>	round-leaved filaree	Mar-May	None	None	1B.1	Cismontane woodland, Valley and foothill grassland/clay, 15 - 1200 m.	Orange, San Bernardino, San Diego Cos., Baja CA.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Juglandaceae	Walnut Family							
<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	Mar.-Aug.	None	None	4.2	Chaparral, cismontane woodland, coastal scrub; 160 - 2,950 ft.	Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego and Ventura Cos.	OB
Comments: This species was observed within the study area during focused sensitive plant surveys conducted in 2012. Approximately 47 Southern California black walnuts were mapped within the project site, as shown in Figure 9, Sensitive Plant Species .								
Lamiaceae	Mint Family							
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	Apr.-July	None	None	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland; 520 - 1370 m.	Orange, Riverside, and San Diego Cos., Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
<i>Monardella australis</i> <i>ssp. jokersti</i>	Jokerst's monardella	July-Sep.	None	None	1B.1	Chaparral, lower montane coniferous forest/ steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes; 1350 – 1750 m.	Orange, Riverside, and San Diego Cos., Baja CA.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
Malvaceae	Mallow Family							
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	Mar.-June	None	None	2.2	Chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, playas (alkaline, mesic); below 4,900 ft.	Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Ventura Cos. Arizona, Baja CA, New Mexico, Nevada, Utah, Sonora – Mexico.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Nyctaginaceae	Four O'Clock Family							
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	Jan.-Sep.	None	None	1B.1	Chaparral, sandy places in creosote bush or coastal sage scrub, desert dunes; below 5,250 ft.	San Bernardino, Orange, Riverside, San Diego, Imperial Cos., Baja CA.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Plantaginaceae	Plantain Family							
<i>Penstemon californicus</i>	California beardtongue	May-June (Aug. uncommon)	None	None	1B.2	Chaparral, lower montane coniferous forest, pinyon and juniper woodland/ sandy; 1170 – 2300 m.	San Bernardino Co. (formerly Orange Co.; presumed extirpated)	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
Polemoniaceae	Phlox Family							
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	May-Sep.	FE	SE	1B.1	Chaparral, coastal scrub (alluvial fan)/ sandy or gravelly; 91 – 610 m.	San Bernardino Co. (formerly Orange Co.; presumed extirpated)	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Navarretia prostrate</i>	prostrate vernal pool navarretia	Apr.-July	None	None	1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools/ mesic; 15 – 1210 m.	San Bernardino Co. (formerly Orange Co.; presumed extirpated)	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								
Polygonaceae	Buckwheat Family							
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Apr.-July	FC	SE	1B.1	Coastal scrub (sandy), Valley and foothill grassland/ often clay; 490-4,000 ft.	Orange, Ventura, Los Angeles Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Apr.-June	None	None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ sandy or rocky, openings; 275 -1220 m.	Orange, Ventura, Los Angeles Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	Apr.-July	None	None	1B.2	Coastal scrub, chaparral, meadows and seeps, valley and foothill grasslands, vernal pools (clay); 100-5,000 ft.	Orange, Riverside, Santa Barbara, San Diego Cos., Baja CA	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
<i>Dodecahema leptoceras</i>	slender-horned spineflower	Apr.-June	FE	SE	1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan)/ sandy; 200 – 760 m.	Los Angeles, Riverside, San Bernardino Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Rosaceae	Rose Family							
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	mesa horkelia	Feb.-July (Sep. uncommon)	None	None	1B.1	Chaparral (maritime), cismontane woodland, coastal scrub/ sandy or gravelly; 70 – 810 m.	Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego Cos., Baja CA	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
ANGIOSPERMS (MONOCOTYLEDONS)								
Liliaceae	Lily Family							
<i>Calochortus plummerae</i>	Plummer's mariposa lily	May-July	None	None	1B.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grasslands; 330-5,600 ft.	Los Angeles, Orange, Riverside, San Bernardino, and Ventura Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
<i>Calochortus weedii</i> var. <i>intermedius</i>	foothill mariposa lily	May-July	None	None	1B.2	Chaparral, coastal scrub, valley and foothill grasslands below 2,000 ft.	Los Angeles, Orange, and Riverside Cos.	NE
Comments: This species is not expected to occur on-site due to the negative results of focused sensitive plant surveys conducted for this species.								
Poaceae	Grass Family							
<i>Hordeum intercedens</i>	vernal barley	Mar.-June	None	None	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools; 5 – 1000 m.	Los Angeles, Orange, Riverside, San Diego Cos.	NE
Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.								

VASCULAR PLANTS								
Scientific Name	Common Name	Flowering Period	Federal	State	CRPR	Preferred Habitat	Distribution	Occurrence On-site
Ruscaceae	Butcher's-Broom Family							
<i>Nolina cismontana</i>	chaparral nolina	May-July	None	None	1B.2	Chaparral, coastal scrub/sandstone or gabbro; 140 – 1275 m.	Los Angeles, Orange, Riverside, San Diego Cos., Baja CA	NE

Comments: This species is not expected to occur within the study area due to the lack of suitable habitat.

Key to Species Listing Status Codes

- | | | | |
|------------|---|------------|--|
| <i>FE</i> | <i>Federally Listed as Endangered</i> | <i>SE</i> | <i>State Listed as Endangered</i> |
| <i>FT</i> | <i>Federally Listed as Threatened</i> | <i>ST</i> | <i>State Listed as Threatened</i> |
| <i>FPE</i> | <i>Federally Proposed as Endangered</i> | <i>SCE</i> | <i>State Candidate for Endangered</i> |
| <i>FPT</i> | <i>Federally Proposed as Threatened</i> | <i>SCT</i> | <i>State Candidate for Threatened</i> |
| <i>FPD</i> | <i>Federally Proposed for Delisting</i> | <i>SR</i> | <i>State Rare</i> |
| <i>FC</i> | <i>Federal Candidate Species</i> | <i>SFP</i> | <i>State Fully Protected</i> |
| | | <i>SSC</i> | <i>California Species of Special Concern</i> |

California Native Plant Society (CNPS)

- List 1A: Presumed extinct in California.*
- List 1B: Rare, threatened, or endangered throughout their range.*
- List 2: Rare, threatened, or endangered in California, but more common in other states.*
- List 3: Plant species for which additional information is needed before rarity can be determined.*
- List 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.*

APPENDIX C: SENSITIVE WILDLIFE SPECIES TABLE

Appendix C

Sensitive Wildlife Species Table

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
INVERTEBRATES						
CRUSTACEANS						
Anostraca	Fairy Shrimp					
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	None	Restricted to vernal pools, usually observed from January to March.	Southwestern coastal CA and extreme northwestern Baja CA, Mexico.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
VERTEBRATES						
FISHES						
Catostomidae	Sucker Family					
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	SSC	Prefers small gravely permanent, cool, clear streams.	Los Angeles, Orange, Riverside, San Bernardino, Ventura Cos.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat and the project site being outside the known distribution for this species.						
AMPHIBIANS						
Pelobatidae	Spadefoot Toads					
<i>Spea hammondi</i>	western spadefoot	None	SSC	Prefer burrow sites within relatively open areas in lowland grasslands, chaparral, and pine-oak woodlands, areas of sandy or gravelly soil in alluvial fans, washes, and floodplains. Requires temporary pools for reproduction.	Coastal ranges from Point Conception, Santa Barbara Co., south to the Mexican border throughout Central Valley and adjacent foothills.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Ranidae	True Frogs					
<i>Lithobates pipiens</i>	northern leopard frog	None	SSC	Located in or near quiet, permanent and semi-permanent water habitats.	Modoc, Lassen, Shasta, El Dorado, Alpine, Mono and Inyo Cos.	NE
Comments: This species is not expected to occur within the project site due to the project site being outside of the known range for this species.						
Salamandridae	Newts					
<i>Taricha torosa torosa</i>	coast range newt	None	SSC	Lives in terrestrial habitats and migrates to breed in ponds, reservoirs, and slow-moving streams.	Mendocino Co. to San Diego Co.	P
Comments: Due to the presence of potentially suitable habitat, this species has potential to occur within the project site. However, this stream course is disturbed; therefore, the likelihood of this species occurring within the study is low.						
REPTILES						
Viperidae	Vipers					
<i>Crotalus ruber</i>	red-diamond rattlesnake	None	SSC	Chaparral, woodland, and arid desert habitats in rocky areas with dense vegetation.	San Bernardino Co. to tip of Baja CA.	OB
Comments: The species was observed during the April 2012 sensitive plant survey. In addition, this species has the potential to breed within the project site.						
Colubridae	Colubrid Snakes					
<i>Salvadora hexalepis virgulata</i>	coast patch-nosed snake	None	SSC	Coastal chaparral, desert scrub, washes, sandy flats, and rock areas. Barren creosote bush desert flats. Sagebrush semi-deserts; sea level to 7,000 feet.	Point Conception south through Baja CA.	P
Comments: Due to the presence of suitable habitat, this species has potential to occur within the project site.						
<i>Thamnophis hammondi</i>	two-striped garter snake	None	SSC	Riparian and freshwater marshes with perennial water.	Ranges throughout much of CA and is absent only from the desert areas of So. CA, the southern San Joaquin Valley, and northwestern CA.	P
Comments: Due to the presence of suitable habitat, this species has potential to occur within the project site.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Emydidae	Box and Water Turtles					
<i>Emys marmorata</i>	western pond turtle	None	SSC	Ponds, marshes, rivers, streams, irrigation ditches.	San Francisco Bay south to Baja California and west of the Sierra-Cascade crest.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
Phrynosomatidae	Iguanid Lizards					
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	SSC	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 ft., open country, especially sandy areas, washes, flood plains, and windblown deposits.	Coastal ranges and foothills of Sierra Nevada from San Francisco Bay Area and northern Central Valley south to San Diego and Baja CA.	P
Comments: Due to the presence of suitable habitat, this species has potential to occur within the project site.						
Teiidae	Whiptails and Relatives					
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	None	SSC	Gently sloping hillsides, ridges, and valleys supporting open coastal sage scrub, open chaparral, or sparse grasslands.	Extreme southern Los Angeles Co., southwestern San Bernardino Co., Orange, Riverside, and San Diego Cos. west of the crest of the peninsular Ranges, and Baja CA.	P
Comments: Due to the presence of suitable habitat, this species has potential to occur within the project site.						
BIRDS						
Accipitridae	Hawks, Kites, Harriers, and Eagles					
<i>Elanus leucurus</i>	white-tailed kite	None	SFP	Grasslands with scattered trees, near marshes, along highways.	Central valley of CA and along the entire length of the coast.	P, B
Comments: Due to the presence of suitable breeding and foraging habitat, this species has potential to occur within the project site.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
<i>Aquila chrysaetos</i>	golden eagle	None	SFP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats. Nesting sites are usually located in secluded cliffs with overhanging ledges or in large trees. Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 3 meters (10 feet) across and 1 meter (3 feet) high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most frequently for nesting.	Ranges throughout much of CA and is absent from much of Orange and Los Angeles Cos.	P, F
Comments: Because golden eagles prefer to nest in cliffs or in the largest trees of forested stands that often afford an unobstructed view of the surrounding habitat (Pagel 2012), this species is not expected to nest within the project site.						
Cuculinae	Cuckoos, Roadrunners, and Anis					
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	FC	SE	Riparian thickets and forests dominated by willows abutting slow-moving watercourses, backwaters, or seeps.	Rare summer visitant to riparian woodlands throughout CA.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat. Although riparian scrub occurs within the project site, it is not expansive enough to support this species.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Strigidae	Owls					
<i>Athene cunicularia</i>	burrowing owl	None	SSC	Prefers berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Local resident throughout CA excluding the central valley. Some seasonal movement away from nesting areas. Year-round resident of the lowlands of southern CA	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
<i>Asio otus</i>	long-eared owl	None	SSC	Dense riparian areas, thickets, woodlands, and forest.	Local resident throughout CA excluding the central valley. Some seasonal movement away from nesting areas.	P
Comments: Due to the presence of suitable habitat, the long-eared owl has the potential to occur within the project site.						
Tyrannidae	Tyrant Flycatchers					
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	FE	SE	Wet meadows, riparian woodlands that contain water and low growing willow thickets.	So. CA, from the Santa Ynez River south.	NE
Comments: Focused surveys conducted in 2006 and May-July, 2012 found no southwestern willow flycatchers therefore, this species is not expected to occur within the project site.						
Vireonidae	Vireos					
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE	SE	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests primarily in willows and forages in the riparian and occasionally in adjoining upland habitats. Associated with willow, cottonwood, and mule fat.	A patchily distributed summer resident across So. CA.	OB
Comments: During the 2012 surveys conducted by PCR, multiple individuals were observed in the southern willow scrub in the eastern portion of the project site and a nesting pair were observed within the canopy of the mule fat scrub in the southern portion of the site.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Hirundinidae	Swallows					
<i>Riparia riparia</i>	bank swallow	None	ST	Freshwater marshes and riparian scrub.	Central Valley and in coastal areas from Sonoma Co. south.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
Troglodytidae	Wrens					
<i>Campylorhynchus brunneicapillus sandiegensis</i>	cactus wren (coastal populations)	None	SSC	Coastal sage scrub, vegetation with thickets of prickly pear or cholla cactus.	Ventura Co. south to San Diego Co. and Baja CA.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat. Although some prickly pear was observed within the coastal sage scrub habitat, it was not dense enough to support this species.						
Poliopitilidae	Gnatcatchers					
<i>Poliopitila californica californica</i>	coastal California gnatcatcher	FT	SSC	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally avoids steep slopes and dense vegetation for nesting.	Southern Ventura Co., southward through Los Angeles, Orange, Riverside, San Bernardino Cos., and south through the coastal foothills of San Diego Co.	NE
Comments: Suitable habitat exists within the project site but no coastal California gnatcatchers were observed during focused surveys conducted in 2006 or April-June of 2012 therefore, this species is not expected to occur within the project site.						
Parulidae	Wood-Warblers					
<i>Setophaga petechia</i>	yellow warbler	None	SSC	Riparian woodlands with a thick understory.	Uncommon summer resident and migrant in coastal CA	OB
Comments: The yellow warbler was observed on-site during the 2012 focused surveys for least Bell's vireo.						
<i>Icteria virens</i>	yellow-breasted chat	None	SSC	Riparian woodlands with a thick understory.	Uncommon summer resident and migrant in coastal CA and in foothills of the Sierra Nevada.	OB
Comments: The yellow-breasted chat was observed on-site during the 2012 focused surveys for least Bell's vireo.						

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Emberizidae	Sparrow, Bunting, and Warbler Family					
<i>Ammodramus savannarum</i>	grasshopper sparrow	None	SSC	Dense, dry or well-drained grassland, especially native grassland with a mix of grasses and forbs for foraging and nesting.	Coastal ranges from Mendocino Co. to NW Baja CA.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
Icteridae	Blackbirds					
<i>Agelaius tricolor</i>	tri-colored blackbird	None	SSC	Freshwater marshes and riparian scrub.	Central Valley and in coastal areas from Sonoma Co. south.	NE
Comments: This species is not expected to occur within the project site due to the lack of suitable habitat.						
MAMMALS						
Vespertilionidae	Evening Bats					
<i>Antrozous pallidus</i>	pallid bat	None	SSC	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	Throughout CA.	P, F
Comment: This species maybe observed foraging over the project site due to the presence of suitable foraging habitat; however, this species is not expected to roost on-site due to the lack of suitable roosting habitat.						
<i>Lasiurus xanthinus</i>	western yellow bat	None	SSC	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	Throughout CA.	P, F
Comment: This species maybe observed foraging over the project site due to the presence of suitable foraging habitat; however, this species is not expected to roost on-site due to the lack of suitable roosting habitat.						
<i>Myotis yumanensis</i>	Yuma myotis	None	None	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	Throughout CA.	P, F
Comment: This species maybe observed foraging over the project site due to the presence of suitable foraging habitat; however, this species is not expected to roost on-site due to the lack of suitable roosting habitat.						

OB = observed; NE = species not expected to occur on-site due to the lack of suitable habitat; P = species has the potential to occur on-site; F = for raptor species, could utilize the project site for foraging only, if present; B = for raptor species, could utilize the project site for both foraging and breeding/nesting.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site
Molossidae	Free-Tailed Bats					
<i>Eumops perotis californicus</i>	western mastiff bat	None	SSC	Primarily arid lowlands, especially deserts. Open, semiarid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban.	Uncommon resident of lower elevations in southeastern San Joaquin Valley and Coastal Ranges from Monterey Co. southward through So. CA from the coast eastward to the Colorado desert.	P,F
Comment: This species maybe observed foraging over the project site due to the presence of suitable foraging habitat; however, this species is not expected to roost on-site due to the lack of suitable roosting habitat.						
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None	SSC	Utilizes pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis.	Riverside, San Diego and Imperial Cos.	NE
Comment: This species is not expected to occur within the project site due to the lack of suitable habitat.						
<i>Nyctinomops macrotis</i>	big free-tailed bat	None	SSC	Pinyon-juniper regions of the arid parts of CA.	San Mateo Co. to southern CA.	NE
Comment: This species is not expected to occur within the project site due to the lack of suitable habitat.						
Phyllostomidae	New World leaf-nosed bats					
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None	SSC	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, montane riparian, desert scrub, desert succulent shrub, and pinyon-juniper habitats.	San Diego County.	NE
Comment: This species is not expected to occur within the project site due to the lack of suitable habitat.						

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Distribution	Occurrence On-site																												
Heteromyidae		Kangaroo Rats, Pocket Mice, and Kangaroo Mice																																
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None	SSC	Sandy herbaceous areas, usually in association with rocks or coarse gravel, sagebrush, scrub, annual grassland, chaparral and desert scrubs.	Common resident in southwestern CA; arid coastal areas of Orange, San Bernardino, and Riverside Cos. extending south into Baja CA.	P																												
Comments: Due to the presence of suitable habitat, the northwestern San Diego pocket mouse has the potential to occur within the project site.																																		
Cricetidae		Mice, Rats, and Voles																																
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None	SSC	Chaparral, coastal sage scrub, and pinyon - juniper woodland.	So. CA.	P																												
Comments: Due to the presence of suitable habitat, the San Diego desert woodrat has the potential to occur within the project site.																																		
Mustelidae		Weasel Family																																
<i>Taxidea taxus</i>	American badger	None	SSC	Open shrub, forest, and herbaceous habitats, with friable soils.	Common in most of the state except for the northern North Coast area.	NE																												
Comment: This species is not expected to occur within the project site due to the lack of suitable habitat.																																		
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INVESTIGATION OF JURISDICTIONAL WATERS AND WETLANDS

CIELO VISTA

ORANGE COUNTY, CALIFORNIA

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JULY 2012

Investigation of Jurisdictional Waters and Wetlands

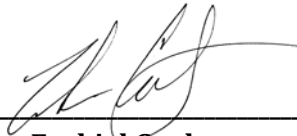
**Cielo Vista Project Site
Orange County, California**

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional waters assessment of the above-referenced project.

PCR Services Corporation



Amir Morales
Principal Regulatory Scientist



Ezekiel Cooley
Biologist

July 25, 2012

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INVESTIGATION OF JURISDICTIONAL WATERS AND WETLANDS FOR THE CIELO VISTA PROJECT SITE, ORANGE COUNTY, CALIFORNIA

1.0 INTRODUCTION

This report presents the findings of an investigation conducted by **PCR Services Corporation (PCR)** for the proposed approximately 83.90-acre Cielo Vista Project Site (project site) located in unincorporated Orange County, California (**Figure 1, Regional Map**). The project site is within the sphere of influence of the City of Yorba Linda. PCR Principal Regulatory Scientist Amir Morales and Biologist Ezekiel Cooley examined the project site on June 5 and June 11, 2012 to determine whether on-site drainage features meet the criteria of jurisdictional “waters of the U.S.” as regulated by the U.S. Army Corps of Engineers (USACE), jurisdictional “waters of the State” as regulated by the Regional Water Quality Control Board (RWQCB), and/or jurisdictional streambed and associated riparian habitat as regulated by the California Department of Fish and Game (CDFG). The extent of jurisdictional “waters of the U.S.” associated with the project site were determined to be consistent with the limits of “waters of the State”. Therefore, the term “waters of the U.S.” is used to describe jurisdiction regulated by both the USACE and RWQCB for the purpose of this report.

The jurisdictional resources investigation focused on two drainages and six associated tributaries within the project site. The project site is generally located north of State Route 91 (SR-91, Riverside Freeway), northeast of State Route 90 (SR-90, Imperial Highway), south of State Route 142 (SR-142, Carbon Canyon Road), and State Route 71 (SR-71, Chino Valley Freeway/Corona Expressway) in an unincorporated portion of northern Orange County. The project site is northeast of the intersection of Yorba Linda Boulevard and San Antonio Road. The project site is located on the U.S. Geological Survey (USGS) 7.5-minute Yorba Linda Quadrangle, within an un-sectioned portion in T. 3 S., R. 8 W. (**Figure 2, Vicinity Map**).

The project site contains approximately 6,836 linear feet of streambed encompassing approximately 0.88 acre of USACE/RWQCB jurisdictional “waters of the U.S.”¹ and 2.07 acres of CDFG jurisdictional streambed and associated riparian habitat, of which 0.29 acre is wetlands.

2.0 EXISTING SITE CONDITIONS

The project site is comprised of undeveloped land consisting of scrub, chaparral, and woodland communities with varying degrees of disturbance, which have recovered from a fire that burned the site in November 2008. The project site supports moderate to steep rolling hill contours with elevations ranging between approximately 600 and 875 feet above mean sea level (MSL). Surrounding land uses consist of residential development to the immediate north, west, and south, and undeveloped vacant land supporting oil rigs to the east. The expansive open space area of Chino Hills State Park lies to the north of the project site. Surface drainage through the project site generally flows to the west and then turns south as it leaves the property and enters a concrete storm drain which appears to outlet into the Santa River approximately 350 feet south

¹ The extent of RWQCB jurisdiction is presumed to be consistent with the extent USACE jurisdiction.

of the Yorba Linda Boulevard intersection with La Palma Avenue. The Santa Ana River ultimately drains to the Pacific Ocean approximately 21 miles southwest of the storm drain outlet.

2.1 Natural Communities

Figure 3, Natural Communities, depicts the extent of vegetation mapped on the project site. A summary of acreages of each community is included in **Table 1, Natural Communities**. The following provides a description of the vegetation communities observed on the project site.

2.1.1 Blue Elderberry Woodland

Blue Elderberry Woodland is dominated by blue elderberry (*Sambucus nigra* ssp. *caerulea*). Associated species include poison hemlock (*Conium maculatum*), giant wild rye (*Leymus condensatus*), California bush sunflower (*Encelia californica*), chaparral bushmallow (*Malacothamnus fasciculatus*), Southern California black walnut (*Juglans californica* var. *californica*), California sagebrush (*Artemisia californica*), western ragweed (*Ambrosia psilostachya*), fuchsia-flowered gooseberry (*Ribes speciosum*), western bindweed (*Calystegia macrostegia*), golden yarrow (*Eriophyllum confertiflorum*), fennel (*Foeniculum vulgare*), short-podded mustard (*Hirshfeldia incana*), and sweetclover (*Melilotus* sp.). Blue Elderberry Woodland comprises 5.21 acres within the central and southern portions of the project site.

2.1.2 Laurel Sumac Chaparral

Laurel Sumac Chaparral is dominated by laurel sumac (*Malosma laurina*). Associated species include blue elderberry, California sagebrush, fennel, and short-podded mustard. Laurel Sumac Chaparral comprises 0.70 acres within the southern portion of the project site.

2.1.3 Chaparral Bushmallow Scrub

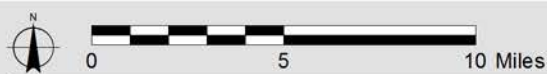
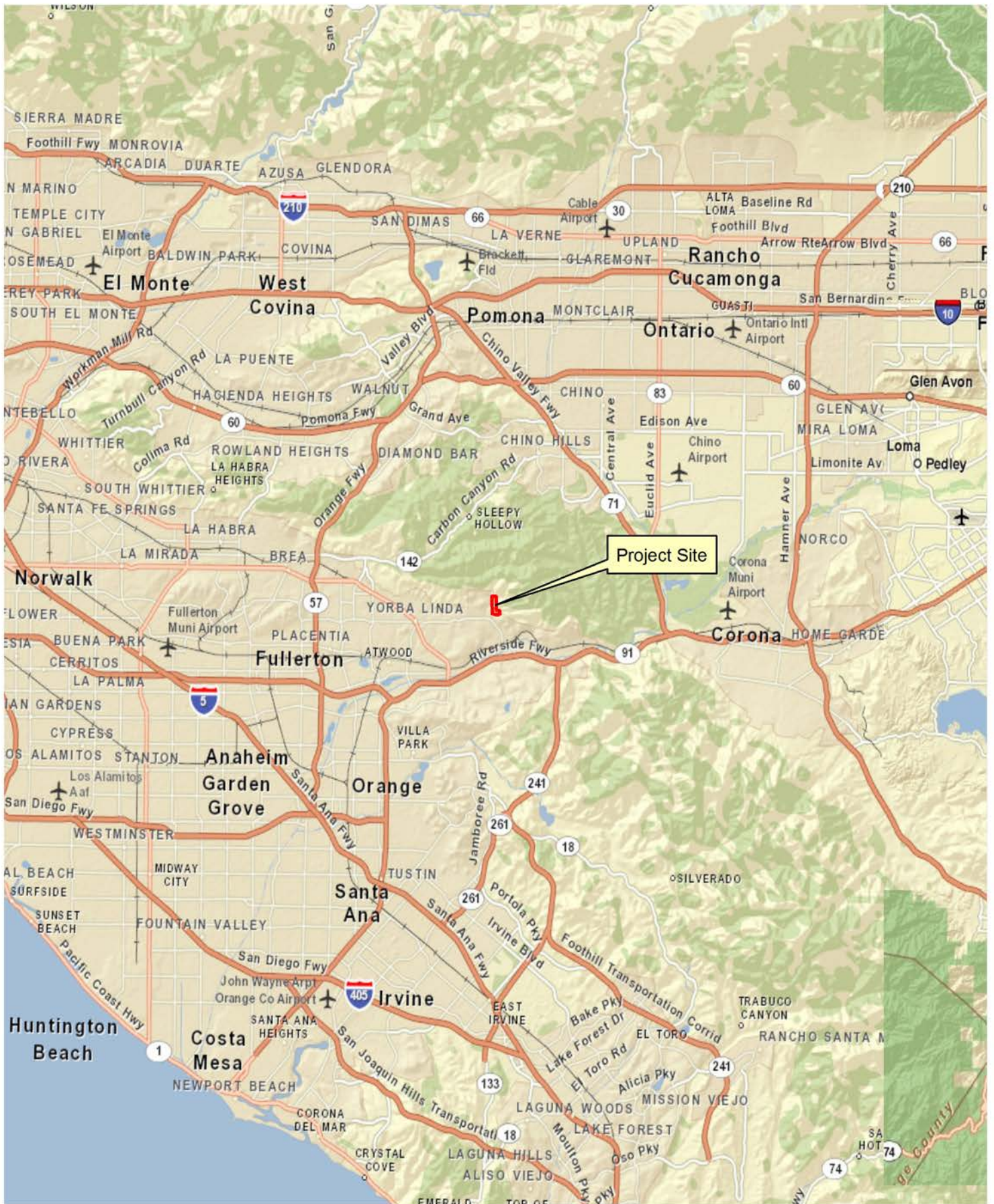
Chaparral Bushmallow Scrub is dominated by dense stands of chaparral bushmallow. This community is characterized by monocultures of chaparral bushmallow with sparse open areas containing, Pomona locoweed (*Astragalus pomonensis*), laurel sumac, California bush sunflower, short-podded mustard. Chaparral Bushmallow Scrub comprises 6.20 acres within the central and southeastern portions of the project site.

2.1.4 Mixed Coastal Sage Scrub

Mixed Coastal Sage Scrub is dominated by a mixed community of California sagebrush, California bush sunflower, and black sage (*Salvia mellifera*). Associated species observed within this community include chaparral bushmallow, tocalote (*Centaurea melitensis*), laurel sumac, blue elderberry, California buckwheat (*Eriogonum fasciculatum*), purple sage (*Salvia leucophylla*), white sage (*Salvia apiana*), giant wild rye, California aster (*Corethrogyne filaginifolia*), needlegrass (*Nassella* sp.), purple nightshade (*Solanum xanti*), and blue-eyed-grass (*Sisyrinchium bellum*). Mixed Coastal Sage Scrub comprises 9.05 acres within the southern portion of the project site.

2.1.5 Mule Fat Scrub

Mule Fat Scrub is dominated by mule fat (*Baccharis salicifolia*) and is typically found in association with drainage features and riparian areas. Associated species include Southern California black walnut, castor bean (*Ricinus communis*), cliff malacothrix (*Malacothrix saxatilis*), tree tobacco (*Nicotiana glauca*), mugwort

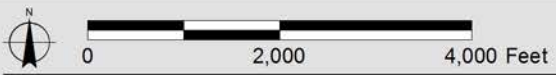
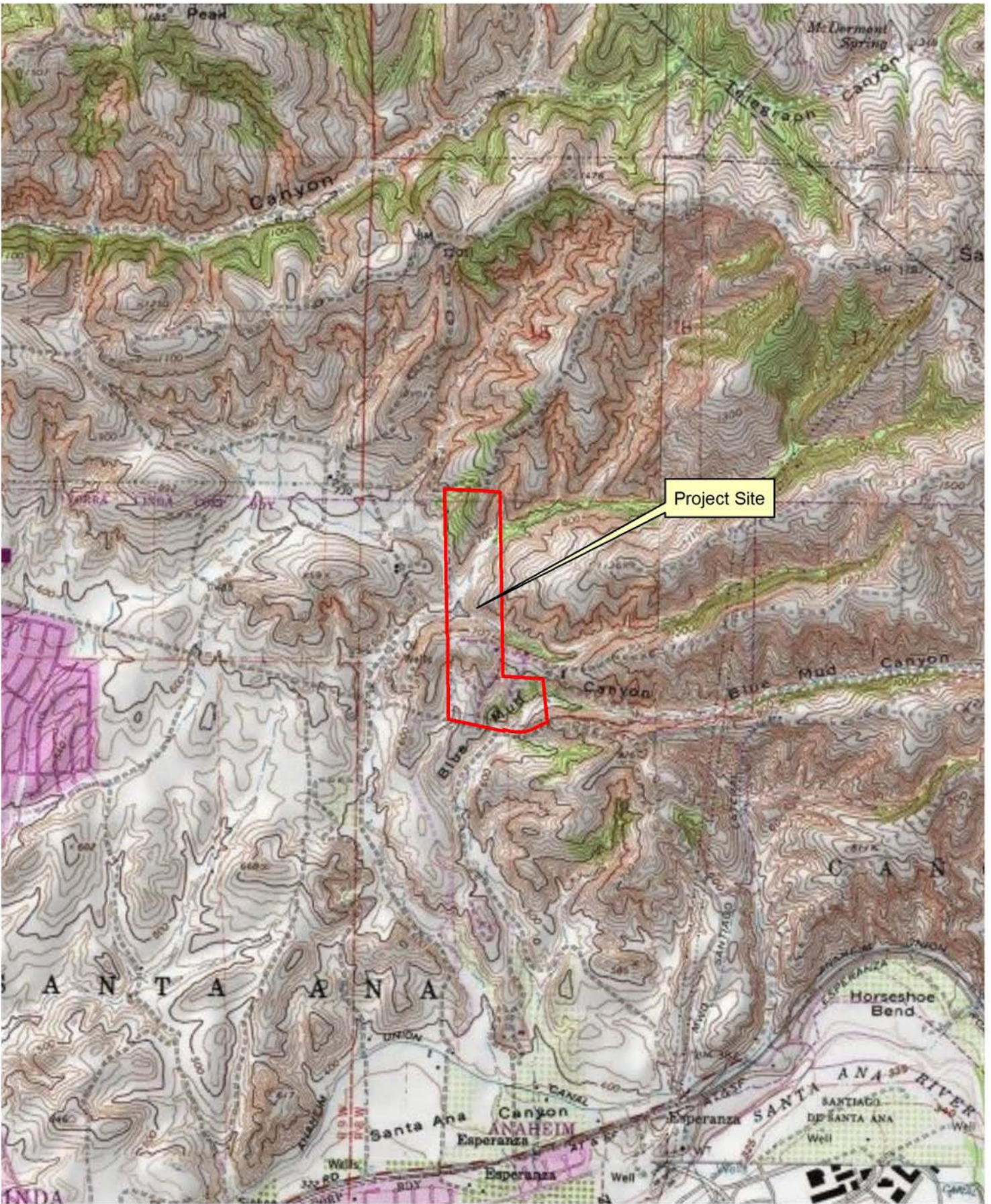


Regional Map

FIGURE

1

Cielo Vista
Source: ESRI Street Map, 2009; PCR Services Corporation, 2012.

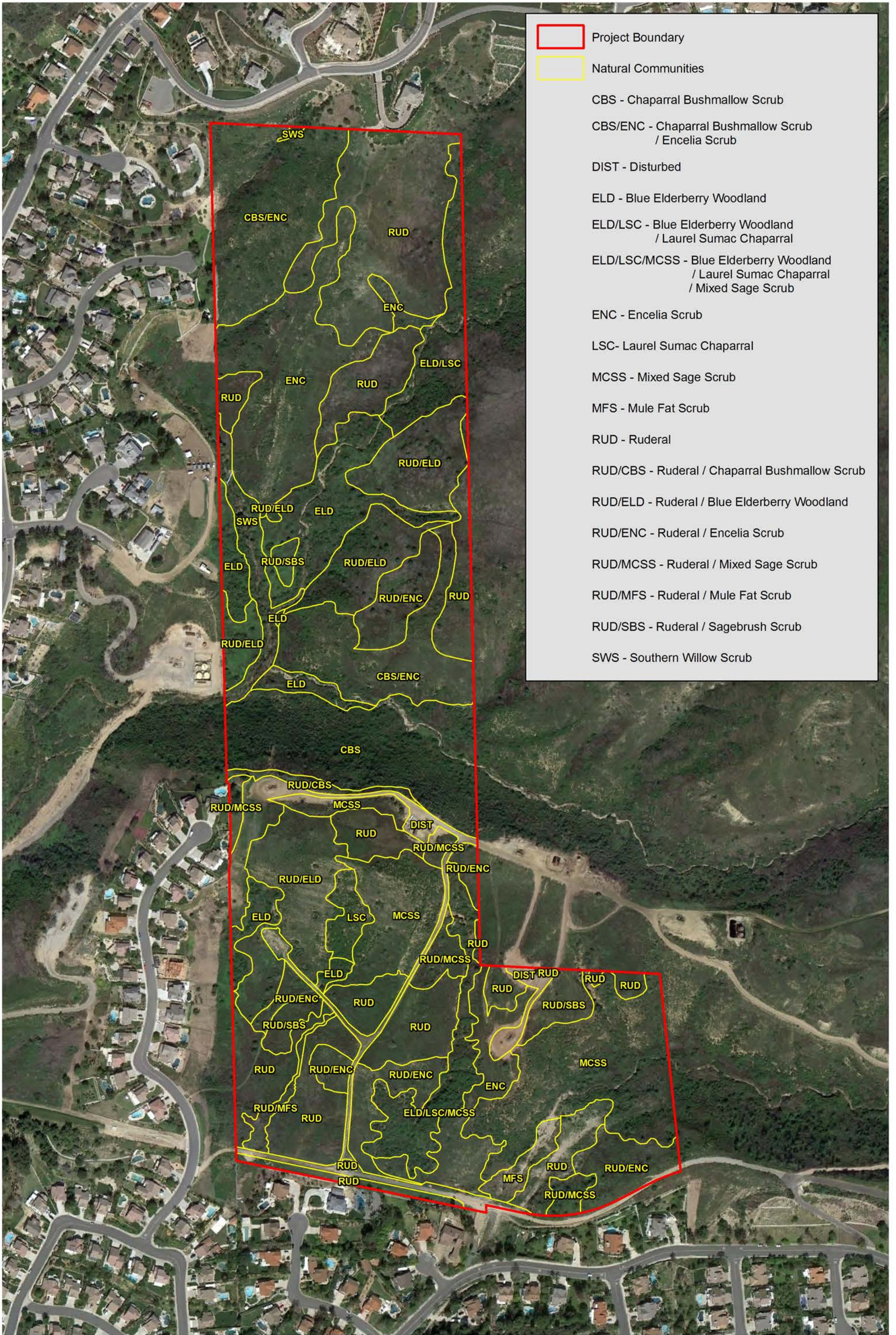


Vicinity Map

FIGURE

2

Cielo Vista
 Source: USGS Topographic Series (Yorba Linda, Prado Dam, CA); PCR Services Corporation, 2012.



- Project Boundary
- Natural Communities
- CBS - Chaparral Bushmallow Scrub
- CBS/ENC - Chaparral Bushmallow Scrub / Encelia Scrub
- DIST - Disturbed
- ELD - Blue Elderberry Woodland
- ELD/LSC - Blue Elderberry Woodland / Laurel Sumac Chaparral
- ELD/LSC/MCSS - Blue Elderberry Woodland / Laurel Sumac Chaparral / Mixed Sage Scrub
- ENC - Encelia Scrub
- LSC- Laurel Sumac Chaparral
- MCSS - Mixed Sage Scrub
- MFS - Mule Fat Scrub
- RUD - Ruderal
- RUD/CBS - Ruderal / Chaparral Bushmallow Scrub
- RUD/ELD - Ruderal / Blue Elderberry Woodland
- RUD/ENC - Ruderal / Encelia Scrub
- RUD/MCSS - Ruderal / Mixed Sage Scrub
- RUD/MFS - Ruderal / Mule Fat Scrub
- RUD/SBS - Ruderal / Sagebrush Scrub
- SWS - Southern Willow Scrub

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Table 1

Natural Communities

Plant Community	OCHCS ^a Code	On-Site (acres)
Blue Elderberry Woodland	8.4	5.21
Laurel Sumac Chaparral	NA	0.70
Chaparral Bushmallow Scrub	2.3.11	6.20
Mixed Coastal Sage Scrub	2.3.10	9.05
Mule Fat Scrub	7.3	0.60
Southern Willow Scrub	7.2	1.50
Blue Elderberry Woodland/Laurel Sumac Chaparral	8.4/NA	2.28
Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub	8.4/NA/ 2.3.10	2.57
Encelia Scrub	2.5	8.12
Chaparral Bushmallow/Encelia Scrub	2.3.11/2.5	9.14
Ruderal	4.6	18.17
Ruderal/Sagebrush Scrub	4.6/2.3.6	1.48
Ruderal/Blue Elderberry Woodland	4.6/8.4	8.27
Ruderal/Mixed Coastal Sage Scrub	4.6/2.3.10	1.43
Ruderal/Encelia Scrub	4.6/2.5	5.17
Ruderal/Chaparral Bushmallow Scrub	4.6/2.3.11	0.40
Ruderal/Mule Fat Scrub	4.6/7.3	0.39
Disturbed	16.1	3.21
Total		83.90

^a Orange County Habitat Classification System.
Source: PCR Services Corporation, 2012.

(*Artemisia douglasiana*), short-podded mustard, poison hemlock, California sagebrush, tocalote, western verbena (*Verbena lasiostachys*), Pomona locoweed, and cheeseweed (*Malva parviflora*). Mule Fat Scrub comprises 0.60 acre within the southern portion of the project site.

2.1.6 Southern Willow Scrub

Southern Willow Scrub is a community comprised of several species of willows. Dominant species within this community include black willow (*Salix gooddingii*) and red willow (*Salix laevigata*), with a subdominance of poison oak (*Toxicodendron diversilobum*). Associated species include arroyo willow (*Salix lasiolepis*), cattail (*Typha* sp.), mugwort, blue elderberry, southern California black walnut, poison hemlock, Douglas' nightshade (*Solanum douglasii*), castor bean, tree tobacco, wild cucumber (*Marah macrocarpus*), coyote brush (*Baccharis pilularis*), fennel, water-cress (*Nasturtium officinale*), giant wild rye, annual beard grass (*Polypogon monspeliensis*), Mexican fan palm (*Washingtonia robusta*), gum tree (*Eucalyptus* sp.), cliff malacothrix, and smilo grass (*Piptatherum miliaceum*). Southern Willow Scrub comprises 1.50 acres within the western portion of the project site.

2.1.7 Blue Elderberry Woodland/Laurel Sumac Chaparral

Blue Elderberry Woodland/Laurel Sumac Chaparral is dominated by blue elderberry with a subdominance of laurel sumac. Associated species include California sagebrush, black sage, fennel, and short-podded mustard. Blue Elderberry Woodland/Laurel Sumac Chaparral comprises 2.28 acres within the northern portion of the project site.

2.1.8 Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub

Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub is dominated by blue elderberry with a subdominance of laurel sumac and an understory of mixed coastal sage scrub species. Associated species include California sagebrush, California bush sunflower, black sage, fennel, and short-podded mustard. Blue Elderberry Woodland/Laurel Sumac Chaparral/Mixed Coastal Sage Scrub comprises 2.57 acres within the southern portion of the project site.

2.1.9 Encelia Scrub

Encelia Scrub is dominated by California bush sunflower. Associated species include chaparral bushmallow, laurel sumac, short-podded mustard, black sage, blue elderberry, sugar bush (*Rhus ovata*), totalote, saw-toothed goldenbush (*Hazardia squarrosa*), toyon (*Heteromeles arbutifolia*), California sagebrush, horehound (*Marrubium vulgare*), rattlesnake weed (*Chamaesyce albomarginata*), narrow-leaf milkweed (*Asclepias fascicularis*), tree tobacco, cliff malacothrix, sow thistle (*Sonchus* sp.), Italian thistle (*Carduus pycnocephalus*), Palmer's goldenbush (*Ericameria palmeri*), red-stemmed filaree (*Erodium cicutarium*), milk thistle (*Silybum marianum*), deerweed (*Acmispon glaber* var. *glaber*), coastal goldenbush (*Isocoma menziesii*), fountain grass (*Pennisetum setaceum*), lemonadeberry (*Rhus integrifolia*), fascicled tarweed (*Deinandra fasciculata*), needlegrass, rattlesnake spurge (*Euphorbia serpens*), and Douglas' nightshade. Encelia Scrub comprises 8.12 acres within the northern and southern portions of the project site.

2.1.10 Chaparral Bushmallow/Encelia Scrub

Chaparral Bushmallow/Encelia Scrub is dominated by chaparral bushmallow. Associated species include laurel sumac, purple sage, horseweed (*Conyza canadensis*), tree tobacco, milk thistle, California sagebrush, totalote, and blue elderberry. Chaparral Bushmallow/Encelia Scrub comprises 9.14 acres within the central portion of the project site.

2.1.11 Ruderal

Ruderal areas are dominated by weedy non-native species and exhibit some signs of previous disturbance. Species observed within this community include Mexican fan palm, short-podded mustard, fennel, black mustard (*Brassica nigra*), blue elderberry, California bush sunflower, Palmer's goldenbush, milk thistle, western verbena, totalote, curly dock (*Rumex* sp.), western sycamore (*Platanus racemosa*), Peruvian pepper tree (*Schinus molle*), and prickly pear (*Opuntia littoralis*). Ruderal areas comprise 18.17 acres within the northern and southern portions of the project site.

2.1.12 Ruderal/Sagebrush Scrub

Ruderal/Sagebrush Scrub is dominated by weedy non-native species and California sagebrush. Species observed within this community include short-podded mustard and western ragweed. Ruderal/Sagebrush Scrub comprise 1.48 acres within the central and southeastern portions of the project site.

2.1.13 Ruderal/Blue Elderberry Woodland

Within the central portion of the project site, Ruderal/Blue Elderberry Woodland comprises 8.27 acres and is characterized by a dominance of weedy, ruderal species and those species found within Blue Elderberry Woodland.

2.1.14 Ruderal/Mixed Coastal Sage Scrub

Within the southern portion of the project site, Ruderal/Mixed Coastal Sage Scrub comprises 1.43 acres and is characterized by a dominance of weedy, ruderal species and those species found within Mixed Coastal Sage Scrub. California figwort (*Scrophularia californica*) was also observed within this community.

2.1.15 Ruderal/Encelia Scrub

Within the central and southern portions of the project site, Ruderal/Encelia Scrub comprises 5.17 acres and is characterized by a dominance of weedy, ruderal species and those species found within Encelia Scrub.

2.1.16 Ruderal/Chaparral Bushmallow Scrub

Within the central portion of the project site, Ruderal/Chaparral Bushmallow Scrub comprises 0.40 acre and is characterized by a dominance of weedy, ruderal species and those species found within Chaparral Bushmallow Scrub.

2.1.17 Ruderal/Mule Fat Scrub

Within the southwestern portion of the project site, Ruderal/Mule Fat Scrub comprises 0.39 acre and is characterized by a dominance of weedy, ruderal species and those species found within Mule Fat Scrub. Other species observed within this community include chaparral bushmallow, fennel, blue elderberry, and Peruvian pepper tree.

2.1.18 Disturbed

Disturbed areas within the project site include areas of little to no vegetation and are comprised of dirt roads, fuel modification areas, and cleared pads supporting oil rigs. Disturbed areas comprise 3.21 acres within the southern portion of the project site. Associated species are comprised predominantly of weedy species and include Russian thistle (*Salsola tragus*), tree tobacco, bristly ox-tongue (*Picris echioides*), fennel, short-podded mustard, tocalote, calabazilla (*Cucurbita foetidissima*), fascicled tarweed, foxtail chess (*Bromus madritensis*), wild oat (*Avena* sp.), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum* sp.), cheeseweed, Italian thistle, horseweed, castor bean, and sweetclover.

3.0 SUMMARY OF REGULATIONS

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899, the RWQCB regulates activities under Section 401 of the CWA as well as the Porter-Cologne Water Quality Control Act, and CDFG regulates activities under the California Fish and Game Code Sections 1600-1616.

USACE jurisdictional waters are referred to as “waters of the U.S.,” the limits of which are generally defined by the ordinary high water mark (OHWM). Although RWQCB jurisdictional resources are considered “waters of the State,” the extent of RWQCB jurisdiction generally defaults to USACE jurisdictional guidelines as no formal guidelines for RWQCB jurisdictional determinations currently exist. Isolated drainage features that have been evaluated by the USACE and determined not to support federal “waters of the U.S.” may still be subject to RWQCB and CDFG jurisdiction pursuant to the Porter-Cologne Water Quality Act and the California Fish and Game Code, respectively. However, no isolated streambeds were identified on the project site. Therefore, for the purpose of this report, the extent of RWQCB jurisdiction is presumed to be consistent with the extent of USACE jurisdiction. The limits of CDFG jurisdictional streambed and associated riparian habitat are generally defined to the top-of-bank of a streambed and extend to include any associated native riparian habitat.

3.1 Regulatory Agencies

3.1.1 U.S. Army Corps of Engineers

The USACE regulates the “discharge of dredged or fill material” into “waters of the U.S.,” which includes all waters currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce; waters subject to the ebb and flow of the tide; all interstate waters; all other waters, including intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce; or any other waters that are part of a tributary system to interstate waters or to navigable “waters of the U.S.,” (33 C.F.R. 328.3(a.)), pursuant to provisions of Section 404 of the CWA. The following provides a summary of the criteria used by the USACE to determine the limits of jurisdiction over federal waters.

3.1.1.1 Non-Wetland Waters

The USACE generally takes jurisdiction within rivers, streams, and non-wetland waters to the OHWM determined by erosion, the deposition of sediments or debris, and changes in vegetation. The USACE’s *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Cold Regions Research and Engineering Laboratory 2008) provides guidelines for more problematic OHWM delineations associated with the ephemeral and/or intermittent channel forms that dominate the arid west landscape including that of southern California.²

² “Ephemeral streams” are generally classified as streambeds that move water only during, and immediately after, a storm event. “Intermittent streams” are generally classified as streambeds with flow of greater duration than ephemeral drainages that also exhibit a reliance of riparian vegetation upon groundwater, but do not carry year-round flow consistent with a “perennial stream” such as the Santa Ana River.

3.1.1.2 Wetland Waters

The USACE defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 C.F.R. 328.3(b.)). In accordance with the USACE’s *Wetland Delineation Manual* (Environmental Laboratory 1987) and subsequent guidance provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Environmental Laboratory 2008), a wetland ecosystem must possess wetland hydrology, support hydrophytic vegetation, and hydric soils.

3.1.1.3 Regulatory History

Over the years, the USACE has modified their regulations mainly due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters (RGL’s), memoranda, or more expansive instructional guidebooks. These guidance documents help define how jurisdiction is assessed and how “waters of the U.S” will be regulated. On January 15, 2003, the USACE and EPA issued a Joint Memorandum to provide clarifying guidance regarding the United States Supreme Court ruling in the *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (January 9, 2001) (“the SWANCC ruling”), (Federal Register: Vol. 68, No. 10.). This ruling held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. As a result of this decision, some previously regulated depressional areas such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which are not hydrologically connected to other intra- or inter-state “waters of the U.S.,” are no longer regulated by the USACE.

In December 2006, the consolidated United States Supreme Court cases *Rapanos v. the United States* and *Carabell v. the United States* (jointly referred to as “Rapanos”) outlined the conditions and criteria utilized by the USACE to assess and regulate jurisdiction over non-navigable waters. On June 8, 2007, the USACE and Environmental Protection Agency (EPA) jointly announced guidance, effective immediately, concerning the scope of federal jurisdiction under Section 404 of the Clean Water Act (CWA) following the Supreme Court decision under Rapanos. Under this guidance, traditional navigable waters (TNWs)³ and relatively permanent waters (RPWs) are subject to regulation under the CWA.⁴ However, certain adjacent wetlands and non-navigable tributaries are required to have a “significant nexus” to a downstream TNW to be considered jurisdictional. The “significant nexus” is established through the consideration of a variety of hydrologic, geologic and ecological factors specific to the particular drainage feature in question. A significant nexus determination is provided by the USACE to the EPA for the final determination of federal jurisdiction. Drainage features that do not meet the criteria of an RPW based on completion of an USACE/EPA approved final significant nexus determination and/or are determined to be isolated pursuant to the SWANCC ruling may still be regulated by CDFG under Fish and Game Code Section 1600 or the RWQCB under the Porter-Cologne Water Quality Act.

³ TNW’s are defined in the Rapanos Guidance as waters that are “currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide,” and RPW’s are defined as a non-navigable water bodies with continuous flow, at least seasonally (typically three months), whose waters flow into a traditional navigable water.

⁴ TNW’s are defined in the Rapanos Guidance as waters that are “currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide,” and RPW’s are defined as a non-navigable water bodies with continuous flow, at least seasonally (typically three months), whose waters flow into a traditional navigable water.

3.1.1.4 Jurisdictional Determinations

The most recent USACE regulatory modification was issued on June 26, 2008 in the form of RGL No. 08-02, which defines the use, review criteria, and applicability of requesting a Preliminary or Approved Jurisdictional Determination (JD) from the USACE. The purpose of a JD is to document the location and extent of jurisdictional “waters of the U.S.” on a subject property. An Approved JD is typically based on a significant nexus determination where a drainage feature, or drainage features, “may be” considered jurisdictional. A Preliminary JD is a legally non-binding document that provides a less formal level of concurrence with a jurisdictional delineation than is provided by an approved JD. RGL No. 08-02 clarifies the primary differences between a Preliminary JD and an Approved JD as follows:

By definition, a preliminary JD can only be used to determine that wetlands or other water bodies that exist on a particular site “may be” jurisdictional waters of the United States. A preliminary JD by definition cannot be used to determine either that there are no wetlands or other water bodies on a site at all (i.e., that there are no aquatic resources on the site and the entire site is comprised of uplands), or that there are no jurisdictional wetlands or other water bodies on a site, or that only a portion of the wetlands or waterbodies on a site are jurisdictional. A definitive, official determination that there are, or that there are not, jurisdictional “waters of the United States” on a site can only be made by an approved JD.

3.1.1.5 Section 404 Permitting

The USACE has two permit mechanisms under Section 404 of the CWA for authorizing the discharge of fill into jurisdictional “waters of the U.S.” through issuance of 1) General Permits or 2) Individual Permits. General permits include both the Regional General Permit (RGP) program and the Nationwide Permit (NWP) program. There are currently 22 RGP’s in the Los Angeles (LA) District of the USACE which are mainly utilized for large regional maintenance projects and/or emergency projects that require work in federal waters. Therefore, the primary means of Section 404 permitting for public and private projects are the NWP program and issuance of Individual Permits (IP) as described below.

Nationwide Permits (NWP)

The purpose of the NWP program is to protect the aquatic environment and the public interest while effectively authorizing activities that have minimal individual and cumulative adverse effects on the aquatic environment. The LA District of the USACE currently has 50 active NWP’s which provides general permit authorization for specific activities including such as NWP 12 which authorizes utility line activities. In order for a project to be eligible for authorization under the NWP program, a pre-construction notification (PCN) is typically submitted to the USACE District Engineer (DE) to demonstrate compliance with the terms of a specific NWP. In general, permanent impacts to USACE jurisdictional waters must remain below a threshold of 0.50 acre, and several of the NWP’s limit permanent impacts to 300 linear feet of streambed to qualify for a specific NWP.⁵ Compliance with the National Environmental Policy Act (NEPA) is provided by way of an existing Environmental Assessment (EA) which provides NEPA compliance for the entire NWP program. Therefore, no project-specific NEPA documentation is required for authorization under a NWP.

⁵ *In some cases, a waiver for permanent impacts to greater than 300 linear feet of streambed can be issued by the DE on a project-by-project basis. Processing of a waiver requires review and comment by several resource agencies including the RWQCB, CDFG, and Environmental Protection Agency.*

The NWP program, including general conditions, regional conditions, and definitions, is evaluated and reissued by the USACE every five years in compliance with the CWA. The NWP program was recently reissued on March 19, 2012. Submittal of a complete NWP application must include a cultural resources assessment and may require submittal of a conceptual Habitat Mitigation and Monitoring Plan (HMMP) for compensation of permanent impacts to USACE waters, if any. Processing of a Section 404 NWP PCN generally takes approximately 4-6 months to complete. However, it is not uncommon for projects that require inter-agency consultation for adverse affects under Section 7 of the Federal Endangered Species Act (FESA) and/or the Section 106 of the State Historic Preservation Act to require 9-12 months to complete processing of a project NWP application. A NWP cannot be issued until the RWQCB issues the project Section 401 Water Quality Certification (WQC). The RWQCB cannot issue the Section 401 WQC until the final California Environmental Quality Act (CEQA) document for the project is certified by lead agency.

Individual Permits

Compared to NWP's, Individual Permits (IP) are intended to provide CWA authorization for project impacts to federal waters through 1) preparation of a more significant on and off-site alternatives analysis pursuant to Section 404(b)(1) of the CWA, 2) a more detailed analysis of public interest factors, and 3) increased EPA and public involvement in the permit evaluation process including an opportunity for public comment on individual projects. IP's are typically used to authorize projects that don't qualify for a NWP and/or propose more than minimal individual or cumulative impacts to special aquatic environments such as wetlands. Processing of an IP includes preparation of a project-specific EA or an Environmental Impact Assessment for authorization under NEPA.

Submittal of a complete IP application must include a cultural resources assessment. Processing of a Section 404 IP generally ranges from 9-12 months. However, it is not uncommon for projects that require inter-agency consultation for adverse affects under Section 7 of the FESA and/or the Section 106 of State Historic Preservation Act to require 12-18+ months to complete processing of a project IP application. An IP cannot be issued until the RWQCB issues the project Section 401 Water Quality Certification (WQC). The RWQCB cannot issue the Section 401 WQC until the final CEQA document for the project is certified by lead agency.

3.1.1.6 Section 7 Consultation – Federal Endangered Species Act

Section 7 of the Federal Endangered Species Act (FESA) charges federal agencies to aid in the conservation of listed species (section 7(a)(1)) and requires federal agencies to ensure that their activities will not jeopardize the continued existence of listed species or adversely modify critical habitats for federally-listed species (section 7 (a)(2)). Therefore, processing of a Section 7 Consultation between the USACE and U.S. Fish & Wildlife Service (USFWS) is required prior to issuance of a Section 404 permit if the proposed project could affect a federally-listed threatened or endangered species, and/or if the project is within proposed or adopted critical habitat for a federally-listed species as designated by the USFWS.

The Section 7 process begins in earnest when the USACE completes a Biological Assessment (BA) that studies potential project affects to the listed species and obtains written agreement from the USFWS to formally initiate consultation with the USFWS and/or the National Marine Fisheries Service (NMFS) in the case of potential adverse affects to federally-listed fish species. The USACE in cooperation with the 404 permit applicant coordinates with the USFWS and/or NMFS regarding avoidance and minimization of impacts to endangered species and associated habitat. Following the assessment of avoidance and minimization measures, the USFWS and/or NMFS will typically require mitigation as compensation for

“take” of individual animal and/or plant species, as well as for impacts to occupied habitat and/or USFWS designated critical habitat. The term “take” is defined by the FESA Section 3(19) as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The USFWS and/or NMFS will then issue a Biological Opinion (BO), which is required before the USACE can make a CWA Section 404 permit decision.

The FESA regulations state that the USFWS (or NMFS) has 90 days from the initiation of consultation to complete a BA and 45 days to write the BO. However, the USACE and the USFWS (or NMFS) can agree to a 60-day extension without approval from the applicant. If there are substantial impacts to endangered species, the USFWS and/or NMFS will issue a BO that concludes the proposed project would jeopardize the continued existence of the species, which would result in a permit denial from the USACE. A “jeopardy” decision is made if the proposed project action would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR §402.02). If there are no substantial impacts, the USFWS and/or NMFS will issue a “no jeopardy” decision with specific terms and conditions to allow the project to move forward.

3.1.2 Regional Water Quality Control Board

The RWQCB regulates “discharging waste, or proposing to discharge waste, within any region that could affect “waters of the State” (Water Code § 13260 (a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act which defines RWQCB jurisdictional “waters of the State” as “any surface water or groundwater, including saline waters, within the boundaries of the State” (Water Code § 13050 (e)). Before the USACE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification (WQC) from the RWQCB. With the exception of isolated waters and wetlands, the RWQCB typically regulates the same extent of aquatic resources as the USACE. If a CWA Section 404 permit is not required for the project, the RWQCB may still require issuance of Waste Discharge Requirements (WDR) under the Porter-Cologne Water Quality Control Act. The RWQCB may regulate isolated waters that are not under jurisdiction of the USACE through issuance of WDR’s. However, projects that apply for a Section 401 WQC do not need to seek additional WDR issuance for impacts to isolated waters, which can typically be authorized as part of a technically-conditioned WQC. Processing of Section 401 WQC’s generally requires submittal of 1) a sediment and erosion control plan for construction purposes, 2) a final water quality plan concept that complies with recently adopted municipal storm drain permits (MS4 permits) implemented by the State Water Resources Control Board effective January 1, 2011, and 3) a conceptual HMMP to compensate for permanent impacts to RWQCB waters, if any. In addition to submittal of a draft CEQA document, a WQC application typically requires a discussion of construction and post-construction Best Management Practices (BMP) function and maintenance, avoidance and minimization of impacts to RWQCB jurisdictional resources, and efforts to protect beneficial uses as defined by the local RWQCB basin plan for the project. Processing of Section 401 Water Quality Certifications can generally range from 4-9 months. The RWQCB cannot issue a Section 401 WQC until the project CEQA document is certified by the lead agency.

3.1.3 California Department of Fish and Game

In accordance with Section 1600 *et seq.*, of the California Fish and Game Code (FGC) (“Streambed Alteration”), CDFG regulates activities which “will substantially divert, obstruct, or substantially change the natural flow or bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.” The

CDFG takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation when present. Disturbance to CDFG jurisdictional resources is generally authorized by way of a Streambed Alteration Agreement (SAA) pursuant to Section 1602 of the FGC. Submittal of a SAA application usually requires submittal of a hydrology plan, construction and post-construction erosion/sedimentation control plans, and a draft CEQA document in order to be deemed complete. In some cases, CDFG will allow the 60-day timeline to deem an SAA application to lapse, thereby authorizing the proposed streambed alteration agreement under of FGC “operation of law”. Operation of law authorizations require that the project proceed consistent with the terms of the SAA application that was submitted to CDFG for the project with regard to project timing, impacts, and/or compensatory mitigation. CDFG operation of law authorizations can be issued prior to certification of the project CEQA document and are generally issued within 60 days of CDFG’s receipt of a complete SAA application. However, processing of a Section 1602 SAA can generally take from 2-6 months and cannot be issued until the lead agency certifies the Final CEQA document for the proposed project.

3.2 Activities Requiring Permitting

Any project that involves permanently or temporarily impacting jurisdictional waters and/or wetlands through filling, stockpiling, construction access, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, geotechnical investigations, or any other modifications that involve the discharge of fill and/or alteration of a jurisdictional resource, will likely require permits from the USACE, RWQCB, and CDFG before any land disturbance can commence within the project site. Both permanent and temporary impacts are regulated by the resource agencies. Processing of the Section 401 WQC and Section 1602 SAA can occur concurrently with the USACE Section 404 permit process and often utilize much of the same information and analysis. However, USACE Section 404 permits applications require a cultural resource assessment to be deemed complete, while Section 401 WQC applications typically require a more significant analysis of 1) water quality objectives, 2) project Best Management Practices (BMPs), and 3) beneficial uses for downstream “waters of the State” as defined by the local RWQCB basin plan. Submittal of a complete Section 401 WQC and 1602 SAA application requires inclusion of a draft CEQA document. Issuance of Section 401 WQC and 1602 SAA from the RWQCB and CDFG is contingent upon certification of the final CEQA document by the lead agency. The USACE Section 404 permit cannot be issued until the RWQCB issues the Section 401 WQC.

4.0 METHODOLOGY

4.1 Literature & Map Review

Prior to visiting the project site, potential drainage features were geographically located based on a review of the USGS Yorba Linda Quadrangle (USGS 1964, photorevised in 1981), aerial photographs, and satellite imagery of the project site. The information provided by these imagery sources is used to identify potential drainage features in the project area, determine access routes to drainage features, examine the size and scope of upstream watershed(s), and help assess the general hydrologic connectivity of on-site drainage features to downstream jurisdictional waters and wetlands. PCR also reviewed a regulatory due-diligence level report that assessed the 117-acre property which encompasses the Cielo Vista site prepared by Vandermost Consulting Services, Inc. (2006).

4.2 Soil Survey Review

The Soil Survey Geographic (SSURGO) Data Base (USDA NRCS 2005) was consulted and eleven soil types within eight soil series were generally identified within the project site (**Figure 4, Soils Map**). Soils mapped within the project site are of the Alo (Alo Clay, 9 to 15 percent slopes; Alo Clay, 15 to 30 percent slopes; Alo Variant Clay, 15 to 30 percent slopes), Anaheim (Anaheim Loam, 30 to 50 percent slopes; Anaheim Clay Loam, 50 to 75 percent slopes), Balcom (Balcom Clay Loam, 15 to 30 percent slopes), Calleguas (Calleguas Clay Loam, 50 to 75 percent slopes, eroded), Cieneba (Cieneba Sandy Loam, 15 to 30 percent slopes), Mocho (Mocho Loam, 2 to 9 percent slopes), Myford (Myford Sandy Loam, 9 to 15 percent slopes), and Sorrento (Sorrento Clay Loam, 2 to 9 percent slopes) soil series. Although a number of clay soils are mapped within the project site, only the Sorrento Clay loam soil series was considered to support hydric soils.

4.3 Field Delineation and Mapping

The project site was evaluated and all drainage features were field verified and mapped based on field indicators of USACE, RWQCB, and/or CDFG jurisdiction. Drainage features were mapped and data collected using a combination of standard measurement tools and Global Positioning System (GPS) equipment. The location of transects, upstream and downstream extents of each feature, and sample points were collected in the field using a GPS hand-held unit.⁶ Following data collection, the digital information was uploaded and incorporated within PCR's project-specific Geographic Information System (GIS) database to calculate jurisdictional acreages.

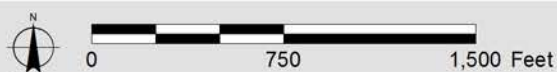
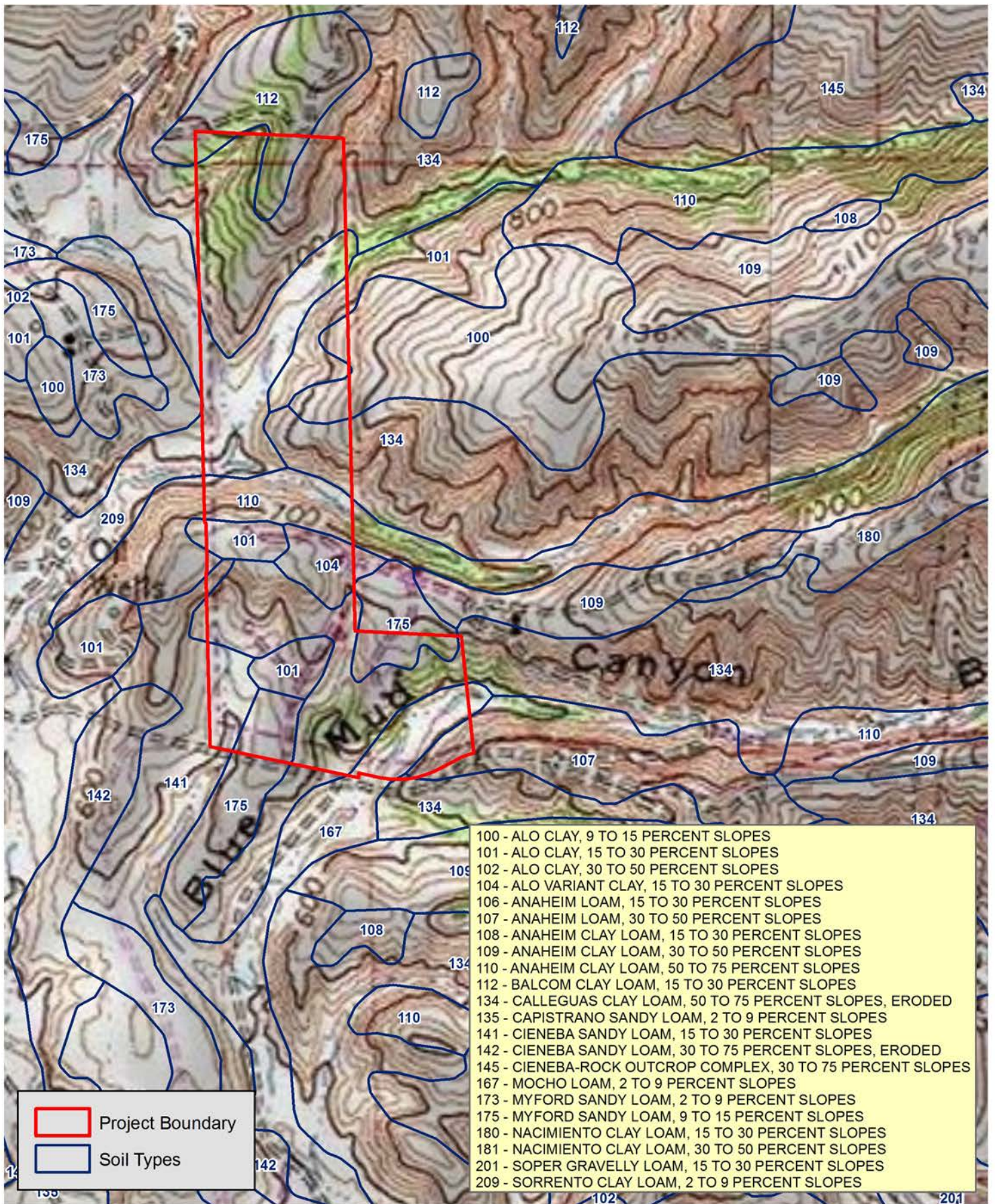
4.3.1 Identification of USACE/RWQCB "Waters of the U.S."

The potential for USACE/RWQCB "waters of the U.S." were investigated based on the absence or presence of an OHWM, presence of a bed and bank, and secondary indicators of hydrology, including, erosion, the deposition of debris, scour, sediment sorting, and changes in vegetation. If any of these criteria were met, a series of transects or points were run to determine the extent of jurisdiction. The OHWM was determined based on indicators provided in the USACE's *Field Guide to the Identification of the OHWM in the Arid West Region of the United States* (USACE 2008). CDFG jurisdiction was defined to the top of the bank of stream/channels or to the limits of streambed associated vegetation, whichever is greater.

4.3.2 Identification of Wetlands

Jurisdictional wetlands were delineated using a routine determination according to the methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Environmental Laboratory 2008). The delineations are based on hydrologic features of the project site, streambed geomorphology, vegetation community response to the dominant stream discharge, and the vegetation community composition of each area being investigated. In areas where jurisdictional wetlands were suspected, data on vegetation, hydrology, and soils was collected along transects as described below.

⁶ Trimble GeoXT hand held unit



Soils Map

Cielo Vista

Source: USGS Topographic Series (Orange, CA); USDA NRCS, 2005; PCR Services Corporation, 2012.

FIGURE

4

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4.3.2.1 Vegetation

Aerial cover of vegetation was estimated along each transect by estimating coverage in two randomly placed circular plots. Tree cover is estimated using 30-foot radius circular plots; sapling, shrub, and forb cover was estimated using 10-foot radius plots. Plant species in each stratum are ranked according to their dominance. Species that contributed to a cumulative total of 50 percent of the total dominant coverage plus any species that comprised at least 20 percent of the total dominant coverage were recorded on the wetland data sheets. The wetland indicator status was assigned to each species using the Region 0 List of Plant Species that Occur in Wetlands (Reed 1988), as shown in **Table 2, Summary of Wetland Indicator Status**. If greater than 50 percent of the dominant species from all strata were Obligate, Facultative Wetland, or Facultative species, the criteria for wetland vegetation was considered to have been met.

Table 2

Summary of Wetland Indicator Status

Category		Probability
Obligate Wetland	(OBL)	Almost always occur in wetlands (estimated probability of >99%)
Facultative Wetland	(FACW)	Usually occur in wetlands (estimated probability of 67 to 99%)
Facultative	(FAC)	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34 to 66%)
Facultative Upland	(FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland	(UPL)	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	(NI)	No indicator status has been assigned

Source: Reed, 1988.

4.3.2.2 Hydrology

The presence of wetland hydrology was evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil pits. In addition, indicators of wetland or riverine hydrology were recorded, including water marks, drift lines, rack, debris, and sediment deposits. The lateral extent of the hydrology indicators was used as a guide for locating soil pits for evaluation of hydric soils. In portions of the stream where the flow was divided between multiple channels with intermediate sand bars, the entire area between the outermost edges of each channel was considered within the OHWM and the wetland hydrology indicator was considered met for the entire area, assuming surface water was present.

4.3.2.3 Soils

If the criteria for wetland vegetation and hydrology were met, an excavation of the soils was conducted to determine if the soils were hydric. Soil pits were dug to a depth of approximately 20 inches, where feasible. In areas of recent deposition of sand or other overburden material, the soil pit was dug to a depth of 20 inches below the depth of the overburden material, where feasible. At each soil pit the soil texture and color were recorded by comparison with standard plates within a Munsell soil color chart. Any hydric soils, as defined in the *Field Indicators of Hydric Soils in the United States: Version 7.0* (NRCS 2010) were also recorded. The limits of wetland hydrology indicators, if any, were used as a guide for locating soil pits.

5.0 RESULTS

PCR Principal Environmental Scientist Amir Morales and Biologist Ezekiel Cooley examined the project site on June 5 and June 11, 2012 to assess the extent of USACE/RWQCB and CDFG jurisdictional waters within the project site.⁷ The project site contains two mainstem drainage features (referred to in this report as Drainages A and B) and six tributary drainage features (referred to in this report as Tributaries A1, A1.1 A2, A3, B1, and B2). Drainage A is an unnamed tributary to the Santa Ana River, while Drainage B is associated with Blue Mud Canyon based on the USGS Yorba Linda Quadrangle map. Both mainstem drainage features are conveyed into storm drains within developed communities downstream that ultimately convey flow directly to the Santa Ana River. The project site contains a total of approximately 6,836 linear feet of streambed and approximately 0.87 acre of USACE/RWQCB jurisdictional “waters of the U.S.” and 2.07 acres of CDFG jurisdictional streambed and associated riparian habitat, of which 0.29 acre are wetlands (**Figure 5, Jurisdictional Features**, attached).

Representative photographs associated with on-site drainage features are provided as **Appendix A, Drainage Photographs**, while **Table 3, Jurisdictional Features**, provides a summary of jurisdictional acreages. The following provides a description of drainage features assessed on the project site.

Table 3

Jurisdictional Features

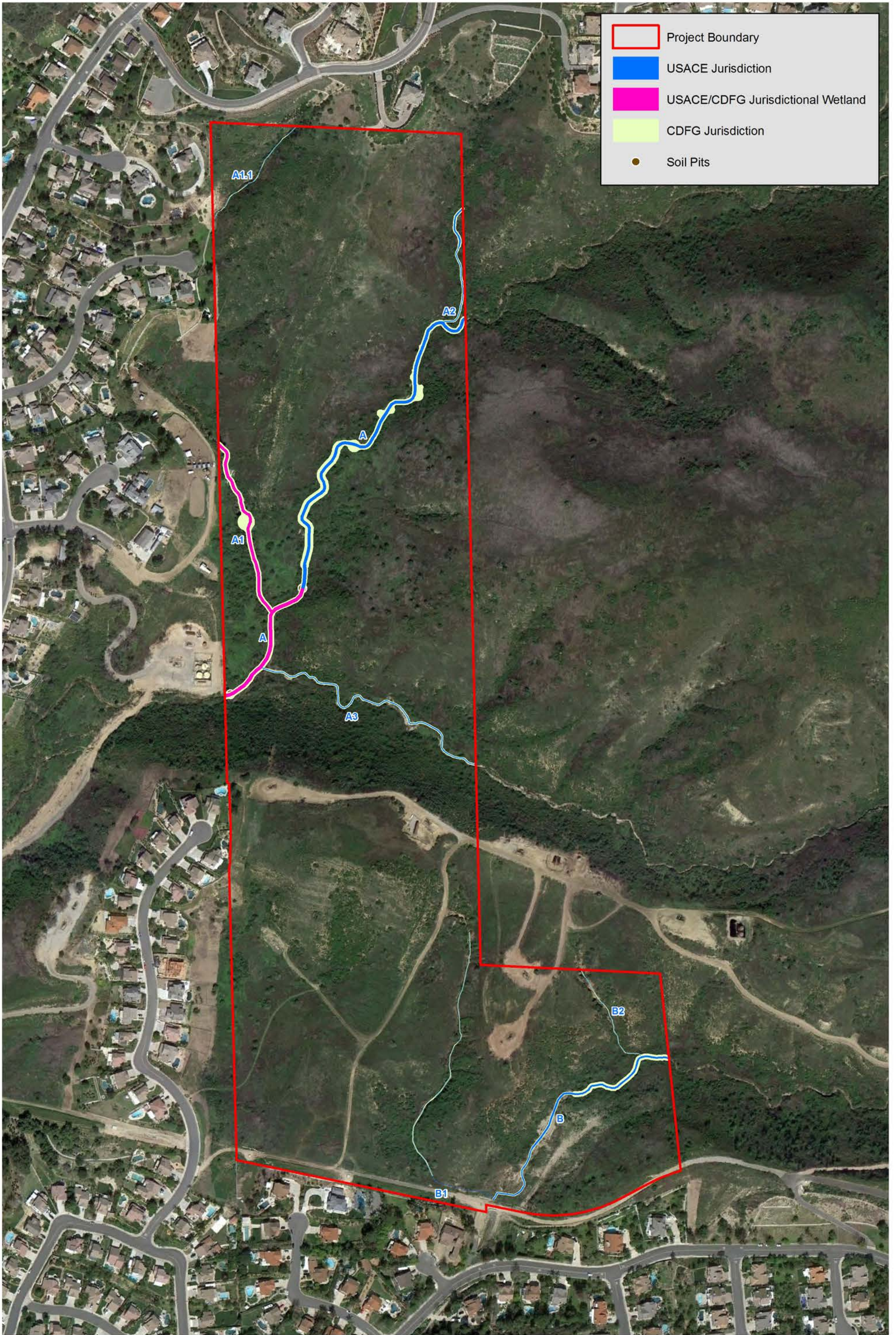
Drainage Name	Length (feet)	USACE Jurisdiction (acres)^{a,b}	CDFG Jurisdiction (acres)^{a,b}	Flow Classification
Drainage A	1,827	0.31 (0.14)	0.89 (0.14)	Intermittent
Drainage A1	640	(0.15)	0.18 (0.15)	Perennial
Drainage A1.1	444	0.01	0.03	Ephemeral
Drainage A2	469	0.04	0.10	Ephemeral
Drainage A3	978	0.07	0.18	Ephemeral
Drainage B	923	0.11	0.29	Ephemeral
Drainage B1	1,160	0.03	0.08	Ephemeral
Drainage B2	395	0.01	0.03	Ephemeral
Total	6,836	0.59 (0.29)	1.78 (0.29)	
Grand Total	6,836	0.88	2.07	



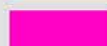
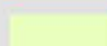

^a Jurisdictional acreages often overlap and are therefore not additive (e.g., USACE acreages are included in the total CDFG jurisdictional acreages).

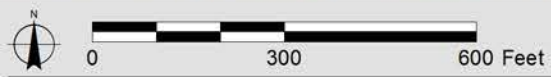
^b Acreages in parentheses indicate wetlands.

Source: PCR Services Corporation, 2012.

⁷ The extent of RWQCB jurisdiction is presumed to be consistent with the extent USACE jurisdiction.



	Project Boundary
	USACE Jurisdiction
	USACE/CDFG Jurisdictional Wetland
	CDFG Jurisdiction
	Soil Pits



Jurisdictional Features

Cielo Vista
 Source: Google Earth, 2011; PCR Services Corporation, 2012.

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5.1 Drainage A

Drainage A is an unnamed USGS blue-line tributary with canyon headwaters that initiate off-site approximately 1-mile to the east. The drainage enters the eastern site boundary approximately 250 feet south of the northeast corner of the property and extends toward the southwest for approximately 1,827 linear feet before exiting the site near the center of the western project boundary. Drainage A is consistent with the classification of an ephemeral stream for approximately 1,244 linear feet prior to supporting an intermittent stream for the remaining 583 linear feet of on-site drainage based on the presence of groundwater within the channel observed to support jurisdictional wetlands. The groundwater observed within the drainage feature appears to be seepage associated with persistent nuisance flows conveyed by Drainage A1 that have saturated the surrounding area, as described further in the description of Drainage A1 below. USACE/RWQCB jurisdictional channel widths, based on the presence of an ordinary high water mark (OHWM) within the ephemeral portion of the streambed averaged 10 feet. Jurisdictional wetland widths ranged from 10-12 feet. CDFG jurisdictional widths range from 20-30 feet on average, with the exception of a few areas supporting riparian vegetation canopies of up to 50 feet dominated by Southern California black walnut trees. Soils associated with the ephemeral portion of Drainage A are comprised of boulders and cobbles underlain by clay loam, while the wetland portion of the feature is dominated by gravels and loamy sand soils underlain by clay loam (USDA 2005). The locations of soil pits are depicted on Figure 5 and USACE data sheets for the wetland portion of Drainage A are provided (**Appendix B, Wetland Determination Data Forms – Arid West Region**).

Vegetation observed within the ephemeral portion of the channel includes mule fat, annual beard grass, giant wild rye, chaparral bushmallow, poison hemlock, laurel sumac, saw-toothed goldenbush, poison oak, black sage, horehound, California sagebrush, blue elderberry and Southern California black walnut. Vegetation associated with the wetland portion of Drainage A includes mule fat, curly dock, rabbitsfoot grass, mugwort, umbrella-plant (*Cyperus involucratus*), water-cress, hedge nettle (*Stachys ajugoides*), cattail, arroyo willow, and red willow.

Drainage A supports approximately 0.45 acre of “waters of the U.S.” regulated by the USACE/RWQCB, and 1.03 acre of CDFG jurisdictional streambed and riparian vegetation, of which 0.14 acre are wetlands.

5.1.1 Drainage A1

Drainage A1 is a perennial streambed that enters the project site along the western boundary approximately 1,200 feet south of the northwest corner of the property, and extends to the south/southeast for 640 linear feet prior to joining Drainage A. Drainage A1 is a highly incised streambed that originates off-site from a box culvert outlet located approximately 350 linear feet northwest of the drainage feature intersection with the western site boundary. Although the off-site box culvert could not be accessed by PCR due to terrain, vegetation, and private property constraints, the sound of flowing water could clearly be heard emanating from the culvert outlet and flowing water was observed within the on-site portion of the drainage feature. Based on review of USGS topography, satellite imagery,⁸ and historic aeriels,⁹ the drainage feature appears to be associated with a sizable off-site watershed to the north and west that conveys storm runoff as well as persistent nuisance flows generated by residential development within the watershed constructed in the

⁸ *Satellite imagery accessed via Google Earth on July 18, 2012*

⁹ *Historic aeriels accessed via historicaeriels.com on July 18, 2012.*

1980's. The presence of persistent flows and clay loam soils within Drainage A1 have developed the historically ephemeral drainage feature into wetland habitat dominated by a canopy of mature southern willow scrub vegetation with an understory of hydrophytic vegetation dominated by rushes and sedges. Given the clear indications of wetland habitat characteristics throughout the drainage feature, as well as challenges in accessing the severely incised and densely vegetated drainage feature, no wetland data sheets were warranted. Specific vegetation observed within the drainage includes poison oak, hedge nettle, water-cress, cattail, umbrella-plant, California bulrush (*Schoenoplectus californicus*), mugwort, Mexican fan palm, arroyo willow, red willow, and black willow. USACE/RWQCB jurisdictional widths associated with Drainage A1 average 10 feet based on the wetland dominated invert of the channel, while CDFG jurisdictional streambed and riparian vegetation ranged from 20-50 feet in channel width.

Drainage A1 supports approximately 0.15 acre of USACE/RWQCB jurisdictional wetland "waters of the U.S." and CDFG jurisdiction totals approximately 0.33 acre, of which 0.15 acre are wetlands.

5.1.1.1 Drainage A1.1

Drainage A1.1 is a small ephemeral tributary to Drainage A that traverses the northwest corner of the project boundary. Drainage A1.1 appears primarily to convey flows associated with the irrigation of ornamental vegetation on adjacent residential properties in addition to limited runoff during storm events. The drainage is approximately 444 linear feet and trends in a southwest orientation prior to entering a concrete v-ditch associated with residential development. The off-site v-ditch feature ultimately joins Drainage A1 via an off-site ephemeral channel that extends for approximately 134 linear feet beyond the terminus of the concrete v-ditch. The streambed supports sandy loam soils underlain by clay loam, as well as scattered stands of ruderal and non-native invasive vegetation such as short podded mustard, tocalote, horseweed, and tree tobacco.

Drainage A1.1 contains approximately 0.01 acre of ephemeral USACE/RWQCB "waters of the U.S." and 0.03 acre of CDFG jurisdictional streambed and riparian vegetation.

5.1.2 Drainage A2

Drainage A2 initiates off-site within a small watershed that receives supplemented hydrology from a series of concrete v-ditches associated with residential irrigation immediately upstream of the drainage feature. The ephemeral streambed enters the site along the eastern boundary approximately 250 feet south of the northeast corner of the site and extends for approximately 469 linear feet toward the south prior to its confluence with Drainage A2. USACE/RWQCB jurisdictional widths based on the OHWM in Drainage A2 average 3-5 feet. CDFG jurisdictional streambed and riparian vegetation widths range from 8-12 feet. The channel is dominated by clay loam soils of the Calleguas series (USDA 2005) and supports chaparral bushmallow, giant wild rye, horehound, laurel sumac, and blue elderberry.

Drainage A2 contains approximately 0.04 acre of ephemeral USACE/RWQCB "waters of the U.S." and 0.10 acre of CDFG jurisdictional streambed and riparian vegetation.

5.1.3 Drainage A3

Drainage A3 is an ephemeral tributary whose headwaters originate approximately 1.2 miles east of the eastern site boundary within a canyon that is parallel and adjacent to Blue Mud Canyon located directly to

the south. The streambed enters the project near the center of the eastern project boundary and extends in a northwest orientation for approximately 978 linear feet prior to joining the Drainage A mainstem. The drainage received a significant amount of mud and sediment during large storm events that occurred during the 2008/2009 storm season directly after the major fire events that burned the canyons in late 2008. As a result, much of the vegetation and jurisdictional field indicators associated with the drainage were eliminated. However, a vegetation community dominated by blue elderberry is returning in and around the Drainage A3 channel, and jurisdictional field indicators have become evident as the channel has incised over the last 3 years of storm events. Soils within the channel are consistent with clay loam soils of the mapped Anaheim soil series (USDA 2005). Vegetation within Drainage A includes brome grass (*Bromus* sp.), California sagebrush, poison oak, horseweed, chaparral bushmallow, mule fat, tree tobacco, laurel sumac, sugar bush, and blue elderberry.

Drainage A3 contains approximately 0.07 acre of ephemeral USACE/RWQCB “waters of the U.S.” and 0.18 acre of CDFG jurisdictional streambed and riparian vegetation.

5.2 Drainage B

Drainage B is an ephemeral drainage that initiates within steep canyon topography associated with Blue Mud Canyon, with headwaters located approximately 2.5 miles east of the project site. The drainage feature enters the site along the eastern project boundary approximately 350 feet north of the southeast corner of the property and extends for approximately 923 linear feet in a southwest trending orientation. Blue Mud Canyon was subjected to a significant loss of vegetation during the November 2008 fires that burned much of the Yorba Linda foothills and canyons. Due to the 2008 fire activity and the significant storm events that occurred immediately thereafter, a significant amount of mud was conveyed by the drainage feature and deposited at the on-site terminus of the streambed that formed a makeshift retention basin. The makeshift basin was secured with concrete K-rails likely to minimize the potential for mud flows to reach residential homes directly downstream. Drainage B exits the site via pipe culvert beneath an unpaved road that extends parallel to the southern property boundary and enters a channelized streambed off-site prior to entering a sub-surface storm drain that ultimately discharges into the Santa Ana River to the south.

Approximately 300 linear feet of the downstream extent of Drainage B appears to have been disturbed by minor excavation that may have occurred to minimize potential for downstream flooding and mud flows during subsequent rain events. However, some native vegetation appears to be reestablishing near the terminus of the Drainage B feature as mule fat scrub (see Figure 3). The upstream approximately 600 linear feet of the drainage appears to be more natural and returning to somewhat incised and discernible streambed feature. Jurisdictional streambed widths associated with USACE/RWQCB “waters of the U.S.” average 6 feet in the upstream portion of the drainage based on the OHWM and 8 feet in the more disturbed downstream portion based on sediment sorting, drift lines, and debris racks. CDFG jurisdiction ranges from 8-20 feet throughout the streambed. Soils within the channel are gravelly sandy loam underlain by clay loam of the mapped Anaheim and Mocho soil series (USDA 2005). Vegetation within the less disturbed upstream portion of Drainage B includes chaparral bushmallow, mulefat, laurel sumac, blue elderberry, and Southern California black walnut. The more disturbed downstream portion of the streambed supports brome grasses, short podded mustard, black mustard, California sagebrush, black sage, poison hemlock, mule fat, tree tobacco, castor bean, and arroyo willow.

Drainage B contains approximately 0.11 acre of ephemeral USACE/RWQCB “waters of the U.S.” and 0.29 acre of CDFG jurisdictional streambed and riparian vegetation.

5.2.1 Drainage B1

Drainage B1 initiates below an earthen road that bisects the southern portion of the property and trends in a northeast-to-southwest configuration. The drainage is relatively incised and extends for approximately 1,160 linear feet prior to joining Drainage B near the southern site boundary. Approximately 100 linear feet of the downstream terminus of Drainage B1 appears to have been disturbed as part of mud excavation activities that may have occurred in a makeshift basin at the downstream portion of Drainage B. As a result, the drainage becomes much smaller in jurisdictional channel width and supports mostly non-native vegetation such as short-podded mustard, black mustard, and brome grasses. Jurisdictional channel widths associated with Drainage B1 average 1 foot for USACE/RWQCB and range from 3-4 feet for CDFG. The site supports sandy clay loam soils and is dominated by California sagebrush, poison hemlock, laurel sumac, and blue elderberry.

Drainage B1 supports approximately 0.03 acre of ephemeral USACE/RWQCB “waters of the U.S.” and 0.08 acre of CDFG jurisdictional streambed.

5.2.2 Drainage B2

Drainage B2 is a steeply incised ephemeral tributary to Drainage B that initiates just off-site along an east-to-west trending property boundary which forms a “L” shape in the southeast portion of the property. The drainage extends toward the southeast for approximately 395 linear feet prior to its confluence with Drainage B. USACE/RWQCB jurisdictional channel widths average 1 foot based on the OHMW, while CDFG jurisdiction averages 3 feet within the streambed. Soils were primarily sandy clay loam within Drainage B2. Vegetation within the channel includes brome grasses, black mustard, chaparral bushmallow, horseweed, and tree tobacco.

Drainage B2 supports approximately 0.01 acre of ephemeral USACE/RWQCB “waters of the U.S.” and 0.03 acre of CDFG jurisdictional streambed.

6.0 SUMMARY AND CONCLUSIONS

The project site contains two drainages and six associated tributaries which total approximately 6,836 linear feet of streambed, contains approximately 0.88 acre of USACE/RWQCB jurisdictional “waters of the U.S.” and 2.07 acres of CDFG jurisdictional streambed and associated riparian habitat, of which includes 0.29 acre are wetland. Temporary and/or permanent impacts to jurisdictional resources associated with the proposed project will require would require permits from the USACE, RWQCB, and CDFG before any development could commence. Timing to process these permits is estimated to take 4-6 months contingent on processing of an USACE Section 404 Nationwide Permit (NWP), while processing of regulatory permits based on preparation of a Corps Individual Permit (IP) typically takes 9-12 months from submittal of complete applications. USACE consultations under the Federal Endangered Species Act and/or the State Historic Preservation Office required for processing of the Section 404 permit may extend the regulatory permit processing timelines by 3-9 months or more. A draft California Environmental Quality Act (CEQA) document, Biological Resource Assessment, cultural resource assessment, and a proposal of on- or off-site

compensatory mitigation for permanent impacts to jurisdictional drainages, if any, is required as part of complete regulatory applications package for the project. A certified CEQA document such as a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) is required for issuance of the RWQCB Section 401 and CDFG Section 1602 permits. A RWQCB Section 401 Water Quality Certification is required for issuance of an USACE Section 404 NWP or IP.

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Appendix A: Drainage Photographs



Photograph 1: View of Drainage A mainstem from foothills near the northeast site boundary.



Photograph 2: Upper Drainage A near eastern site boundary looking downstream/southeast.



Photograph 3: Drainage A near mid-point of on-site channel looking downstream/south.



Photograph 4: Drainage A wetland headwaters approximately 200 linear feet upstream of Drainage A2 confluence looking downstream/southeast.



Photograph 5: Drainage A soil pit at upstream wetland boundary (SP1).



Photograph 6: Drainage A soil pit at downstream wetland boundary - near western site boundary (SP2).



Photograph 1: Upstream portion of Drainage A1 tributary at off-site transition to concrete v-ditch looking upstream/northeast from the western site boundary.



Photograph 2: Drainage A1 wetlands looking upstream/northwest midway between western site boundary and Drainage A confluence.



Photograph 1: Drainage A2 streambed looking upstream/north near Drainage A confluence.



Photograph 2: View of Drainage A3 mainstem from foothills directly northeast of Drainage A/A3 confluence.



Photograph 3: Drainage A3 looking downstream/west approximately 200 linear feet from Drainage A confluence.



Photograph 1: Drainage B looking upstream/east near eastern site boundary.



Photograph 2: Drainage B approximately 200 linear feet downstream of Drainage B2 confluence looking upstream/northeast. Note thinning of riparian vegetation/canopy compared to upstream conditions.



Photograph 3: Drainage B looking downstream/southwest within area that appears to support reduced indicators due to mudflows associated with past fires that may have masked the pre-fire water marks.



Photograph 1: Drainage B1 looking downstream/south from headwaters.



Photograph 2: Drainage B2 looking upstream/northwest approximately 100 feet from Drainage B confluence.

Appendix B: Wetland Data Sheets

WETLAND DETERMINATION DATA FORM - Arid West Region

(Photo 723)

Project/Site: Cielo Vista City/County: Orange County Sampling Date: 6/11/12

Applicant/Owner: Sage Community Group, Inc. State: CA Sampling Point: SP2

Investigator(s): Amyr Morales, Zeke Cooley Section, Township, Range: Unsectioned, T. 3 S., R. 8 W.

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): _____ Lat: 115 429660.59 m E Long: 3751231.29 m N Datum: NAD 83 (UTM 11)

Soil Map Unit Name: Sorrento Clay Loam NWM classification: Freshwater Forested Shrub Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	

Remarks: _____

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: <u>25'</u>) <u>40</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Baccharis salicifolia</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Salix lasiolepis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>25'</u>) <u>29</u> = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% _____ Prevalence Index is ≤3.0 ¹ _____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic, Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Foeniculum vulgare</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Achillea longifolia</u>	<u>15</u>	_____	<u>FACW</u>	
3. <u>Malacothamnus fasciculatus</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
4. <u>Zinnia mexicana</u>	<u>5</u>	_____	<u>FACW</u>	
5. <u>Typha sp.</u>	<u>2</u>	_____	<u>OBL</u>	
Woody Vine Stratum (Plot size: _____) <u>92</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>8</u> % Cover of Biotic Crust _____				
Remarks: <u>Appears to still be a developing wetland</u>				

SOIL

Sampling Point: SPI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2								OM
2-4	5YR 3/2	100					heavy sand	Very gravelly + poor structure. No muck
4-6	5YR 3/1	60	2.5YR 3/4	40	D	m	"/1"	Minimal reduction. Almost sandy brown
6-8	Ghycl 3/10y	70						Develop OM from past events
	2.5Y 4/2	30						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: 3" overburden on floodplain. 3" gravel + sand

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 3"
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): 1"

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Plot # 729

Project/Site: Cielo Vista City/County: Orange County Sampling Date: 6/11/12
 Applicant/Owner: Sage Community Group, Inc. State: CA Sampling Point: 2
 Investigator(s): Amir Morales, Taki Cooley Section, Township, Range: Unincorporated, T. 3S, R. 8W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): _____ ^{11S} Lat: 429584.85mE Long: 3751120.16mN Datum: NAD83 (VTM11)
 Soil Map Unit Name: Santa Clara NWI classification: Forest/Shrub Riparian
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>25'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
1. <u>Salix lasiolepis</u>	<u>40</u>	<u>✓</u>	<u>FACW</u>	
2. <u>Sambucus nigra ssp caerulea</u>	<u>10</u>	<u>✓</u>	<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.6</u> (A/B)
3. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____
4. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: _____) <u>50</u> = Total Cover				FACW species _____ x 2 = _____
1. <u>Salix lasiolepis</u>	<u>10</u>	<u>✓</u>	<u>FACW</u>	FAC species _____ x 3 = _____
2. <u>Toxicodendron diversilobum</u>	<u>2</u>	_____	<u>UPL</u>	FACU species _____ x 4 = _____
3. <u>Malacothrum aspiculatus</u>	<u>2</u>	_____	<u>UPL</u>	UPL species _____ x 5 = _____
4. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____) <u>14</u> = Total Cover				Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% ____ Prevalence Index is ≤3.0' ____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ____ Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Lycium confertum</u>	<u>5</u>	_____	<u>FACU</u>	
2. <u>Cyperus involutus</u>	<u>5</u>	_____	<u>OBL</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Nasturtium officinale</u>	<u>4</u>	_____	<u>OBL</u>	
4. <u>Stachys ajacoides</u>	<u>60</u>	<u>✓</u>	<u>OBL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
5. <u>Conium maculatum</u>	<u>5</u>	_____	<u>FACW</u>	
6. <u>Artemisia douglasiana</u>	<u>5</u>	_____	<u>FACW</u>	Remarks:
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____) <u>88</u> = Total Cover				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>12</u>		% Cover of Biotic Crust _____		

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	Gley 2 ^{2.5} /10B	100					Loamy Sand	↑ Org. Content, poor structure
4-7	10YR 3/2	60					"	Very gravelly
	Gley 2 ^{2.5} /10B	40						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Water Marks (B1) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): 1"

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



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