BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN	)	Application No._____
CALIFORNIA EDISON COMPANY (U 338-E)	)	
for a Permit to Construct Electrical Facilities	)	
With Voltages Between 50 kV and 200 kV:	)	
Valley South Subtransmission Project	)	

PROPONENT'S ENVIRONMENTAL ASSESSMENT: VALLEY SOUTH 115 kV SUBTRANSMISSION PROJECT

VOLUME 4 of 4 (Part 4 of 5)

BETH GAYLORD

TAMMY L. JONES

ROBERT D. PONTELLE

Attorneys for

SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-6634
Facsimile: (626) 302-1926
E-mail: tammy.jones@sce.com

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Appendices (Volume 4)

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Appendix F: Biological Resources Assessment – Segment 1 and Biological Resources Assessment - Segment 2

Appendix F: Biological Resources Assessment – Segment 1 and Biological Resources Assessment – Segment 2

BIOLOGICAL RESOURCES ASSESSMENT ADDENDUM
FOR THE
VALLEY SOUTH 115 KILOVOLT (kV) SUBTRANSMISSION PROJECT

Version 5 (Final)

Prepared for:

Southern California Edison
1218 S. Fifth Avenue
Monrovia, California 91016
Phone: (626) 462-8625
Contact: Lisa Gonzales

Prepared by:

Southern California Edison
1218 S. Fifth Avenue
Monrovia, California 91016

&

AECOM
1420 Kettner Boulevard, Suite 500
San Diego, California 92101

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EXECUTIVE SUMMARY

Southern California Edison (SCE) is proposing to construct the Valley South 115 kilovolt (kV) Subtransmission Project (Proposed Project). The Proposed Project consists of Segments 1 and 2 and is approximately 15.4 miles in total length. Segment 1 of the Proposed Project involves construction of a new 115 kV subtransmission line originating at SCE's existing Valley 500/115 kV Substation and connecting at a tubular steel pole (TSP) located at the southeast corner of Leon Road and Benton Road, for a total of 12 miles. Segment 1 of the Proposed Project would cross through the City of Menifee, unincorporated Riverside County, and a small portion of the City of Murrieta. Segment 2 of the Proposed Project involves reconductoring a section of the existing Valley-Auld-Triton 115 kV Subtransmission Line. Segment 2 of the Proposed Project begins at the TSP located at the southeast corner of Leon Road and Benton Road and continues south to the existing Terminal TSP located on the south side of Nicolas Road, for a total of 3.4 miles. Segment 2 of the Proposed Project would cross through unincorporated Riverside County and the City of Temecula.

In addition to the Proposed Project, the project includes an alternative route, known as the Alternative Project. The Alternative Project would include the same improvements as the Proposed Project. The Alternative Project is approximately 19 miles in total length and would extend approximately 3.6 miles longer than the Proposed Project. Segment 1 of the Alternative Project would follow a route identical to that of Segment 1 of the Proposed Project for the first 8.2 miles, and then would turn westerly at Scott Road until its termination point near SCE's Auld 115/12 kV Substation, for a total of 14 miles. Segment 2 of the Alternative Project would begin at an existing TSP located east of Auld 115/12 kV Substation and would connect to the existing Valley-Auld-Triton 115 kV Subtransmission Line paralleling Los Alamos Road for approximately 0.5 of a mile until it reaches Briggs Road where it would turn south for approximately 0.5 of a mile. It would then span SR-79 in an easterly direction and parallel Benton Road before merging with Segment 2 of the Proposed Project. At this location, Segment 2 of the Alternative Project would follow the same 3.4 mile route as Segment 2 of the Proposed Project, for a total of 5 miles.

Biological resources associated with Segment 1 of the Proposed Project and Segment 1 of the Alternative Project were previously analyzed and discussed in a Biological Resources Assessment (BRA) finalized by TRC in March 2013 (TRC, 2013). AECOM was contracted by SCE to conduct biological surveys and analysis in support of the Proponent's Environmental Assessment (PEA) for Segment 2 of the Proposed Project and Segment 2 of the Alternative Project. Therefore, this BRA focuses on Segment 2 of the Proposed Project and Alternative Project, and serves as an addendum to the BRA prepared by TRC; both BRAs would be a

supplement to SCE's PEA submittal and would be filed as part of the Permit to Construct application to be submitted to the California Public Utilities Commission.

The biological study area (BSA) for Segment 2 consists of a 250-foot buffer (500-foot total) from the estimated centerline of the Proposed Project and Alternative Project Route. This BRA for Segment 2 of the Proposed and Alternative Projects documents and addresses biological resource issues, including analysis of impacts, for the Segment 2 BSA, herein referred to as the BSA.

The BSA is within the Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP), specifically within the Southwest Area Plan (Dudek, 2003). The BSA also occurs within the fee area of the 1996 Habitat Conservation Plan (HCP) area for the federally endangered Stephens' kangaroo rat (*Dipodomys stephensi*) (RCHCA, 1996).

Biological resource surveys conducted within the BSA confirmed the presence of 12 potentially jurisdictional wetlands/waters. Six special-status plant species, including the federally endangered San Diego ambrosia (*Ambrosia pumila*), were observed within the BSA. Based on habitats present and locations of known recent occurrences, an additional two special-status plant species have a high to moderate potential to occur within the BSA..

A total of 14 special-status wildlife species, including the federally and state endangered least Bell's vireo (*Vireo bellii pusillus*), the federally endangered and state threatened Stephens' kangaroo rat (*Dipodomys stephensi*), and the federally threatened coastal California gnatcatcher, were observed within the BSA. Of the remaining 11 species, four are California species of special concern, three are California Department of Fish and Wildlife (CDFW) watch list (WL) and four are CDFW Special Animals. Three of these species are also birds of conservation concern. A total of 65 special-status wildlife species have some potential to occur within the BSA, with 41 species having a moderate to high potential to occur or being present. Five non-special-status raptors were observed. Eight raptors have a moderate to high potential to occur with an additional five raptors observed.

Critical habitat for San Diego ambrosia overlaps with observations of this species. No other designated critical habitat occurs within the BSA, but critical habitat for Quino checkerspot butterfly (*Euphydryas editha quino*) and coastal California gnatcatcher (*Polioptila californica californica*) occurs within 3 miles of the BSA to the east.

Species for which additional surveys are required when suitable habitat is present per the WRCMSHCP are included in Sections 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools; 6.1.3, Protection of Narrow Endemic Species; and

6.3.2, Additional Survey Needs and Procedures. Species for which surveys are required according to these guidelines pertinent to the Proposed and Alternative Projects include: narrow endemic plant species, criteria area plant species, burrowing owl, riparian birds including least Bell's vireo and southwestern willow flycatcher and vernal pool fairy shrimp. Surveys for Stephens' kangaroo rat were conducted to comply with the Stephens' kangaroo rat Habitat Conservation Plan.

Permanent impacts include those impacts that remove or alter the existing state of the environment as part of the final project design or operation. Temporary impacts are those impacts that may remove or alter the existing state of the environment for the short term, but the area is restored to or naturally returns to pre-project conditions following project completion. The potential for permanent direct impacts to biological resources would occur from structure assembly and erection, structure removal, and access roads. Specifically, direct impacts may include injury, death, and/or harassment of special-status species and removal of habitats necessary for species breeding, feeding, or sheltering. Potential direct impacts to plants may include crushing of plants, bulbs, or seeds and the destruction of habitat. Indirect impacts may include impacts that affect behavior, such as noise and lighting, or impacts that affect the physical environment, such as fugitive dust or the introduction of exotic species.

Final engineering designs are not available, however, the Project Description utilizes conservative ground disturbance assumptions based on preliminary engineering to estimate surface area disturbance to determine estimates of maximum acreages of temporary and permanent impacts for the Proposed Project. Therefore, in lieu of a final design, potential work areas were created by mapping a buffer around structures in GIS to generate a potential "Impact Corridor."

Permanent impacts of the Proposed Project are expected to comprise approximately 0.0015 acre (less than 1 percent). Estimated impacts for the Alternative Project as specific staging areas and pole sites, as well as other project features, have not been finalized. Assuming similar percentages of impacts for the Proposed and Alternative Projects, it is estimated that permanent impacts for the Alternative Project would be 0.0016 including the shared Proposed Project Route

Through consistency with the WRCMSHCP and the Stephens' kangaroo rat HCP, avoidance and minimization of potential impacts to all biological resources would be reduced to less than significant. SCE is not a signatory of the Stephens' kangaroo rat HCP and would need to obtain authorization from the Western Riverside County Regional Conservation Authority (RCA) as a Participating Special Entity. An application and the required mitigation fee would need to be submitted to the RCA. Payment of the mitigation fees and compliance with Section 6.0 of the WRCMSHCP as well as the Stephens' kangaroo rat HCP are intended to provide full mitigation under the California Environmental Quality Act, the National Environmental Policy Act, the

Federal Endangered Species Act, and the California Endangered Species Act for impacts to covered species and habitats.

This BRA also contains applicable measures to avoid, minimize, and reduce potential impacts. Implementation of these recommended measures is expected to reduce potentially significant impacts to below a level of significance.

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AMSL	above mean sea level
BCC	Birds of Conservation Concern
BMP	best management practice
BRA	Biological Resources Assessment
BSA	biological study area
CAPS	criteria area plant species
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission\
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CWC	California Water Code
DBESP	determination of biologically equivalent or superior preservation
EIR	Environmental Impact Report
ENA	Electrical Needs Area
FE	federally endangered
FESA	Federal Endangered Species Act
FT	federally threatened
FWCA	Fish and Wildlife Conservation Act of 1980
GIS	geographic information system
GPS	global positioning system
HCP	Habitat Conservation Plan
JDR	Jurisdictional Delineation Report
LAPM	Los Angeles pocket mouse
MOA	Memorandum of Agreement
MSHCP	Multiple Species Habitat Conservation Plan
NCCP	Natural Communities Conservation Planning
NEPA	National Environmental Policy Act
NEPS	narrow endemic plant species

NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
O&M	Operations and Maintenance
OHWM	ordinary high water mark
PEA	Proponent's Environmental Assessment
PSE	Participating Special Entity
PTC	Permit to Construct
RCA	Regional Conservation Authority
RCHCA	Riverside County Habitat Conservation Agency
RGL	Regulatory Guidance Letter
RWQCB	Regional Water Quality Control Board
SA	Special Animal
SCE	Southern California Edison Company
SE	State endangered
SR	State Route
ST	State threatened
SWRCB	State Water Resources Control Board
TSP	tubular steel pole
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program
WL	Watch List
WRCMSHCP`	Western Riverside County Multiple Species Habitat Conservation Plan

1.0 INTRODUCTION

Southern California Edison Company (SCE) is a regulated public utility providing electric service to a population of approximately 14 million customers within a 50,000-square-mile service area that encompasses 180 cities throughout southern California. SCE is proposing to construct the Valley South 115 kV Subtransmission Project (Proposed Project). The Proposed Project, composed of Segments 1 and 2, would be located within the cities of Menifee, Murrieta, and Temecula and portions of unincorporated southwestern Riverside County (Figure 1 Segment 1 & 2 Locations and Figure 2 Vicinity Map).

The Proposed Project is being planned to meet the following objectives:

- Provide safe and reliable electrical service
- Add capacity to serve long-term forecasted electrical demand requirements in the Environmental Needs Area (ENA) beginning in 2020
- Maintain or improve system reliability and provide greater operational flexibility within the ENA
- Meet Proposed Project needs while minimizing environmental impacts
- Design and construct the Proposed Project in conformance with SCE's approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects

The purpose of this Biological Resources Assessment (BRA) Addendum is to document and address biological resource issues, including analysis of impacts, for the Segment 2 biological study area (BSA) only, herein referred to as the BSA. The BSA consists of Segment 2 of both the Proposed Project and Alternative Project and surrounding 500-foot buffer.

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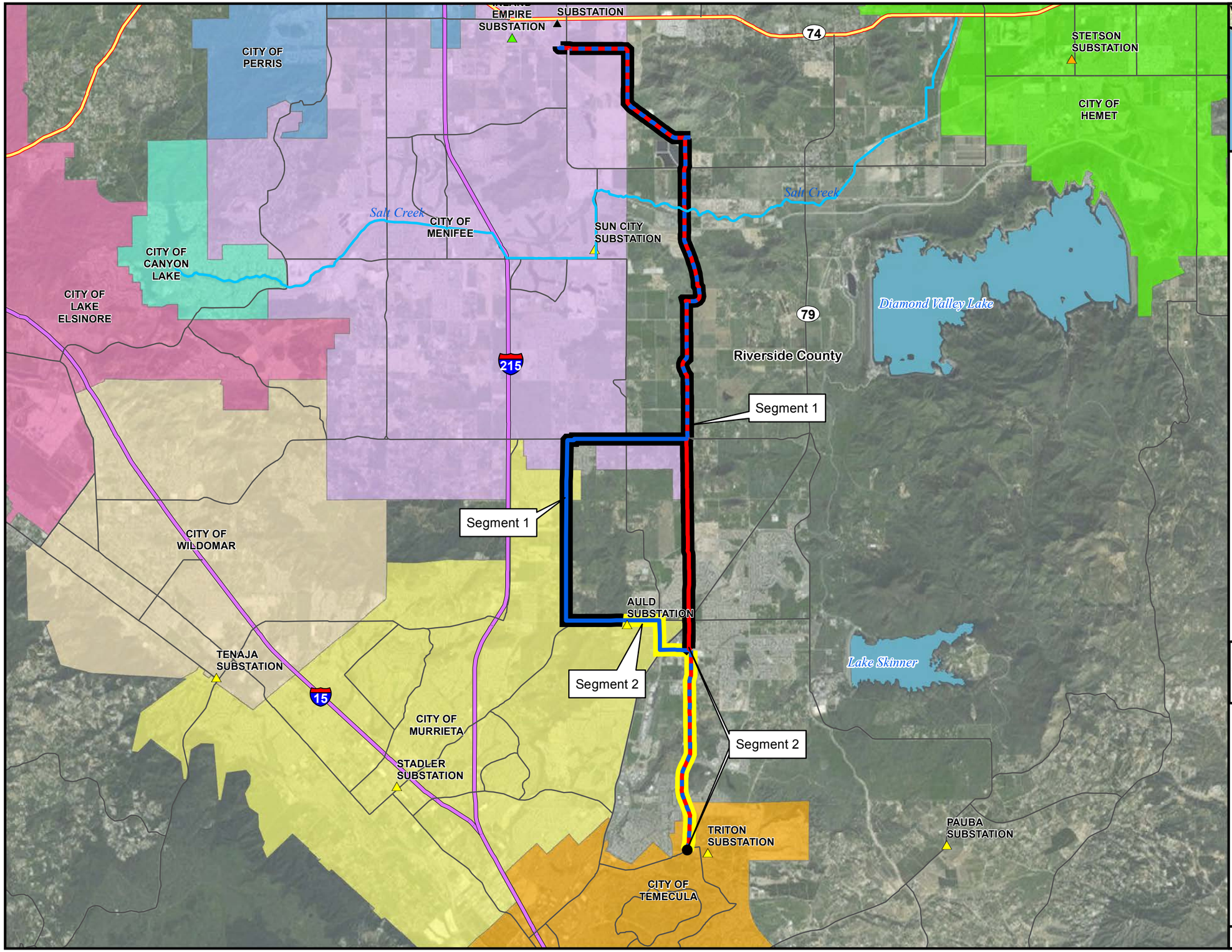

Legend

Existing Facilities

- 115 kV Substation
- 500 kV Substation
- 11500 kV Substation
- 50000 kV Substation
- Terminal TSP

Project Components

- Alternative 115 kV subtransmission Line
- Common to Both
- Proposed 115 kV subtransmission Line
- Segment 1
- Segment 2

NORTH

1 inch = 10,000 feet

0 2,500 5,000 7,500 10,000 Feet

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VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 1
Segment 1 & 2 Locations

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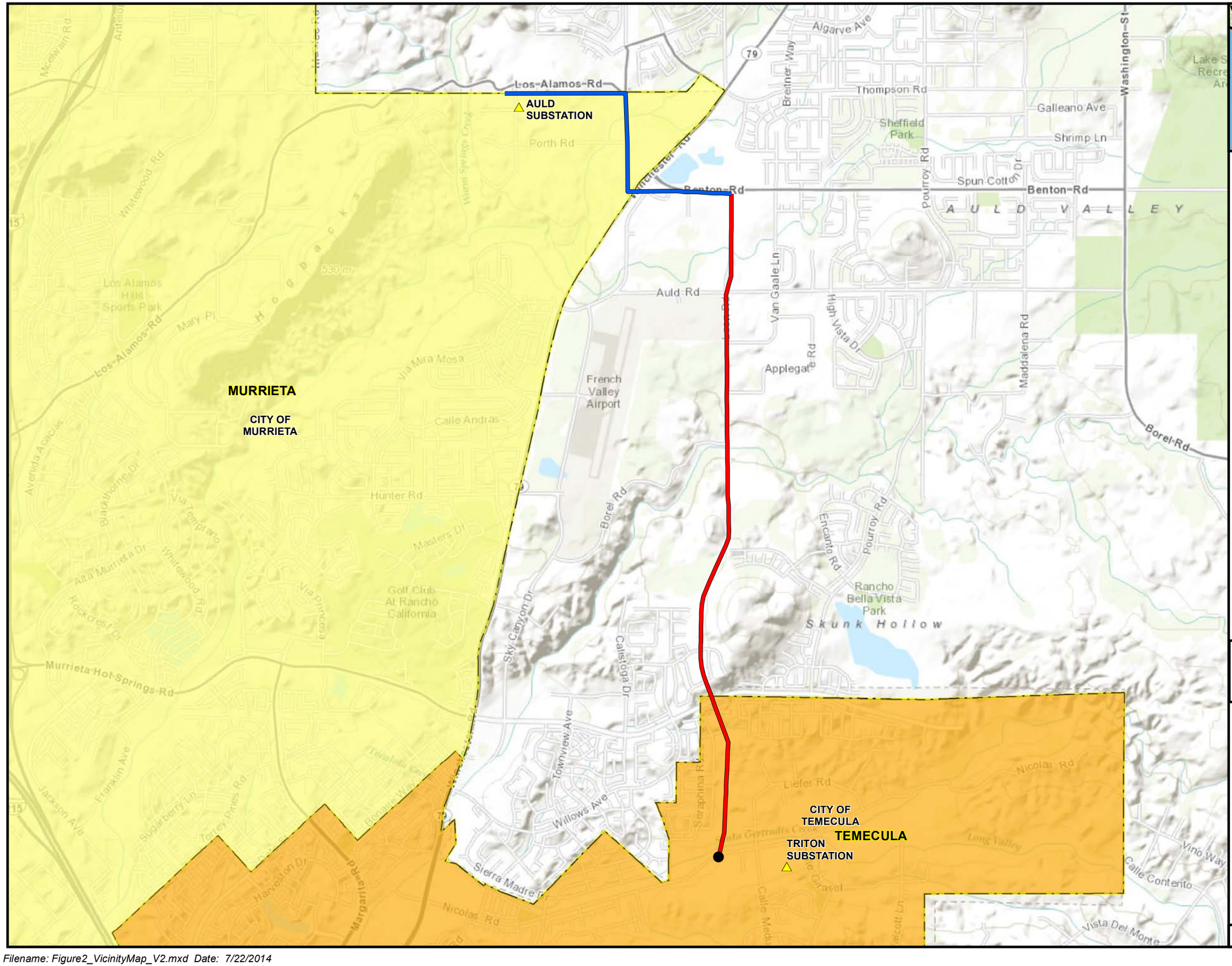

Legend

Existing Facilities

- △ 115 kV Substation
- ● Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 3,000 feet

0 750 1,500 2,250 3,000 Feet

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VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 2
Vicinity Map

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2.0 PROJECT DESCRIPTION

SCE is proposing to construct the Proposed Project to serve current and future demand for electricity and maintain electric system reliability in the cities of Murrieta, Menifee, Temecula, and portions of unincorporated communities of southwestern Riverside County.

The focus of this BRA Addendum is on Segment 2 of both the Proposed Project and Alternative Project. An overview of the entire Proposed Project, which includes both Segment 1 and Segment 2, as well as a description of the Alternative Project, is provided in this section. A detailed description of Segment 1 is provided in the BRA finalized by TRC in March 2013 (TRC, 2013).

2.1 PROPOSED PROJECT

The Proposed Project would include the following 115 kV subtransmission line elements:

Segment 2 of the Proposed Project involves reconductoring a section of the existing Valley-Auld-Triton 115 kV Subtransmission Line. Segment 2 of the Proposed Project begins at the tubular steel pole (TSP) located at the southeast corner of Leon Road and Benton Road and continues south to the existing Terminal TSP located on the south side of Nicolas Road (Figure 2 Vicinity Map), for a total of 3.4 miles. Segment 2 of the Proposed Project would cross through unincorporated Riverside County and the City of Temecula.

The Proposed Project consists of the following major components:

- Modification of SCE's existing Valley 500/115 kV Substation, which would include equipping an existing 115 kV line position and providing protection equipment as required
- Construction of a new 115 kV Subtransmission Line approximately 12 miles in length originating at SCE's existing Valley 500/115 kV Substation and terminating at a TSP
- Replacement of approximately 3.4 miles of existing conductor between two existing TSPs
- Relocation of existing distribution and telecommunication lines would be required to support the installation of the new 115 kV subtransmission line
- Installation of telecommunications facilities to connect the Proposed Project to SCE's existing telecommunication system

Segment 2 of the Proposed Project would include the removal and replacement of one TSP at the southeast corner of Benton Road and Leon Road; one wood guy stub pole on the west side of Leon Road at the Allen Road intersection, and two wood poles located approximately 250 and 400 feet north of Nicolas Road. New construction would consist of one wood guy stub pole on the north side of Benton Road (90 feet west of Leon Road).

2.2 ALTERNATIVE PROJECT

The Alternative Project is approximately 19 miles in total length and would extend approximately 3.6 miles longer than the Proposed Project Segment 1 and 2 combined. Segment 2 of the Alternative Project would begin at an existing TSP located east of Auld 115/12 kV Substation and would connect to the existing Valley-Auld-Triton 115 kV Subtransmission Line paralleling Los Alamos Road for approximately 0.5 of a mile until it reaches Briggs Road where it would turn south for approximately 0.5 of a mile. It would then span State Route 79 (SR-79) in an easterly direction and parallel Benton Road before merging with Segment 2 of the Proposed Project. At this location, Segment 2 of the Alternative Project would follow the same 3.4 mile route as Segment 2 of the Proposed Project, for a total of 5 miles.

References to the "Proposed Project" throughout the remainder of this document will be specific to the 3.4 mile Segment 2 BSA of the Proposed Project. An analysis of biological resources associated with Segment 2 of the Alternative Project, and potential impacts as a result of the Alternative Project, is included within this BRA Addendum.

References to the "Alternative Project" throughout the remainder of this document will be specific to the 1.6 mile Segment 2 of the Alternative Project.

3.0 REGULATORY BACKGROUND

This section provides the regulatory framework for the biological analysis within the BRA Addendum. This regulatory framework includes a discussion of federal regulations, state regulations, and local regulations.

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) was passed in 1973. This act is administered by the U.S. Fish and Wildlife Service (USFWS) and is designed to minimize impacts to imperiled plants and wildlife, as well as facilitate recovery of such species. Declining plant and wildlife species are listed as "endangered" or "threatened." "Federally endangered" is defined as a species in danger of extinction throughout all or a significant portion of its range. "Federally threatened" is defined as a species that is likely to become endangered in the future. Species includes subspecies, varieties, and distinct population segments (for vertebrates).

Applicants for projects that could adversely affect listed species are required to consult with and mitigate impacts in consultation with USFWS. Adverse impacts are defined as "take" ("to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct"), which is prohibited except as authorized through consultation with USFWS and issuance of an Incidental Take Statement under Section 7 or Section 10 of the FESA, depending on whether there is a federal nexus (federal permit required or funding involved). For plants, the statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538).

"Critical habitat" is a designation used by USFWS for species listed under the FESA. Areas mapped as critical habitat include physical or biological features that USFWS determines are essential to the species' conservation. Critical habitat does not preclude development. It is not a conserved area, but, rather, a tool used by USFWS to further review proposed actions within critical habitat.

3.1.2 Federal Clean Water Act

Clean Water Act, Section 404

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S., which include those waters listed in 33 Code of Federal Regulations (CFR) Part 328 (Definitions). The fundamental rationale of Section 404 of the CWA is that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic resources or if significant degradation would occur to waters of the U.S. (including wetlands).

USACE, with oversight by the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 Permits (40 CFR Part 230). Under two 1989 Memorandums of Agreement (MOAs) between USEPA and the Department of Defense, USACE is given sole responsibility for making final permit decisions pursuant to Section 404, and "conducts jurisdictional delineations associated with the day-to-day administration of the Section 404 program." However, USEPA retains the authority to enforce compliance with Section 404, and maintains the power to overrule USACE decisions on the issuance or denial of permits. If there is a dispute about whether an area can be regulated, USEPA has the ultimate authority to determine the actual geographic scope of waters of the U.S. subject to jurisdiction under all sections of the CWA, including the Section 404 regulatory program (USEPA, 1989a; USEPA, 1989b).

Clean Water Act, Section 401

If it is determined that an activity proposed within jurisdictional waters requires a permit pursuant to Section 404 of the CWA, then, pursuant to Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) must certify that the discharge would comply with state water quality standards, or waive the certification requirement. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

3.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits actions resulting in the pursuit, capture, killing, and/or possession of any protected migratory bird, nest, egg, or parts thereof. USFWS maintains a list of designated migratory birds occurring in various regions of the United States. This regulation can

constrain construction activities that have the potential to affect nesting birds either through vegetation removal and land clearing or other construction- or operation-related disturbance.

3.1.4 Birds of Conservation Concern

The designation Birds of Conservation Concern (BCC) is applied by USFWS to bird species that have the highest conservation priority. BCC have a high potential for becoming candidates for listing as federally threatened or endangered (USFWS, 2008). The chief legal authority for BCC is the Fish and Wildlife Conservation Act of 1980 (FWCA) and the 1988 amendment to the FWCA (Public Law 100-653, Title VIII).

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires identification of significant environmental effects of proposed projects (including impacts on biological resources) and avoidance (where feasible) or mitigation of the significant effects. CEQA applies to projects proposed to be undertaken or requiring approval by state and/or local governmental agencies. "Projects" are activities that have the potential to have a physical impact on the environment.

3.2.2 California Endangered Species Act

State law prohibits the "take" (defined as "to hunt, pursue, catch, capture, or kill") of state-listed species except as otherwise provided in state law. The California Endangered Species Act (CESA), administered by the California Department of Fish and Wildlife (CDFW), is similar to the FESA, although unlike the federal law, CESA applies incidental take prohibitions to species currently petitioned for state-listing status (i.e., candidate species). State-lead agencies are required to coordinate with CDFW to ensure that their authorized actions are not likely to jeopardize the continued existence of any state-listed species or result in the degradation of occupied habitat.

Under Section 2081, CDFW authorizes "take" of state-listed endangered, threatened, or candidate species through incidental take permits or memoranda of understanding if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in questions, and (4) the applicant ensures suitable funding to implement the measures required by CDFW.

3.2.3 California Fully Protected Species

This law describes species that are "fully protected." Fully protected species may not be taken or possessed, except under specific permit requirements. Code 3511 applies to bird species, primarily raptors, and Codes 4700, 5050, and 5515 apply to mammal, amphibian, and reptile species that are classified as fully protected in California.

3.2.4 California Species of Special Concern

During the CEQA process, "Species of Special Concern" include wildlife (fish, amphibian, reptile, bird, and mammal) species native to California that satisfy one or more of the following criteria:

- Extirpated from the State, or in its primary seasonal or breeding role for avian species
- Listed as federally but not state threatened or endangered, and meets the definition of state threatened or endangered but has not been formally listed
- Is or has experienced serious (noncyclical) population declines or range retraction, that could qualify for state threatened or endangered status
- Has naturally small populations with high susceptibility to risk factors that could lead to declines that would qualify for state threatened or endangered status

3.2.5 California Fish and Game Code for Protection of Birds

Code 3503 and 3503.5 protect birds, nests, and eggs. Specifically, 3503 prohibits take, possession, or needless destruction of the nests or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Under Section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto," where "take" is defined under Division 0.5, Chapter 1, Section 86 as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

3.2.6 California Native Plant Protection Act and California Native Plant Society

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900–1913) directs CDFW to carry out the state legislature's intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA gives the California Fish and Game Commission

the power to designate native plants as "endangered" or "rare" and to protect endangered and special-status plants from take.

Plant species that are not legally protected under the CESA and/or FESA may still be protected by other regulations, or considered by the scientific community to be sufficiently rare to qualify for special-status protections. California Native Plant Society (CNPS) Rare Plant Rank 1A, 1B, 2A, and 2B species meet the definitions of Section 1901 (NPPA) and Sections 2062 and 2067 (CESA) and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

Many CNPS Rare Plant Rank 3 and 4 species do not meet the definitions of Section 1901 (NPPA) or Sections 2062 and 2067 (CESA), but are strongly recommended for consideration under CEQA (CNPS, 2014). This may be particularly appropriate for the following:

- The type locality of a California Rare Plant Rank 4 plant
- Populations at the periphery of a species' range
- Areas where the taxon is especially uncommon
- Areas where the taxon has sustained heavy losses
- Populations exhibiting unusual morphology or occurring on unusual substrates

3.2.7 California Lake and Streambed Alteration Program

Pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC), CDFW is authorized to regulate any activity that would alter the flow, bed, channel, or bank of streams and lakes. Jurisdictional waters of the State, as defined by Section 1600 regulations, include the "bed, channel, or bank of any river, stream, or lake designated by [CDFW] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." In practice, CDFW usually extends its jurisdictional limit to the top of the bank of a stream or lake, or to the continuous outer edge of its riparian extent, whichever is wider.

Section 1601(a) is based on Title 14 California Code of Regulations (CCR) 720, which designates "all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams, and streambeds which may have intermittent flows of water" as regulated by the Lake and Streambed Alteration Program. Therefore, all semi-arid and arid region aquatic features with ephemeral flow (including some swales that exhibit short-duration, low-volume flow) are under CDFW's regulation and protection because these semi-arid and arid region aquatic features can and do support fish and wildlife (directly or indirectly). CDFW links stream protection, conservation, and management with the presence (and/or indirect consideration) of fish and wildlife and their habitats.

3.2.8 Porter-Cologne Water Quality Act

Pursuant to Section 13000 et seq. of the California Water Code (CWC) (Porter-Cologne), the RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material into waters of the State, including "isolated" waters and/or wetlands (e.g., vernal pools and seeps), saline waters, and groundwater within the boundaries of the State (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the State, and directs the RWQCB to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems of that region (CWC Section 13050[j]).

CWC Section 13170 also authorizes the SWRCB to adopt water-quality control plans on its own initiative. The Water Quality Control Plan for the San Diego Basin (RWQCB Region 9), as amended, is designed to maintain, preserve, and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of surface and ground waters, designate water-quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 9 (RWQCB, 1994). Designated beneficial uses of state waters that may be protected against degradation include preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

3.2.9 Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act (NCCP) was designed to identify and protect species that have already declined in number significantly by conserving natural communities at the ecosystem level at the same time as accommodating compatible land use. A local agency oversees the development of a conservation plan and CDFW and USFWS provide support, direction, and guidance to NCCP participants.

3.3 LOCAL REGULATIONS

3.3.1 Stephens' Kangaroo Rat Habitat Conservation Plan

The Riverside County Habitat Conservation Agency (RCHCA) prepared a Habitat Conservation Plan (HCP) and sought a permit from USFWS and CDFW to authorize incidental take and management of the federally endangered and state threatened Stephens' kangaroo rat. The Stephens' kangaroo rat HCP was adopted in 1996 and is valid for 30 years. The intention of the HCP is to ensure full mitigation for all Stephens' kangaroo rat occupied habitat incidentally taken

through acquisition of replacement habitat in locations approved by USFWS. A regional reserve system was designed to ensure long-term persistence of Stephens' kangaroo rat in the plan area, including designated preserve areas. A funding mechanism to implement the HCP was established.

The Stephens' kangaroo rat HCP area covers approximately 533,954 acres and includes approximately 30,000 acres of occupied Stephens' kangaroo rat habitat. A system of seven core reserves encompassing 41,221 acres, which includes 12,460 acres of occupied Stephens' kangaroo rat habitat, was established. Private lands were acquired or conservation easements were created on privately held lands. Non-wasting endowments were created to provide funding for Stephens' kangaroo rat monitoring, management, and research for core reserves. In the case of entities exempt from member agency permits, the RCHCA would authorize incidental take directly.

The Proposed Project (or Alternative Project) must comply with the requirements of the Stephens' kangaroo rat HCP to obtain incidental "take" coverage. SCE is not a signatory of the HCP, so SCE would be apply to the RCHA a Participating Special Entity. An application and the required mitigation fee would need to be submitted to the RCHA. Compliance includes payment of the mitigation fees, which would provide full mitigation for Stephens' kangaroo rat. The entire Proposed Project (or Alternative Project) is located within the Stephens' kangaroo rat HCP area but is not within designated preserve areas for Stephens' kangaroo rat.

3.3.2 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (WRCMSHCP) is a multiple-species, multiple-habitat HCP pursuant to Section 10(a)(1)(B) of the FESA and an NCCP under the NCCP Act of 2001 (Dudek, 2003). The WRCMSHCP allows participating entities to authorize "take" of plant and wildlife species identified within the WRCMSHCP plan area. USFWS and CDFW (wildlife agencies) have granted "take authorization" for public and private development that may incidentally take or harm species or their habitat outside of the WRCMSHCP "conservation area" in exchange for the assembly and management of the WRCMSHCP conservation area.

The plan area includes approximately 1.26 million acres, for which approximately 310,000 acres of "criteria area" was established. Within the criteria area, a conceptual reserve design describes habitat types, locations, and rough percentages of habitat to be conserved through the use of conservation cell criteria. This conceptual reserve design is employed to create the conservation area. The WRCMSHCP conservation area can be described in terms of both existing and proposed cores and linkages. Existing cores and linkages are composed of existing public/quasi-public lands and total approximately 346,500 acres. Proposed cores and linkages (areas described for conservation through the conservation criteria) total approximately 160,000 acres of the 310,000-acre criteria area. The total WRCMSHCP conservation area includes both the existing

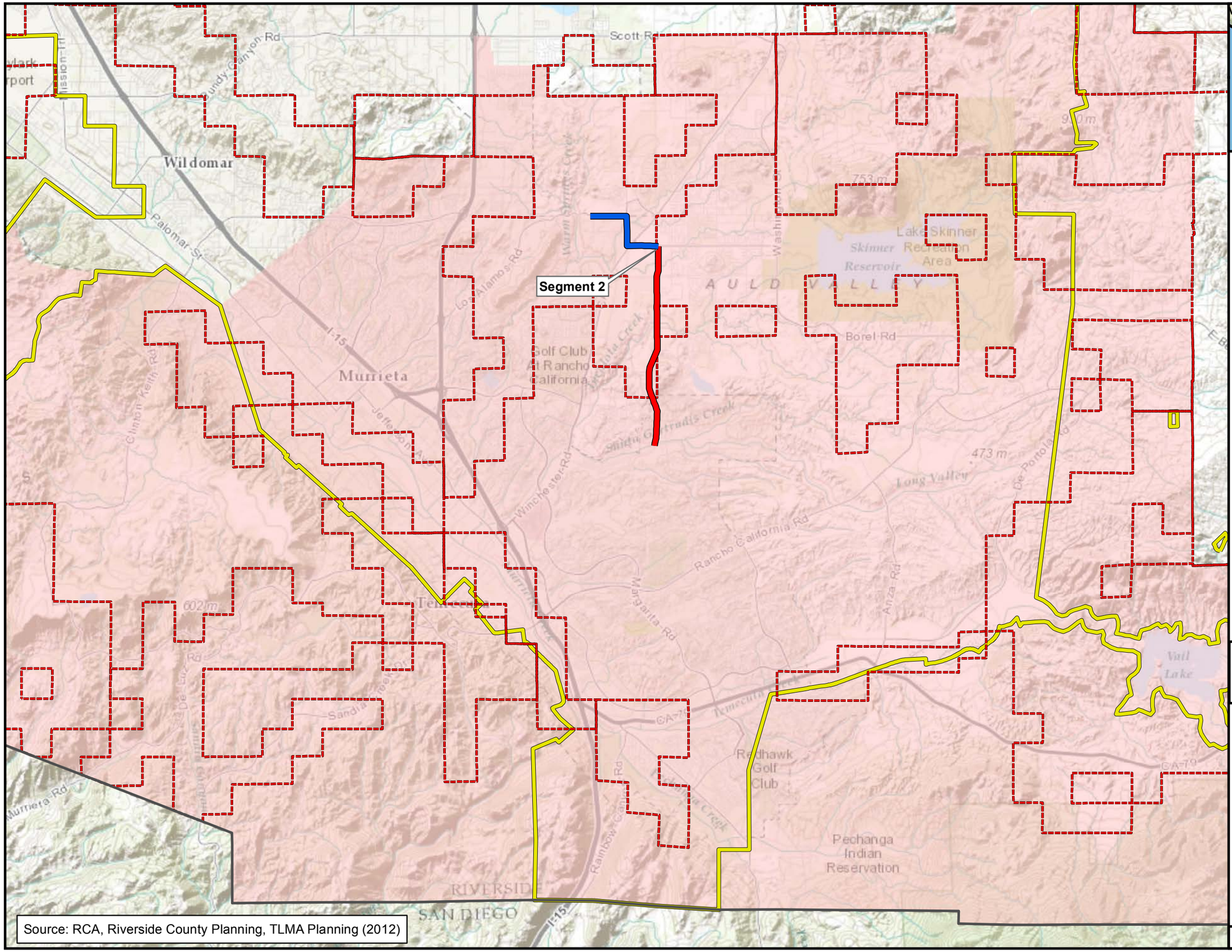
and proposed conservation areas and totals approximately 506,500 acres. Take authorization for plants and wildlife is issued through the wildlife agencies in exchange for the permanent conservation, management, and protection of the conservation area for the benefit of WRCMSHCP covered species.

The mechanism for assembly of the proposed cores and linkages in the conservation area is through review of applications in the land-use entitlement process to determine if the applications are consistent with the WRCMSHCP. Where lands are described for conservation, funds from WRCMSHCP mitigation fees are used to acquire private lands for conservation from willing sellers. Lands may also be acquired through nonfinancial methods.

A determination of whether or not a project is consistent with the WRCMSHCP includes a review of the WRCMSHCP conservation cell criteria to determine whether or not a project is within the conservation area, payment of a mitigation fee, and compliance with Section 6.0 of the WRCMSHCP. SCE is a signatory of the WRCMSHCP, so SCE would be authorized by the Western Riverside County Regional Conservation Authority (RCA) as a Participating Special Entity. An application and the required mitigation fee would need to be submitted to the RCA. Payment of the mitigation fee and compliance with Section 6.0 are intended to provide full mitigation under CEQA, the National Environmental Policy Act (NEPA), FESA, and CESA for impacts to species and habitats covered by the WRCMSHCP.

With agreement from the RCA, the fee for Participating Special Entity's for regional utility projects, such as the Valley South 115 kV Subtransmission Project, is 5 percent (%) of total capital costs for permanent impacts and 3% for temporary impacts.

Segment 2 would occur entirely within the Southwest Area Plan specifically within Subunit 5 – French Valley/Lower Sedco Hills of the WRCMSHCP. The northern terminus of the Proposed Project and Alternative Project would be at the boundary of WRCMSHCP Criteria Cells (Cells) 5569 (northern portion of Cell Group C') and 5671 (eastern portion of Cell Group A'). Segment 2 follows the southern side of Cell Group Z and the north side of Cell Group B' until turning south on the eastern side of Cell Group B' then turning to the east (following the northern boundary of Cell 5778). The Proposed Project and Alternative Project are then outside of WRCMSHCP Cells and are just to the east of Cell 5778. The Proposed Project and Alternative Project then enter the Criteria Area again on the eastern side of Cell 5879 and follow the eastern edge of Cell Group V and W, with a slight turn into the east die of Cell Group W and through the eastern portion of Independent Cell 6180. After exiting the southern portion of Cell 6180, the Proposed Project and Alternative Project are outside of the WRCMSHCP Criteria Area (within the City of Temecula). In Figure 3 Western Riverside County MSHCP Planning Areas, the locations of the Proposed Project, area plans, Criteria Cell groups, and biological cores and linkages are depicted. In Figure 4 Western Riverside County MSHCP Criteria Cells, the Criteria Cell boundaries are shown.



Legend

- Western Riverside County MSHCP Boundary
- Western Riverside County MSHCP Area Plan Subunits
- Stephens' Kangaroo Rat HCP Boundary

Riverside County Integrated Plan - Area Plan Boundary

- Southwest Area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 10,000 feet

0 5,000 10,000 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 3
Western Riverside County MSHCP Planning Areas

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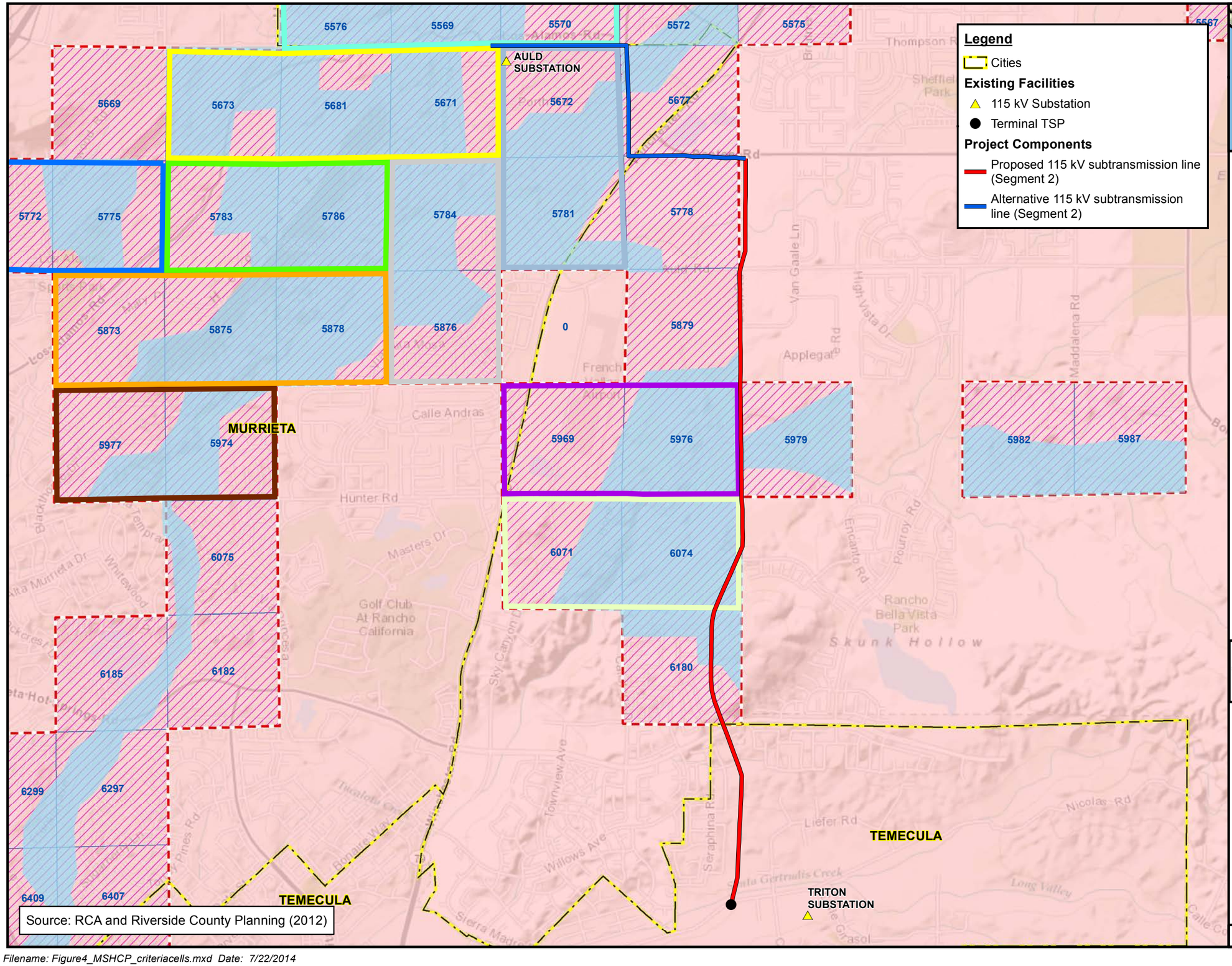
Filename: Figure3_MHCP_PlanningMap.mxd Date: 7/22/2014



Source: RCA and Riverside County Planning (2012)

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 4
Western Riverside County MSHCP Criteria Cells

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Filename: Figure4_MSHCP_criteriacells.mxd Date: 7/22/2014

Segment 2 is within the area described for conservation. Those portions of the BSA that are within WRCMSHCP Criteria Cells where the conservation criteria described conservation include Proposed Core 2, Proposed Constrained Linkage 18, and Existing Constrained Linkage E. The Proposed Project and Alternative Project are within Proposed Core 2 in the northern and central areas of the Project. Proposed Constrained Linkage 18 intersects with the Proposed Project and Alternative Project in WRCMSHCP Criteria Cells 5677 and 5572. Existing Constrained Linkage E intersects with the Proposed Project and Alternative Project in Cell 5979. Below are the WRCMSHCP Cell Criteria from the WRCMSHCP that are relevant to Segment 2 requirements for conservation (Dudek, 2003).

Cell Group Z

Conservation within this Cell Group will contribute to assembly of Proposed Core 2. Conservation within this Cell Group will focus on riparian scrub; woodland and forest habitat along Warm Springs Creek; and adjacent chaparral, coastal sage scrub, and grassland habitat. Areas conserved within this Cell Group will be connected to chaparral, coastal sage scrub, grassland, riparian scrub, woodland, and forest habitat proposed for conservation in Cell Group X to the north and Cell Group A to the south. Conservation within Cell Group Z will range from 75% to 85% of the Cell Group focusing in the western portion of the Cell Group.

Cell Group B

Conservation within this Cell Group will contribute to assembly of Proposed Core 2. Conservation within this Cell Group will focus on coastal sage scrub, grassland, riparian scrub, woodland and forest habitat, and agricultural land. Areas conserved within this Cell Group will be connected to coastal sage scrub and grassland habitat proposed for conservation in Cell Group C' to the west, to grassland habitat proposed for conservation in Cell 5778 to the east, and to riparian scrub, woodland, and forest habitat proposed for conservation in Cell 5677 also to the east. Conservation within Cell Group B' will range from 75% to 85% of the Cell Group focusing in the southern portion of the Cell Group.

Cell 5572

Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 18. Conservation within this Cell will focus on riparian scrub, woodland and forest habitat, and adjacent agricultural land. Areas conserved within Cell 5572 will be connected to riparian scrub, woodland and forest habitat, and agricultural land proposed for conservation in Cell 5677 to the south and in Cell

5575 to the east. Conservation within this Cell will range from 20% to 30% of the Cell focusing in the southeastern portion of the Cell.

Cell 5778

Conservation within this Cell will contribute to assembly of Proposed Core 2. Conservation within this Cell will focus on grassland habitat. Areas conserved within this Cell will be connected to grassland habitat and agricultural land proposed for conservation in Cell Group B to the west. Conservation within Cell 5778 will be approximately 5% of the Cell focusing in the southwestern portion of the Cell.

Cell 5677

Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 18. Conservation within this Cell will focus on riparian scrub, woodland and forest habitat, and adjacent agricultural land. Areas conserved within this Cell will be connected to riparian scrub, woodland and forest habitat, and agricultural land proposed for conservation in Cell Group B to the west and in Cell 5572 to the north. Conservation within Cell 5677 will range from 10% to 20% of the Cell focusing in the northwestern portion of the Cell.

Cell 5879

Conservation within this Cell will contribute to assembly of Proposed Core 2. Conservation within this Cell will focus on grassland habitat. Areas conserved within this Cell will be connected to grassland habitat and agricultural land proposed for conservation in Cell Group V to the south. Conservation within Cell 5879 will be approximately 5% of the Cell focusing in the southern portion of the Cell.

Cell 5979

Conservation within this Cell will contribute to assembly of Existing Constrained Linkage E. Conservation within this Cell will focus on grassland, coastal sage scrub, chaparral, and woodland and forest habitat. Areas conserved within this Cell will be connected to grassland habitat proposed for conservation in Cell Group V to the west. Conservation within Cell 5979 will range from 40% to 50% of the Cell focusing in the eastern and central portions of the Cell.

Cell 6180

Conservation within this Cell will contribute to assembly of Proposed Core 2. Conservation within this Cell will focus on coastal sage scrub, chaparral, and grassland habitat and agricultural land. Areas conserved within this Cell will be connected to agricultural land proposed for conservation in Cell Group W to the north. Conservation within Cell 6180 will range from 15% to 25% of the Cell focusing in the eastern portion of the Cell.

Cell Group V

Conservation within this Cell Group will contribute to assembly of Proposed Core 2. Conservation within this Cell Group will focus on grassland and coastal sage scrub habitat and agricultural land. Areas conserved within this Cell Group will be connected to grassland habitat proposed for conservation in Cell 5979 to the east and to coastal sage scrub, grassland and chaparral habitat, and agricultural land proposed for conservation in Cell Group W to the south. Conservation within Cell Group V will range from 45% to 55% of the Cell Group focusing in the eastern portion of the Cell Group.

Cell Group W

Conservation within this Cell Group will contribute to assembly of Proposed Core 2. Conservation within this Cell Group will focus on coastal sage scrub, grassland, chaparral and Riversidean alluvial fan sage scrub habitat, and agricultural land. Areas conserved within this Cell Group will be connected to agricultural land proposed for conservation in Cell 6180 to the south and to coastal sage scrub, grassland and chaparral habitat, and agricultural land proposed for conservation in Cell Group V to the north. Conservation within Cell Group W will range from 65% to 75% of the Cell Group focusing in the eastern portion of the Cell Group (Dudek, 2003).

With respect to conservation criteria, the Proposed Project and Alternative Project are discussed further in Section 7.0, Project Impacts.

To demonstrate consistency with the WRCMSHCP, the Proposed Project or Alternative Project must comply with several portions of Section 6.0 of the WRCMSHCP, including Sections 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), 6.1.3 (Protection of Narrow Endemic Species), 6.1.4 (Guidelines Pertaining to Urban Wildlands Interface), and 6.3.2 (Additional Survey Needs and Procedures), and specific species requirements for the species identified in Table 9-3 of the WRCMSHCP.

Take coverage exists for those species where long-term conservation is anticipated when the WRCMSHCP is implemented. The WRCMSHCP covers 146 species; of these, 106 are considered adequately conserved with no additional surveys or conservation required. The remaining 40 species—six riparian/riverine species, 14 narrow endemic plant species (NEPS), 13 criteria area plant species (CAPS), three amphibians, western burrowing owl (*Athene cunicularia*), and three mammals—are covered with additional survey requirements. If any of the species are present within potential impact areas, avoidance of 90% of the occupied habitat that provides for long-term conservation value of the species is required and/or species-specific conservation objectives must be met (Section 9.2 and Volume II, Section B of the WRCMSHCP). If 90% avoidance cannot be achieved, a Determination of Biological Equivalent or Superior Preservation analysis is required.

3.3.3 County and City Regulations

The Riverside County Planning Department requires projects to comply with the Riverside County Oak Tree Management Guidelines (RCTLMA, 1993, revised 1999), which states the following: "Any oak trees that are larger than 2 inches diameter at breast height would be identified by a biologist during vegetation mapping. Project proponents are encouraged to design the placement of disturbance to completely avoid oak trees and their protected zones (radius surrounding oak tree that is equal to oak tree's height, 10 feet, or the outermost edge of the oak tree's dripline, whichever is greatest). If oak trees are present and are to be avoided, an unexecuted conservation easement with a conservation agency must be submitted with a map of the area to be conserved with the development application. Easements would be identified on an environmental constraints sheet." Design provisions that reduce impacts to oak trees are included in the Riverside County Oak Tree Management Guidelines.

The Murrieta Development Code, Chapter 16.42, Tree Preservation, regulates for the protection, preservation, and maintenance of native oak, sycamore, and cottonwood trees; trees of historic or cultural significance; and groves and stands of mature trees; also, mature trees in general are provided for.

The cities of Murrieta and Temecula must comply with the WRCMSHCP Implementation Agreement. The same obligations for public and private developments relevant to the WRCMSHCP that apply to Riverside County (Section 3.3.2, above) for the Implementation Agreement apply to the cities.

Per the Murrieta General Plan (LU-22.3), development that minimizes impacts to existing water courses, mature trees, and natural features is encouraged. If impacts are not avoided, designs should have mitigation onsite and/or in nearby areas.

4.0 PROJECT AREA OVERVIEW

This section provides a description of the Segment 2 environmental setting, including climate and weather, topography, vegetation, and land use.

4.1 CLIMATE AND WEATHER

The Proposed Project and Alternative Project areas are considered to have a semi-arid Mediterranean climate with hot, dry summers and mild, relatively wet winters. Temperatures in the summer generally average in the 90s (degrees Fahrenheit [°F]) but often exceed 100°F, but with somewhat low humidity. In the winter, high temperatures average in the upper 60s (°F), but may not rise above 55°F during rainy days. January, the coldest month, averages a high/low temperature of 68°F/43°F, and August, the hottest month, averages a high/low temperature of 95°F/64°F. Riverside receives 10.4 inches of precipitation annually, with most of it occurring in the winter and early spring, especially January through March, with February being the wettest month (NOAA, 2014).

The active climatological station closest to the survey area that monitors temperature and precipitation is the Sun City, California, Climate Station (COOP ID: 048655[1]) located approximately 9.2 miles north of Segment 2. The mean annual temperatures documented at the Sun City, California, Climate Station range from a minimum of 46.3°F to a maximum of 80.7°F. Mean annual rainfall at the Sun City, California, Climate Station is 11.22 inches (WRCC, 2014).

4.2 TOPOGRAPHY, VEGETATION, AND LAND USE

The BSA occurs between the Santa Ana Mountains to the west and the San Jacinto Mountains to the east, within the French and Auld Valleys. Topography across the survey area is predominantly flat, with elevation ranges between approximately 1,400 feet above mean sea level (AMSL) along the northern portion to approximately 1,160 feet AMSL along the southern portion.

The BSA predominantly consists of grassland and disturbed/ruderal habitat in the valley bottoms and coastal scrub along the hillsides with large granitic rock outcrops. Three main creeks drain the Proposed Project and Alternative Project area: an unnamed creek in the north, Tucalota Creek in the central portion, and Santa Gertrudis Creek in the south. Portions of these creeks

[1] Climactic data was collected at the Sun City, California, Climate Station beginning in 1973, and had been in continuous operation between 1973 and 2005 (when climactic data collection ceased) (WRCC 2014).

support riparian scrub and wetland habitats associated with riparian-dependent plant and wildlife species.

Much of the land use within the BSA has been previously disturbed through agriculture or grazing, land development, and channelization. Land use within and surrounding the BSA consists of private residences, commercial shopping centers, agriculture and pasture land, and light industrial complexes. There are areas of land interspersed with developed/disturbed and agricultural areas that consist of undisturbed upland vegetation communities.

5.0 METHODS

This section describes the methodology conducted for the biological resource analysis within Segment 2 and a definition of the Segment 2 study area. The analysis conducted included a review of existing literature and data sources, as well as focused field surveys.

5.1 DEFINITIONS OF BIOLOGICAL STUDY AREA

The BSA consists of Segment 2 of the Proposed Project and Alternative Project and surrounding 500-foot buffer, which totals approximately 306 acres. The BSA is displayed in Figure 5 Biological Study Area. Surveys and assessments to evaluate and inventory biological resources were conducted within the BSA during 2013 and 2014.

5.2 LITERATURE REVIEW

A literature review was conducted for the entirety of the BSA. Prior to conducting field surveys, existing literature and data sources were evaluated, which focused on a review of data for potential jurisdictional resources, special-status plant and wildlife species, USFWS-designated critical habitat, and soil conditions.

AECOM biologists conducted pre-survey investigations and field delineations of the BSA in December 2013 for waters. Pre-survey investigations were to obtain contextual information relevant to the waters survey area that may aid in the evaluation of jurisdictional waters and may not be evident from the ground during the field survey. Therefore, before conducting the field delineation for potential waters of the U.S. and State (including wetlands and potential vernal pools), AECOM biologists reviewed recent biological reports, local and regional climactic data, and areas with topographical configurations and vegetative signatures occurring within the waters survey area that may suggest the potential for or presence of waters of the U.S. and State at the time of the field survey. This information was evaluated by consulting the following available sources: 7.5-minute Bachelor Mountain and Murrieta quadrangle (USGS, 1978 and 1979), the national hydrography dataset (USGS, 2014); 2012 USDA national agriculture imagery aerial maps of the waters survey area (USDA, 2012); the national wetlands inventory wetlands mapper (USFWS, 2014c); and the soil survey of Western Riverside County, California (Knecht, 1971). Refer to Section 5.1 of the Jurisdictional Delineation Report (JDR) for the Proposed Project and Alternative Project, titled "Jurisdictional Delineation Report for Potential Waters of the U.S. and State of California for the Southern California Edison Valley South 115 kV Subtransmission Project," dated May 2014 (AECOM, 2014a; Appendix B), for a complete list of sources used during pre-survey and post-survey analysis.

A review of the WRCMSHCP, USFWS database records, the California Natural Diversity Database (CNDDB) (CDFW, 2014a), and CNPS Electronic Inventory (CNPS, 2014) was conducted for the surrounding quadrangles (Romoland, Winchester, Hemet, Murrieta, Bachelor Mountain, Sage, Temecula, Pechanga, and Vail Lake) to determine if there are any special-status species known from the region within and surrounding the BSA. In addition, plants identified by the WRCMSHCP as NEPS or CAPS were included in the assessment. The results of the data query were then refined through habitat assessments conducted in the field for these species and vegetation mapping conducted for Segment 2.

In addition to these existing resources, SCE provided geographic information system (GIS) data files and reports for biological surveys conducted in support of the SCE Triton Substation Project (SCE, 2008). A portion of the Triton Substation Project overlaps with the Proposed Project and Alternative Project BSA; this area of overlap and mapped resources are discussed, as appropriate, within Section 6.0, Results. Also, previous biological resources data from the 2013 BRA prepared by TRC for Segment 1 (including species locations) were assessed for reference populations or for determining habitat potential before conducting surveys for this BRA Addendum. Previous biological resources data from the 2013 BRA prepared by TRC for Segment 1 are referenced within Section 6.0, Results.

Results of the literature review are presented in Section 6.1, Literature Review.

For the purposes of this report, species are considered to have special-status if they meet at least one of the following criteria:

- Covered under the FESA or CESA (USFWS, 2014a; USFWS, 2014b; CDFW, 2014b)
- CDFW species of special concern (CDFG, 2011)
- CDFW fully protected species (CDFG, 2011; CDFW, 2014c)
- CFGC Division 4, Part 2, Chapter 1, Sections 3503 and 3503.5
- Covered as a state protected furbearing mammal (14 CCR Section 460)
- Listed as having a California Rare Plant Rank (CRPR) (formerly CNPS List) as List 1A (presumed extinct in California), 1B (rare, threatened, and endangered in California and elsewhere), or 2 (rare, threatened, or endangered in California, but more common elsewhere); CRPR List 1A, 1B, and 2 species are considered special-status plant species if they fall within any of these categories as defined in the NPPA, CFGC Section 1901, or the CESA, CFGC Sections 2050 through 2098

AULD SUBSTATION

MURRIETA

TEMECULA

TRITON SUBSTATION

Project Study Area

INDEX MAP

Legend

- 250-foot buffer
- 500-foot buffer (BSA)
- Cities

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 2,667 feet

0 760 1,520 2,280 3,040 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 5
Biological Study Area

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Filename: Figure5_BSA.mxd Date: 7/22/2014

- CRPR List 3: (plants for which more information is needed [a review list]), or List 4 (plants of limited distribution [watch list]) (CNPS, 2014)
- Covered under the WRCMSHCP (Dudek, 2003)

Data from the nine-quad search was refined to assess potential species occurrence within a 3-mile radius of the BSA, consistent with the methodology described in the BRA prepared by TRC (TRC, 2013). Existing data sources, including the CNDDB, WRCMSHCP, USFWS, and Triton Substation Project data, were plotted on a map and reviewed to determine suitability within the BSA. Methodology for special-status plants and wildlife surveys is provided in detail in Sections 5.3.3, Special-Status Plant Species and Vernal Pool Plant Species, and 5.3.4, Special-Status Wildlife Species.

5.2.1 Critical Habitat

Critical habitat is defined as areas of land, water, and air space that contain the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Critical habitat is designated by USFWS for endangered and threatened species per the FESA (16 USC Section 1533[a][3]). Special management of critical habitat, including measures for water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types, is required to ensure the long-term survival and recovery of the identified species. Data from the nine-quad search was refined to assess the occurrence of critical habitat within a 3-mile radius of the BSA. The total acreage and location of each species' designated critical habitat is discussed in Section 6.0, Results.

5.2.2 Soils

A review of the U.S. Department of Agriculture (USDA) soil survey for Riverside County, California, was conducted to determine the soil types that occur within the Proposed Project and Alternative Project area, and are presented in Section 6.0, Results.

5.3 FIELD SURVEYS

Prior to conducting focused field surveys for the BSA, a this reconnaissance-level windshield survey was conducted by AECOM biologists on April 25, 2013 for the BSA, in addition to other potential alternative alignments that were later removed from further consideration. During this reconnaissance-level survey, AECOM biologists mapped potential habitats for special-status species and summarized the results of the survey in a memorandum (AECOM, 2013). Based on the Literature Review and results of the this reconnaissance-level survey, survey buffers were identified for special-status species. For amphibians, reptiles, and sensitive avian resources, including western burrowing owl, coastal California gnatcatcher (*Polioptila californica*

californica), least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*), a 500-foot radius buffer is recommended as either a requirement per existing survey protocols or a typical approach to adequately consider indirect impacts to nesting birds (e.g., to assess potential construction noise impacts during the breeding season). A 500-foot-radius buffer for vernal pool branchiopods as consideration of the watershed contributing to the vernal pool is required. Habitat was assessed within a 250-foot-radius buffer for less-mobile sensitive species, including special-status plants and vernal pool plants, small mammals (Los Angeles pocket mouse [*Perognathus longimembris brevinasus*] and Stephens' kangaroo rat [*Dipodomys stephensi*]), amphibians (arroyo toad [*Anaxyrus californicus*]), and invertebrates (Quino checkerspot butterfly [*Euphydryas editha quino*]; Quino).

Biological surveys and investigations conducted in the BSA included vegetation mapping surveys, a jurisdictional wetlands delineation, focused special-status plant and vernal pool plant surveys, focused fairy shrimp protocol surveys, habitat assessment for Coastal California Gnatcatcher and Quino, opportunistic amphibian and reptile surveys, nesting raptor surveys, focused burrowing owl surveys, protocol surveys for least Bell's vireo and southwestern willow flycatcher, and small mammal trapping surveys. Focused biological surveys within the BSA were conducted from December 2013 through July 2014.

A list of resource surveys conducted for the BSA, with corresponding survey buffer size, is provided in Table 1 Biological Resource Surveys Conducted and Corresponding Survey Buffers. Resource survey dates and personnel, and the size of the survey area, are summarized in Appendix A. Survey findings are discussed in Section 6.0, Results. Additional information about resource survey methodologies is provided below.

Table 1
Biological Resource Surveys Conducted and Corresponding Survey Buffers[1]

Survey Type	Survey Buffer (from centerline)
Vegetation Mapping	500 feet
Jurisdictional Delineation	250 feet
Special-Status Plant and Vernal Pool Plant Species	250 feet
Wet Season and Dry Season Fairy Shrimp	500 feet
Coastal California Gnatcatcher Habitat Assessment	500 feet
Quino Checkerspot Butterfly Habitat Assessment	250 feet
Amphibian and Reptile	500 feet
Nesting Raptors	500 feet
Western Burrowing Owl	500 feet
Least Bell's Vireo and Southwestern Willow Flycatcher	500 feet
Small Mammal	250 feet

[1] The buffer area is the number of feet from the Proposed Project and Alternative Project centerline

On April 16, 2014, surveys were no longer conducted on a two parcels due to access restrictions. Both properties occur within the Proposed Project. The northern property begins at Allen Road and extends south from Auld Road, past Borel Road until just north of the water tower. The other property occurs just south of Nicolas Road near the terminal TSP. Thus, surveys for resources conducted after April 16 did not take place on these properties or buffer areas (see Appendix A for dates of all surveys conducted). Additionally, some areas within the 500-foot buffer of the BSA could not be physically accessed due to fences indicating private property. To avoid unauthorized trespass onto these areas, biologists conducted visual surveys using binoculars when feasible.

5.3.1 Vegetation Communities and Cover Types

AECOM biologists mapped vegetation and land cover types within the BSA from December 23 to December 27, 2013. Vegetation communities were mapped using a minimum mapping unit of 0.5 acre for wetland and riparian communities, and 1.0 acre for upland communities. Surveyors conducted vegetation mapping within the BSA by walking meandering transects and from selected vantage points that allowed an expansive view of the BSA. Transect spacing and vantage point locations were dynamic, based on habitat complexity and topography, and were close enough to allow complete visual coverage. Vegetation polygons were mapped in the field using a tablet PC with ArcGIS software and a global positioning system (GPS) receiver. Vegetation communities were classified based on the dominant and characteristic plant species in accordance with the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland, 1986), Draft Vegetation Communities of San Diego County (Oberbauer et al., 2008), and A Manual of California Vegetation, second edition (Sawyer et al., 2009).

5.3.2 Jurisdictional Wetlands / Waters

Below is a brief description of the methodology used to delineate the jurisdictional limits of waters of the U.S. and/or State. A detailed discussion of the methodologies used during the field survey is provided in Sections 5.2.1 and 5.2.2 of the JDR (AECOM, 2014a; Appendix B). Dates of the field delineation took place between December 12 and December 20, 2013, and on March 25, 2014, for potential vernal pool features.

Delineations for waters of the U.S. in the form of wetlands were based on the three-parameter method (Environmental Laboratory, 1987). The three-parameter method for identifying and delineating wetlands is outlined in, and was done in accordance, with the Corps of Engineers Wetlands Delineation Manual (1987 Manual) (Environmental Laboratory, 1987); Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (2008 Supplement) (Environmental Laboratory, 2008); and the 2014 Updated National

Wetland Plant List (Lichvar et al., 2014). These guidelines require co-occurrence of positive wetland indicators for each parameter: hydrophytic vegetation, wetland hydrology, and hydric soil.

Delineations for "other waters" of the U.S. in the form of other nonwetland waters were based on field indicators to define and identify the jurisdictional lateral extent of the ordinary high water mark (OHWM), as defined by 33 CFR 238.3(e), federal guidance, methodologies, and procedures, including the following: A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (Lichvar and McColley, 2008); Review and Synopsis of Natural and Human Controls on Fluvial Channel Processes in the Arid West Channels (Lichvar and Field, 2007); Distribution of Ordinary High Water Mark (OHWM) Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels (Lichvar et al., 2006); and all applicable USACE Regulatory Guidance Letters (RGLs) and Special Public Notices for other waters (including RGL 88-06 and RGL 05-05). As outlined in the guidances discussed above, OHWM indicators used included water marks; clear natural lines impressed on the banks; scour and shelving; distinct and indistinct terraces; changes in the character of soil; and type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation.

Delineations for waters of the state under the jurisdiction of CDFW in the form of ephemeral washes and unvegetated channels were completed (and recorded) by identifying the presence of shelving and/or scour resulting in an established bank, bed, or channel (where applicable). State waters under the purview of CDFW are also represented by the associated riparian component of riverine features. The riparian component is aquatic-related resources that include the habitat upon which fish and/or wildlife depend for continued viability. Therefore, the jurisdictional limits of waters of the State under the purview of CDFW were extended to the top of the bank of a stream or lake, or to the continuous outer edge of its riparian extent, whichever was wider.

Delineations for waters of the State under the jurisdiction of the RWQCB were completed identically as the wetland and nonwetland waters as noted above for USACE jurisdiction. In addition, RWQCB jurisdiction was also delineated based on the presence of aquatic features that simultaneously meet the definition for waters of the State (CWC Section 13050[e]) and present "beneficial use," as outlined in the Water Quality Control Plan for the San Diego Basin (RWQCB 1994 [as amended]). Therefore, if it was determined that any type of aquatic and/or aquatic-related features occurring within the waters survey area would present "beneficial use," the aquatic feature was delineated as a water of the State under the purview of the RWQCB.

All acquired field data were obtained by recording the presence (including extents, types, and boundaries) of potential jurisdictional waters using a Trimble XH subfoot accuracy handheld

GPS unit. All acquired field data were post-field processed using GIS software. Post-field analysis to code, define, designate, and edit all acquired GPS field data representing potential jurisdictional waters occurring within the waters survey area was conducted using ArcGIS (Version 10.1) software by AECOM GIS specialists and the biologists who performed the fieldwork.

5.3.3 Special-Status Plant Species and Vernal Pool Plant Species

Per the WRCMSHCP, surveys are required for CAPS if suitable habitat is present, including Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Parish's brittlescale (*Atriplex parishii*), thread-leaved brodiaea (*Brodiaea filifolia*), smooth tarplant (*Centromadia pungens*), round-leaved filaree (*Erodium marophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and little mousetail (*Myosurus minimus* ssp. *apus*). Surveys are also required for NEPS, including Munz's onion (*Calochortus palmeri* var. *munzii*), San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), California orcutt grass (*Orcuttia californica*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*).

A focused survey for special-status plants was conducted within the BSA in accordance with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS, 2000); the CDFW Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities (CDFG, 2009); and the CNPS Botanical Survey Guidelines (CNPS, 2001).

The timing for rare plant surveys was determined after a field assessment of special-status plants was conducted for known reference locations within Segment 1 (provided within the BRA prepared for Segment 1 [TRC, 2013]). The phenology of target plant species was assessed to confirm optimal survey times for detectability within the Segment 2 BSA. Three rounds of special-status plant surveys were conducted from March 2014 through June 2014 to capture the optimal blooming period for species with the potential to occur. The first survey took place from March 31 to April 4, 2014. The second survey took place from May 7 to May 13, 2014. The third and final survey of the season took place from June 24 to June 26, 2014. Surveys were conducted by walking meandering transects within suitable habitat ensuring 100% visual coverage of the Proposed Project and Alternative Project areas. The two parcels with access restrictions were not surveyed. Surveys took place over the course of several months to cover the various blooming seasons of all potentially occurring special-status plant species (from late March through June). All plant taxa observed during surveys were identified to the taxonomic level necessary to determine rarity and listing status. Special-status plants detected during surveys were georeferenced with a GPS unit. During special-status plant surveys, biologists recorded a

complete floral inventory. Plant identification and nomenclature followed the Jepson Manual: Vascular Plants of California, second edition (Baldwin et al., 2012).

In addition to surveys for special-status plants, surveys for vernal pool plant species were conducted for seven basins recorded within the BSA. Basins were checked for vernal pool plant presence during early spring wet-season fairy shrimp surveys, and were assessed with a targeted focus on March 24, 2014, at an optimal time for observation.

5.3.4 Special-Status Wildlife Species

The suitability of habitats for special-status wildlife species within the BSA was evaluated during the 2013 reconnaissance-level surveys, and later refined in 2014 during focused habitat assessments, supplemented by vegetation mapping information collected in December 2013. Focused surveys were conducted for special-status wildlife, including amphibians and reptiles, nesting raptors, western burrowing owl, riparian birds (least Bell's vireo and southwestern willow flycatcher), small mammals, fairy shrimp, and a habitat assessment for Coastal California Gnatcatcher and Quino. Survey dates and personnel are summarized in Appendix A. AECOM biologists incidentally recorded wildlife sign, track, and direct observations during l surveys.

5.3.4.1 Fairy Shrimp

Potential depressions detected during the reconnaissance-level surveys on April 25, 2013, confirmed suitable vernal pool habitat for federally listed endangered fairy shrimp (AECOM, 2013). Focused protocol wet-season surveys for the federally listed San Diego fairy shrimp (*Branchinecta sandiegonensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*) were performed within a 250-foot buffer of the Proposed Project and Alternative Project areas from December 2013 through April 2014. AECOM biologists Andrew Fisher and Lance Woolley conducted the surveys under Endangered Species Permit TE-820658. Seven fairy shrimp surveys were conducted following the interim survey guidelines, beginning with inundation on December 13, 2013; then December 27, 2013; January 10, 2014; January 24, 2014; March 12, 2014; March 25, 2014; and terminating on April 8, 2014. Wet season fairy shrimp surveys were conducted based on the occurrence of rain events during the survey window. After each rain event, rainfall amounts were assessed online using the National Oceanic and Atmospheric Association (NOAA, 2014). If rainfall levels for the property were recorded as 1 inch or greater, a half-day reconnaissance survey was conducted to assess if pools had fulfilled the proper inundation criteria necessary to initiate protocol-level shrimp surveys.

Samples for dry-season surveys were collected by Lance Woolley on May 29, 2014, and processed by Christopher Rogers in June 2014. Fairy shrimp surveys were conducted per the

Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (USFWS, 1996).
Per the USFWS protocol, a dry-season survey was conducted to complement a wet-season survey (USFWS, 1996). The dry-season survey was conducted for the same seven basins in May 2014.

5.3.4.2 Quino Checkerspot Butterfly

Potentially suitable Quino habitat was detected during the April 25, 2013, reconnaissance-level survey (AECOM, 2013). A focused habitat assessment was conducted within the BSA by AECOM permitted biologists on January 10, 2013. Biologists conducted surveys under AECOM permit TE-820658. The habitat assessment was conducted in accordance with the 2002 USFWS survey protocol for Quino, which was the most current protocol at the time the assessment was conducted (USFWS, 2002). Any areas that were deemed suitable to support Quino were also assessed for larval host plants, and if larval host plants detectable at the time of the survey were observed, they would be mapped during the focused habitat assessment. Larval host plants for Quino include *Plantago erecta*, *P. patagonica*, and *Castilleja exserta* (As discussed in Section 6.2.5.4, Quino Checkerspot Butterfly (*Euphydras editha quino*), no host plants were actually detected).

Within the WRCMSHCP area, surveys for Quino are not required, as this species is considered "adequately conserved" through implementation of the WRCMSHCP. Thus, protocol surveys for Quino were not conducted. However, potential impacts to suitable habitat are discussed in Section 7.0, Project Impacts.

5.3.4.3 Amphibians and Reptiles

Amphibian and reptile surveys were conducted within the BSA concurrently with all other biological surveys. These surveys were completed incidentally during other focused surveys. Any time an amphibian or reptile species was visually encountered, either being flushed from biologists walking through habitats or viewed with binoculars, it was recorded and mapped.

5.3.4.4 Nesting Raptors

One nesting raptor survey was conducted within the BSA on May 26, 2014. The survey was conducted by driving on paved and dirt roads at 15 to 25 miles per hour throughout the BSA while visually searching for raptor nests within Segment 2 and 500-foot buffer. All large nests, both from raptors and corvids, were documented during the survey. Documentation consisted of collecting waypoints with a handheld GPS unit, and collecting data consisting of the species, nest substrate, number of eggs or young (if visible), and nest height.

5.3.4.5 Burrowing Owl

The presence of suitable burrowing owl habitat was confirmed during the 2013 reconnaissance-level survey, and the BSA occurs within the designated WRCMSHCP Burrowing Owl Survey Area (Dudek, 2003). Surveys were conducted per the Riverside County Burrowing Owl Survey Protocol (Riverside County, 2006), and the timing of surveys was conducted in accordance with the guidelines outlined in the 2012 CDFG protocol to the extent feasible. CDFG (2012) and WRCMSHCP (CDFG, 2006) protocols require that the survey area incorporate the 500-foot buffer zone when surveying for the presence/absence of burrowing owl and to adequately consider indirect impacts to nesting birds. Thus, the entire BSA was surveyed to assess suitable burrowing owl habitat that may be directly or indirectly affected by project activities.

A focused burrow search and assessment for suitable habitats was conducted concurrently with a focused search for western burrowing owl during the first survey, from April 28 to April 30, 2014. The timing of surveys (with the exception of the first survey) generally followed the 2012 CDFG burrowing owl breeding season protocol: Four surveys were conducted, with at least one site visit between February 15 and April 15, a minimum of three survey visits between April 15 and July 15, and at least one visit after June 15 (CDFG, 2012). The second survey was conducted from May 13 to May 16, 2014. The third survey was conducted from May 27 to June 2, 2014. The last survey took place from June 17 to June 19, 2014. Surveys were conducted from approximately 30 minutes before sunrise until 10 a.m., and 2 hours before sunset until approximately 30 minutes after sunset (CDFG, 2012). Surveys were conducted by walking straight-line transects spaced approximately 98 feet apart, the maximum allowable, due to the minimal vegetation in suitable habitat throughout the survey area. During each visit, 100% of suitable habitat was surveyed. During each survey, if individual burrowing owls and/or potentially suitable burrowing owl burrows were detected, they would be recorded and marked using GPS equipment. If an owl is observed, the number and age of individuals would be recorded and the individual locations would be marked at the burrow. If a burrowing owl observation is not associated with a burrow (i.e., incidental owl observations), the number and age of individuals would be recorded and the owl individual location would be marked where the owl was initially detected. Additional notes, such as owl behavior, would be recorded as necessary (As noted in Section 6.2.5.27, Western Burrowing Owl (*Athene cunicularia*), no burrowing owls were detected).

5.3.4.6 Coastal California Gnatcatcher

Suitable habitat for coastal California gnatcatcher was determined during the April 25, 2013, reconnaissance-level survey (AECOM, 2013). The presence of suitable habitat was confirmed during vegetation mapping, as suitable coastal sage scrub habitat was mapped within the BSA.

Within the WRCMSHCP area, surveys for coastal California gnatcatcher are not required, as this species is considered "adequately conserved"; thus, protocol surveys for this species were not conducted. However, potential impacts to suitable habitat are discussed in Section 7.0, Project Impacts.

5.3.4.7 Special-Status Riparian Bird Species

The reconnaissance-level survey completed on April 25, 2013, revealed habitat suitable for the federally endangered least Bell's vireo and southwestern willow flycatcher. Thus, protocol surveys were completed for both of these species during 2014. Least Bell's vireo surveys were conducted in accordance with the most current USFWS protocol; southwestern willow flycatcher surveys were also conducted in accordance with the most current USFWS protocol (USFWS, 2001). Surveys for each species were conducted concurrently.

Eight total surveys for vireo are required. Surveys took place on the following dates in 2014: April 24, May 5, May 15, May 27, June 9, June 19, June 30, and July 11, 2014. Per the USFWS protocol, each least Bell's vireo survey was conducted at least 10 days apart between April 10 and July 31. Surveys were conducted between dawn and 11 a.m. All vireo detections (e.g., vocalization points, areas used for foraging) were recorded and mapped to estimate the location and extent of habitats used, and all observed behaviors were recorded. No playback tape was used for these surveys.

Southwestern willow flycatcher surveys followed the current USFWS protocol (Sogge et al., 2010). Biologists conducted flycatcher surveys under AECOM permit TE-820658. Five total surveys for southwestern willow flycatcher were required; each survey was conducted at least 5 days apart, and one survey occurred between May 15 and May 31. Two surveys would occur between June 1 and June 24, and two surveys would occur between June 25 and July 17. Surveys took place on the following dates in 2014: May 15, May 27, June 9, June 19, and July 8, 2014. Each survey was conducted between dawn and 10:30 a.m. Each southwestern willow flycatcher survey took place concurrently with a vireo survey. During surveys, biologists conducted surveys from within suitable habitats, limiting the breaking of vegetation or damaging habitat. Playback of flycatcher vocalization was used for detections; all willow flycatchers observed were recorded and mapped, and all observed behaviors were recorded.

Areas surveyed for vireo and flycatcher within the Proposed Project and Alternative Project were categorized into three distinct survey areas, discussed in more detail in Section 6.2.5.31, Least Bell's Vireo (*Vireo belli pusillus*).

All vireo and flycatcher detections were recorded via GPS. Data pertaining to least Bell's vireo and southwestern willow flycatcher status and distribution, such as numbers and location of paired or unpaired territorial males, and age and sex of detected birds, was collected.

5.3.4.8 Small Mammals

Suitable habitat for Stephens' kangaroo rat and Los Angeles pocket mouse was determined during the April 25, 2013 reconnaissance-level survey (AECOM, 2013). A focused habitat assessment for both target species was conducted within the BSA by permitted biologist Steve Montgomery (Threatened and Endangered Species Permit TE-745551) between March 23 and 29, 2014, during a period of mild weather highly suitable for searches for small mammal sign. During the assessment, all sections of Segment 2 were covered on foot and by vehicle in search of habitat conditions and/or diagnostic signs of the target species. The assessment identified areas exhibiting diagnostic signs such as scat, tracks, and burrows potentially created by Stephens' kangaroo rat. However, since the Dulzura kangaroo rat (*Dipodomys simulans*), a non-special-status species, also inhabits the Segment 2 area, trapping studies were required to confirm the identity of the species.

The standard protocol trapping survey for small mammals in Riverside County requires five consecutive nights with traps left in the same locations as originally placed (Dudek, 2003). This general methodology was followed for the current field survey. Two trapping sessions were conducted. The first trapping session took place from May 1, 2014 to May 6, 2014. The second trapping session took place from May 9, 2014 to May 14, 2014.

A series of eight trap lines using 12-inch collapsible Sherman live traps were set out in the eight areas selected for trapping. Trap line locations varied with the habitat conditions and available sign where traps were set. Trap spacing ranged from approximately 23 to 32 feet, and depended on the habitat conditions at that particular trap location. Some areas contained several lines; however, for reporting purposes, such multiple-line areas were grouped and named as single trap lines. Traps were set and baited in the late afternoon, checked near midnight, and then checked again the subsequent morning, at which time they were closed. All captured animals were identified to species and released where captured. Animals were not marked, as the primary objective of the survey was to identify areas as occupied/unoccupied by Stephens' kangaroo rat and Los Angeles pocket mouse (i.e., presence/absence). GPS coordinates were recorded at each capture point for all special-status species. Locations for non-special-species were not recorded, but all species captured were recorded.

This trapping survey comprised a sampling program in the most suitable habitat stands for each target species, and did not attempt to heavily cover the entirety of all potentially occupied

habitats with traps. Such a sampling approach is common in such trapping surveys, and is based on the concept that if a species is present in an area, it would be active and caught in traps set in locations exhibiting the highest-quality habitat conditions in that area. Furthermore, traps set in potentially occupied Stephens' kangaroo rat habitat were invariably set in locations exhibiting scat or other diagnostic sign, rather than in a systematic grid pattern that would naturally encompass both optimal and suboptimal habitat conditions. The objective was to optimize the likelihood of capturing each target species.

Since sign of Los Angeles pocket mouse is typically very difficult if not impossible to discern in most habitat types, trapping for this species was based on the presence of appropriate habitat conditions and not diagnostic sign.

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6.0 RESULTS

This section discusses the results of biological resource analyses completed for the BSA, including the results of the literature review for special-status species, USFWS-designated critical habitat, potential jurisdictional features, and soils, as well as survey-specific results for biological resource surveys conducted. The results of biological resources analyses discussed are provided for both the Proposed Project and Alternative Project.

6.1 LITERATURE REVIEW

6.1.1 Special-Status Species

Special-status plant and wildlife species with a potential to occur within the BSA was based on database searches, wildlife range maps, and other known occurrences of species in the area. These findings were mapped and are displayed in Figure 6 Existing Resources Data for Special-Status Plants depicts special-status flora, Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles depicts special-status birds and reptiles (location data for individual sightings and/or nests, as indicated by the legend), and Figure 8 Existing Resources Data for Invertebrates and Mammals depicts special-status invertebrates and small mammals. A list of special-status plant and wildlife species, their habitat preferences, and potential to occur within the BSA are included in Appendix C (special-status plants) and Appendix D (special-status wildlife). From this literature review, 57 special-status plants and 65 special-status wildlife species were assessed for potential occurrence within the BSA.

6.1.2 USFWS-Designated Critical Habitat

Based on a review of USFWS-designated critical habitat, the BSA is within USFWS-designated critical habitat for one species, San Diego ambrosia. This area of critical habitat is associated with the Proposed Project area; no critical habitat occurs within the Alternative Project area. Critical habitat for Quino and coastal California gnatcatcher occurs within 3 miles of the BSA, but does not occur within the BSA. USFWS-designated critical habitat is shown in Figure 9 USFWS-Designated Critical Habitat.

6.1.3 Drainages and Other Water Features

Potential drainages were identified from the review of aerial photographs and USGS maps. These drainages were referenced during the wetlands/jurisdictional waters delineation (see Section 6.2.7, Jurisdictional Waters and Wetlands).

6.1.4 Soils

Forty-seven soil types are found within the Proposed Project and Alternative Project areas (NRCS, 2014). Some of the soil types within the BSA are suitable to potentially support NEPS and CAPS. Soil types present within the Proposed Project and Alternative Project areas are documented in Appendix E and displayed in Figure 10 Soils. These soil types were grouped into four general categories below:

- Clay soils
- Silty, sandy, gravelly, or rocky loam soils
- Saline or alkaline soils
- Hydric soils

The suitability of these soils to potentially support the NEPS and CAPS is discussed below.

6.1.4.1 Clay Soils

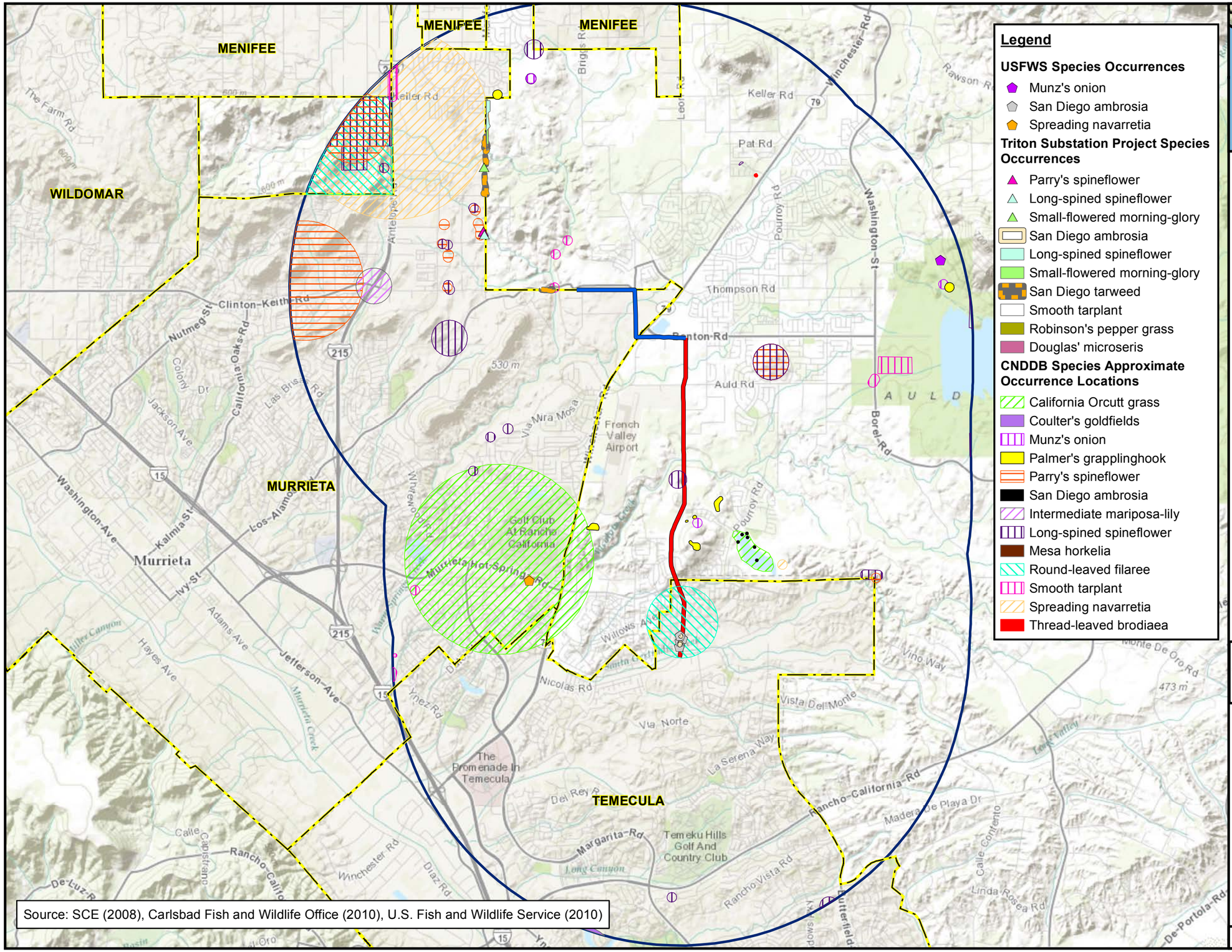
The Auld clay and Bosanko clay soil series are present within the BSA (Figure 10 Soils). The NEPS and CAPS that are typically found on clay soils include Munz's onion, Yucaipa onion (*Allium marvinii*), many-stemmed dudleya, California orcutt grass, Parish's brittlescale, thread-leaved brodiaea, round-leaved filaree, and Hammitt's clay-cress (*Sibaropsis hammitti*).

6.1.4.2 Silty, Sandy, Gravelly, or Rocky Loam Soils

The Arlington and Greenfield, Buchenau, Buren, Cajalco, Chino, Cieneba, Fallbrook, Friant, Las Posas, Monserate, Ramona, Vallecitos, Vista, and Wyman loam soil series are found throughout the BSA (Figure 10 Soils). The NEPS and CAPS that are typically found on loam soil types include Brand's phacelia (*Phacelia stellaris*), Munz's mariposa lily (*Calochortus palmeri var. munzii*), San Diego ambrosia, San Miguel savory (*Clinopodium chandleri*), slender-horned spine flower (*Dodecahema leptoceras*), heart-leaved pitcher sage (*Lepechinia cardiophylla*), and Nevin's barberry (*Berberis nevinii*).

6.1.4.3 Saline or Alkaline Soils

The Arlington and Greenfield fine sandy loams, Buren loam, Chino silt loam, Cieneba, Las Posas loam, Monserate, Ramona, Vallecitos loam, and Wyman loam soil series all contain saline or alkaline components within the Proposed and Alternative Project areas. The NEPS and CAPS that are typically found on saline or alkaline soil types include San Diego ambrosia, spreading



Source: SCE (2008), Carlsbad Fish and Wildlife Office (2010), U.S. Fish and Wildlife Service (2010)

Legend

USFWS Species Occurrences
- Munz's onion
- San Diego ambrosia
- Spreading navarretia

Triton Substation Project Species Occurrences
- Parry's spineflower
- Long-spined spineflower
- Small-flowered morning-glory
- San Diego ambrosia
- Long-spined spineflower
- Small-flowered morning-glory
- San Diego tarweed
- Smooth tarplant
- Robinson's pepper grass
- Douglas' microseris

CNDDB Species Approximate Occurrence Locations
- California Orcutt grass
- Coulter's goldfields
- Munz's onion
- Palmer's grapplinghook
- Parry's spineflower
- San Diego ambrosia
- Intermediate mariposa-lily
- Long-spined spineflower
- Mesa horkelia
- Round-leaved filaree
- Smooth tarplant
- Spreading navarretia
- Thread-leaved brodiaea

Legend

- 3-Mile Buffer
- Cities

Project Components
- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 6,261 feet

0 1,750 3,500 5,250 7,000 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 6
Existing Resources Data for Special-Status Plants

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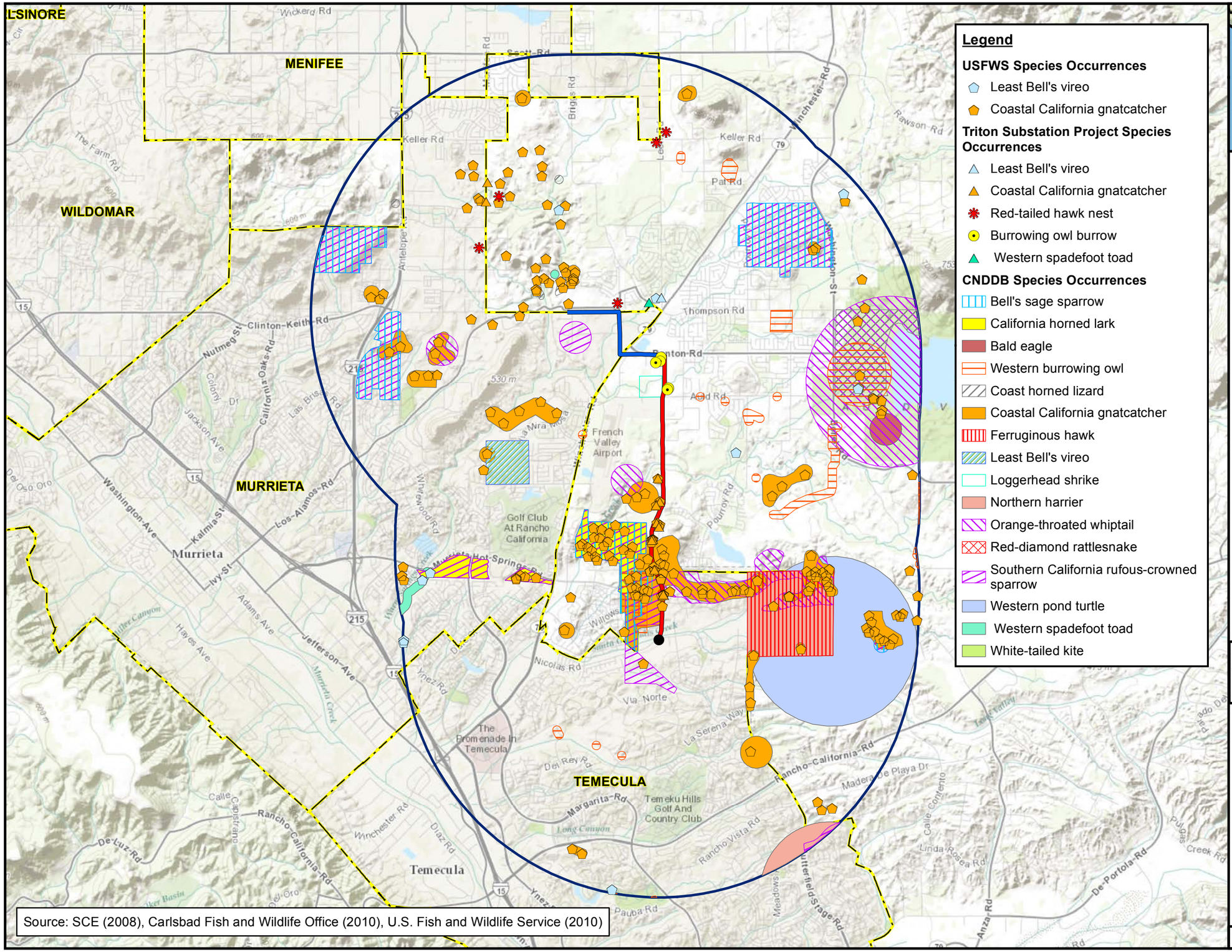


Legend

USFWS Species Occurrences
- Least Bell's vireo
- Coastal California gnatcatcher

Triton Substation Project Species Occurrences
- Least Bell's vireo
- Coastal California gnatcatcher
- Red-tailed hawk nest
- Burrowing owl burrow
- Western spadefoot toad

CNDDB Species Occurrences
- Bell's sage sparrow
- California horned lark
- Bald eagle
- Western burrowing owl
- Coast horned lizard
- Coastal California gnatcatcher
- Ferruginous hawk
- Least Bell's vireo
- Loggerhead shrike
- Northern harrier
- Orange-throated whiptail
- Red-diamond rattlesnake
- Southern California rufous-crowned sparrow
- Western pond turtle
- Western spadefoot toad
- White-tailed kite

Legend
- Cities
- 3-Mile Buffer

Project Components
- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 7,000 feet

0 1,750 3,500 5,250 7,000 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 7
Existing Resources Data for Birds, Amphibians, and Reptiles

Ver. 01	8/2/2014

Source: SCE (2008), Carlsbad Fish and Wildlife Office (2010), U.S. Fish and Wildlife Service (2010)

Filename: Figure7_Existing_BirdsHerps_Map.mxd Date: 8/2/2014

LSINORE
MENIFEE
WILDOMAR
MURRIETA
TEMECULA
Murrieta
Temecula
French Valley Airport
Golf Club At Rancho California
The Promenade In Temecula
Temeku Hills Golf And Country Club
Wickerd Rd
Scott Rd
Keller Rd
Bridge St
Leon Rd
Winchester Rd
Rawson Rd
Pat Rd
Pourroy Rd
Washington St
Thompson Rd
Benton Rd
Auld Rd
Borel Rd
Antelope Rd
Nutmeg St
Clinton-Keith Rd
California Oaks Rd
Las Brisas Rd
Jackson Ave
Colony Dr
The Farm Rd
Washington Ave
Los Alamos Rd
Kalmia St
Ivy St
Adams Ave
Jefferson Ave
Hayes Ave
Miller Canyon
Murrieta Creek
Ynez Rd
Nicolas Rd
Via Norte
Vista Del Monte
Vino Way
Rancho California Rd
Del Rey Rd
Margarita Rd
Rancho Vista Rd
Calle Contento
Madera de Playa Dr
Linda Rosa Rd
Meadows Pkwy
Butterfield Stage Rd
De Portola Rd
Anza Rd
Pulgas Creek Rd
Glenoaks Rd
Bella Vista Rd
Monte De Oro Rd
Yaqui Valley
Calle Capistrano
De Luz Rd
De Oro Rd
Wildomar Trail
Wickerd Rd
Scott Rd
Keller Rd
Pat Rd
Thompson Rd
Auld Rd
Nicolas Rd
Via Norte
Vista Del Monte
Rancho California Rd
Rancho Vista Rd
Winchester Rd
Diaz Rd
Temecula
Murrieta
Golf Club At Rancho California
The Promenade In Temecula
Temeku Hills Golf And Country Club
French Valley Airport
MENIFEE
WILDOMAR
MURRIETA
TEMECULA
15
215
79
530 m
473 m

Legend

USFWS Species Occurrences
- Quino checkerspot butterfly
- Riverside fairy shrimp
- San Bernardino kangaroo rat
- Stephens' kangaroo rat
- Vernal pool fairy shrimp

USFWS Species Occurrences
- Quino checkerspot butterfly
- Riverside fairy shrimp
- San Bernardino kangaroo rat
- Stephens' kangaroo rat
- Vernal pool fairy shrimp

Triton Substation Project Species Occurrences
- Stephens' kangaroo rat

CNDDB Species Occurrences
- Los Angeles pocket mouse
- Riverside fairy shrimp
- San Diego black-tailed jackrabbit
- Stephens' kangaroo rat
- Northwestern San Diego pocket mouse
- Quino checkerspot butterfly
- Vernal pool fairy shrimp
- Western mastiff bat

Source: SCE (2008), Carlsbad Fish and Wildlife Office (2010), U.S. Fish and Wildlife Service (2010)

Legend
- Cities
- 3-Mile Buffer

Project Components
- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 7,000 feet

0 1,750 3,500 5,250 7,000 Feet

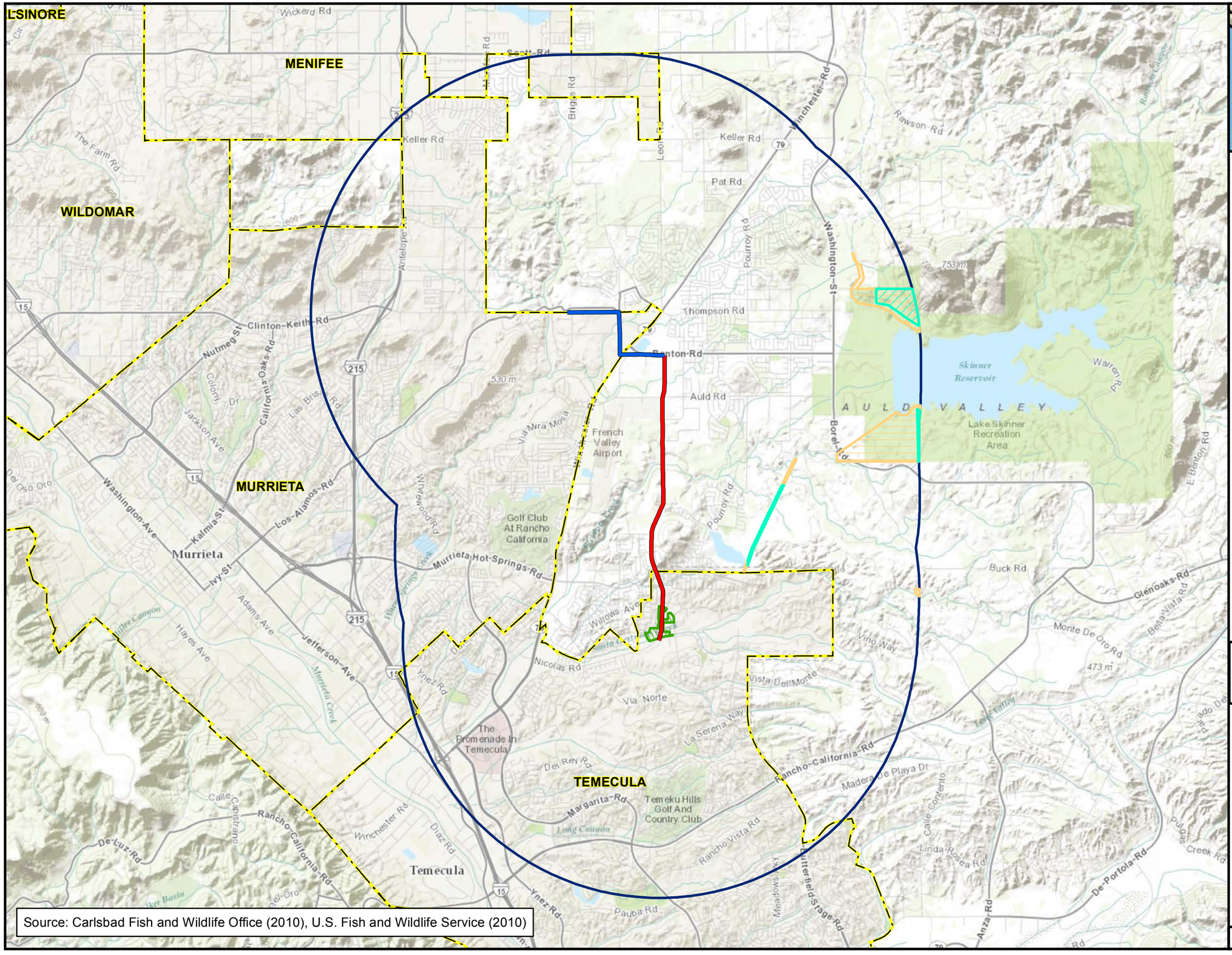
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 8
Existing Resources Data for Invertebrates and Mammals

Ver. 01	7/22/2014

Filename: Figure8_Existing_InvertMammalMap_JS.mxd Date: 7/22/2014



Filename: Figure9_CriticalHabitat_JS.mxd Date: 7/22/2014

Map Unit Symbol

AtC2 - Arlington and Greenfield fine sandy loams, 2 to 8% slopes , eroded

AtD2 - Arlington and Greenfield fine sandy loams, 8 to 15% slopes, eroded

AtF3 - Arlington and Greenfield fine sandy loams, 15 to 35% slopes, severely eroded

AuC - Auld clay, 2 to 8% slopes

AuD - Auld clay, 8 to 15% slopes

BfC - Bosanko clay, 2 to 8% slopes

BfD - Bosanko clay, 8 to 15% slopes

BkC2 - Buchenau silt loam, 2 to 8% slopes, eroded

BxC2 - Buren loam, deep, 2 to 8% slopes, eroded

CaC2 - Cajalco fine sandy loam, 2 to 8% slopes, eroded

CaD2 - Cajalco fine sandy loam, 8 to 15% slopes, eroded

CbF2 - Cajalco rocky fine sandy loam, 15 to 50% slopes, eroded

Cf - Chino silt loam, drained, saline-alkali

ChD2 - Cieneba sandy loam, 8 to 15% slopes, eroded

CkD2 - Cieneba rocky sandy loam, 8 to 15% slopes, eroded

CkF2 - Cieneba rocky sandy loam, 15 to 50% slopes, erod ed

FaD2 - Fallbrook sandy loam, 8 to 15% slopes, eroded

FfC2 - Fallbrook fine sandy loam, 2 to 8% slopes, erode d

FkD2 - Fallbrook fine sandy loam, shallow, 8 to 15% slo pes, eroded

FwE2 - Friant fine sandy loam, 5 to 25% slopes, eroded

GyC2 - Greenfield sandy loam, 2 to 8% slopes, eroded

GyD2 - Greenfield sandy loam, 8 to 15% slopes, eroded

GzG - Gullied land

HnC - Honcut sandy loam, 2 to 8% slopes

HuC2 - Honcut loam, 2 to 8% slopes, eroded

LaC - Las Posas loam, 2 to 8% slopes

LaD2 - Las Posas loam, 8 to 15% slopes, eroded

LaE3 - Las Posas loam, 8 to 25% slopes, severely eroded

LkF3 - Las Posas rocky loam, 15 to 50% slopes, severely eroded

LoF2 - Lodo gravelly loam, 15 to 50% slopes, eroded

MmB - Monserate sandy loam, 0 to 5% slopes

MmC2 - Monserate sandy loam, 5 to 8% slopes, eroded

MmD2 - Monserate sandy loam, 8 to 15% slopes, eroded

MnD2 - Monserate sandy loam, shallow, 5 to 15% slopes, eroded

RaA - Ramona sandy loam, 0 to 2% slopes

ReC2 - Ramona very fine sandy loam, 0 to 8% slopes, ero ded

RmE3 - Ramona and Buren sandy loams, 15 to 25% slopes, severely eroded

RnD2 - Ramona and Buren loams, 5 to 15% slopes, eroded

RnE3 - Ramona and Buren loams, 5 to 25% slopes, severel y eroded

RsC - Riverwash

RuF - Rough broken land

TeG - Terrace escarpments

VeC2 - Vallecitos loam, thick solum variant, 2 to 8% sl opes, eroded

VsC - Vista coarse sandy loam, 2 to 8% slopes

VsD2 - Vista coarse sandy loam, 8 to 15% slopes, eroded

WyC2 - Wyman loam, 2 to 8% slopes, eroded

YbC - Yokohl loam, 2 to 8% slopes

Source: Esri and NRCS (2014)

Legend

500-foot buffer (BSA)

Soils

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 3,000 feet

Feet 0 750 1,500 2,250 3,000

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 10
Soils

Ver. 01	8/1/2014

Filename: Figure10_Soils.mxd Date: 8/1/2014

navarretia (*Navarretia fossalis*), prostrate navarretia (*Navarretia prostata*), California orcutt grass, Wright's trichocoronis, Parish's brittlescale, Davidson's saltscale, thread-leaved brodiaea, smooth tarplant, Coulter's goldfields, and little mousetail.

6.1.4.4 Hydric Soils

Of the 47 soil series identified by the Natural Resources Conservation Service (NRCS) as occurring within the Proposed and Alternative Project areas, only one, the Riverwash soil series, is considered potentially hydric (NRCS, 2014). Hydric soils are defined as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (NRCS, 2014).

The Riverwash soil series is described by the NRCS as barren alluvial areas, usually coarse-textured, exposed along streams at low water and subject to shifting during normal high water (NRCS, 2014). The Riverwash soil series is located in the southern end of the BSA, just north of Nicolas Road.

6.2 FIELD SURVEYS

The results of field surveys described in Section 5.3, Field Surveys is described in this section. Findings discussed include the findings for the total plant and wildlife species detected, vegetation communities and cover types, sensitive vegetation communities, special-status plants and wildlife surveys, wildlife corridors within the BSA, and jurisdictional delineations. Findings are discussed separately for the Proposed Project and Alternative Project for each specific resource.

6.2.1 Biotic Inventory

A list of plants and animal species observed during biological surveys are included in Appendix F and Appendix G, respectively. Approximately 204 plant and 100 wildlife species were detected during surveys.

6.2.2 Vegetation Communities and Cover Types

Thirteen vegetation communities and land cover types were mapped within the BSA and are provided in Table 2 Vegetation Communities and Cover Types occurring within the BSA (acres) and displayed in Figures 11a through 11g Vegetation and Other Land Cover Types (seven pages total). Acreages are provided for the Proposed Project, within the Alternative Project (minus the overlap of the Alternative Project with the Proposed Project), and the total Segment 2

Table 2
Vegetation Communities and Cover Types occurring within the BSA (acres)

Vegetation Communities and Land Cover Types		Proposed Project Area[3]	Alternative Project Area[4]	Total Segment 2 Project Area
Holland Type[1]	Manual of California Vegetation Type[2]			
Disturbed Wetland (11200)[5]	No Counterpart	0	0.06	0.06
Emergent Wetland (52440)[5]	*Persicaria-Xanthium strumarium* Provisional Herbaceous Alliance[6] *Distichlis spicata* Herbaceous Alliance[6]	0	5.43	5.43
Freshwater Marsh (52400)	*Typha domingensis* Herbaceous Alliance	0	0.36	0.36
Mulefat Scrub (63310)	*Baccharis salicifolia* Shrubland Alliance	0.26	0.21	0.47
Non-vegetated Channel (64200)[5]	No Counterpart	0.40	0	0.40
Open Water (64140)[5]	No Counterpart	0.10	0	0.10
Southern Willow Scrub (63320)	*Salix laevigata* Woodland Alliance	1.56	0.22	1.78
Tamarisk Scrub (63810)	*Tamarix* Semi-Natural Shrubland Stands	0.17	0.01	0.18
Diegan Coastal Sage Scrub	*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance *Artemisia californica-Salvia mellifera* Shrubland Alliance	41.19	2.07	43.26
Nonnative Grassland	*Avena* Semi-Natural Herbaceous Stands[7] *Bromus-Brachypodium distachyon* Semi-Natural Herbaceous Stands[7] *Brassica* and Other Mustards Semi-Natural Herbaceous Stands	34.67	19.72	54.39
Nonnative Woodland/ Ornamental	*Eucalyptus* Semi-Natural Woodland Stands[6] *Schinus* Semi-Natural Woodland Stands[6]	6.00	0.32	6.32
Developed/Urban	No Counterpart	58.03	44.63	102.66

Vegetation Communities and Land Cover Types		Proposed Project Area[3]	Alternative Project Area[4]	Total Segment 2 Project Area
Holland Type[1]	Manual of California Vegetation Type[2]			
Disturbed/Ruderal	*Avena* Semi-Natural Herbaceous Stands[7] *Bromus-Brachypodium distachyon* Semi-Natural Herbaceous Stands[7] *Brassica* and Other Mustards Semi-Natural Herbaceous Stands[7]	67.58	23.22	90.8
Total		**209.96**	**96.25**	**306.21**

[1] Holland, 1986
[2] Sawyer et al., 2009
[3] This column includes acreages for all areas within the Proposed Project, including a portion of overlap with the Alternative Project.
[4] This column includes acreages for areas within the Alternative Project that do not overlap with the Proposed Project. These acreages are unique to the Alternative Project.
[5] Revised Holland type vegetation communities classified according to Oberbauer et al., 2008.
[6] Based on the species composition; classification to the alliance level is only partially resolvable.
[7] Due the timing of the assessment, annual grasses could not be identified. Plants were vegetative and old inflorescences were not present. Listed herbaceous grass stands under the classification of Sawyer et al., 2009 are, therefore, considered probable to occur.

WRCMSHCP area combining the Proposed Project and Alternative Project. Acreages are provided per the Holland classification (Holland, 1986) and per the Manual of California Vegetation (Sawyer et al., 2009). Additional detail on vegetation community types is provided in the following text.

Riparian and Wetlands

Riparian and wetland areas within the BSA include disturbed wetland, emergent wetland, freshwater marsh, mulefat scrub, southern willow scrub, tamarisk scrub, and non-vegetated channel. These riparian communities occur along the drainages and basins within the BSA. These areas usually harbor greater wildlife diversity and abundance than upland areas, and frequently serve as wildlife corridors due to their linear nature and the food and cover they provide. Approximately 2.49 acres of riparian and wetland habitat are within the Proposed Project area. Approximately 6.29 acres of riparian and wetland habitat are within the Alternative Project area.

Disturbed Wetland (Holland Code 11200)

The disturbed wetland within the BSA is an unvegetated, earthen drainage ditch that holds water for a few weeks following rain events. Disturbed wetland does not occur within the Proposed Project. A total of 0.06 acre of disturbed wetland is located immediately north of Benton Road in

the northern portion of the Alternative Project area (Figure 11b Vegetation and Other Land Cover Types).

Emergent Wetland (Holland Code 52440)

Emergent wetland is associated with the drainages and basins within the Proposed and Alternative Project area. This community is characterized by herbaceous vegetation including, cocklebur (*Xanthium strumarium*), curly dock (*Rumex crispus*), western ragweed (*Ambrosia psilostachya*), and water smartweed (*Persicaria* spp.). A total of 5.43 acres of emergent wetland occurs within the Alternative Project area (Figures 11a, 11b, and 11g Vegetation and Other Land Cover Types).

Freshwater Marsh (Holland Code 52400)

This community is a dense thicket of southern cattail (*Typha domingensis*) and occurs in areas of standing water. A total of 0.36 acre of this habitat occurs along Briggs Road in the Alternative Project area (Figures 11a and 11g Vegetation and Other Land Cover Types).

Mulefat Scrub (Holland Code 63310)

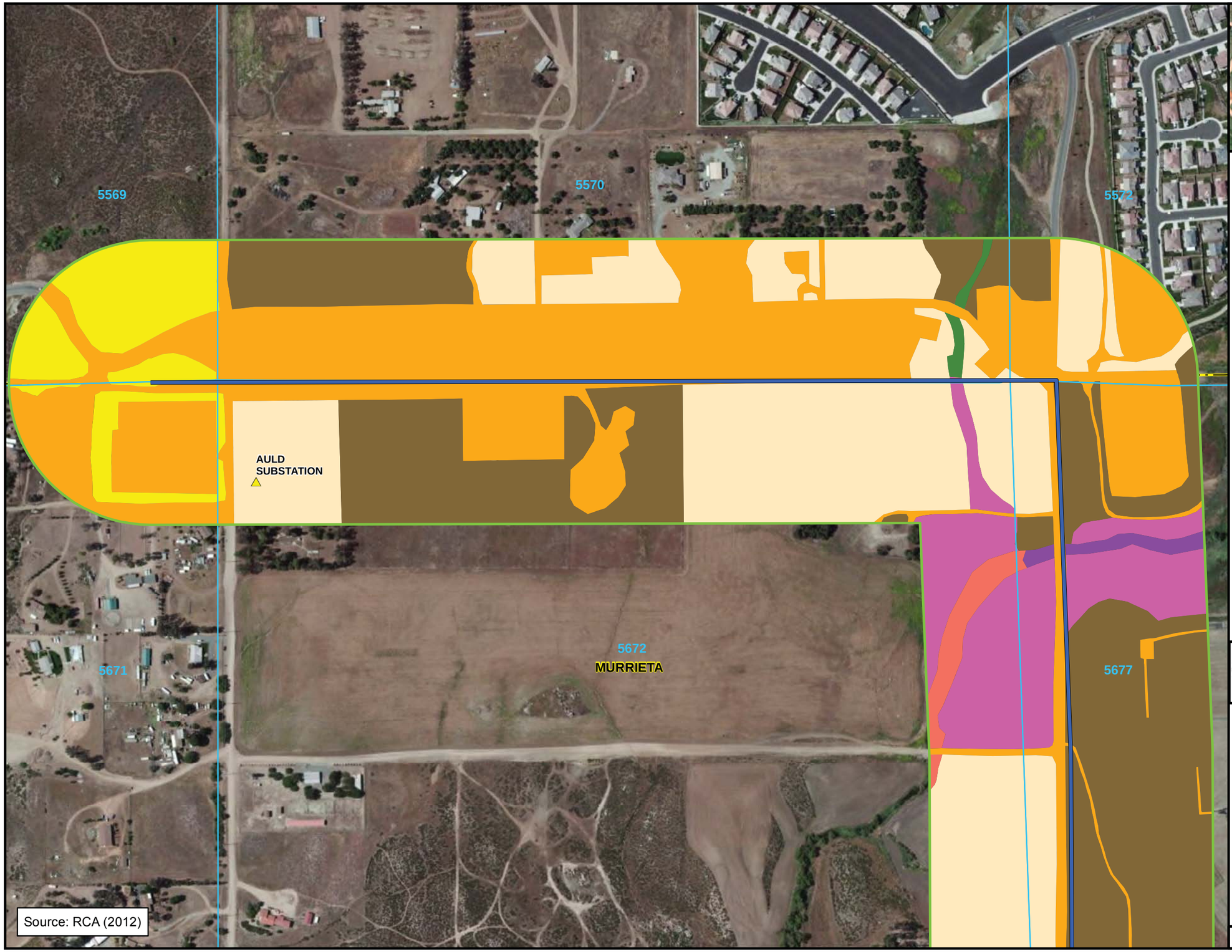
This riparian scrub community occurs along drainages and is strongly dominated by mulefat (*Baccharis salicifolia*), in association with red willow (*Salix laevigata*), southern cottonwood (*Populus fremontii*), and tarragon (*Artemisia dracunculus*).A total of 0.26 acres of mulefat scrub is scattered throughout the Proposed Project area. A total of 0.21 acre occurs within the Alternative Project area (Figures 11a, 11b, and 11g Vegetation and Other Land Cover Types).

Open Water (Holland Code 64140)

These areas of open water are small ponds that look to have been constructed. A total of 0.1 acre of open water occurs in the central and southern portion of the Proposed Project area (Figures 11d and 11f Vegetation and Other Land Cover Types). Open water does not occur within the Alternative Project area.

Southern Willow Scrub (Holland Code 63320)

This community occurs along the drainages that traverse the Proposed Project area, and is heavily dominated by red willow with the occasional southern cottonwood. Small pockets of



Legend

- Western Riverside County MSHCP Criteria Cells
- 500-foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV Subtransmission line (Segment 2)

Vegetation Communities and Cover Types

- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed/Ruderal
- Emergent Wetland
- Freshwater Marsh
- Mule Fat Scrub
- Nonnative Grassland
- Southern Willow Scrub

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

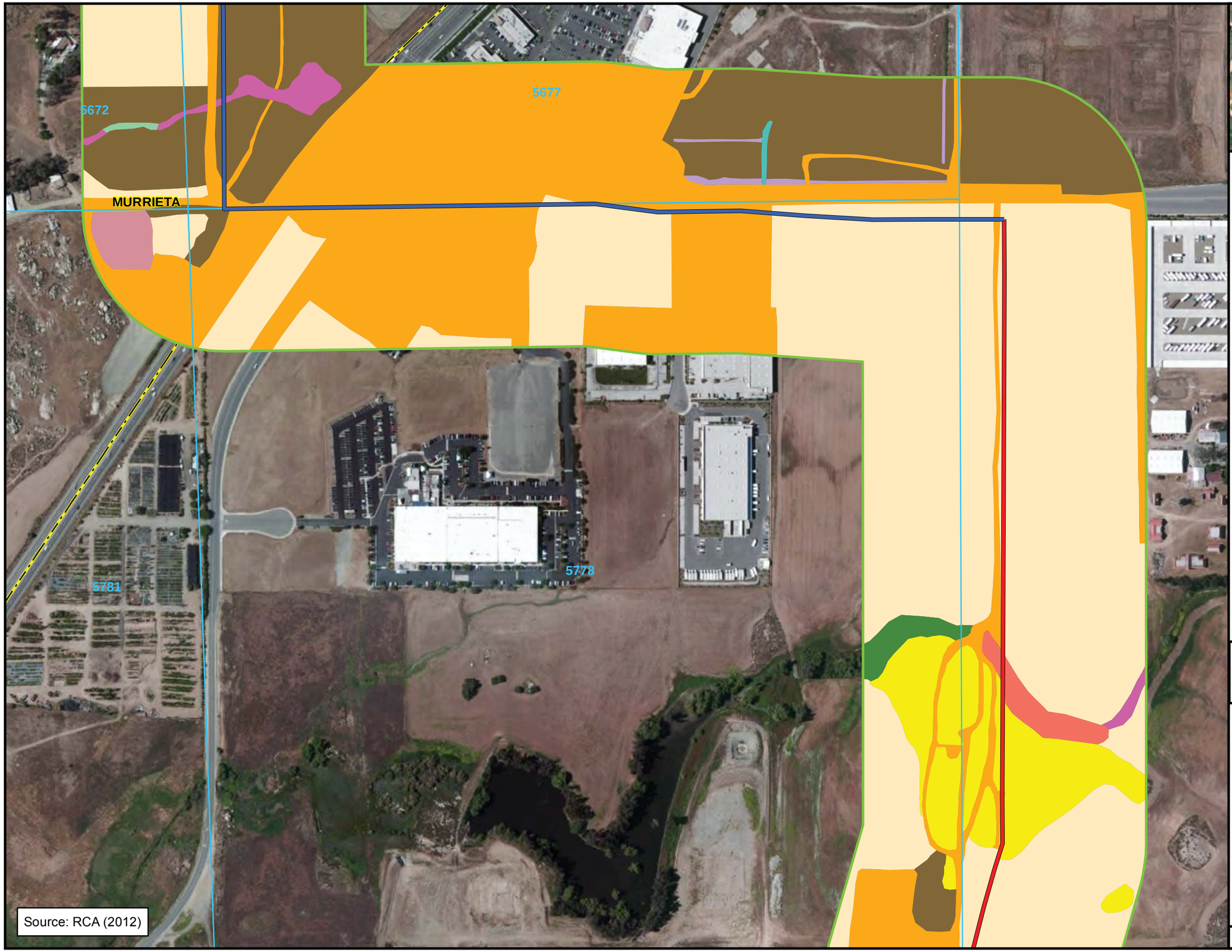
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11a

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014



Legend

Western Riverside County MSHCP Criteria Cells

500-foot buffer (BSA)

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV Subtransmission line (Segment 2)

Vegetation Communities and Cover Types

- Agriculture
- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed Wetland
- Disturbed/Ruderal
- Emergent Wetland
- Mule Fat Scrub
- Nonnative Grassland
- Nonnative Woodland/Ornamental
- Southern Willow Scrub
- Tamarisk Scrub

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

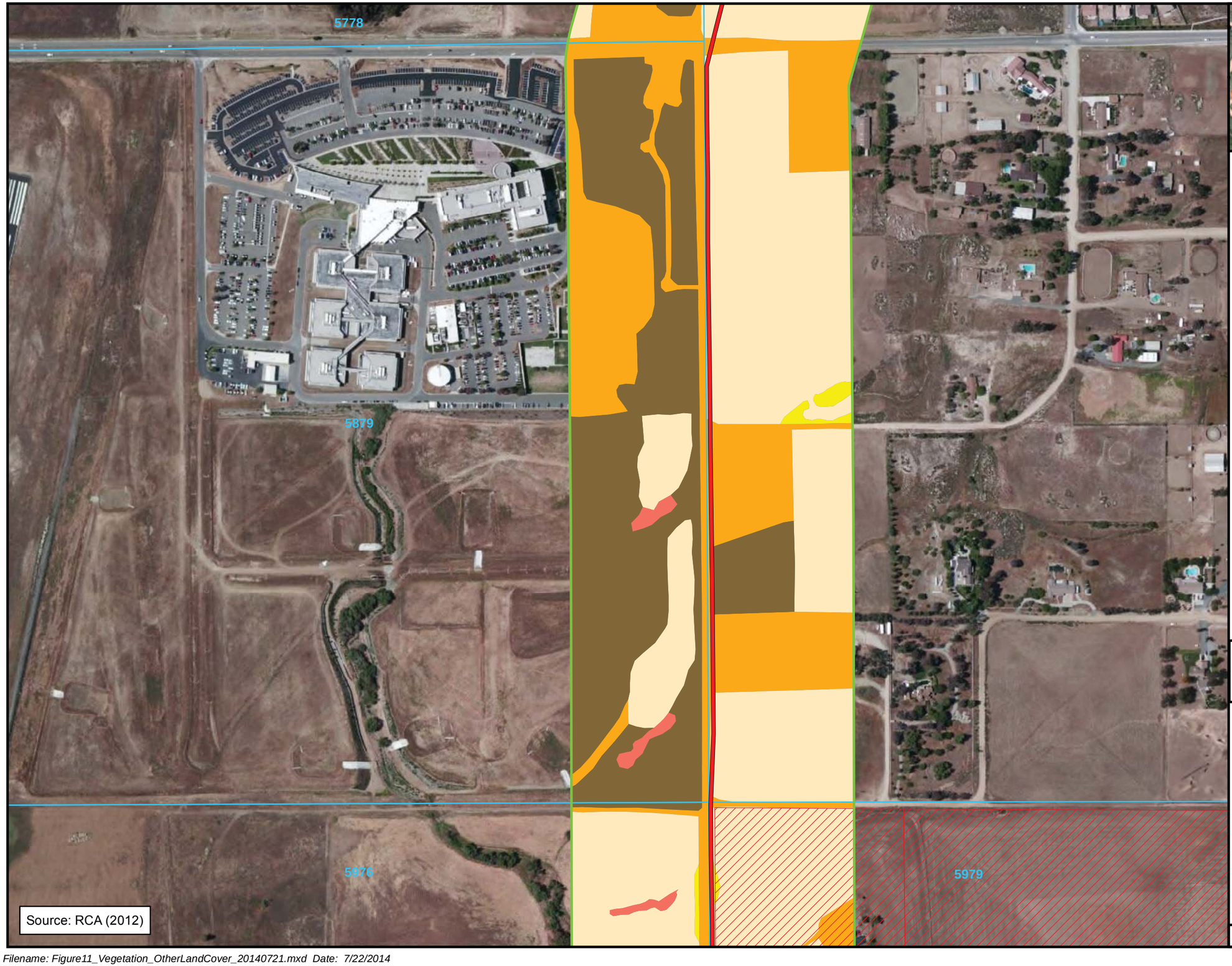
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11b

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014



Legend

- Western Riverside County MSHCP Criteria Cells
- 500-foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV Subtransmission line (Segment 2)
- Inaccessible Parcels

Vegetation Communities and Cover Types

- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed/Ruderal
- Nonnative Grassland
- Southern Willow Scrub

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

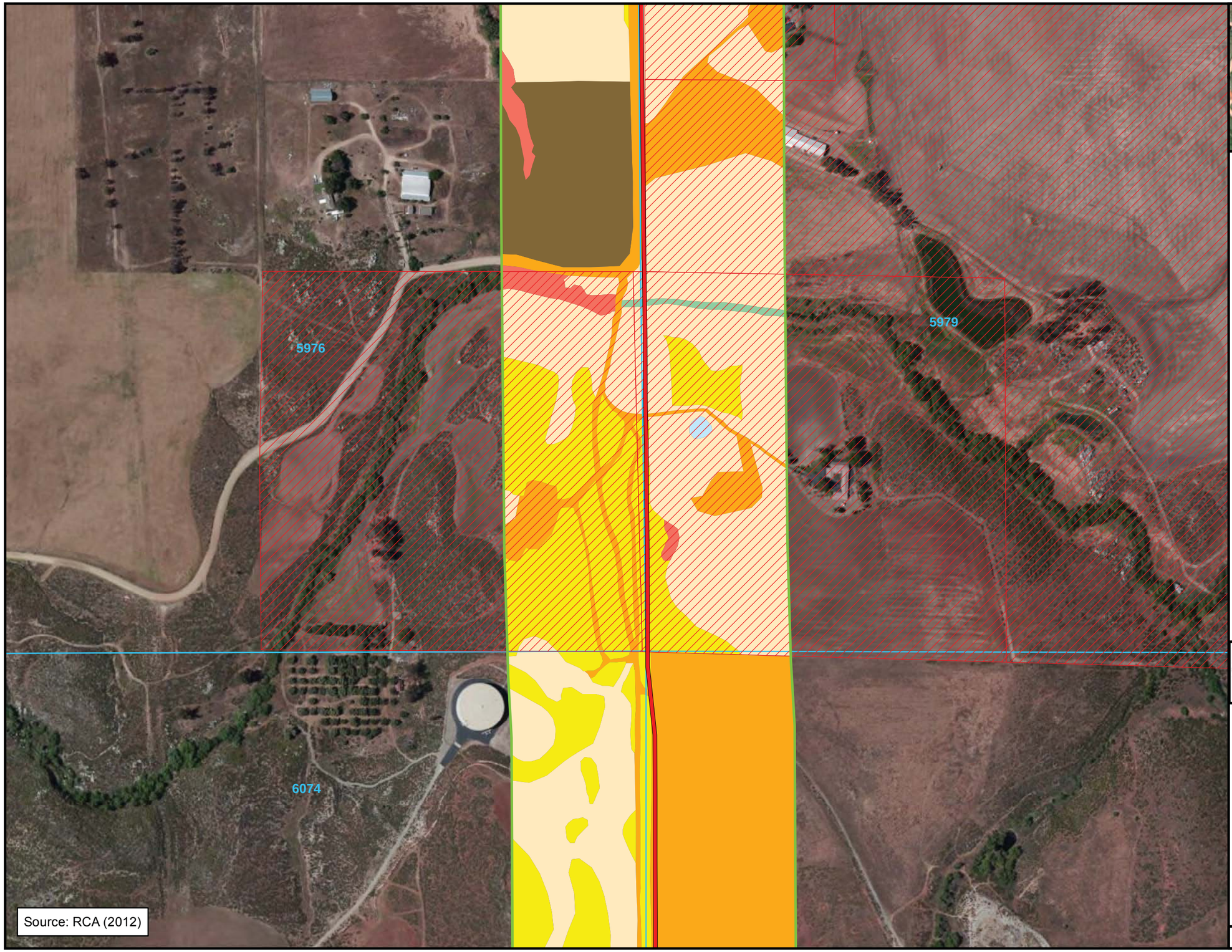
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11c

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014



Legend

- Western Riverside County MSHCP Criteria Cells
- 500-foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV Subtransmission line (Segment 2)
- Inaccessible Parcels

Vegetation Communities and Cover Types

- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed/Ruderal
- Nonnative Grassland
- Open Water
- Southern Willow Scrub
- Tamarisk Scrub

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

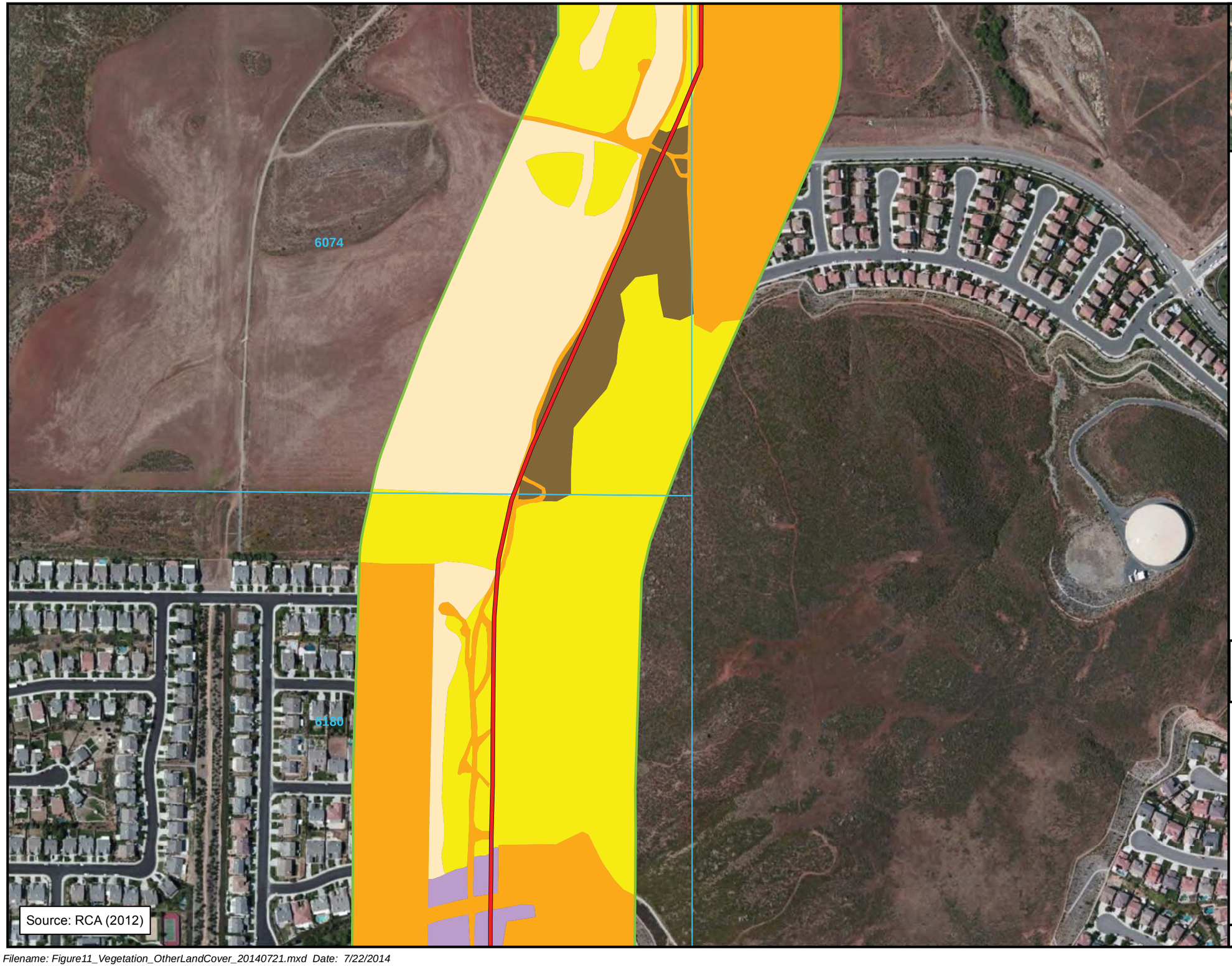
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11d

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014



Legend

- Western Riverside County MSHCP Criteria Cells
- 500-foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV Subtransmission line (Segment 2)

Vegetation Communities and Cover Types

- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed/Ruderal
- Nonnative Grassland
- Nonnative Woodland/Ornamental

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11e

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014

Legend

- Western Riverside County MSHCP Criteria Cells
- 500-foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV Subtransmission line (Segment 2)

Vegetation Communities and Cover Types

- Developed/Urban
- Diegan Coastal Sage Scrub
- Disturbed/Ruderal
- Nonnative Grassland
- Nonnative Woodland/Ornamental
- Open Water

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

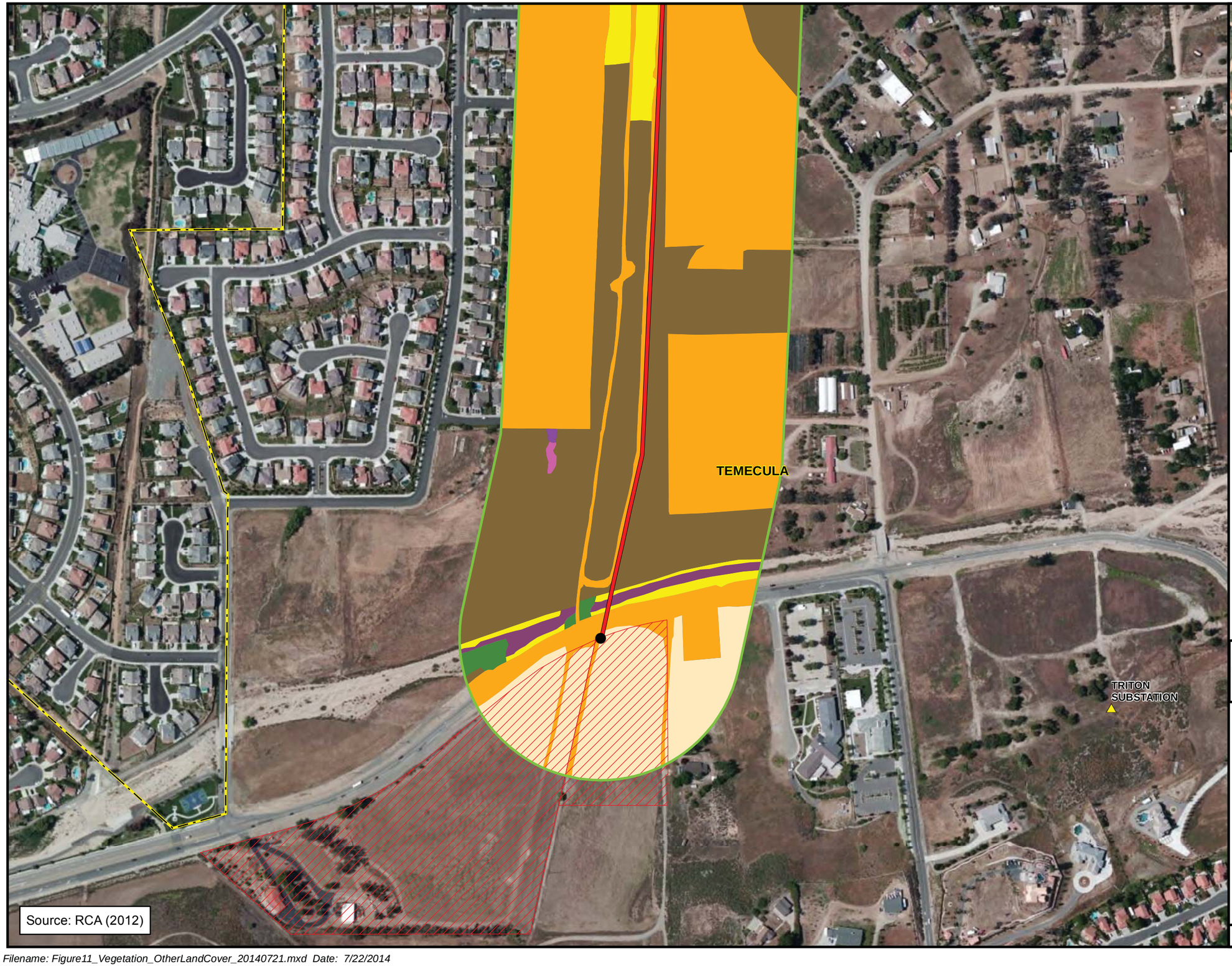
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11f

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014



Legend

500-foot buffer (BSA)

Existing Facilities

115 kV Substation

Terminal TSP

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV Subtransmission line (Segment 2)

Inaccessible Parcels

Vegetation Communities and Cover Types

Developed/Urban

Diegan Coastal Sage Scrub

Disturbed/Ruderal

Emergent Wetland

Freshwater Marsh

Mule Fat Scrub

Nonnative Grassland

Non-vegetated Channel

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 11g

Vegetation and Other Land Cover Types

Ver. 01	7/22/2014

Filename: Figure11_Vegetation_OtherLandCover_20140721.mxd Date: 7/22/2014

southern cattail occasionally occur in the understory. A total of 1.56 acres of southern willow scrub occurs in the northern and central portions of the Proposed Project area; approximately 0.22 acres occurs in the central portion of the Alternative Project area (Figures 11a, 11b, 11c, and 11d Vegetation and Other Land Cover Types).

Tamarisk Scrub (Holland Code 63810)

This community is dominated by tamarisk (*Tamarix ramosissima*), with occasional mulefat and red willow. A total of 0.17 acre of tamarisk scrub occurs along the banks of Tucalota Creek in the central portion of the Proposed Project area and 0.01 acre occurs along Warm Springs Creek in the Alternative Project area (Figures 11b and 11d Vegetation and Other Land Cover Types).

Non-Vegetated Channel (Holland Code 64200)

A total of 0.4 acre of non-vegetated channel occurs in the far southern end of the Proposed Project area (Figure 11g Vegetation and Other Land Cover Types). The non-vegetated channel is part of Santa Gertrudis Creek, which traverses the southern end of the Proposed Project area. Non-vegetated channel does not occur within the Alternative Project area.

Uplands

Unlike riparian corridors, which are linear (in association with riverine systems), upland habitats typically form a large matrix and provide a broad variety of species structure and composition. Dense sage scrub vegetation or dense-canopied woodlands provide useful habitat and movement corridors for wildlife. Approximately 81.86 acres of uplands occurs within the Proposed Project area; 22.11 acres occurs within the Alternative Project area.

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub within the BSA is fairly open and dominated by low-growing semi-woody shrubs such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), and black sage (*Salvia mellifera*). Common associates include deerweed (*Acmispon glaber*), white sage (*Salvia apiana*), and littoral prickly-pear (*Opuntia littoralis*). Approximately 41.19 acres of Diegan coastal sage scrub occurs within the Proposed Project. Approximately 2.07 acres of this habitat occurs within the Alternative Project. Generally, these areas occur along hill slopes with large granitic outcrops (Figures 11a through 11g Vegetation and Other Land Cover Types).

Nonnative Grassland (Holland Code 42200)

This community is characterized by nonnative annual grasses and forbs, including red brome (*Bromus madritensis* ssp. *rubens*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), slender wild oat (*Avena barbata*), tocalote (*Centaurea melitensis*), summer field mustard (*Hierschfeldia incana*), black mustard (*Brassica nigra*), and redstem filaree (*Erodium cicutarium*). Occasional native forbs include fascicled tarplant (*Deinandra fasciculata*) and California sand-aster (*Corethrogyne filaginifolia*). Approximately 34.67 acres of nonnative grassland occurs scattered throughout the Proposed Project area. Approximately 19.72 acres of nonnative grassland occurs within the Alternative Project area. Generally, this habitat type occurs along valley bottoms (Figures 11a through 11g Vegetation and Other Land Cover Types).

Nonnative Woodland/Ornamental (Holland Code 79000)

The nonnative woodland/ornamental areas within the BSA consist of nonnative shrub and tree species, including common oleander (*Nerium oleander*) and several species of eucalyptus (*Eucalyptus* spp.). A total of 6 acres of nonnative woodland/ornamental occurs in the northern and southern portions of the Proposed Project area; 0.32 acre occurs within the southern portion of the Alternative Project area (Figures 11b, 11e, and 11f Vegetation and Other Land Cover Types). An area in the southern portion of the Proposed Project area includes plantings of the native shrub toyon (*Heteromeles arbutifolia*).

Land Cover Types

Developed/Urban (Holland Code 12000)

The urban developed areas consist of roadways, residential areas, shopping centers, and light industrial complexes. The urban/developed areas also contain ornamental landscape in the form of lawns, tree plantings, hedgerows, and flower gardens. A total of 58.03 acres of urban/developed land occurs throughout the Proposed Project area; 44.63 acres of urban/developed land cover type occurs within the Alternative Project area (Figures 11a through 11g Vegetation and Other Land Cover Types).

Disturbed/Ruderal (Holland Code 11300)

Disturbed/ruderal land includes areas devoid of native vegetation, areas that have been graded or disked for future development, and/or areas that have been cleared for fire breaks. Although largely barren, these areas may contain nonnative species such as summer field mustard, black mustard, tocalote, and red brome. A total of 67.58 acres of disturbed/ruderal land occurs throughout the Proposed Project area. A total of 23.22 acres of disturbed/ruderal land occurs

within the Alternative Project areas (Figures 11a through 11g Vegetation and Other Land Cover Types).

6.2.3 Sensitive Vegetation Communities

Certain vegetation communities occurring within the BSA are considered sensitive due to their limited distribution statewide or within a county or region, and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species or their habitat. Guidance for determining sensitive vegetation communities is provided by the resource agencies, including CDFW and CNPS, as well as in supporting documentation such as the CNDDB. These federal, state, and local agencies and related publications are typically in concurrence on the classification of sensitive vegetation communities.

Vegetation communities and nonvegetated areas that are considered potential U.S. and state jurisdictional areas are considered sensitive. These waters are regulated by Sections 401 and 404 of the CWA, Sections 1600 et seq. of the CFGC, and the Porter-Cologne Water Quality Control Act.

Coastal sage scrub is considered a sensitive habitat type by federal and state resource agencies, local jurisdictions, and conservation organizations throughout southern California. Significant losses of coastal sage scrub have been attributed to increased fire frequency, invasion of nonnative grasses, air pollution, and development (Sawyer et al., 2009). The significant losses of coastal sage scrub resulted in a habitat-based, multiple-species conservation plan under the NCCP Act of 1991. The listing of California gnatcatcher as a threatened species and the declining numbers of other coastal sage scrub-dependent species, many of which are candidates for federal listing, state species of special concern, or considered sensitive by local jurisdictions, demonstrate the need for whole-habitat-based preservation.

Other upland habitats, such as grasslands (native and nonnative), can support a unique suite of plant and animal species, some of which have special conservation status.

6.2.4 Special-Status Plant Species and Vernal Pool Plant Species

Fifty-seven special-status plant species were identified from the CNDDB and CNPS database review, and the list of WRCMSHCP-covered plant species as having the potential to occur within 3 miles of the BSA. Appendix C provides a list of these species, including their sensitivity status and potential to occur in the Proposed and Alternative Project areas.

Six special-status plant species were documented within the BSA during the 2014 survey and two special-status species have a high potential to occur within the BSA. These species are discussed below. Only one is a species recognized by the WRCMSHCP as an NEPS. The other four species are listed by the CNPS. Locations of special-status plant species are provided in Figures 12a through 12e Special-Status Plant Species. The Proposed Project area within this discussion references the Proposed Project and 250-foot buffer (Table 1 Biological Resource Surveys Conducted and Corresponding Survey Buffers); the same is true for the Alternative Project area. Special-status plant assessments are discussed separately for the Proposed Project area and Alternative Project area in the following text.

It should be noted that rainfall conditions in 2014 were far below average, resulting in drought conditions that may affect the potential to detect special-status plant species.

6.2.4.1 Munz's Onion (*Allium munzii*)

Munz's onion is a federally endangered, WRCMSHCP narrow endemic, and CNPS List 1B.1 species. Munz's onion is a bulb-forming perennial herb, discontinuously distributed across the Riverside-Perris area in western Riverside County, California. It is generally found on more mesic (wet) clay soils within microhabitats of grassland and sage scrub habitats (USFWS, 2013).

Although not detected during project surveys, Munz's onion is considered to have a high potential to occur within the Proposed Project area, due to the presence of highly suitable habitat for this species occurring north of Murrieta Hot Springs Road. Historic locations for this species occur just east of the project at this location (CCH, 2014). Highly suitable habitat was not observed within the Alternative Project area, though there is a potential for this species to occur within grasslands and sage scrub habitats within this area.

6.2.4.2 San Diego Ambrosia (*Ambrosia pumila*)

The San Diego ambrosia is a federally endangered, WRCMSHCP narrow endemic, and CNPS List 1B.1 species. It occurs primarily on upper terraces of rivers and drainages (Beauchamp, 1986).

Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12a
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014

Legend

250-foot buffer (Survey Area)

500- foot buffer (BSA)

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

Paniculate tarplant

Paniculate tarplant

Long-spined spineflower

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

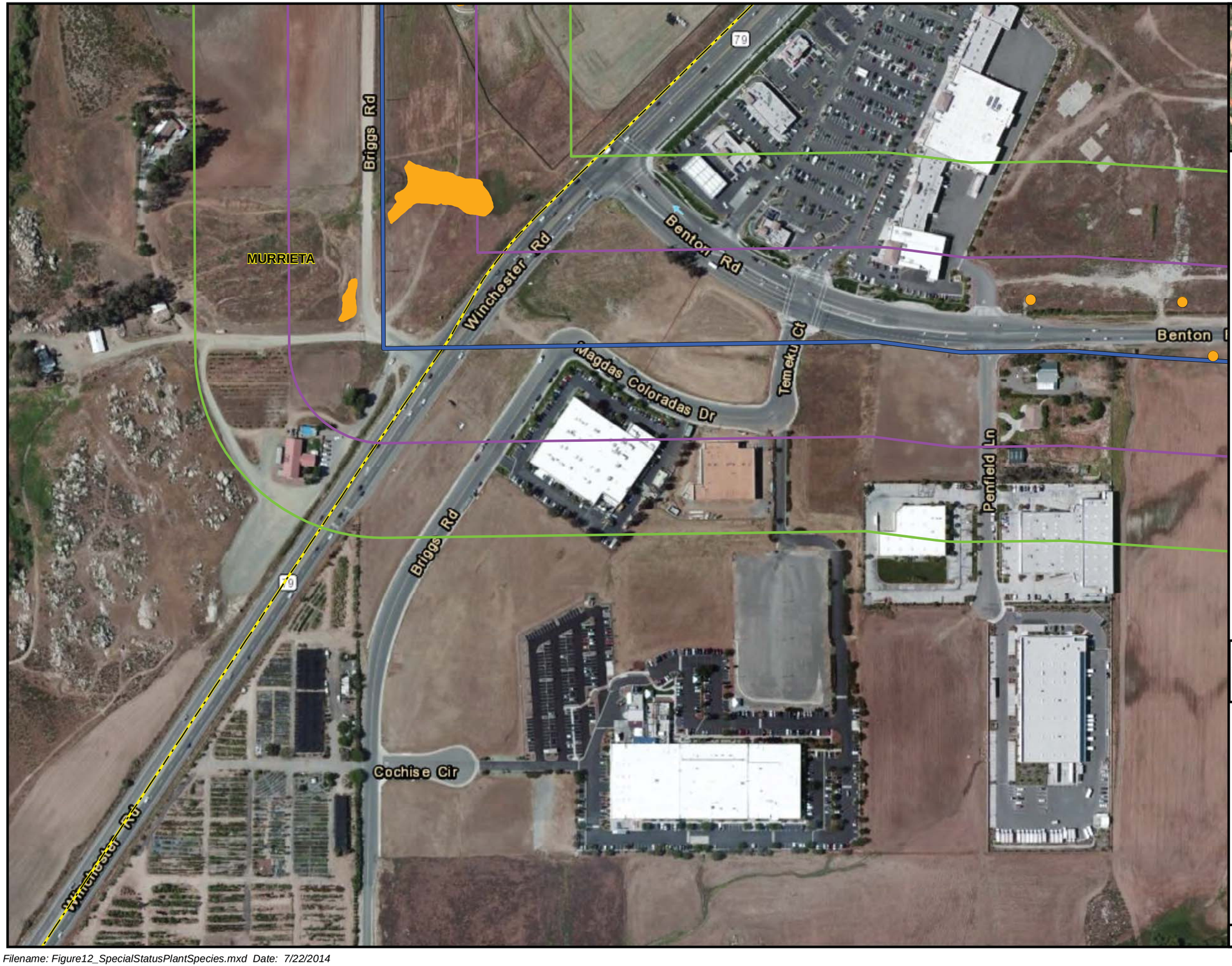
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12b
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014



Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

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VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12c
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014

Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12d
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014

Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant
- Small-flowered morning-glory

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

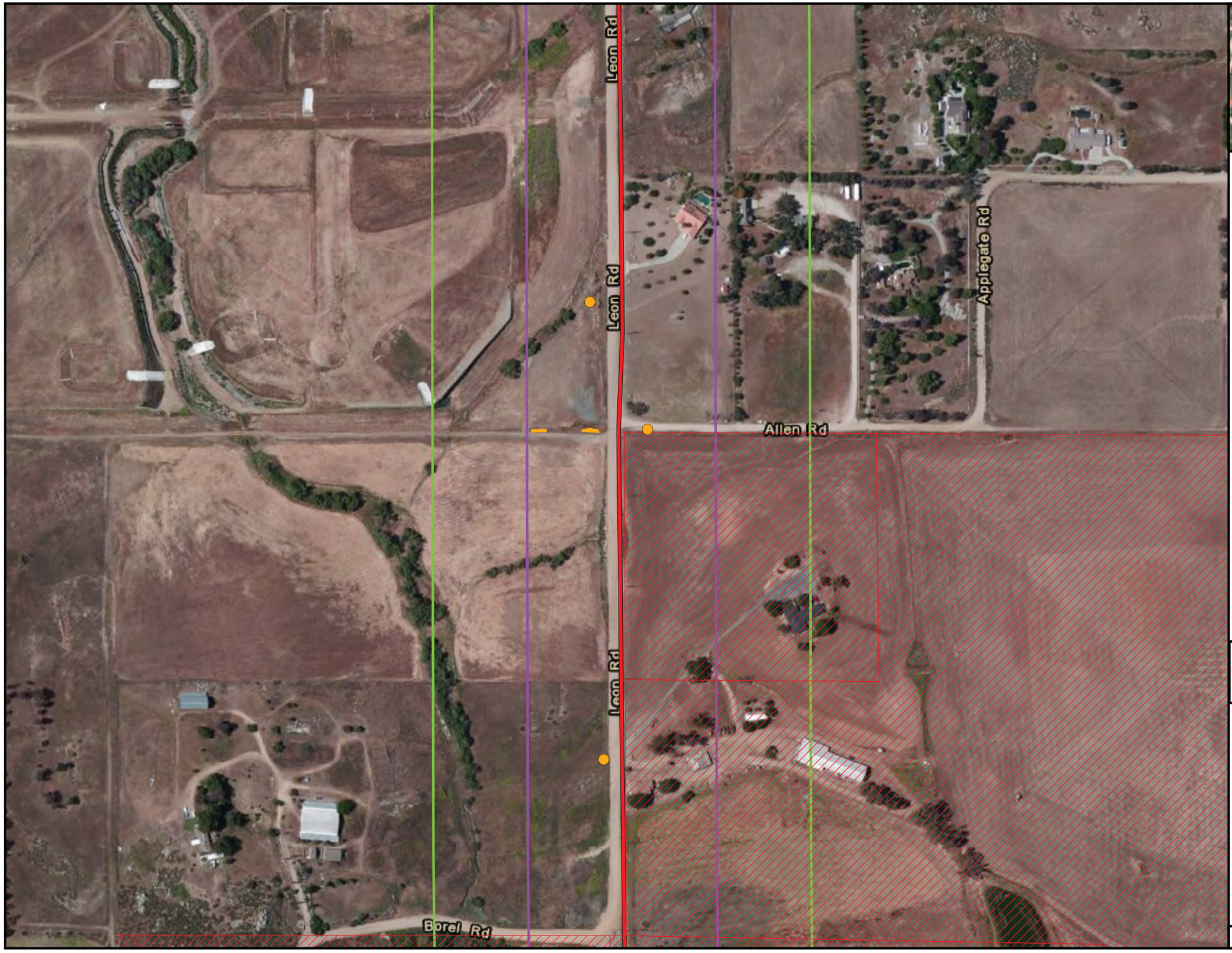
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12e
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014



Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

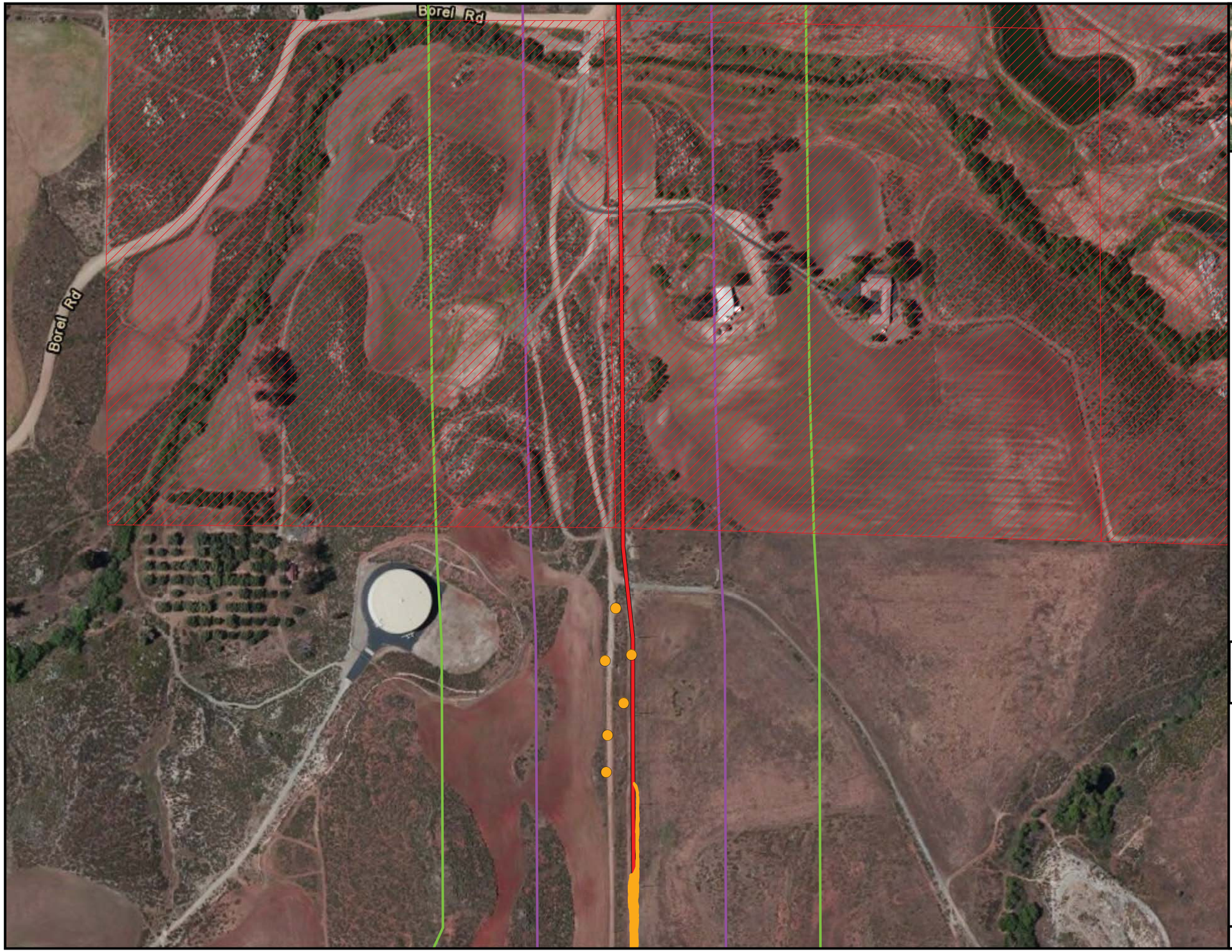
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12f
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014



Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12g
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014

Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Long-spined spineflower
- Paniculate tarplant
- Long-spined spineflower
- Small-flowered morning-glory
- Palmer's grapplinghook

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

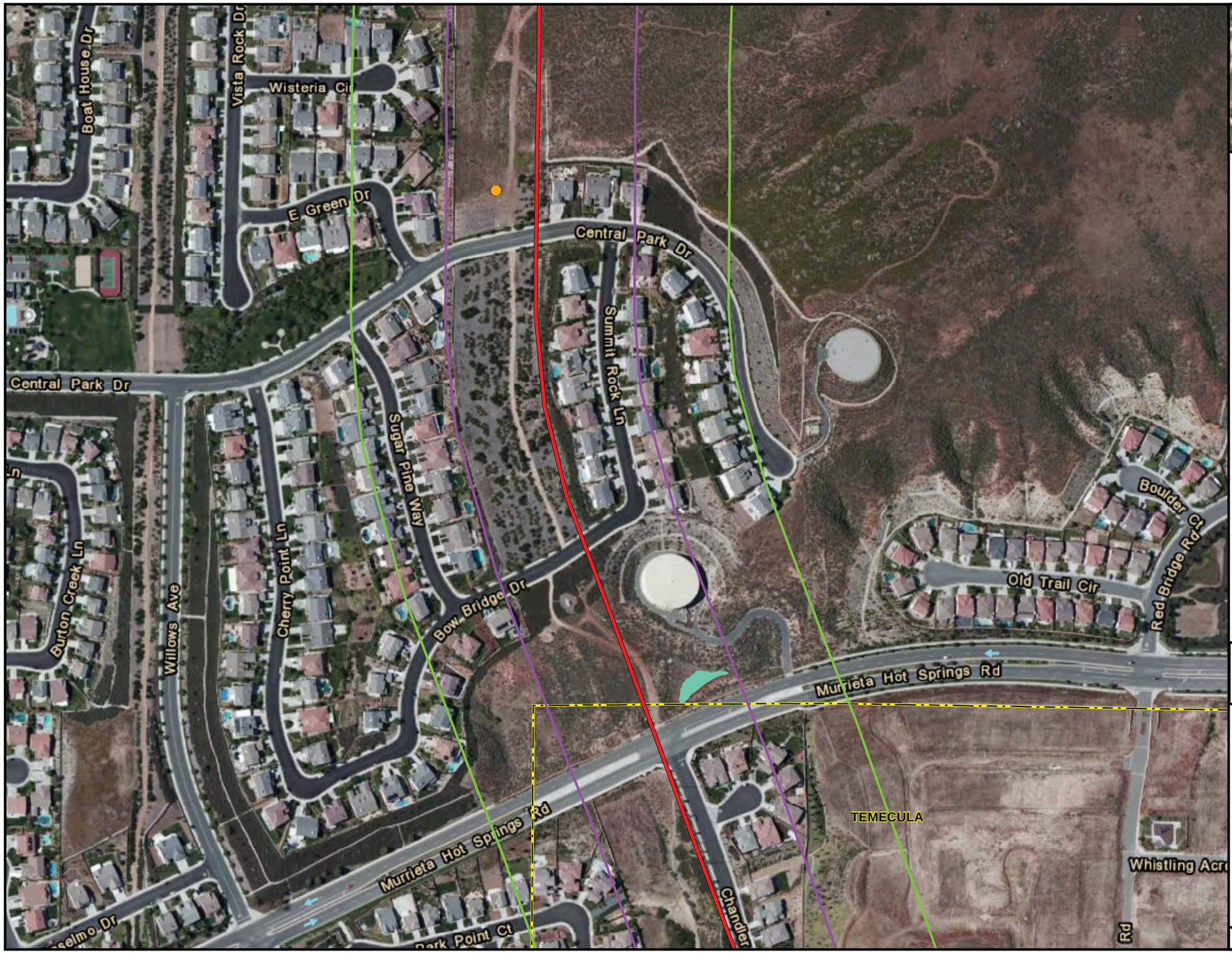
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12h
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014



Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Small-flowered morning-glory

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12i
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014

Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Plant Species

- Paniculate tarplant
- Parry's spineflower
- Long-spined spineflower
- Paniculate tarplant
- Long-spined spineflower

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

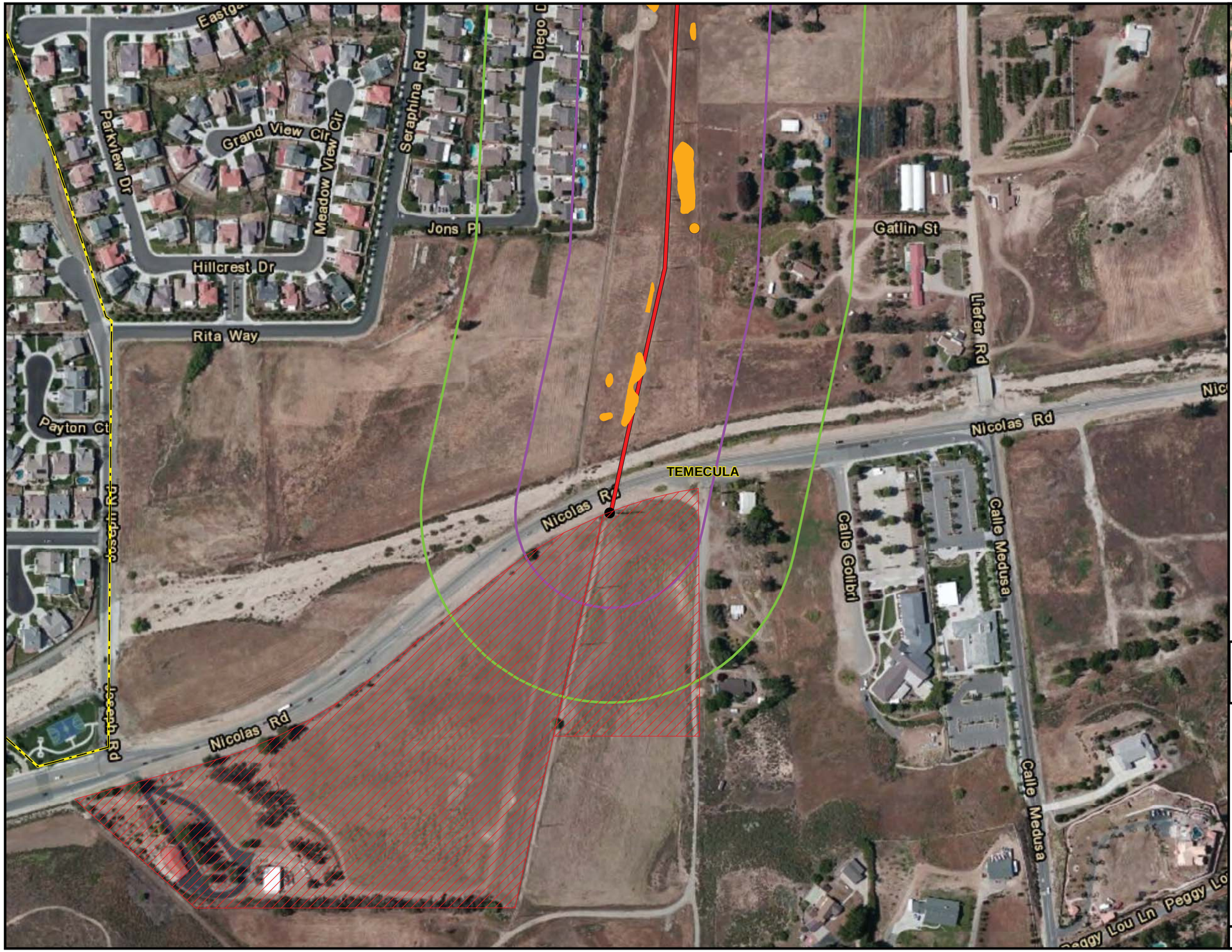
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12j
Special-Status Plant Species

Ver. 01	7/22/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 7/22/2014



Legend

- 250-foot buffer (Survey Area)
- 500- foot buffer (BSA)
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Plant Species

- Paniculate tarplant
- Paniculate tarplant

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 12k
Special-Status Plant Species

Ver. 01	8/1/2014

Filename: Figure12_SpecialStatusPlantSpecies.mxd Date: 8/1/2014

Although not detected during project surveys, round-leaved filaree is considered to have a high potential to occur within the BSA in areas of friable clay soils. Historic populations of this species are found just east of the Proposed Project area, immediately south of Auld Road (CCH, 2014). Another historic population occurs in the southern end of the Proposed Project area, near Nicolas Road, although no specific location is given for this population in the CNDDB (CDFW, 2014a). Highly suitable habitat does not occur within the Alternative Project area, though there is still some potential for this species to occur.

6.2.4.3 Parry's Spineflower (*Chorizanthe parryi* var. *parryi*)

Parry's spineflower is a CNPS List 1B.1 species. This plant occurs on sandy soils within mixed grassland and scrub/chaparral communities. Parry's spineflower is known from scattered populations in the foothills of the San Gabriel, San Bernardino, and San Jacinto Mountains. Much of its native habitat has been destroyed by development. This low-growing annual blooms between April and June, and typically occurs at elevations of 130 to 5,600 feet AMSL.

Parry's spineflower was observed in a transitional area between nonnative grassland and Diegan coastal sage scrub on sandy loam soils. Two individuals were identified in an area of approximately 2 square feet, in the southern portion of the Proposed Project, east of Shree Road and south of Suzi Lane (Figure 12d Special-Status Plant Species). This species was not detected within the Alternative Project area.

6.2.4.4 Long-Spined Spineflower (*Chorizanthe polygonoides* var. *longispina*)

Long-spined spineflower is a CNPS List 1B.2 species. It is primarily associated with gabbroic clay soils in coastal scrub, meadows, and grassland communities, and typically blooms from April to July (Reiser, 2001). The majority of populations are associated with needlegrass (*Stipa* spp.) in clay soils. Long-spined spineflower occurs from approximately 100 to 4,700 feet in elevation in southwestern California from western Riverside County, and south through San Diego County and northwestern Baja California, Mexico (CDFW, 2014a).

Long-spined spineflower was observed in scattered populations throughout the BSA on clay soils within areas of nonnative grassland and openings in Diegan coastal sage scrub. Within the Proposed Project area, along Leon Road north of McGowans Pass, approximately 400 individuals of long-spined spineflower were observed in an area of 0.3 acre (Figure 12c Special-Status Plant Species). The most northern population of this species was observed in the Alternative Project area along Briggs Road, south of Los Alamos Road (Figure 12a Special-Status Plant Species). At this location, approximately 500 individuals were observed in an area of 4,000 square feet.

6.2.4.5 Small-Flowered Morning-Glory (*Convolvulus simulans*)

Small-flowered morning-glory is a CNPS List 4.2 species. This plant is a low-growing annual herb found on friable clay soils that are typically devoid of shrubs and in openings in chaparral, sage scrub, and grasslands (Reiser, 2001). Small-flowered morning-glory typically blooms from March through July and occurs from approximately 100 to 2,300 feet in elevation in northwestern California, from western Contra Costa County south through San Diego County and northwestern Baja California, Mexico (CDFW, 2014a).

Small-flowered morning-glory was observed in scattered populations throughout the Proposed Project area on clay soils within areas of nonnative grassland and openings in Diegan coastal sage scrub. The most northern population of this species observed in the Proposed Project area occurs along Leon Road, south of Auld Road (Figure 12b Special-Status Plant Species). At this location, approximately 50,646 individuals were observed in an area of 3.2 acres. South of this population and within the Proposed Project area along Leon Road north of McGowans Pass, is another population of approximately 736 individuals of small-flowered morning-glory observed in an area of 0.2 acre (Figure 12c Special-Status Plant Species). The most southern population within the Proposed Project was observed just north of Murrieta Hot Springs Road (Figure 12d Special-Status Plant Species). At this location, approximately 250 plants occupy an area of roughly 3,000 square feet. This species was not detected within the Alternative Project area.

6.2.4.6 Paniculate Tarplant (*Deinandra paniculata*)

Paniculate tarplant is a CNPS List 4.2 species. This plant is a low-growing annual herb found on clay and sandy soils within areas of grassland. Paniculate tarplant typically blooms from April through November and occurs from approximately 75 to 2,800 feet in elevation in northwestern California, from coastal southern California, south into northwestern Baja California, Mexico (CDFW, 2014a).

Hundreds of individuals of paniculate tarplant were observed in scattered populations throughout the Proposed Project and Alternative Project area on clay soils within areas of nonnative grassland and openings in Diegan coastal sage scrub (Figure 12c Special-Status Plant Species).

6.2.4.7 Palmer's Grapplinghook (*Harpagonella palmeri*)

Palmer's grapplinghook is a CNPS List 4.2 species. It is an inconspicuous annual herb, found on clay vertisols, typically within open grassy areas or open Diegan coastal sage scrub (Reiser, 2001). Palmer's grapplinghook typically blooms from March through May and occurs from approximately 50 to 2,700 feet in elevation in southwestern California, from Los Angeles

County south through San Diego County and northwestern Baja California, Mexico (CDFW, 2014a).

Within the Proposed Project area, Palmer's grapplinghook was observed along Leon Road, north of McGowans Pass, in clay areas of nonnative grassland and open Diegan coastal sage scrub (Figure 12c Special-Status Plant Species). At this location, approximately 985 plants were observed in an area of 1.6 acres. This species was not detected within the Alternative Project area.

6.2.4.8 Vernal Pool Plant Species

A total of seven temporary ponded areas occur within the BSA (Figures 13a and 13b Vernal Pool Species Resources). Specifically, three basins occur within the Proposed Project area, and four basins occur within the Alternative Project area. The temporary ponded areas are within disturbed/ruderal areas and areas of nonnative grassland. Based on the jurisdictional delineation of these features, the temporary ponded areas are not true vernal pool basins but are in depressional areas or road ruts that have the potential to pond water and exhibit ephemeral basin hydrology (AECOM, 2014a). Three of the seven temporarily ponded areas were unvegetated. In the three pools that contained vegetation, 33 herbaceous plant species were detected, none of which are restricted to vernal pools. This disturbed vegetation type includes wetland and mesic plant species such as scarlet pimpernel (*Anagallis aquatica*), peregrine Veronica (*Veronica peregrina* ssp. *xalapensis*), common toad-rush (*Juncus bufonius*), common knotweed (*Polygonum aviculare* ssp. *depressum*), water pygmyweed (*Crassula aquatica*), spike rush (*Eleocharis macrostachya*), Bermuda grass (*Cynodon dactylon*), rabbit foot grass (*Polypogon monspeliensis*), and grass poly (*Lythrum hyssopifolia*).

Of the three vegetated temporary ponded areas, temporary ponded area 1 (located within the Alternative Project area) was the largest and most diverse containing 33 herbaceous plant species. During the final rare plant survey conducted on June 26, 2014, it was observed that temporary ponded area 1 had recently been mechanically cleared of vegetation and no longer supported wetland or mesic plant species.

6.2.5 Special-Status Animal Species

For the purposes of this report, special-status wildlife species refer to species that are listed as federally endangered (FE) or threatened (FT); state endangered (SE) or threatened (ST); USFWS BCC; CDFW watch list (WL), CDFW special animals (SA), and/or CDFW species of special concern (SSC). Species for which additional surveys are required per the WRCMSHCP are considered special-status if they meet any of the criteria above. Raptors observed or with the

potential to occur are discussed below as they are protected under CFGC Code 3503.5 but are not considered here to be special-status species. If any WRCMSHCP species not yet adequately conserved are potentially present in the BSA, surveys may be required regardless of special-status to meet WRCMSHCP requirements.

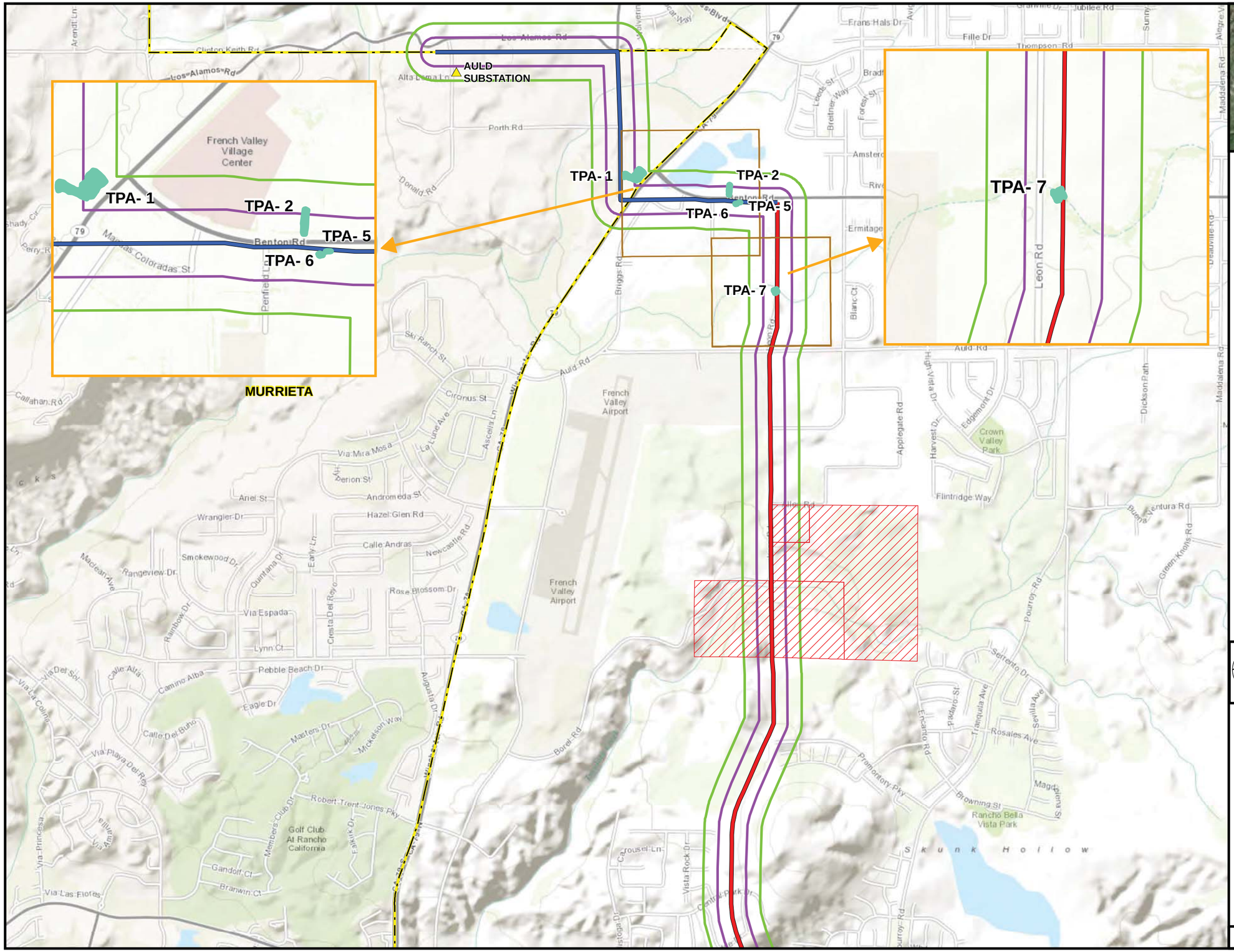
Sixty-five special-status wildlife species and/or WRCMSHCP species that require additional surveys (some of these species are not special-status) were determined to have the potential to occur in the BSA and were evaluated for the probability of occurrence based on conditions observed in the field (Appendix D). Basins surveyed for special-status vernal pool species are displayed in Figures 13a and 13b Vernal Pool Species Resources. Wildlife species resources (including special-status species) observed are mapped in Figures 14a and 14b Amphibian and Reptile Species, Figures 15a through 15g Burrowing Owl Resources, Figures 16a and 16b Special-Status Bird Species, Figures 17a through 17k Special-Status Mammals, and Figures 18a and 18b Quino Checkerspot Butterfly Suitable Habitat. Raptor species potentially nesting within the BSA are protected by CFGC Code 3503.5 and are depicted in Figures 19a and 19b Raptor Species.

No habitat for the federally listed endangered arroyo toad was noted within the BSA, and the Proposed and Alternative Projects are not within the arroyo toad survey area for the WRCMSHCP. Therefore, no further analysis for arroyo toad is included herein.

The BSA is not within the current known range of the federally listed endangered San Bernardino kangaroo rat, so no further analysis for San Bernardino kangaroo rat is included herein.

The 65 species included in Appendix D include the following: state or federally listed species; CDFW species of special concern, species included in the "Special Animals" list (CDFW, 2011); USFWS BCC; raptors; and WRCMSHCP species for which additional surveys may be required (generally Sections 6.1.2 and 6.3.2 of the WRCMSHCP). The discussion below includes 46 of the 65 species. An additional five raptors protected under CFGC Code 3503.5 are included in Section 6.2.5.47 in Non-special-status Raptors. Thus, a total of 51 wildlife species of the 65 wildlife species addressed in Appendix D are discussed below. Observed species, species for which surveys were conducted, or those with a moderate to high potential for occurrence, are discussed further below. If, per the WRCMSHCP, species are required to be addressed to show WRCMSHCP consistency, those species are discussed below regardless of potential for occurrence. Species from Appendix D not discussed below include species that are not expected to occur or have a low potential to occur and for which no further discussion is required per the WRCMSHCP.

Fourteen special-status species were observed within the BSA: least Bell's vireo (FE, SE), Stephens' kangaroo rat (FE, ST), coastal California gnatcatcher (FT, SSC), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*; SSC), San Diego desert woodrat (*Neotoma*

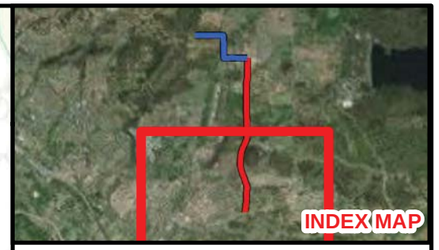


VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 13a
Vernal Pool Species Resources

Ver. 01	8/1/2014

Filename: Figure13_FairyShrimpResourceMap.mxd Date: 8/1/2014



Legend

- 250-foot buffer (Survey Area)
- 500-foot buffer (BSA)
- Basins surveyed

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

NORTH

1 inch = 1,989 feet

0 375 750 1,125 1,500 Feet

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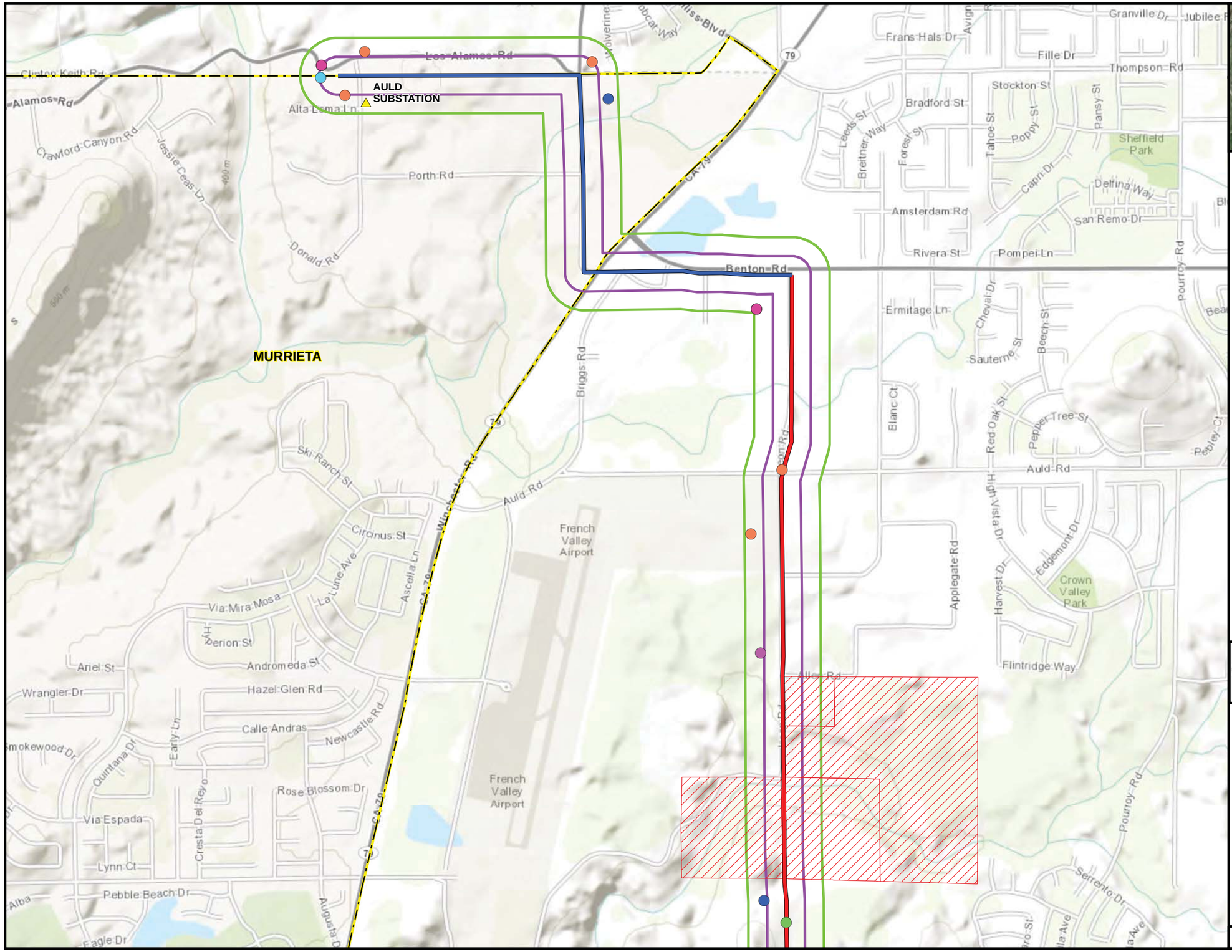
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 13b
Vernal Pool Species Resources

Ver. 01	8/1/2014

Filename: Figure13_FairyShrimpResourceMap.mxd Date: 8/1/2014



Legend

- 250- foot buffer
- 500- foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Amphibian and Reptile Species

- Granite spiny lizard
- Southern Pacific rattlesnake
- Coastal whiptail
- Side-blotched lizard
- Western fence lizard
- Western toad

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

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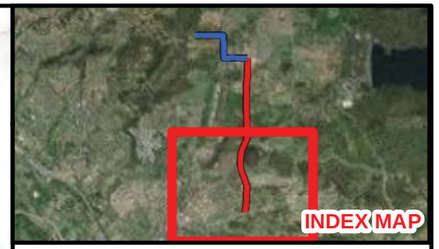
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 14a
Amphibian and Reptile Species

Ver. 01	8/1/2014

Filename: Figure14_Amphibian_ReptileSpeciesMap.mxd Date: 8/1/2014



Legend

250- foot buffer

500- foot buffer (BSA)

Existing Facilities

115 kV Substation

Terminal TSP

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Inaccessible Parcels - Not Surveyed

Amphibian and Reptile Species

Coastal whiptail

Gopher snake

Side-blotched lizard

Western fence lizard

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

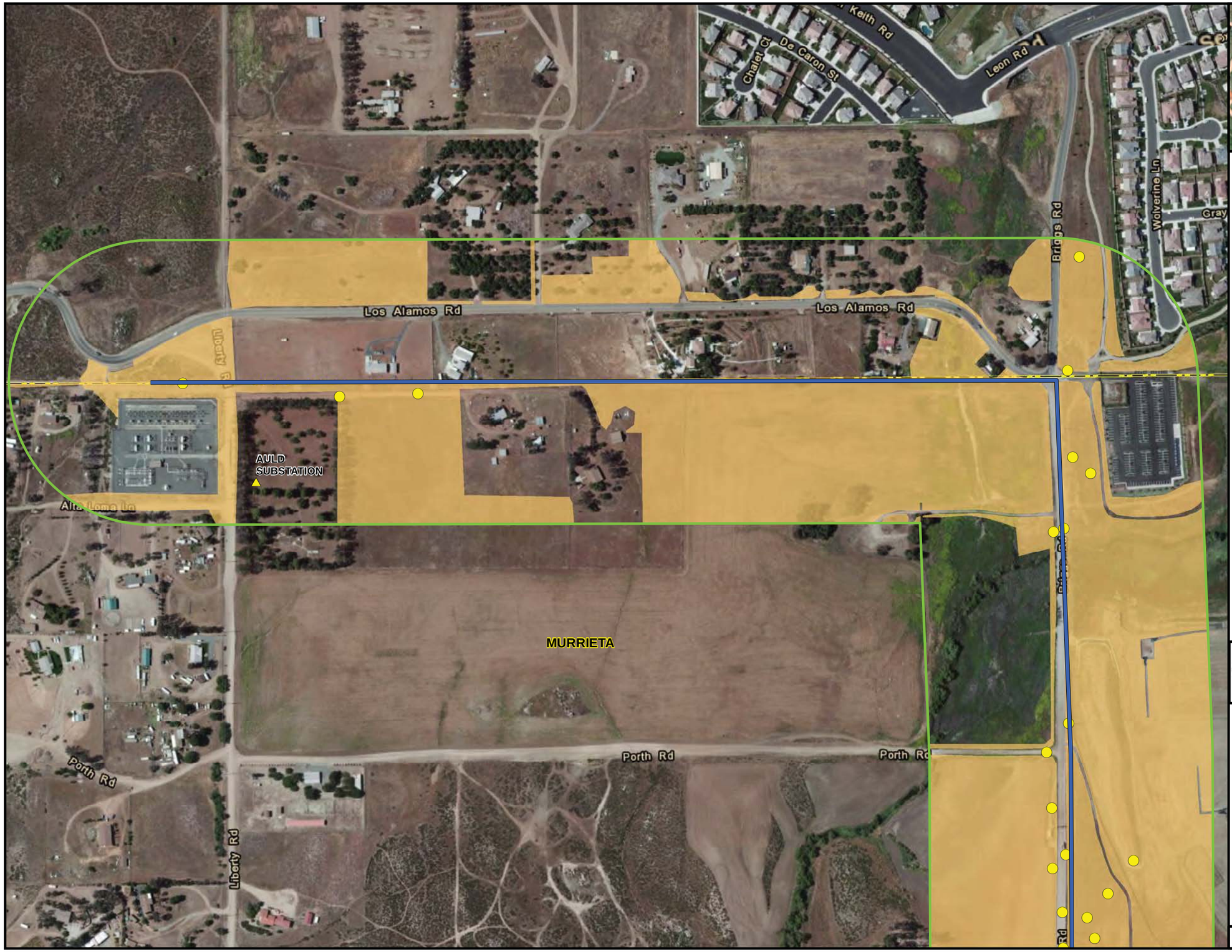
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 14b
Amphibian and Reptile Species

Ver. 01	8/1/2014

Filename: Figure14_Amphibian_ReptileSpeciesMap.mxd Date: 8/1/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

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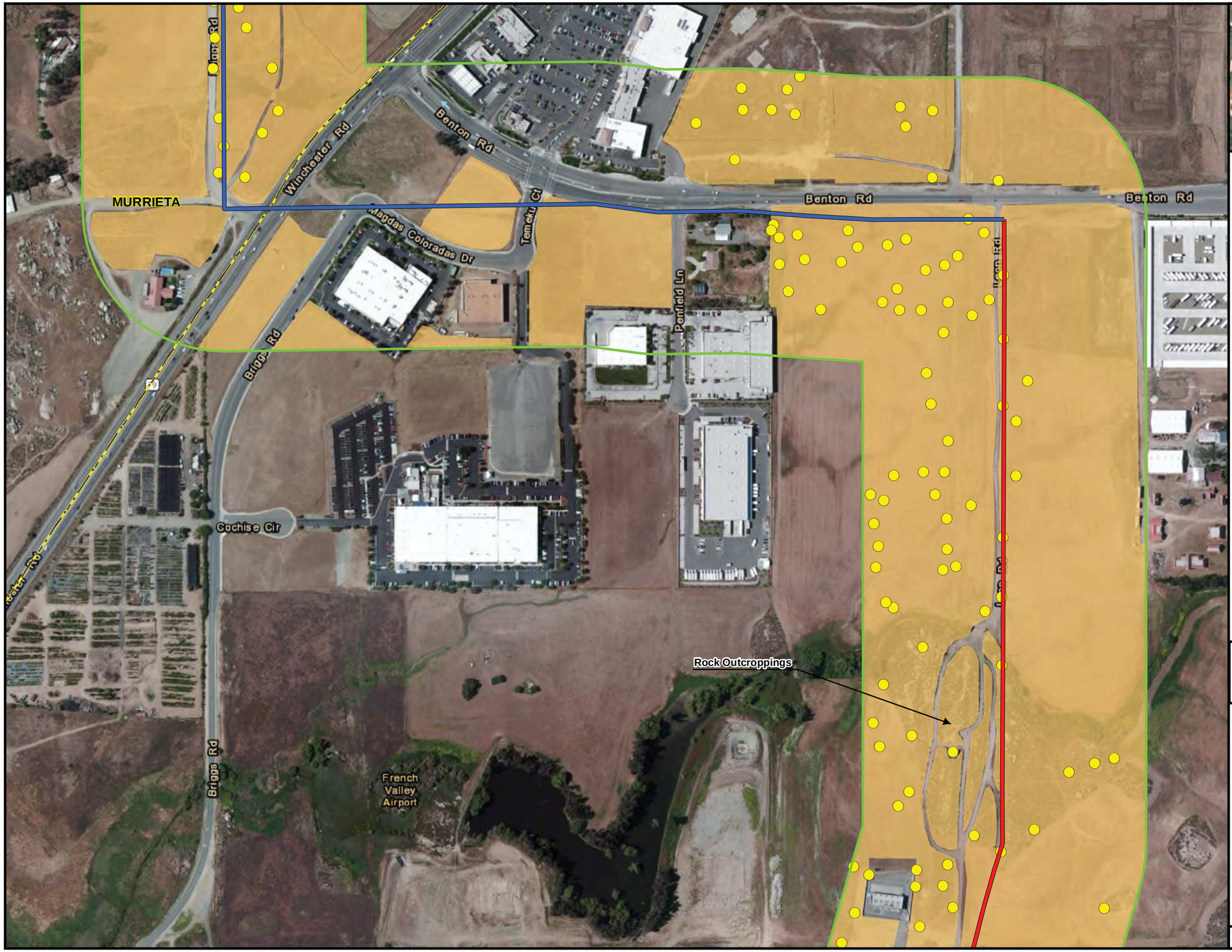
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15a

Burrowing Owl Resources

Ver. 01	7/22/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 7/22/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

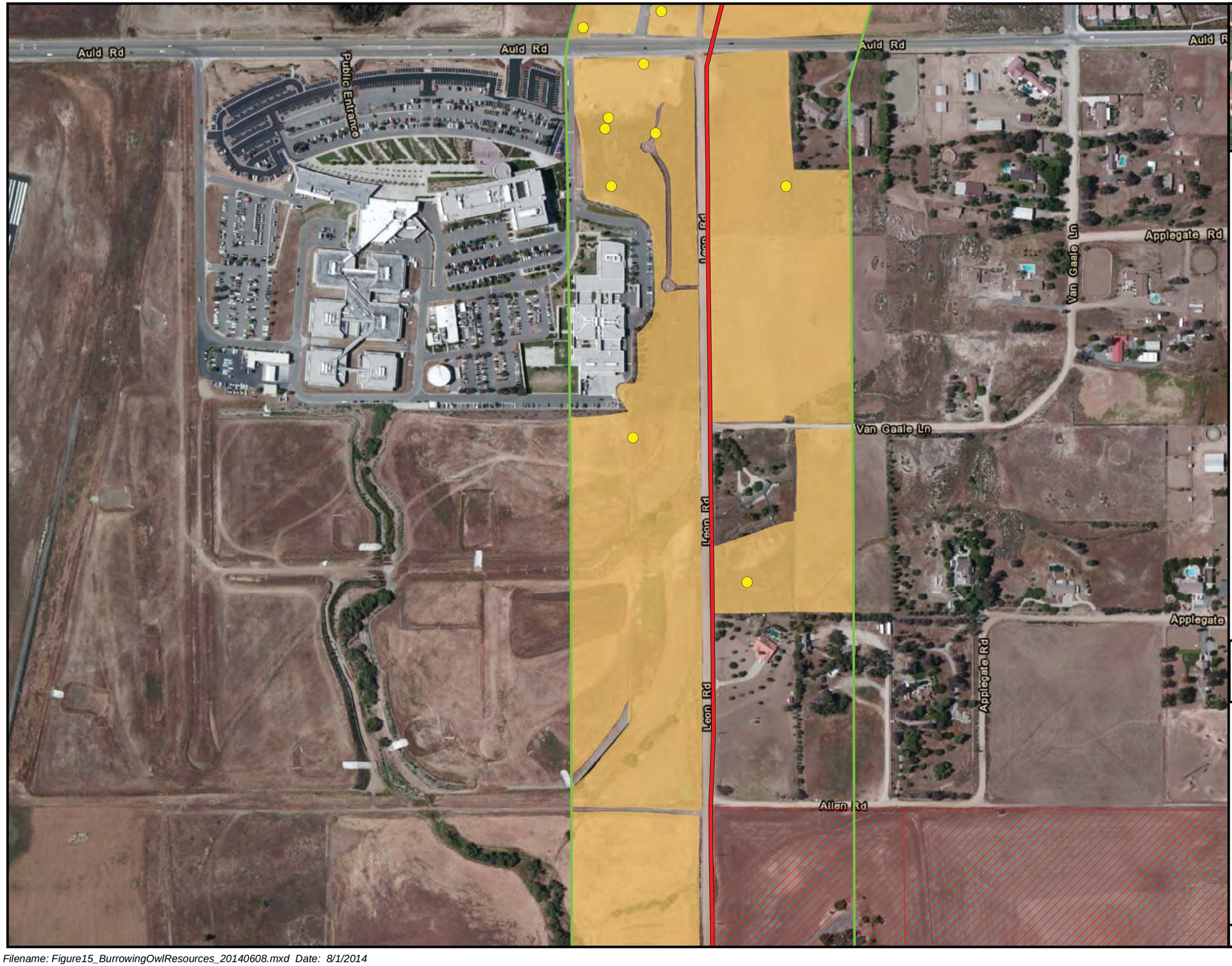
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15b

Burrowing Owl Resources

Ver. 01	7/22/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 7/22/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

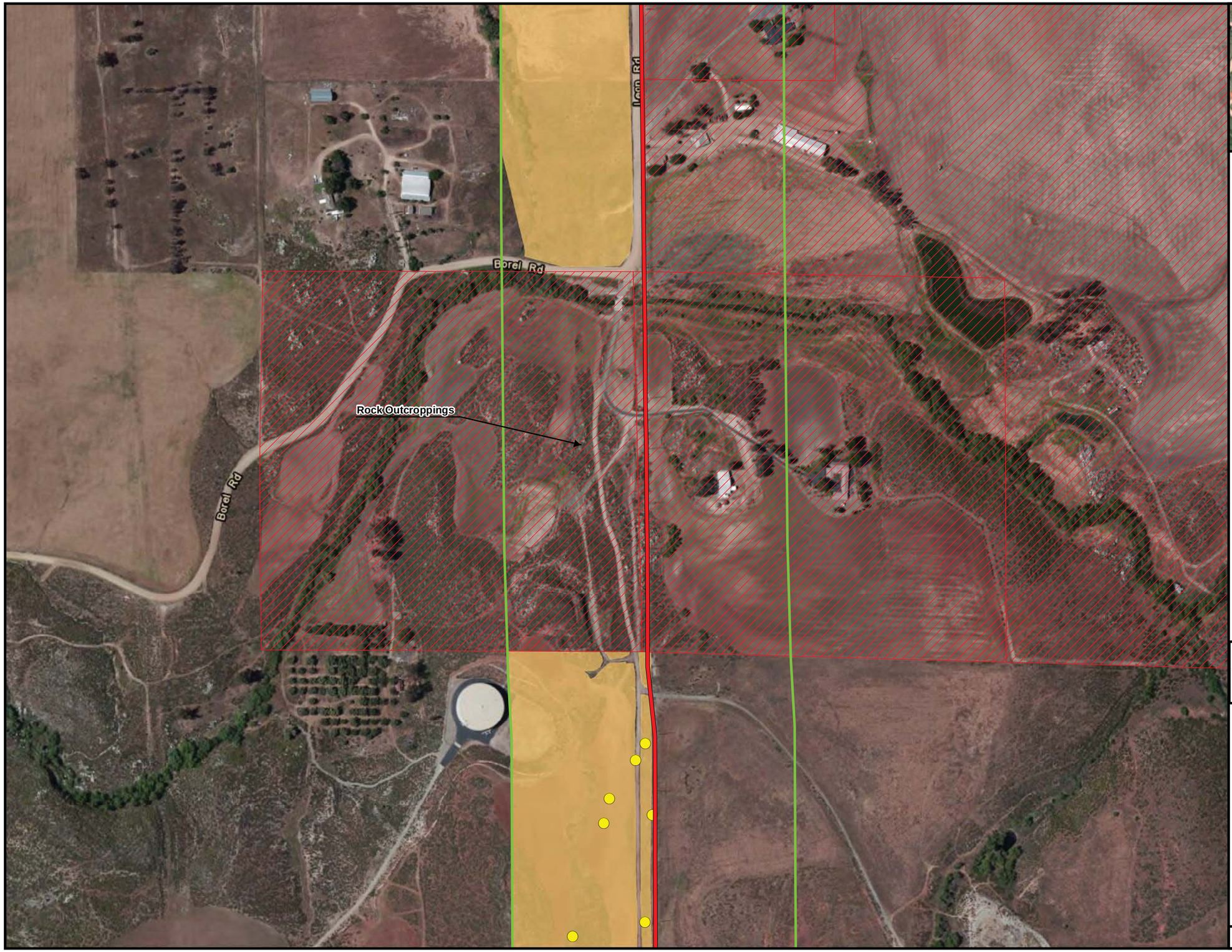
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15c

Burrowing Owl Resources

Ver. 01	8/1/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 8/1/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15d

Burrowing Owl Resources

Ver. 01	8/1/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 8/1/2014

Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

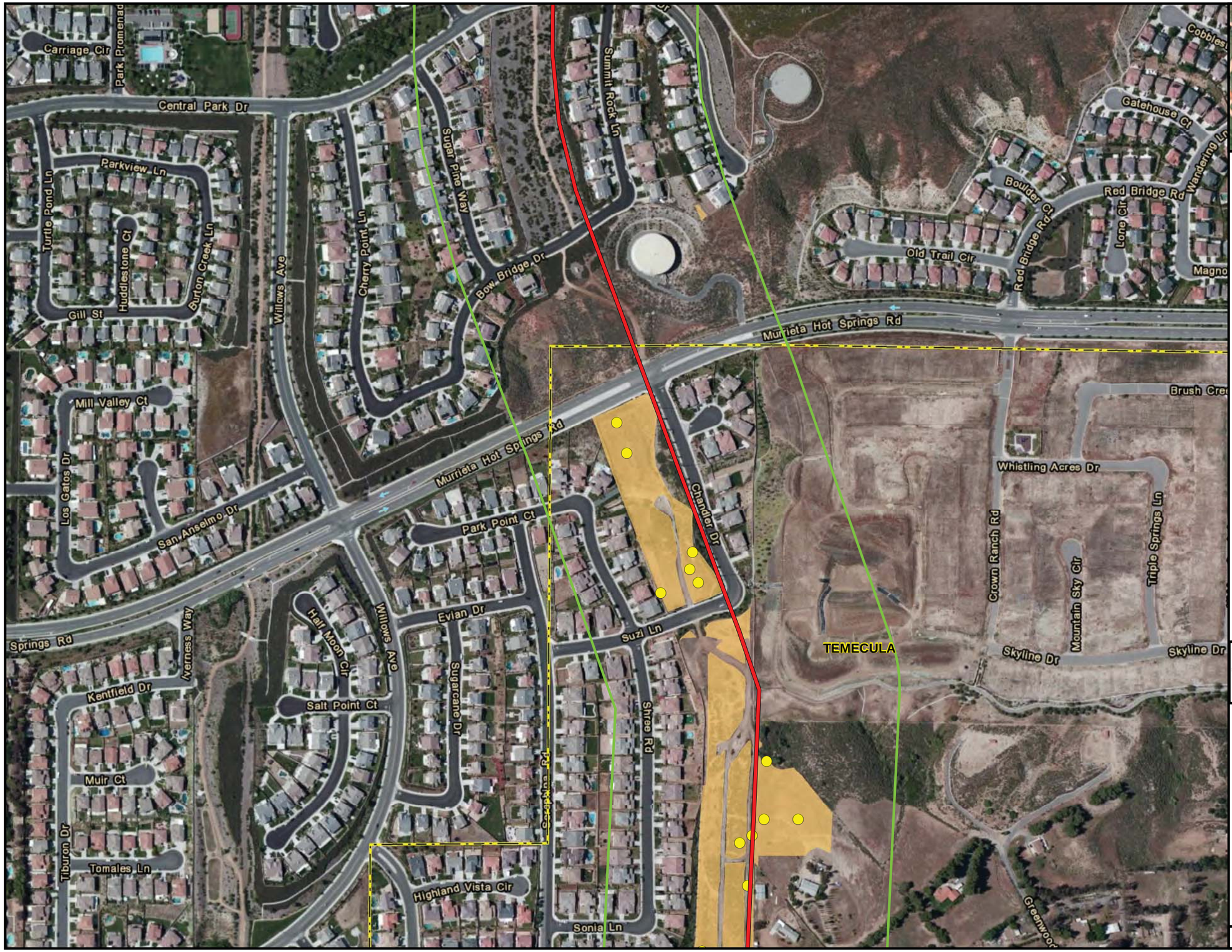
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15e

Burrowing Owl Resources

Ver. 01	7/22/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 7/22/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

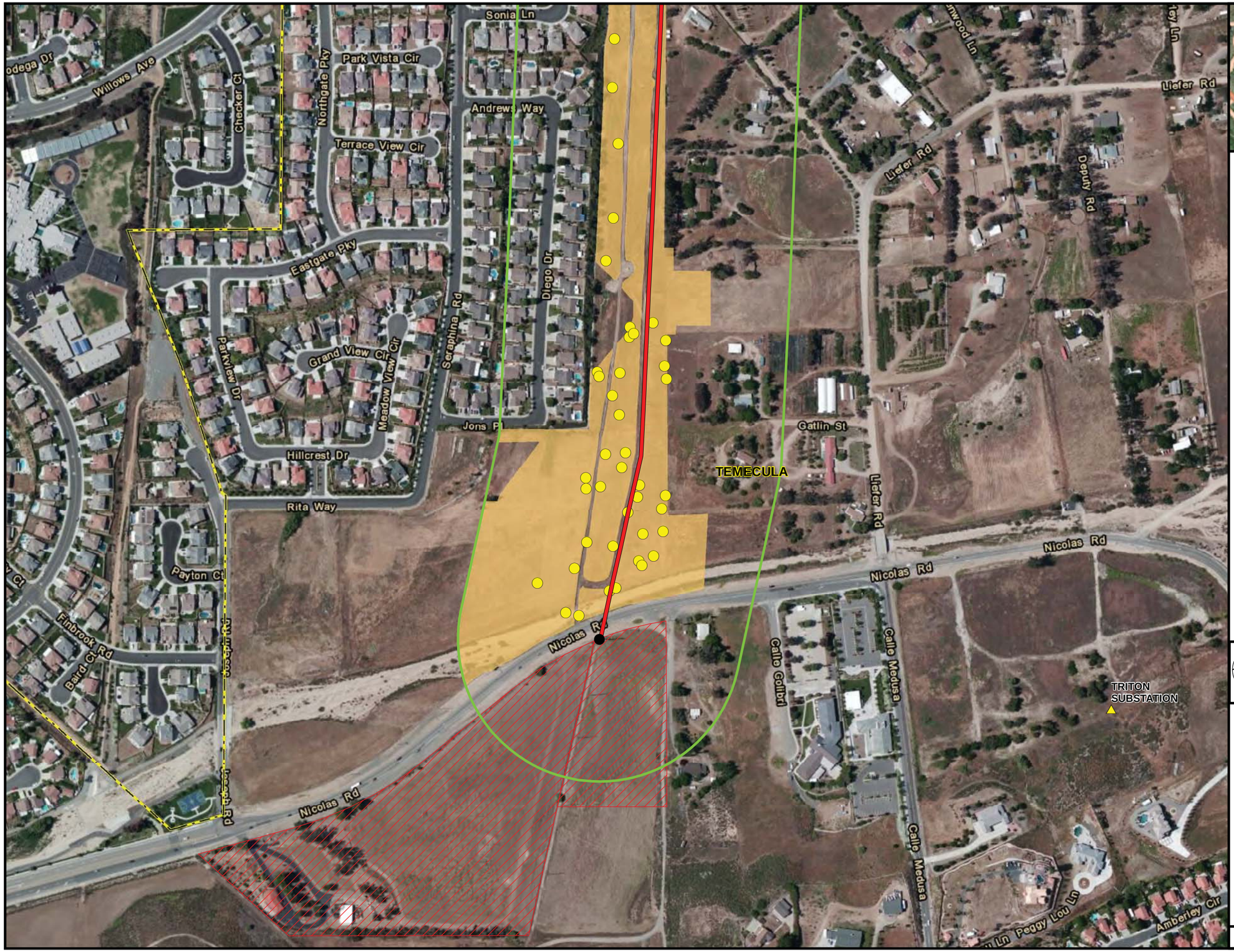
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15f

Burrowing Owl Resources

Ver. 01	7/22/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 7/22/2014



Legend

- 500-foot buffer (BSA)
- Potential western burrowing owl burrows
- Burrowing owl survey area

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

NORTH

1 inch = 400 feet

0 100 200 300 400 Feet

AECOM

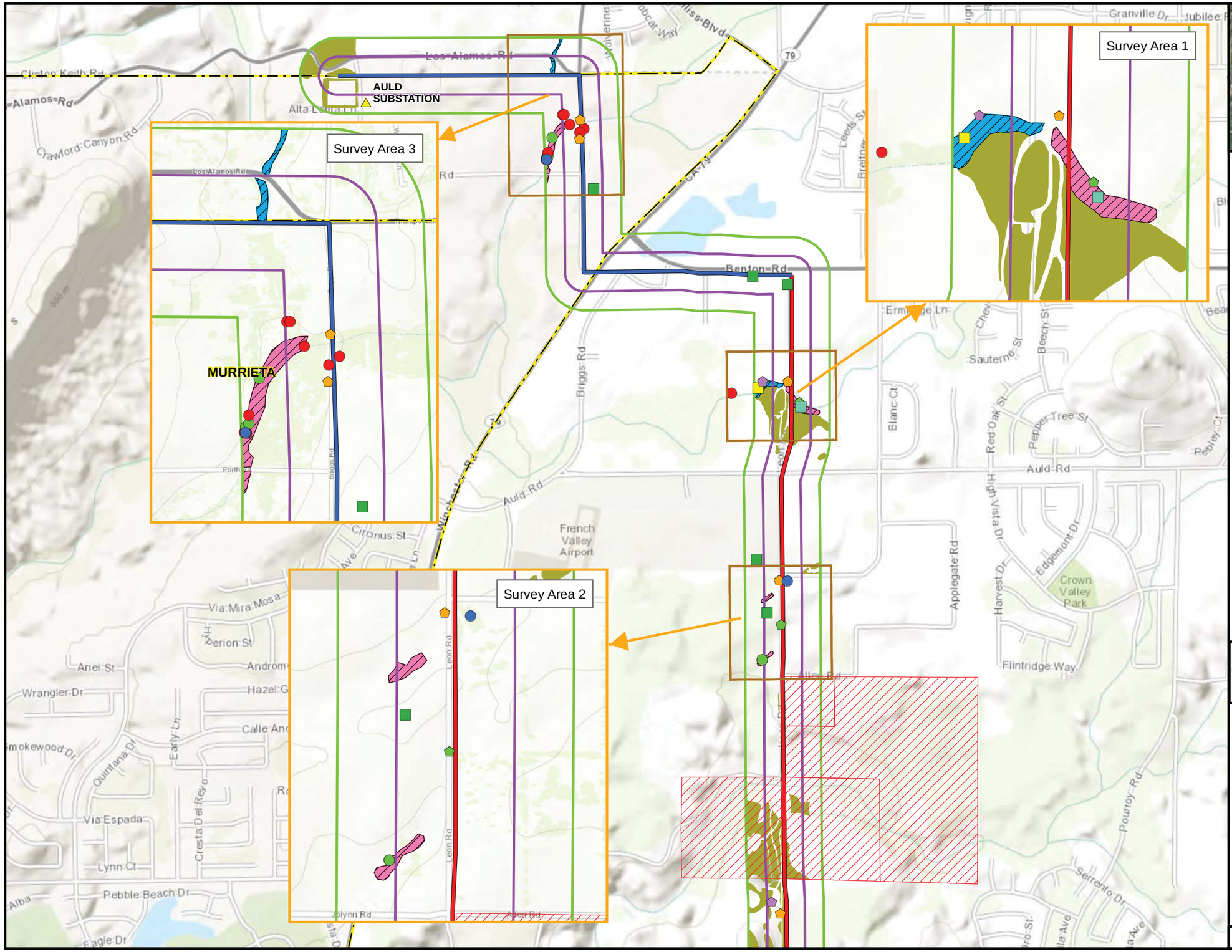
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 15g

Burrowing Owl Resources

Ver. 01	8/1/2014

Filename: Figure15_BurrowingOwlResources_20140608.mxd Date: 8/1/2014



Legend

- 250-foot buffer
- 500-foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Sensitive Landowner Parcels - Not Surveyed

Special-Status Bird Species

- Black-crowned night heron
- California horned lark
- Costa's hummingbird
- Lawrence's goldfinch
- Least Bell's vireo
- Tricolored blackbird
- White-faced ibis
- Yellow warbler
- Willow flycatcher

Coastal California gnatcatcher suitable habitat (AECOM 2014)

- Diegan coastal sage scrub

Least Bell's vireo/southwestern willow flycatcher suitable habitat (AECOM 2014)

- Survey Area
- Mulefat scrub
- Southern willow scrub

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

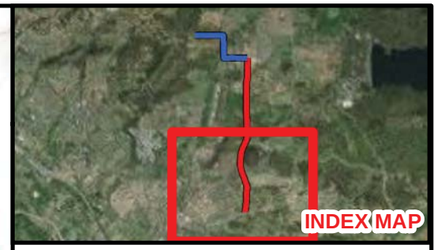
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 16a
Special-Status Bird Species

Ver. 01	8/3/2014

Filename: Figure16_Special StatusBirdSpeciesMap_a.mxd Date: 8/3/2014



Legend

- 250-foot buffer
- 500-foot buffer (BSA)

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Sensitive Landowner Parcels - Not Surveyed

Special-Status Bird Species

- Coastal California gnatcatcher
- Great-horned owl
- White-faced ibis
- Turkey vulture

Coastal California gnatcatcher suitable habitat (AECOM 2014)

- Diegan coastal sage scrub

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

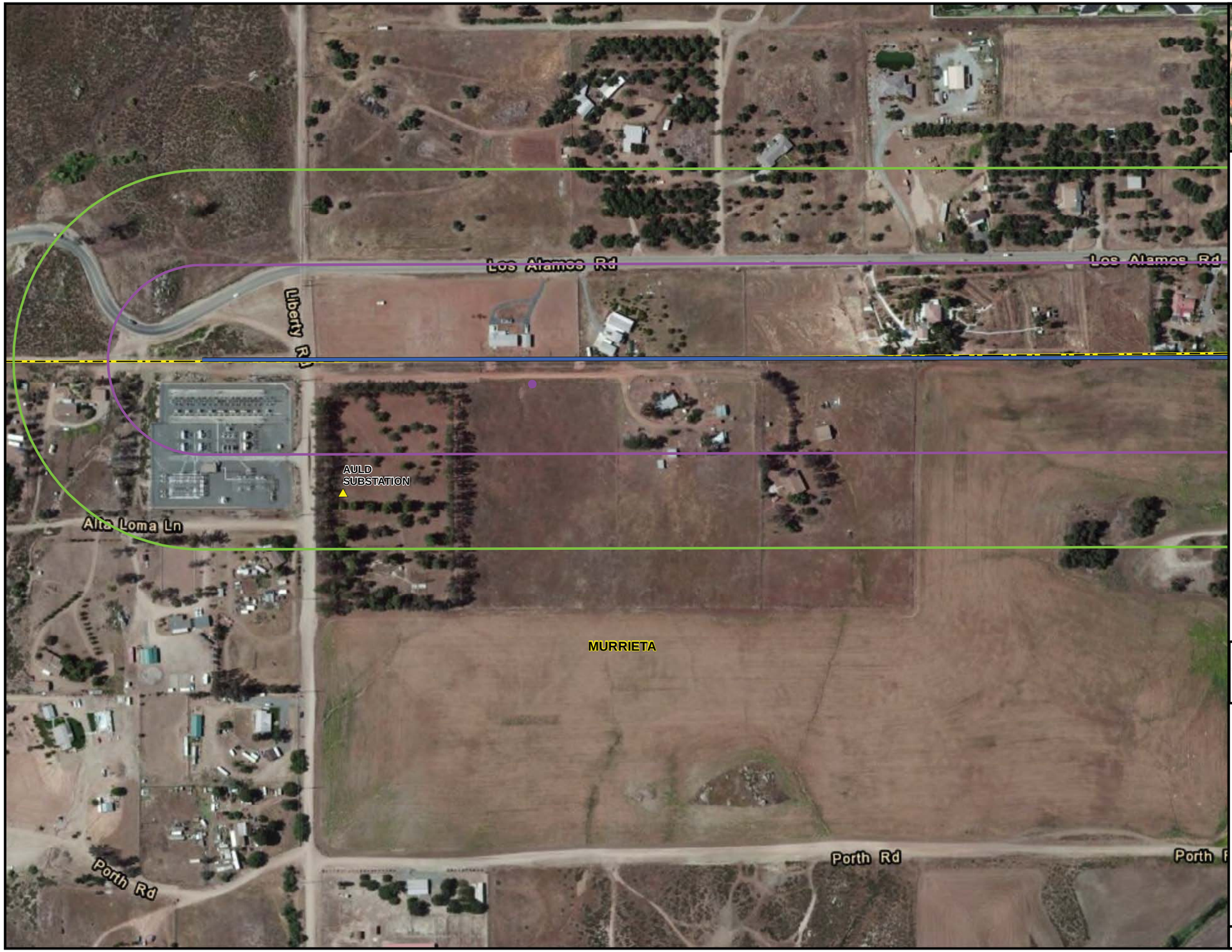
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 16b
Special-Status Bird Species

Ver. 01	8/2/2014

Filename: Figure16_Special StatusBirdSpeciesMap.mxd Date: 8/2/2014



Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17a
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

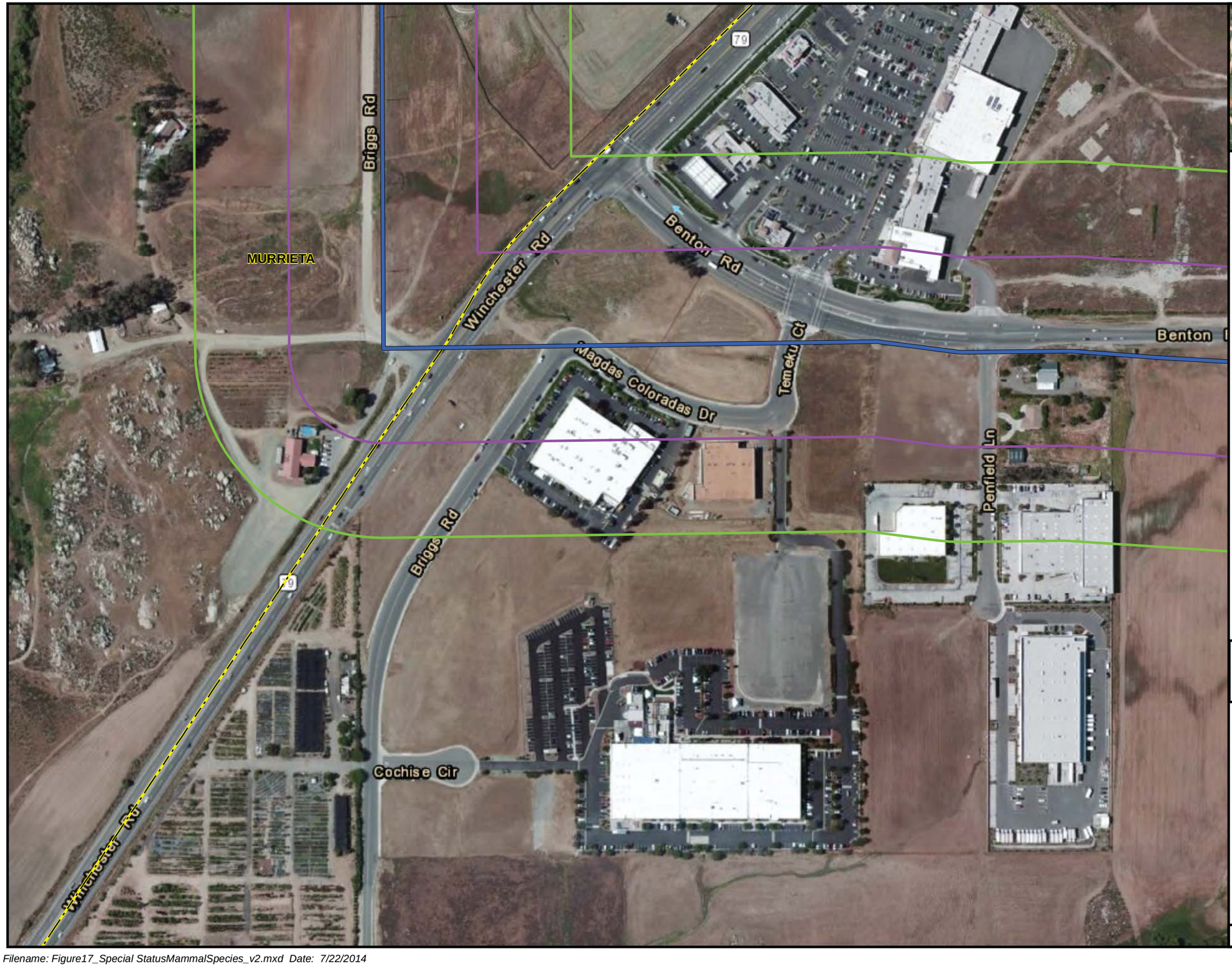
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17b
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014



Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17c
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17d
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

250-foot buffer

500- foot buffer (BSA)

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17e
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

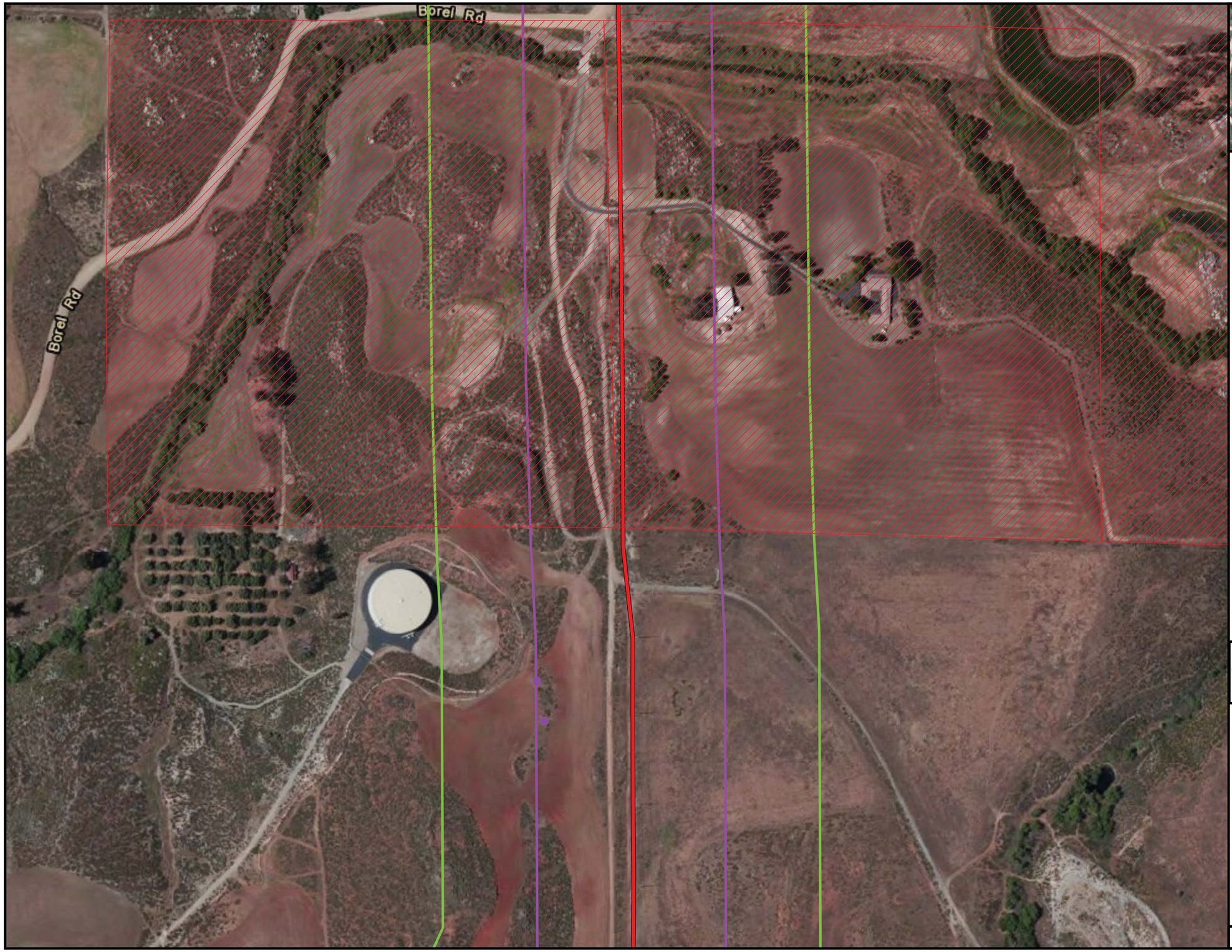
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17f
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014



Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17g
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17h
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17i
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014

Legend

- 250-foot buffer
- 500- foot buffer (BSA)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

NORTH

1 inch = 300 feet

0 75 150 225 300 Feet

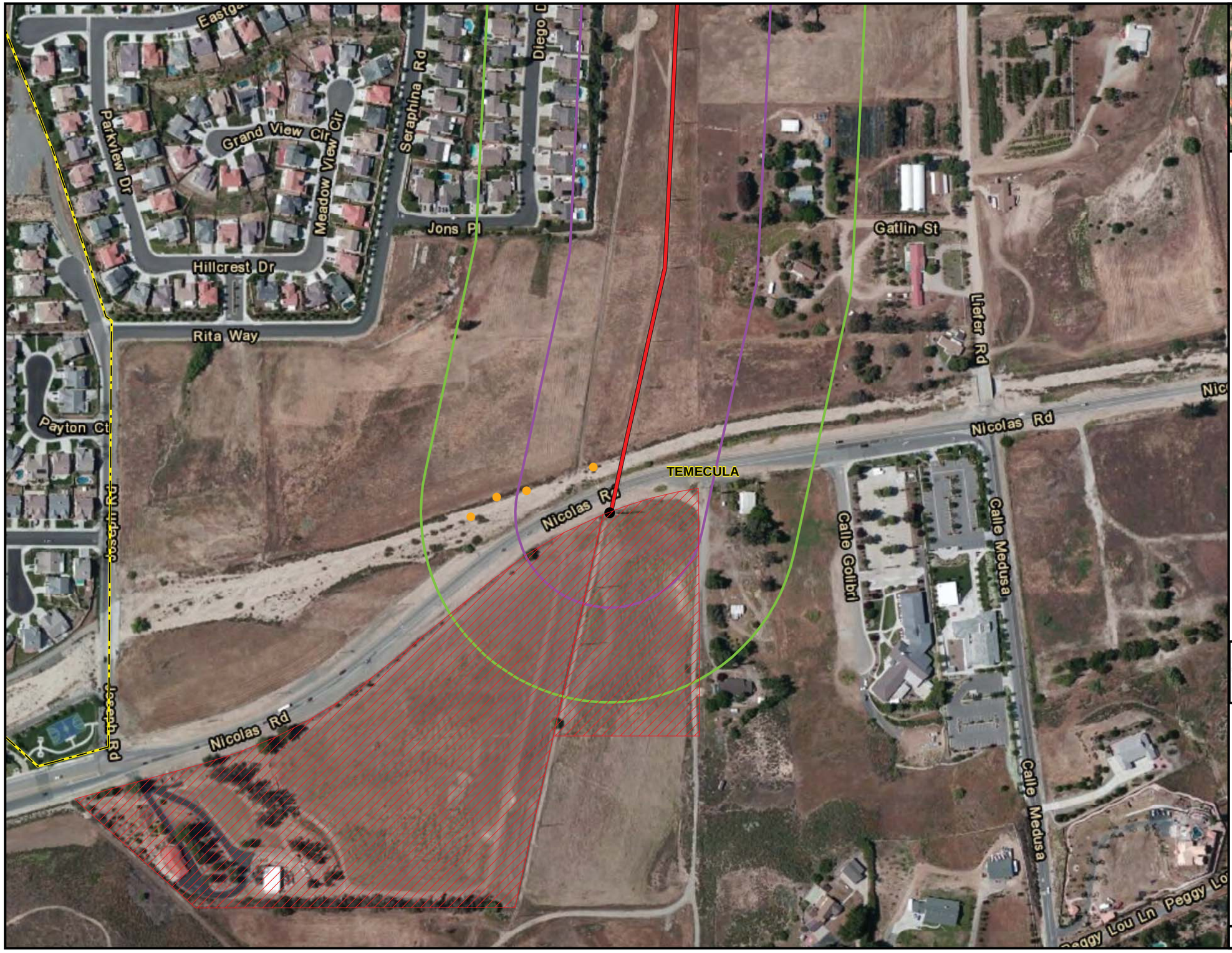
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17j
Special-Status Mammals

Ver. 01	7/22/2014

Filename: Figure17_Special StatusMammalSpecies_v2.mxd Date: 7/22/2014



Legend

- 250-foot buffer
- 500- foot buffer (BSA)
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Mammal Species

- Desert woodrat
- Northwestern San Diego pocket mouse
- Stephens' kangaroo rat
- Black-tailed jackrabbit
- Mule deer

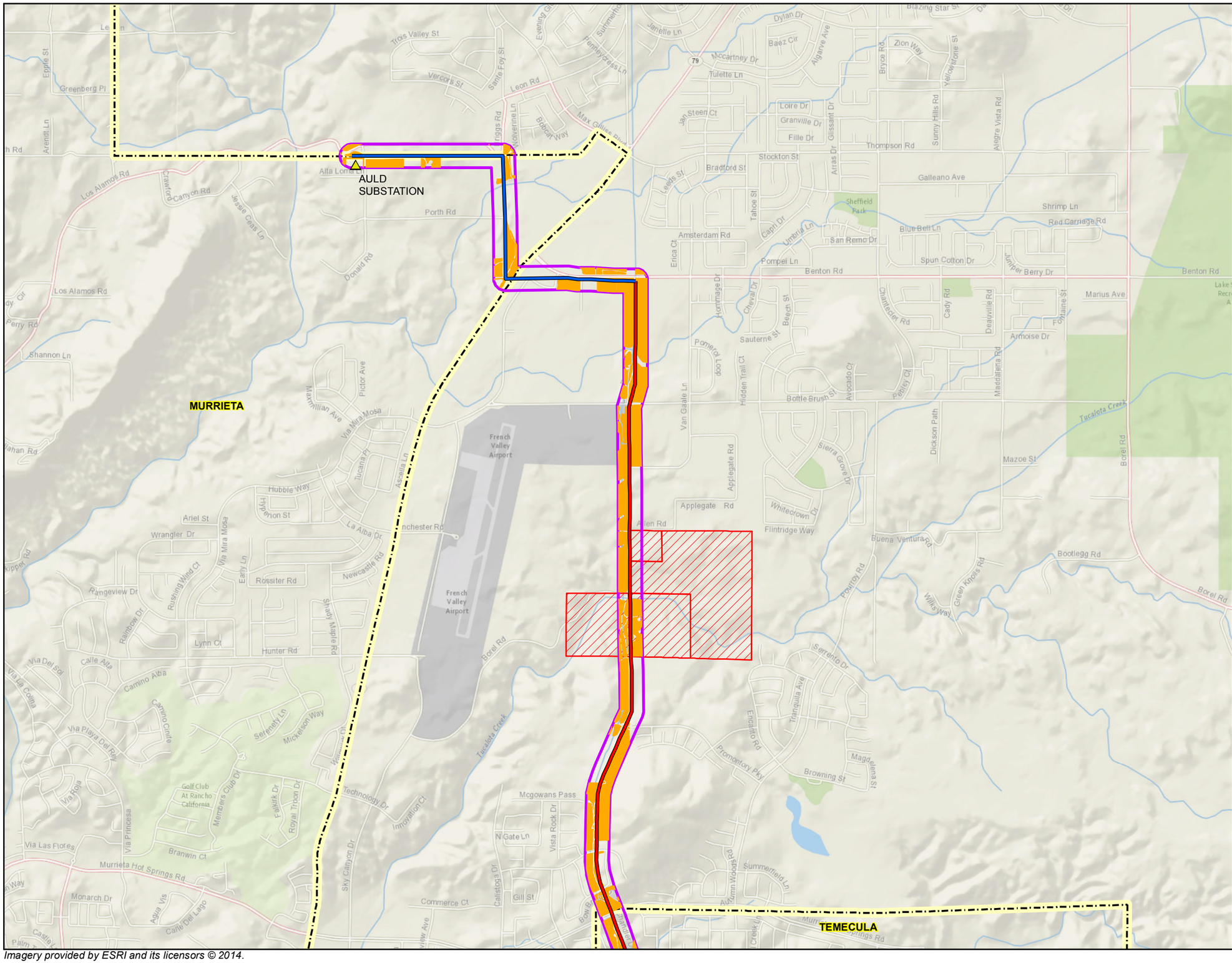
AECOM

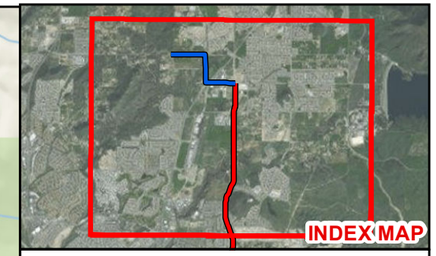
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 17k
Special-Status Mammals

Ver. 01	8/1/2014

Filename: Figure17_Special StatusMammalSpecies.mxd Date: 8/1/2014





Legend

- 250-foot buffer (Survey Area)
- Quino Checkerspot Butterfly Suitable Habitat

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Alternative 115 kV subtransmission line (Segment 2)
- Proposed 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels Not Surveyed

NORTH

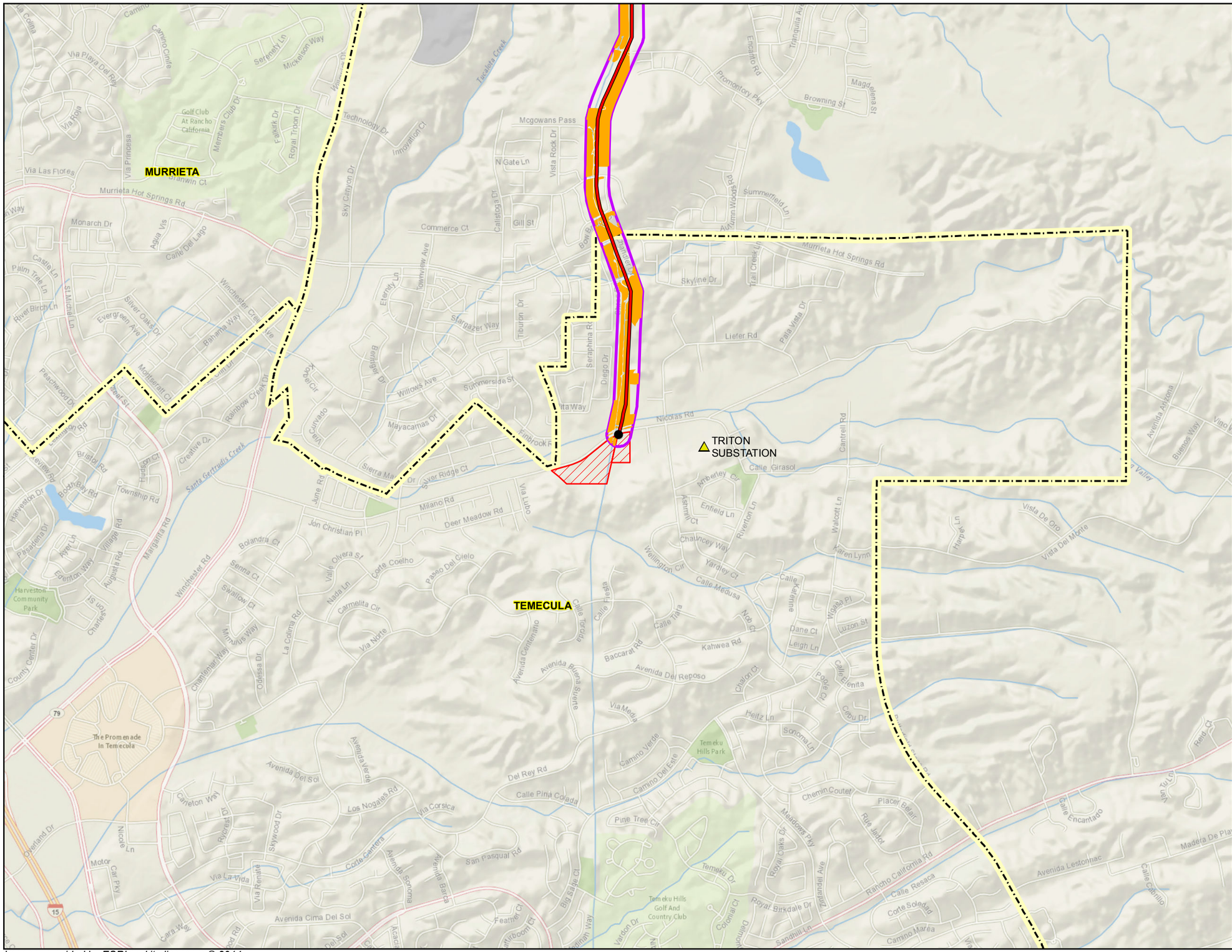
1 inch = 2,000 feet

0 1,000 2,000 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 18a
Quino Checkerspot Butterfly Suitable Habitat

Ver. 02	11/17/2014



Legend

- 250-foot buffer (Survey Area)
- Quino Checkerspot Butterfly Suitable Habitat

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Alternative 115 kV subtransmission line (Segment 2)
- Proposed 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels Not Surveyed

NORTH

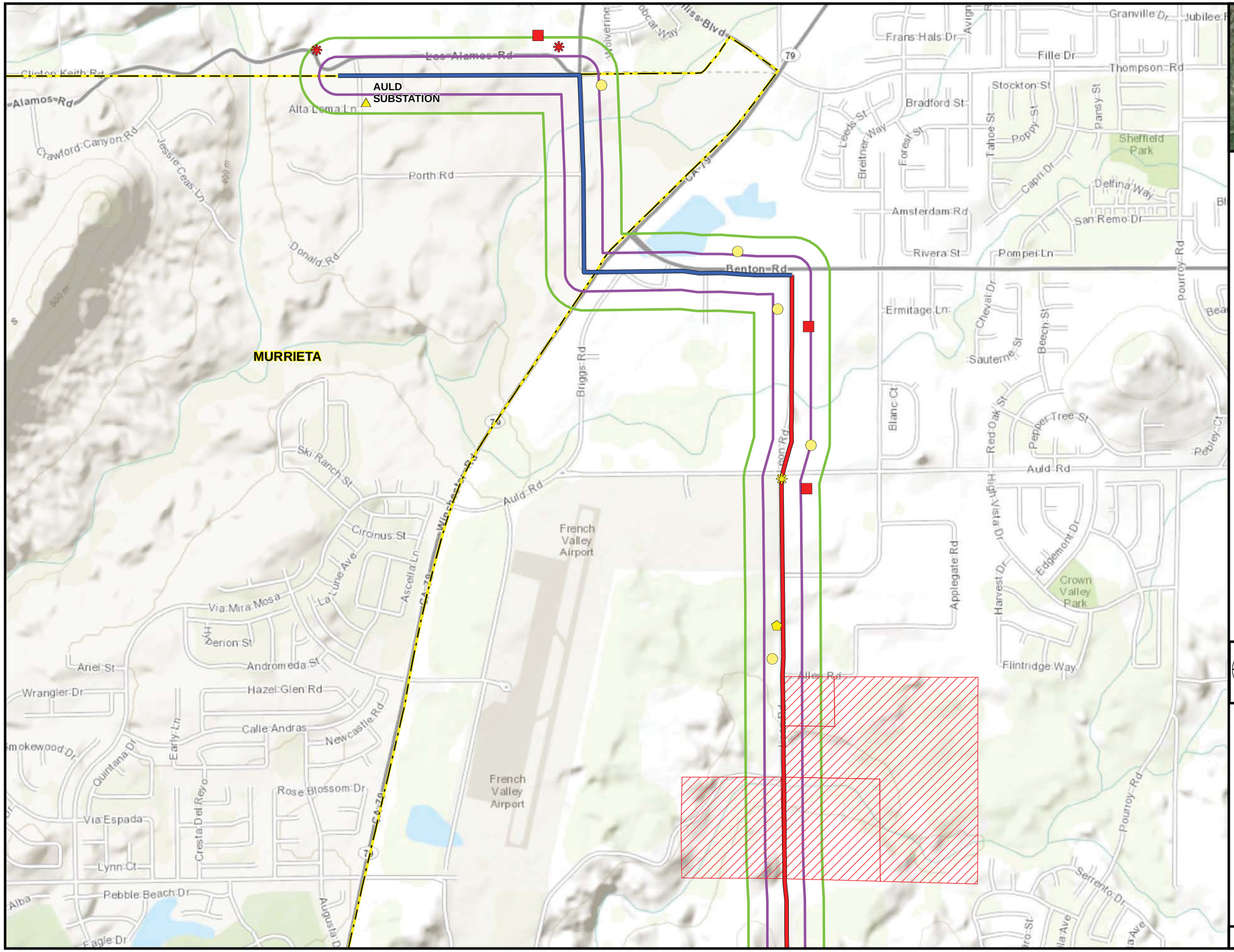
1 inch = 2,000 feet

0 1,000 2,000 Feet

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 18b
Quino Checkerspot Butterfly Suitable Habitat

Ver. 02	11/17/2014



Legend

- 250-foot buffer
- 500-foot buffer (BSA)

Existing Facilities

- 115 kV Substation

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Bird Species

- American kestrel
- Cooper's hawk
- Red-tailed hawk
- American kestrel, Nest
- Red-tailed hawk, Nest

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

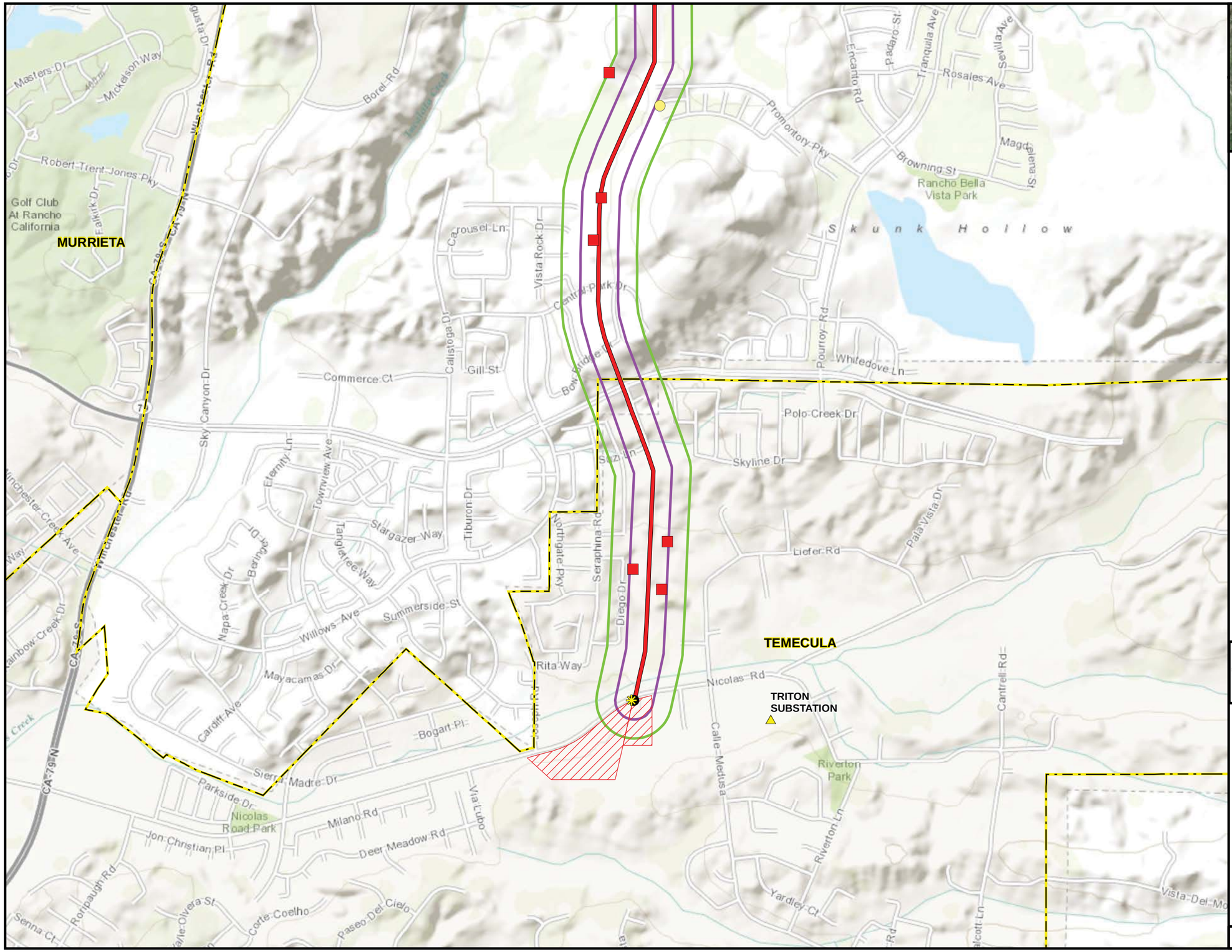
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 19a
Raptor Species

Ver. 01	8/1/2014

Filename: Figure19_RaptorSpeciesMap_working.mxd Date: 8/1/2014



Legend

- 250-foot buffer
- 500-foot buffer (BSA)

Existing Facilities

- 115 kV Substation
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)
- Inaccessible Parcels - Not Surveyed

Special-Status Bird Species

- American kestrel
- Red-tailed hawk
- American kestrel, Nest

NORTH

1 inch = 1,500 feet

0 375 750 1,125 1,500 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 19b
Raptor Species

Ver. 01	8/1/2014

Filename: Figure19_RaptorSpeciesMap_working.mxd Date: 8/1/2014

lepida intermedia; SSC), yellow warbler (*Setophaga petechia*; SSC, BCC), tricolored blackbird (*Agelaius tricolor*; SSC, BCC), Lawrence's goldfinch (*Spinua lawrencei*; SA, BCC), white-faced ibis (*Pegadis chihi*; WL, SA), Cooper's hawk (*Accipiter cooperii*; WL, SA), California horned lark (*Eremophila alpestris actia*; WL, SA), coastal western whiptail (*Aspidoscelis tigris stejnegeri*; SA), black-crowned night-heron (*Nycticorax nycticorax*; SA), and Costa's hummingbird (*Calypte costae*; SA).

Observations of detected species and those species determined to have a high potential to occur within the BSA are discussed separately for the Proposed Project area and Alternative Project area in the following text.

Invertebrates

6.2.5.1 Riverside Fairy Shrimp (*Streptocephalus woottoni*)

The Riverside fairy shrimp is a federally endangered, WRCMSHCP-covered species. It is a small freshwater crustacean typically found in large, deep vernal pools that retain water through late spring. It typically requires at least 48 days of continuous inundation to mature (Eriksen and Belk, 1999). Its range extends from southwestern Riverside County to northwestern Baja California. Habitat for Riverside fairy shrimp is vernal pools, stock ponds, ephemeral ponds or other human-modified depressions that are relatively large and stay inundated into late spring.

Wet season surveys were conducted from December 13, 2013 to April 8, 2014. During the course of the wet season, basins were surveyed seven times. Surveys were conducted for a total of seven basins within the BSA located associated with the Proposed Project and Alternative Project (Figures 13a and 13b Vernal Pool Species Resources); results are provided in Appendix H and Appendix I. There were no basins within Proposed Project area with positive detections for listed or nonlisted fairy shrimp. There were two basins within the Alternative Project area (TP-5 and TP-6) that had fairy shrimp present, but the fairy shrimp observed were the nonlisted common Lindahl's fairy shrimp (*Branchinecta lindahli*).

6.2.5.2 Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Vernal pool fairy shrimp is a federally threatened, WRCMSHCP-covered species. In Riverside County, this species is known to occur in vernal pools in Santa Rosa Plateau, Skunk Hollow, and Salt Creek in west Hemet (Dudek, 2003). Habitat is vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions over willow soils (Dudek, 2003).

Surveys were conducted for seven basins within the BSA located along both the Proposed Project and Alternative Project (Figures 13a and 13b Vernal Pool Species Resources); results are provided in Appendix H and Appendix I. No basins within Proposed Project area had positive detections for listed or nonlisted fairy shrimp. Two of the seven basins had fairy shrimp present, but the fairy shrimp observed were the nonlisted common Lindahl's fairy shrimp. The two basins were TP-5 and TP-6, both located within the Alternative Project area.

6.2.5.3 Santa Rosa Plateau Fairy Shrimp (*Linderiella santarosae*)

The Santa Rosa Plateau fairy shrimp occurs only in grassland pools on the Santa Rosa Plateau in western Riverside County. It is not state or federally listed because the only area where this species is found is protected within the Santa Rosa Plateau Ecological Reserve. This species was previously thought to be an isolated population of California fairy shrimp (*Linderiella occidentalis*) but was described as a separate species in 1994 (Thiery and Fugate, 1994). This fairy shrimp is found in generally long-lived cool water vernal pools with low to moderate dissolved solids, with clear to lightly milky water (Erikson and Belk, 1999). Per Objective 3 of the WRCMSHCP, wetland mapping and a habitat assessment for Santa Rosa Plateau fairy shrimp are required.

Santa Rosa Plateau fairy shrimp are not expected to occur within the Proposed Project or Alternative Project, as the BSA is not within the range of this species.

6.2.5.4 Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Quino is federally endangered but is considered adequately conserved in western Riverside County through implementation of the WRCMSHCP. Within the BSA, implementation of the WRCMSHCP includes conservation of habitat for Quino within Proposed Core 2 and Proposed Constrained Linkage 18, and conservation of Existing Constrained Linkage E. This butterfly is restricted by the availability of suitable host plants and requires relatively open upland habitat. Larvae feed immediately on *Plantago erecta, P. patagonica, Antirrhinum coulterianum, Cordylanthus rigidus*, and *Castilleja exserta.* After diapause, the larvae feed again on *P. erecta* before metamorphosing. After metamorphosing, adults nectar mostly on small annuals including; *Lasthenia* spp., *Cryptantha* ssp., *Gilia* ssp., *Linanthus dianthiflora, Salvia columbariae, Lotus* spp., and *Eriodictyon* spp. Adult Quino is often found on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. Quino is often associated with loamy soils with moderate to high amounts of clay, located within sparsely vegetated areas with host plants and nectar sources and with a moderate to high percentage of native plants. Diversity in topography appears to be important for Quino habitat. Open hilltops associated with vernal pools, sage scrub, chaparral, native and nonnative grassland, and open oak and juniper woodland

communities appear to be important. Quino is found in few locations within the WRCMSHCP Plan Area. Invasion by nonnative flora has led to loss of host plants and increased vegetation density with nonnative cover; Quino habitat in many areas has therefore become unsuitable (Dudek, 2003). Although Quino is a species considered to be adequately conserved by the WRCMSHCP reserve assembly and no surveys for this species are therefore required, a habitat assessment was conducted. AECOM biologists mapped suitable habitat on January 10, 2014, and confirmed the presence of approximately 131 acres of potentially suitable habitat within the BSA (Figures 18a and 18b Quino Checkerspot Butterfly Suitable Habitat), in addition to the presence of nectar sources. At the time that the habitat assessment was conducted, no host plants were detected. Though the survey was not conducted during the optimal blooming time for host plant species, host plant species were observable in their vegetative state in other areas within the region (Bergman, 2014). It is possible that drought conditions this year precluded detectability of host plants (in their vegetative state) in January, when habitat assessments were conducted.

This species has a high potential to occur within both the Proposed Project area and Alternative Project area, as habitat quality is moderate with slightly higher habitat quality in the Proposed Project area due to the presence of more hilltops and open habitat. However, the Alternative Project area is close to known Quino populations associated with the Hogbacks and Warm Springs Creek. There are annuals for nectaring adults. Open habitats on ridgelines with a diversity of adjacent lowland habitats are present and soils are loamy with clay. Historically, Quino populations have been documented just east of Interstate 15, and west towards the Hogbacks through the Warm Springs Creek area. Suitable coastal sage scrub, nonnative grassland, and chaparral habitat for this species is present throughout the BSA (Figures 11a through 11g Vegetation and Other Land Cover Types). Nonnative grassland within the BSA primarily consists of open fields that go through cycles of being disked then left fallow; nectaring sources were detected within these fallow areas during the January 10 visit. This species has been detected in several locations within a 3-mile buffer of Segment 2, within the BSA, and directly to the west of the Proposed Project area and north of the Alternative Project area (Figure 8 Existing Resources Data for Invertebrates and Mammals).

Habitat within the BSA has been described in the WRCMSHCP for conservation for both core habitat (Proposed Core 2) and linkages (Proposed Constrained Linkage 18 and conservation of Existing Constrained Linkage E) to other Quino habitat.

Amphibians/Reptiles

6.2.5.5 Western Spadefoot (*Spea hammondii*)

The western spadefoot is a state species of special concern and is also covered under the WRCMSHCP. This amphibian occurs primarily in grassland habitats, although it can be found in valley-foothill riparian woodlands (Stebbins, 2003). Vernal pools or other nonflowing, seasonal waters are required for breeding.

This species has a high potential to occur within these areas that occur within the Proposed Project and Alternative Project. Suitable habitat is present within the temporary ponded areas and riparian vegetative communities within the BSA. This species was documented during Segment 1 surveys (TRC, 2013) and was also detected within the Triton Substation Project survey area and recorded by CNDDB within 1 mile of the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). To date, this species has not been found during biological surveys. Because this is an aquatic based species, there is a potential that detectability may have been affected by drought conditions this season.

6.2.5.6 Silvery Legless Lizard (*Anniella pluchra pulchra*)

Silvery legless lizards are found in burrows under leaf litter, logs, rocks, boards, debris, etc. in areas with sandy or loose loamy soils in habitats such as beaches, chaparral, and woodlands or near riparian trees such as sycamores, cottonwoods, or oaks near streams (Gorman, 1957; Cunningham, 1959) and soil moisture is essential (Jennings and Hayes, 1994). Stabilized dunes within sandy loam soils are prime habitat for this species (Grinnel and Camp, 1917; Bury, 1985). Silvery legless lizards are insectivorous and larval insects form a large part of their diet (Jennings and Hayes, 1994). The species tends to be crepuscular but may be active at night if the substrate remains warm.

The species tends to have a low tolerance for disturbance such as agriculture, mining, or other human-induced effects such as livestock grazing and off-road vehicle use (Miller and Stebbins, 1944; Bury, 1972; Stebbins, 1985). The introduction of exotic plants, grasses, and eucalyptus trees decrease soil moisture and alter the substrate, which makes it unsuitable for this species (Jennings and Hayes, 1994).

This species would most likely be found in or near drainages in the BSA, but only where human impacts (including the introduction of invasive plant species) are low. To date, this species has not been found during biological surveys. Suitable habitat is present within the Proposed Project area and Alternative Project area.

6.2.5.7 San Diego Banded Gecko (*Coleonyx variegates abbottii*)

The San Diego banded gecko is found in coastal and cismontane southern California from interior Ventura County south and most often inhabits granitic or rocky habitats within coastal scrub and chaparral (Klauber, 1945; Stebbins, 1972).

The San Diego banded gecko is nocturnal and seeks cover under rocks, boards, or litter or in mammal burrows in the day (Klauber, 1945). It may come out in late afternoon to absorb heat (Brattstrom, 1952) and hibernates in burrows (Parker, 1972). Banded geckos feed on insects including beetles, grasshoppers, sowbugs, insect larvae, spiders, and termites (Klauber, 1945; Parker and Pianka, 1974) and have dietary overlap with other diurnal lizards (e.g., whiptails) and may be nocturnal to reduce this overlap and competition (Huey and Pianka, 1983). This species is active April through October with a peak in May with juveniles intermittently active November through March (Klauber, 1945; Parker, 1972). Mating occurs from April to May, with eggs being laid May through September. Hatchlings appear July through November (Stebbins, 1954; Fitch, 1970; Parker, 1972; Miller and Stebbins, 1964).

There are extensive boulder outcrops present within both the Proposed and Alternative Projects and there is a moderate potential for this species to occur. To date, this species has not been found during biological surveys. Suitable habitat is present within the Proposed Project area and Alternative Project area.

6.2.5.8 Coast Horned Lizard (*Phrynosoma blainvilli*)

In 2009, Leache et al. separated *Phrynosoma coronatum* into three species: *P. coronatum, P. cerroense,* and *P. blainvillii* and coast horned lizard is now known as *P. blainvillii*. This species is distributed from Northern Baja California through northern California in arid climates at localities with sandy soils. *P. blainvillii* is a state species of special concern and is also covered under the WRCMSHCP. *P. blainvillii* inhabits open scrub and woodland types from the coastal mesas to higher foothills in southern California (Stebbins, 2003). In general horned lizards (*Phrynosoma* spp.) have a preferred diet of native harvester ants (e.g., *Pogonomyrmex* and *Messor*) (Turner and Medica, 1982). This species prefers open terrain, sandy substrates, and washes and is associated with native ant mounds as food sources (Stebbins, 2003). It occupies relatively undisturbed and unfragmented habitat areas and is sensitive to disturbance. Threats to this species include habitat alteration, commercial collecting, introduction of nonnative ants, and predation by introduced animals.

Coast horned lizard has a high potential to occur within both the Proposed Project area and Alternative Project area due to documented locations within Segment 1 (TRC, 2013), known

records within the Triton Substation Project area, CNDDB records (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles), and suitable habitats present throughout the BSA. To date, this species has not found during biological surveys.

6.2.5.9 Orange-throated Whiptail (*Aspidoscelis hyperythra*)

The orange-throated whiptail is a state species of special concern and is also covered under the WRCMSHCP. The orange-throated whiptail inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats (Stebbins, 2003).

Suitable habitats are present within the BSA. This species has a high potential to occur within scrub and grassland habitats within the Proposed Project area and Alternative Project area. This species was documented during Segment 1 surveys by TRC (TRC, 2013) and it was also detected within the Triton Substation Project and is known to occur within the BSA from CNDDB records (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). To date, this species has not found during biological surveys.

6.2.5.10 Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)

Coastal western whiptail is a WRCMSHCP-covered species. This lizard occupies a range of open, dry vegetation types from ruderal road edges and agricultural margins to low, sparse grassland, to mature coastal sage scrub, chaparral, and big sagebrush scrub (Stebbins, 2003). The combination of minimal woody cover, low herbaceous vegetation, and open soil areas beyond the limits of dense urban development characterize this species' habitat.

Coastal western whiptail was detected within coastal sage scrub and disturbed/ruderal cover types associated with the Proposed Project area and Alternative Project area (Figures 14a and 14b Amphibian and Reptile Species).

6.2.5.11 Two-striped Garter Snake (*Thamnophis hammondii*)

Two-striped garter snake is a WRCMSHCP-covered species. This reptile is known to occur within the coastal region of southern California from sea level to 7,000 feet elevation. This species requires watercourses with permanent or persistent fresh water, often with rocky beds and riparian growth as well (Stebbins, 2003).

The two-striped garter snake has a high potential to occur within the Proposed Project area and Alternative Project area. To date, this species has not found during biological surveys, but

suitable habitat is present on-site and this species was documented at several drainage crossings during surveys of Segment 1 (TRC, 2013).

6.2.5.12 Red Diamond Rattlesnake (*Crotalus ruber*)

The red diamond rattlesnake is a state species of special concern and a WRCMSHCP-covered species. It is found primarily in coastal sage scrub, but also occurs in chaparral, woodland, grassland, and desert habitat areas from coastal San Diego County to the eastern slopes of the mountains. It prefers rocky areas and moderately open vegetation, and requires rodent burrows, cracks in rocks, or other surface cover objects for shelter (Stebbins, 2003).

This species has a high potential to occur within the Proposed Project area and Alternative Project area. A similar non special-status species, southern Pacific rattlesnake, was detected within nonnative grassland east of the Leon Road and Allen Road intersection (Figure 14a Amphibian and Reptile Species). Red-diamond rattlesnake was documented at several locations during surveys for Segment 1 (TRC, 2013) and in CNDDB records within a mile of the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Additionally, suitable scrub, grasslands, and chaparral habitats are present in the BSA. To date, this species has not found during biological surveys.

Birds

6.2.5.13 Great Blue Heron (*Ardea herodias*)

The great blue heron is a CDFW special animal and is considered adequately conserved in the WRCMSHCP. It is found in varied wetland habitats including saltwater marshes, mangrove swamps, flooded meadows, lake edges, and coastal areas or shorelines. Great blue herons usually nest in trees or bushes near the water's edge and their primary food source is fish (Short and Cooper, 1985). The great blue heron breeds in isolated areas, such as wooded swamps or predator-free islands, and will also use upland hardwood forest, forest-bordered lakes, and ponds and riparian woodlands, but breeding sites are always near water (Butler, 1992). This species will forage in any slow-moving, shallow waters in a variety of habitats (Kaufman, 1996).

Within the WRCMSHCP plan area, the great blue heron is expected to be found at almost all open water bodies with emergent or riparian vegetation and at many of the playas and riparian drainages that provide foraging opportunities. Within the WRCMSHCP, Lake Skinner is designated as a Core Area for this species.

There is suitable foraging habitat for the species within both the Proposed Project area and Alternative Project area and it has moderate potential to nest within BSA. To date, this species has not been found during biological surveys.

6.2.5.14 Black-crowned Night Heron (*Nycticorax nycticorax*)

The black-crowned night heron is a WRCMSHCP-covered species. It is commonly associated with lowlands and foothills in southern California, and feeds along the margins of riverine and fresh and saline emergent habitats. It prefers to nest and roost in dense-foliaged trees (Unitt, 2004).

Black-crowned night heron was detected within the Proposed Project area within mulefat scrub habitat during least Bell's vireo surveys (Figure 16a Special-Status Bird Species, Figure 11b Vegetation and Other Land Cover Types). Suitable habitat is present within riparian and wetland habitats throughout the BSA. This species may also occur within the Alternative Project area based on the presence of suitable foraging habitat.

6.2.5.15 White-faced Ibis (*Plegadis chihi*)

White-faced ibis is a state watch list and WRCMSHCP-covered species. White-faced ibis is associated with fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. It nests in dense, fresh emergent wetland (Unitt, 2004).

White-faced ibis was detected flying over the BSA during least Bell's vireo surveys conducted within both the Proposed Project area and Alternative Project area (Figure 16a Special-Status Bird Species). There were four detections of this species flying over riparian and wetland habitats within the BSA, but this species was not seen on the ground. Based on the frequency of observations, there is a high potential this species may nest within dense riparian habitat within the BSA.

6.2.5.16 White-tailed Kite (*Elanus leucurus*)

The white-tailed kite is a state fully protected species. It is a perennial resident of lowland terrestrial habitats, particularly riparian woodland and oak or sycamore groves near grasslands or high marshes (Unitt, 2004). This species makes nests from sticks near the tops of small to large trees (20 to 100 feet above ground), including nonnative species such as eucalyptus (Dixon, et al., 1957).

White-tailed kite has a high potential to occur within the Proposed Project area and Alternative Project area as nesting habitat and foraging habitat are present. Kites were documented at several locations within and adjacent to Segment 1 during TRC surveys (TRC, 2013), and are recorded within 3 miles by CNDDB (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Suitable riparian habitat near grasslands and riparian habitat occurs in some areas within the BSA in smaller areas of habitat along Leon Road to Nicolas Road (associated with the Proposed Project area). Suitable habitat is also present south of the Los Alamos Road and Briggs Road intersection and north of the intersection of Leon Road and Benton Road (both associated with the Alternative Project area) (Figures 11a through 11c Vegetation and Other Land Cover Types).

6.2.5.17 Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle, while nesting and wintering, is a state endangered species, is a federally delisted species, is a CDFW fully protected species, and is a USFWS bird of conservation concern. The bald eagle is also protected under the Bald and Golden Eagle Protection Act. The bald eagle is found near large bodies of open water with abundant food supply, subsisting mainly on fish, with old-growth trees for nesting. It must have an adequate food base, perching areas, and nesting sites (Gerrard and Bortolotti, 1988). Perching sites need to be large trees or snags with heavy limbs or broken tops. The bald eagle nests in trees and rarely on cliff faces and will ground nest in treeless areas, but it always nests close to water with suitable foraging opportunities. Foraging areas are considered of high quality depending on the following: high diversity, abundance, and vulnerability of the prey base; presence of shallow water; and absence of human development (Buehler, 2000).

The bald eagle's range includes most of Canada, Alaska, and all of the contiguous United States and northern Mexico. Bald eagles in California are observed most often near large and deep inland bodies of water but are considered winter residents where in the past they may have bred in those areas (Garrett and Dunn, 1981).

Breeding habitat for the bald eagle occurs within the WRCMSHCP Plan Area. Under the WRCMSHCP, potential habitat for the bald eagle is considered to be open water lakes and reservoirs with a shoreline buffer of approximately 330 feet around each open water area and also includes the riparian habitat within the Prado Basin and the Santa Ana River (Dudek, 2003).

Potential for bald eagles to occur in the Proposed Project area and Alternative Project area is considered low. There is no suitable nesting habitat in the BSA and there is a low probability for foraging as this species forages in large water bodies, mainly on fish. There is a CNDDB record

for this species occurring within 3 miles of the BSA, to the east of the BSA, on the southwest side of Lake Skinner.

6.2.5.18 Northern Harrier (*Circus cyaneus*)

The northern harrier is a state species of special concern, and is also a WRCMSHCP-covered species. Primarily a grassland species in southern California, this raptor requires large tracts of undisturbed land for foraging and nesting (Unitt, 2004).

There are breeding locations known for northern harrier in the WRCMSHCP Plan Area and the species is known to breed near east Temecula Creek, which is over 4 miles to the south of the BSA. However, most recorded northern harriers in the WRCMSHCP Plan Area are wintering birds. Northern harriers have specific habitat requirements for breeding, including cismontane alkali marsh, freshwater marsh, playas and vernal pools, and grasslands. They use a wider array of habitat for foraging and wintering, including agricultural areas, Riversidean alluvial fan sage scrub, and coastal sage scrub (Dudek, 2003).

Northern harriers have a high potential to occur within the Proposed Project area and Alternative Project area. Suitable nonnative grassland habitat is present throughout the BSA. Also, this species was detected during TRC surveys (TRC, 2013) on Segment 1 of the Proposed Project just north of Benton Road and over 2 miles north of Auld 115/12 kV Substation. CNDDB records show northern harrier occurring within 3 miles of the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Open grassland and ruderal cover type is available throughout the BSA for foraging and nesting (Figures 11a through 11c Vegetation and Other Land Cover Types).

6.2.5.19 Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a state watch list and WRCMSHCP-covered species. Cooper's hawk is a fairly common resident in native woodlands and secluded groves of nonnative trees in southern California. Its general distribution ranges from sea level to above 9,000 feet. Dense stands of coast live oak (*Quercus agrifolia*), deciduous riparian forest, and Eucalyptus groves are occupied by this species (Zeiner et al., 1990).

Cooper's hawk was detected within the Proposed Project area at the end of May during least Bell's vireo surveys (Figure 16a Special-Status Bird Species). Additionally, Cooper's hawk was previously detected during TRC surveys for Segment 1 (TRC, 2013). There are sections within the both the Proposed Project area and Alternative Project area where stands of trees are present that may provide potential nesting habitat, such as ornamental trees within areas characterized as

developed/urban, and areas. Suitable habitat for foraging and nesting is available throughout undeveloped habitats within the BSA. This species may nest or forage within the Proposed Project and Alternative Project.

6.2.5.20 Swainson's Hawk (*Buteo swainsoni)*

Swainson's hawk is state threatened and a USFWS BCC species. Swainson's hawk forages in open areas such as grassland and agricultural areas with scattered trees, but will use a wide variety of other habitats including shrub and scrub habitats (Garrett and Dunn, 1981). Swainson's hawk does not nest or winter in the region of the BSA, but moves through the area during the fall and spring migration and is only present for a short period of time. The breeding range for this species includes portions of Washington and Oregon east to the Cascades, southern Idaho, western Montana, southern half of east Alberta, west-central and southeastern Saskatchewan and southwestern Manitoba. Small numbers breed in extreme northeastern California, western and southern Nevada, north and southeastern Arizona and disjunctively in California in Sacramento and San Joaquin Valleys, within the valleys of the Sierra Nevada and occasionally elsewhere (England et al., 1997). It winters in South America (Brown, 1996) and very rarely winters in California. Breeding populations in California have been extirpated from coastal southern California probably due to urban development (England et al., 1997). This species breeds in stands with a few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley.

This species generally roosts in large trees but will roost on the ground if trees are unavailable. It nests in trees within grassland, shrubland, or agricultural landscapes, especially along stream courses or in open woodlands (England et al., 1997).

Swainson's hawk is expected to occur in the agricultural and open habitats in the Proposed Project area and Alternative Project area during its migration between wintering and breeding areas wherever foraging and roosting opportunities occur, but it not expected to breed in the BSA.

6.2.5.21 Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawk is a federal bird of conservation concern and a WRCMSHCP-covered species. The ferruginous hawk breeds from British Columbia eastward to southwestern Manitoba and generally southward to Nevada and Texas. It does not breed in southern California, but winters there in interior and coastal areas and is a fairly common winter resident of grasslands and agricultural areas in southwestern California (Garrett and Dunn, 1981).

This raptor has a high potential to occur within both the Proposed Project area and Alternative Project area during winter, as suitable open grassland habitat is present. This species was detected within Segment 1 during TRC surveys (TRC, 2013). CNDDB records document ferruginous hawk occurring within 3 miles of the Proposed Project (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Open grassland and ruderal cover type for foraging is available throughout the BSA (Figures 11a through 11c Vegetation and Other Land Cover Types). This species may forage within the Proposed Project area and Alternative Project area. Ferruginous hawks are known to winter in the Temecula/Murrieta area (Dudek, 2003).

6.2.5.22 Golden Eagle (*Aquila chrysaetos*)

The golden eagle is CDFW fully protected and a USFWS bird of conservation concern species. It is also protected under the Bald and Golden Eagle Protection Act. Golden eagles forage in large expanses of grassy and open shrubby habitats and nest primarily on cliffs, with secondary use of large trees (e.g., oaks and sycamores). Nests are mainly in cliff sites adjacent to suitable foraging habitat including woodlands and forest, coastal sage scrub, desert scrubs, Riversidean alluvial fan sage scrub, grassland, and playas and vernal pools. Agricultural lands may be used for foraging, but predominantly during the nonbreeding season (Garrett and Dunn, 1981). Breeding pairs may occupy territories of several square miles, within which they may often use several nest sites, shifting nest sites from year to year. Golden eagles are almost never detected in urbanized areas (Garrett and Dunn, 1981).

The golden eagle is found throughout the WRCMSHCP Plan Area as a foraging species in most habitats except dense conifer woodlands at high elevations. There are also several golden eagle nests sites within the Plan Area. Golden eagles are known to nest in the following locations: Temecula Gorge; the hills east of Sun City; the hills north of Aguanga west of SR-371; possibly Elsinore peak; Rawson Canyon; Mesa de Burro on the Santa Rosa Plateau; a transmission line in San Timoteo Canyon; and possibly Double Butte, Box Springs Mountains, and Arlington Mountain. Golden eagles have been recorded in larger numbers in Temecula and French Valley, suggesting higher usage (Dudek, 2003).

There is suitable foraging habitat for golden eagles in the Proposed Project area and Alternative Project area as the species is known to forage in French Valley/Temecula. Nesting habitat within both areas is of low quality due to the extent of urban development in and around the BSA and lack of suitable cliff sites. Golden eagles were not detected during biological surveys.

6.2.5.23 Merlin (*Falco columbarius*)

Merlins do not nest in the WRCMSHCP plan area region. This species will occur in the region of the BSA as a transient in the spring and fall and may occasionally winter in the area. This opportunistic predator may forage within any habitats of the BSA. The species uses sparse trees, open woodland, and riparian habitat for roosting and possibly foraging, and also forages in grasslands, shrub, and scrub habitats (Garrett and Dunn, 1981). The species breeds in North America from Alaska through most of Canada, eastward to Newfoundland and southward to Washington and Maine. The species winters southward to northern South America (AOU, 1998; Sodhi et al., 1993).

Moderate foraging habitat occurs for the merlin in both the Proposed Project area and Alternative Project area, but the BSA is not within the breeding area for this species.

6.2.5.24 Prairie Falcon (*Falco mexicanus*)

Prairie falcon is a federal bird of conservation concern and a WRCMSHCP-covered species. The prairie falcon is associated with open plains and desert that occurs most commonly in southern California in winter (Unitt, 2004). It breeds on the coastal slope, requiring a secluded and inaccessible cliff for nesting.

This species may forage within the Proposed Project area and Alternative Project area. This species has a high potential to forage within nonnative grassland habitats that occur within open grassland and ruderal cover type for foraging is available throughout the BSA (Figures 11a through 11c Vegetation and Other Land Cover Types). Also, one prairie falcon was previously detected during Segment 1 surveys by TRC (TRC, 2013). Suitable nesting habitat is not present, thus it is not expected to breed on-site.

6.2.5.25 Mountain Plover (*Charadrius montanus*)

The mountain plover is a state species of special concern, is a USFWS BCC, and was proposed for listing by USFWS as threatened in 2010. However, in 2011, mountain plover was determined not to be threatened or endangered. It is considered adequately conserved through implementation of the WRCMSHCP.

The mountain plover forages mainly in playa and vernal pool habitat and sometimes in open areas including fallow agricultural areas and grasslands (Garrett and Dunn, 1981). The species breeds in dry, open shortgrass prairies or grasslands and winters in shortgrass plains, plowed fields, open sagebrush areas, and sandy deserts (AOU, 1993). In breeding areas, this species

requires open areas where insect foraging is possible. This species does not nest in California but occurs in the state only during winter (September to March). Within the WRCMSHCP Plan Area, the mountain plover is usually found in grassland, agricultural areas, and alkali playa. This transient species is observed rarely and is only present in the winter.

This species may forage within the Proposed Project area and Alternative Project area. There is a moderate potential for mountain plover to occur as a winter transient for foraging in the BSA but it is not expected to breed here.

6.2.5.26 Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis)*

The western yellow-billed cuckoo is state endangered, USFWS proposed threatened, and a USFWS BCC. This species requires additional surveys per Section 6.1.2, Riparian/Riverine and Vernal Pools Policy, of the WRCMSHCP.

The western yellow-billed cuckoo requires riparian scrub and forest with broad tracts of suitable riparian habitat. This species is found in southern cottonwood/willow riparian, riparian scrub, riparian forest, and southern willow scrub habitat, but this habitat must be a dense, wide riparian woodland with well-developed understory for breeding (Garrett and Dunn, 1981). The species occurs in habitat that has dense foliage with deciduous trees and shrubs, and willows are required for roost and nest sites. For breeding, river bottoms with high humidity with a dense understory adjacent to a slow-moving watercourse, backwater, or seep are required (Zeiner et al., 1990). This species is known as a breeding bird in only one location in the WRCMSHCP Plan Area, but five core areas within the WRCMSHCP Plan Area will be included for conservation.

No suitable foraging or nesting habitat is present within the Proposed Project area or Alternative Project area and none of the proposed WRCMSHCP Core Areas or Linkages for this species are near the BSA.

6.2.5.27 Western Burrowing Owl (*Athene cunicularia*)

Western burrowing owl is a federal bird of conservation concern, a state species of special concern, and a WRCMSHCP-covered species, and is a species for which Additional Survey Needs and Procedures per Section 6.3.2 of the WRCMSHCP are required. Surveys for burrowing owl are required as part of the project review process where suitable habitat is present. Burrowing owls observed as a result of survey efforts are to be conserved as described in Section 6.3.2 of the WRCMSHCP and per Objective 5 of the Burrowing Owl Species Account in the WRCMSHCP. While habitat suitable for burrowing owls is found throughout the WRCMSHCP Plan Area, observations of burrowing owls are clumped together in only a few locations.

The western burrowing owl is a ground-dwelling owl that relies on the burrowing activities of fossorial mammals for excavation of its shelters and nest sites (CDFG, 2012). Typical habitat for this species includes open, dry grasslands, agricultural fields, and sparse shrub lands, as well as developed areas with sufficient food sources. Common burrowing mammals associated with burrowing owls are ground squirrels and badgers.

Protocol western burrowing owl surveys were conducted by AECOM biologists during spring 2014 in accordance with the Riverside County protocol (Riverside County, 2006). Surveys began on April 28, 2014, and ended on June 19, 2014. Areas surveyed and burrow locations detected are displayed in Figures 15a through 15g Burrowing Owl Resources. Detailed survey findings are provided in Appendix J.

A total of 212 potentially suitable burrows, or burrow clusters, were documented within Segment 2 of the Proposed Project area and the Alternative Project area. A total of 164 potentially suitable burrows were documented within Segment 2 of the Proposed Project area, and an additional 48 were detected within the Alternative Project area.

This species was not been detected and no active sign was observed at recorded burrow locations. However, this species has been previously detected during surveys conducted for the Triton Substation Project within the Proposed Project area and Alternative Project area, south of the intersection of Benton Road and Leon Road (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Additionally, multiple CNDDB records document this species occurring within 3 miles of the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). There is a potential that 2014 drought conditions have resulted in extirpation from the site, as a result of reduced vegetative cover and food for prey resources.

6.2.5.28 Costa's Hummingbird (*Calypte costae*)

Costa's hummingbird is a state special animal and is not covered by the WRCMSHCP. It is not a species of special concern so take coverage per the WRCMSHCP is not necessary.

Hummingbird's feed on nectar and insects and have a preference for red flowers. Costa's hummingbird feeds extensively on the red beardtongue. Since this plant is found mainly in habitats where Costa's is the only resident hummingbird, it is probably the plant's chief pollinator (Udvardy, 1977). Costa's hummingbird is a low desert hummingbird and breeds in the Sonoran and Mojave deserts of California and Mexico in desert scrub. Habitats include Sonoran desert scrub, the Mojave desert, California chaparral, California coastal scrub, and the Cape deciduous forest of Baja California. It can be found in chaparral, scrub, or woodland habitat on the hottest days of summer when it leaves the desert. This species was observed in the BSA.

6.2.5.29 Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Southwestern willow flycatcher is a federally and state endangered species, as well as a WRCMSHCP-covered species. This species requires additional surveys per Section 6.1.2, Riparian/Riverine and Vernal Pools Policy, of the WRCMSHCP. The willow flycatcher is a migratory species that breeds in North America and winters in South and Central America. The southwestern subspecies (*E. t. extimus*) is the federally endangered race that occupies a few lowland riparian zones in southern California. It occurs in the region from early May to mid-September. The southwestern willow flycatcher nests in large stands of relatively mature riparian forest with dense lower growth.

Suitable flycatcher habitat was observed within the BSA both in the Proposed and Alternative Project areas during the April 25, 2013 reconnaissance-level survey, so protocol surveys were conducted in 2014. Surveys were conducted on May 15, May 27, June 9, June 19, and planned for June 30, and July 11, 2014.

The suitable habitat for willow flycatcher within the BSA was divided into three distinct areas known as Survey Area 1, Survey Area 2, and Survey Area 3 (Figures 16a and 16b Special-Status Bird Species). Survey Areas 1 and 2 occur within the Proposed Project area; Survey Area 3 occurs within the Alternative Project area. Survey Area 1 at the northern portion of the Proposed Project area consists of 1.23 acres of southern willow scrub and 0.78 acre of mulefat scrub (Figure 16a Special-Status Bird Species). Survey Area 2, south of Survey Area 1, consists of two narrow strips of southern willow scrub totaling 1.65 acres. Within the Alternative Project area, Survey Area 3 consists of one narrow strip of southern willow scrub (1.36 acres) with one additional strip of mulefat scrub (0.38 acre).

A single willow flycatcher was detected on May 16, 2014 within Survey Area 2 (Figure 16a Special-Status Bird Species). This individual was likely a migrant. An additional migrant was detected within Survey Area 3 during a least Bell's vireo survey conducted on May 29. It is not known at this time if either of these detections is confirmed observation of the southwestern willow flycatcher as the likelihood they are migrants would indicate they are not the endangered subspecies. These locations are depicted in Figure 16a Special-Status Bird Species. Detailed survey findings are provided in Appendix K.

6.2.5.30 Loggerhead Shrike (*Lanius ludovicianus*)

Loggerhead shrike is a federal bird of conservation concern, a state species of special concern, and a WRCMSHCP-covered species. The loggerhead shrike is a stocky songbird that functions as a small predator in lowland ecosystems, preying on a wide range of invertebrates and small

vertebrates (Unitt, 2014). It occupies open, generally flat terrain with low, sparse, typically herbaceous vegetation. The shrike is most typically associated with grassland. Although it requires large areas with very low human density, it is tolerant of human landscape modifications such as agriculture and grazing. In addition to open expanses, it readily makes use of fences for perching and for its peculiar habit of impaling prey, but requires a large, dense shrub or small tree for nesting.

This species has a high potential to occur within suitable habitats (i.e., open grassland and agricultural areas) associated with both the Proposed Project area and Alternative Project area (Figures 11a through 11c Vegetation and Other Land Cover Types). Also, several pairs of this species were documented in open agricultural terrain during Segment 1 surveys (TRC, 2013). CNDDB records occur within 3 miles (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles).

6.2.5.31 Least Bell's Vireo

Least Bell's vireo is a federally and state endangered species, and is also covered under the WRCMSHCP. This species requires additional surveys per Section 6.1.2, Riparian/Riverine and Vernal Pools Policy of the WRCMSHCP. It breeds in dense, deciduous riparian stands with abundant undergrowth. The historic decline of this species is predominately due to a combination of habitat loss and brood parasitism by brown-headed cowbirds (*Molothrus ater*) (Kus, 2002).

Suitable vireo habitat was observed within the BSA during the April 25, 2013 assessment (AECOM, 2013).Protocol surveys were conducted beginning on April 24, 2014, and ending on July 11, 2014.

The suitable habitat for least Bell's vireo within the BSA was divided into three distinct areas known as Survey Area 1, Survey Area 2, and Survey Area 3 (Figures 16a and 16b Special-Status Bird Species). Survey Areas 1 and 2 occur within the Proposed Project area and Survey Area 3 occurs within the Alternative Project area. Survey Area 1 at the northern portion of the Proposed Project area consists of 1.23 acres of southern willow scrub and 0.78 acre of mulefat scrub (Figure 16a Special-Status Bird Species). Survey Area 2, south of Survey Area 1, consists of two narrow strips of southern willow scrub totaling 1.65 acres. Within the Alternative Project area, Survey Area 3 consists of one narrow strip of southern willow scrub (1.36 acres) with one additional strip of mulefat scrub (0.38 acre).

During the first survey on April 24, 2014, two single male least Bell's vireos were detected. One was just outside the 500-foot buffer adjacent to Survey Area 1 which is within the Proposed Project (Figure 16a Special-Status Bird Species). The other was in Survey Area 3, within the

Alternative Project (Figure 16a Special-Status Bird Species). During survey 2 on May 5, one singing male least Bell's vireo was again detected outside the buffer adjacent to Survey Area 1. During surveys 3 and 4 on May 15 and May 27, 2014, respectively, one singing male least Bell's vireo was detected in Survey Area 3 (Figure 16a Special-Status Bird Species). During the fifth survey conducted on June 9, 2014, a breeding pair was confirmed in Survey Area 3 as two adult least Bell's vireos were observed together and begging calls of a chick in a nest were heard nearby (Figure 16a Special-Status Bird Species). During survey 6 on June 19, 2014, a singing male least Bell's vireo was again detected outside the buffer adjacent to Survey Area 1. Also during survey 6, a singing male least Bell's vireo was detected foraging with a begging juvenile in Survey Area 3. During survey 7 on June 30, 2014, a family group of least Bell's vireos (with at least one juvenile) were detected in Survey Area 3. During survey 8 on July 11, 2014, a single singing male least Bell's vireo was detected in Survey Area 3. Detailed survey findings are provided in Appendix K.

6.2.5.32 Coastal California Gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is a federally threatened, state species of special concern, and WRCMSHCP-covered species. This gnatcatcher is a variably common, obligate resident of arid coastal sage scrub vegetation from sea level to approximately 1,600 feet in eastern Orange County and southwestern Riverside County. Like other species that rely on coastal sage scrub, the decline of the California gnatcatcher has been instigated by cumulative loss of this vegetation to urban and agricultural development (Atwood, 1992).

USFWS-designated critical habitat occurs within 3 miles of the BSA (Figure 9 USFWS-Designated Critical Habitat). Coastal California gnatcatcher is considered to be adequately conserved through the reserve assembly of the WRCMSHCP, so no surveys for this species are required as part of the pre-project review process.

One gnatcatcher was detected incidentally during burrowing owl surveys, within the Proposed Project area (Figure 16b Special-Status Bird Species). Gnatcatchers are known to occur within the BSA, per CNDDB records and records from the Triton Project (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles). Although focused surveys were not conducted, this species is likely to occur within Diegan coastal sage scrub communities associated with both the Proposed Project area and Alternative Project area. Suitable habitat for coastal California gnatcatcher within the BSA is displayed in Figures 16a and 16b Special-Status Bird Species.

6.2.5.33 California Horned Lark (*Eremophila alpestris actia*)

California horned lark is a state watch list, WRCMSHCP-covered species. It occupies flat, sparsely vegetated expanses consisting of either native vegetation types or acutely disturbed terrain (Unitt, 2014). Open grasslands, fields, and scraped pads will support nesting by this species if disturbance is not overly frequent, yet is frequent enough to prevent rank growth of weeds or recovery of dense native vegetation.

This species was documented within both the Proposed Project area and Alternative Project area within disturbed/ruderal cover type at the intersection of Benton Road and Leon Road (Figure 16a Special-Status Bird Species). The horned lark was also documented within Segment 1 during TRC surveys (TRC, 2013). Additionally, CNDDB records show the species present within the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles).

6.2.5.34 Grasshopper Sparrow (*Ammodramus savannarum*)

The grasshopper sparrow is a CDFW species of special concern and is considered adequately conserved through implementation of the WRCMSHCP. This species occurs in grassland with sparse brush, primarily in the coastal lowland, including alluvial, playa, and sparse coastal sage scrub when sufficient grassland is available (Garrett and Dunn, 1981). Grasshopper sparrows are seen mainly from late March through mid-July, when they sing from exposed perches; the species is nearly impossible to find when not singing. The species breeds in the WRCMSHCP Plan area (Dudek, 2003) on slopes and mesas containing grassland of varying compositions. The grasshopper sparrow nests in dense, dry or well-drained grasslands and may winter here (Grinnell and Miller, 1944; Garrett and Dunn, 1981). It is sensitive to edge effects and requires large blocks on contiguous habitat (Dudek, 2003).

There is a moderate potential for grasshopper sparrows to use the grassland habitat within both the Proposed Project area and Alternative Project area for both foraging and nesting.

6.2.5.35 Bell's Sage Sparrow (*Amphispiza belli belli*)

The Bell's sage sparrow is a federal bird of conservation concern, state watch list species, and WRCMSHCP-covered species. It is a shrub specialist, requiring large, undisturbed tracts of relatively low and open scrub vegetation on moderate- to low-gradient slopes (Unitt, 2014).

Bell's sage sparrow has a high potential to occur within both the Proposed Project area and Alternative Project area as suitable scrub and grasslands are present in the BSA. A population was documented in coastal sage scrub along Segment 1 of the Alternative Project area during

TRC surveys (TRC, 2013) and CNDDB records are known within 3 miles of the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles).

6.2.5.36 Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

Southern California rufous-crowned sparrow is a state watch list and WRCMSHCP-covered species. It is associated with rocky or open hillsides of sparse, grassy coastal sage scrub or chaparral at relatively low elevations on the coastal slope of southern California (Unitt, 2014). It also thrives in areas that have recently been burned and sometimes remains in these grassy, successional habitats for a number of years as dense scrub vegetation gradually recovers. Pairs nest on the ground in rock hollows or under clumps of grass or low brush (Pemberton, 1910).

This species has a high potential to occur within scrub and chaparral habitats within both the Proposed Project area and Alternative Project area. Suitable habitat is present throughout the BSA, southern rufous-crowned sparrows were found throughout Segment 1 during surveys conducted by TRC (TRC, 2013), and CNDDB records are known within the BSA (Figure 7 Existing Resources Data for Birds, Amphibians, and Reptiles).

6.2.5.37 Yellow Warbler (*Dendroica petechia*)

The yellow-rumped warbler is a federal bird of conservation concern, state watch list species, and WRCMSHCP-covered species. The yellow warbler is associated with mature riparian forest consisting of willow, cottonwood, aspen, sycamore, or alders for nesting and foraging, but will also nest in montane shrubbery in open conifer forests (Unitt, 2004).

This species was detected within nonnative grassland northeast of the intersection of Auld Road and Leon Road, associated with the Proposed Project, and in riparian scrub south of the intersection of Los Alamos Road and Briggs Road during least Bell's vireo surveys within the Alternative Project area (Figure 16a Special-Status Bird Species).

6.2.5.38 Yellow-breasted Chat (*Icteria virens*)

Yellow-breasted chat is a CDFW species of special concern. This species breeds across the central and eastern United States and southern Canada from South Dakota to New Hampshire and southward to eastern Texas and northern Florida. It also occurs in scattered regions across the western United States from southern Canada to very northern Mexico. Nest building typically occurs in May and fledging is completed by August (Unitt, 2004). In California, this species requires dense riparian thickets associated with watercourses, saturated soils, or standing water (lakes or ponds). It typically occurs in riparian woodland/scrub with dense undergrowth.

There is a high potential for this species to occur within the Proposed Project area and Alternative Project area as suitable nesting and foraging habitat is present in the BSA. TRC observed this species in Segment 1 (TRC, 2013).

6.2.5.39 Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird is a federal bird of conservation concern, state watch list species, and WRCMSHCP-covered species. The occurrence of this highly colonial species is difficult to predict from year to year because of its nomadic ecology, which involves sudden appearances in and disappearances from local areas of suitable marsh breeding habitat (Unitt, 2014). In addition to dense freshwater marsh habitat, tricolored blackbird colonies require nearby, often disturbed open terrain (including rangeland and agriculture) for group foraging on insects and seeds.

This species was detected within riparian scrub habitat associated with the corridor south of Benton Road, along Leon Road, in the Proposed Project during least Bell's vireo surveys (Figure 16a Special-Status Bird Species). This species may also occur within emergent wetland habitat associated with the Alternative Project, south of the intersection of Los Alamos Road and Briggs Road.

6.2.5.40 Lawrence's Goldfinch (*Spinus lawrenci*)

Lawrence's goldfinch is a federal bird of conservation concern. It is typically found in open habitats and requires cliffs and large trees for nesting (Unitt, 2004). It is generally common throughout California during the breeding season.

This species was detected during least Bell's vireo surveys within riparian habitat north of the intersection of Leon Road and Auld Road, and nonnative grassland habitat along Leon Road, just north of Auld Road (Figure 16a Special-Status Bird Species). These areas are associated with the Proposed Project area, although this species may also occur within open areas associated with the Alternative Project area.

Mammals

6.2.5.41 Stephens' Kangaroo Rat (*Dipodomys stephensi*)

The Stephens' kangaroo rat is a federally endangered, state threatened, WRCMSHCP-covered species. It inhabits sparse, low annual and perennial grasslands and open coastal sage scrub on relatively flat terrain (Thomas, 1973). It is a weak burrower, requiring relatively friable soil or the presence of larger fossorial mammals such as ground squirrels or gophers to loosen the soil.

This moderate-sized granivorous species requires seeds from such species as buckwheat, grasses, and filaree (Thomas, 1975), but it also feeds on green herbaceous growth. Preferred habitat for SKR consists of level to gently rolling topography, substrates characterized as loams (of considerable diversity), and disturbed annual grassland or sparse sage scrub vegetation types. However, the species has also been captured in steep terrain, occasionally in sandier sands, and even in relatively dense sage scrub and chaparral vegetation.

Suitable Stephens' kangaroo rat habitat was detected during the April 25, 2013 assessment (AECOM, 2013). Trapping for Stephens' kangaroo rat was initiated May 1, 2014, and ended on May 14, 2014. A total of 18 Stephens' kangaroo rat captures were recorded at four locations associated with the Proposed Project area and Alternative Project area (Figures 17a through 17k Special-Status Mammals). Specifically, Stephens' kangaroo rats were trapped at three trap lines associated with the Proposed Project area, and one trap line associated with the Alternative Project area. Maps and detailed survey findings are provided in Appendix L.

6.2.5.42 Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

Northwestern San Diego pocket mouse is a state species of special concern and a WRCMSHCP-covered species. It is known to inhabit arid coastal and desert border areas with sandy herbaceous areas, usually in association with rocks or coarse gravel.

This species was detected frequently within disturbed/ruderal cover type and scrub habitats during 2014 small mammal trapping surveys, within the Proposed Project area and the Alternative Project area (Figures 17a through 17k Special-Status Mammals).

6.2.5.43 Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*)

The Los Angeles pocket mouse is a state species of special concern and WRCMSHCP-covered species. This small, nocturnal mammal occurs in sandy, friable soils within a variety of open, arid vegetation types in the interior regions of cismontane southern California. It is restricted to fine soils of this type, which occur as a result of former water or wind deposition, by its weak burrowing abilities.

Trapping for this species was conducted concurrently with Stephens' kangaroo rat surveys and none were detected. This species is considered to have a moderate to low potential to occur within the Proposed Project area and Alternative Project area. This species is known to occur within the vicinity of the Proposed Project from USFWS and CNDDB records that occur adjacent and within the BSA (Figure 8 Existing Resources Data for Invertebrates and Mammals). However, the amount of suitable habitat for this species was limited at each; thus, it is expected that the populations inhabiting these locations are small and limited in distribution.

6.2.5.44 Dulzura pocket mouse (*Chaetodipus californicus femoralis*)

Dulzura pocket mouse is a CDFW species of special concern and is found often in chaparral and sometimes found in desert grassland areas adjacent to scrub habitat. It is generally found on chaparral covered slopes in coastal or montane regions. Diet consists of seeds, insects, and occasionally green leaves).

This species has a moderate potential to occur in both the Proposed Project area and Alternative Project area but was not observed during small mammal trapping.

6.2.5.45 Southern Grasshopper Mouse (*Onychomys torridus ramona*)

The southern grasshopper mouse is a state species of special concern and a WRCMSHCP-covered species. It is known to occupy arid, shrub-dominated or herbaceous habitats with loose soils in the lowlands on both sides of the desert divide mountains (Ingles, 1965; Jameson, 2004).

This species has a high potential to occur within scrub and grasslands habitats within the Proposed Project area and the Alternative Project area. This rodent species was trapped during TRC surveys of Segment 1 (TRC, 2013) and suitable habitats are present throughout the BSA,

6.2.5.46 San Diego Desert Woodrat (*Neotoma lepida intermedia*)

The San Diego desert woodrat is a state species of special concern and WRCMSHCP-covered species. This woodrat is secretive and nocturnal, but is detectable indirectly by its conspicuous "midden" shelters constructed of twigs and other plant materials. This relatively large rodent occupies a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth

San Diego desert woodrat was captured during 2014 small mammal surveys, within scrub and ruderal/disturbed cover type within the Proposed Project area (Figures 17a through 17k Special-Status Mammals). This species was not detected within the Alternative Project area.

Non-Special-Status Raptors

A nesting raptor survey was conducted on May 29, 2014, within the BSA. The purpose of the survey was to evaluate the potential for electrocution of nesting raptors. Four non-special-status raptor species were detected, including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), and American kestrel (*Falco sparverius*). Additionally, a great horned owl (*Bubo virginianus*) was observed during protocol western burrowing owl surveys. As birds-of-prey, these species have protection under CFGC Code

3503.5. Non-special-status raptor species observed or with potential for occurrence are discussed in detail below. Non-special-status raptors detected are displayed in Figures 19a and 19b Raptor Species.

6.2.5.47 Red-Shouldered Hawk (*Buteo lineatus*)

Red-shouldered hawks are typically found in riparian areas, oak woodlands, and eucalyptus groves. This species can be found in suburban areas where housing is mixed with woodlands and tends to live in stands with an open subcanopy. The species forages on small mammals, amphibians, and reptiles.

Red-shouldered hawk was not detected within the Proposed Project or Alternative Project but was heard vocalizing adjacent to the BSA (Figure 19a Raptor Species).

6.2.5.48 Red-Tailed Hawk (*Buteo jamaicensis*)

The red-tailed hawk breeds throughout North America and is found in a wide range of habitats including deserts, grasslands, agricultural fields, coniferous and deciduous forest, tropical rainforests, and urban areas, with preferred habitat being mixed forest and field, with trees as perch and nest sites. Stick nests are constructed in large trees or on cliff ledges. Occasionally, nests may be made in man-made structures. Prey species include small mammals, birds, and reptiles, with rodents composing the majority of the red-tailed hawk diet.

No red-tailed hawk nests were found within the Proposed Project area. Two red-tailed hawk nests were observed and mapped within the Alternative Project area (Figure 19a Raptor Species). One of the two red-tailed hawk nests had a young chick sitting in the nest, located approximately 500 feet from the western end of the Alternative Project area, along Los Alamos Road.

6.2.5.49 American kestrel (*Falco sparverius*)

The American kestrel is found in habitats ranging from deserts to grasslands and is often found in open habitat with short vegetation and few trees. This species often perches on utility poles and wires.

This species was detected during the raptor survey, along with associated cavities that may have been kestrel nests (Figure 19a Raptor Species). Nesting could not be determined for the potential American kestrel nests as these potential nests were cavities in electrical poles along the SCE easement. At least one adult was present at each cavity and whitewash sign was present at each cavity.

Potential American kestrel nest cavities were detected within the Proposed Project area (Figures 19a and 19b Raptor Species). No nest cavities were found within the Alternative Project area.

6.2.5.50 Great Horned Owl (*Bubo virginianus*)

The great horned owls is nocturnal and is found in woods interspersed with fields or other open areas. This species can be found in deciduous and evergreen forests, swamps, desert, tundra edges, and tropical rainforest, as well as cities, orchards, suburbs, and parks.

A great horned owl was observed near the southern end of the Proposed Project area in a eucalyptus grove during western burrowing owl surveys (Figure 19b Raptor Species). Nesting was not observed but may occur within this area. This species was not observed within the Alternative Project area.

6.2.5.51 Turkey Vulture (*Cathartes aura*)

The turkey vulture is a WRCMSHCP-covered species for breeding populations. It is associated with any vegetation type or terrain during foraging activities, but requires secluded cliff edges within rugged terrain for nesting (Unitt, 2004). Turkey vultures have strict nest-site requirements including open hilly habitats with protected nest and roost sites provided by cliffs, caves, ledges, rock outcrops, large trees, snags, thickets and shrubs (Coles, 1944). Two known nest locations occur within the WRCMSHCP Plan Area, one in the Rawson Canyon north of Lake Skinner (to the northwest of the BSA) and the other within Bernasconi Hills near Lake Perris (may be historical). Suitable foraging habitat for turkey vultures within the WRCMSHCP Plan Area includes montane coniferous forest, oak woodlands and forest, coastal sage scrub, chaparral, desert scrubs, Riversidean alluvial fan sage scrub, grassland, and playas and vernal pool.

One turkey vulture was detected soaring above the BSA during a nesting raptor survey, above disturbed ruderal cover type associated with the Proposed Project area (Figure 16b Special-Status Bird Species, Figure 11b Vegetation and Other Land Cover Types). This species is not expected to nest on-site as suitable nesting habitat is not present. Suitable habitat is available throughout open, undeveloped habitats within the BSA; it may also forage within the Alternative Project.

6.2.6 Wildlife Movement Corridors

The BSA (both the Proposed Project and Alternative Project) could be used by a variety of wildlife species for movement purposes. Wildlife movement generally refers to dispersal, seasonal migration, or movement within home ranges. Activities within an animal's home range typically include foraging, searching for mates/breeding areas, defending territory, and other

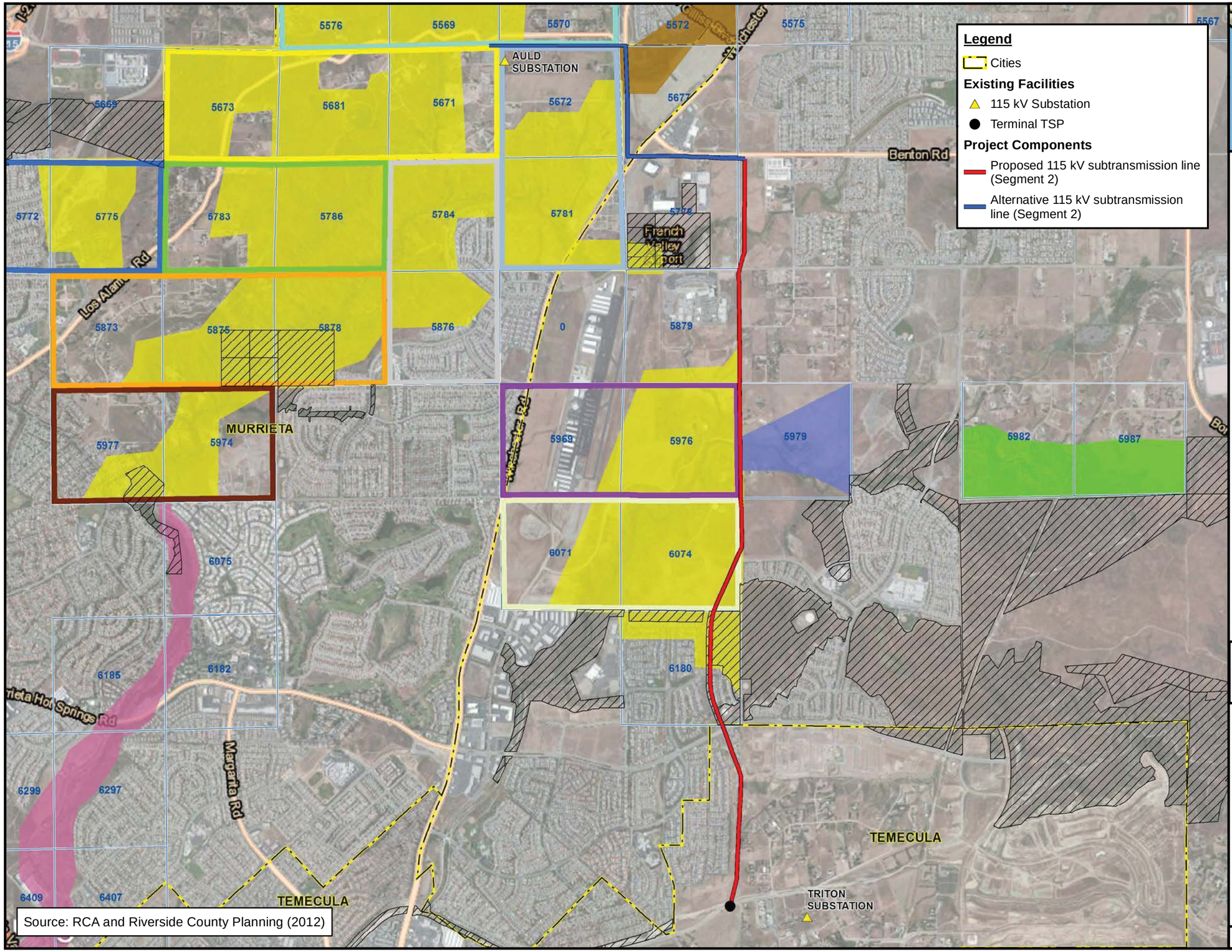
activities. Dispersal may be juveniles dispersing from natal areas or adults extending range distribution. Wildlife movement corridors within the BSA are provided in Figure 20 Wildlife Movement Corridor.

Within the BSA, most areas that are relatively flat with no drainages have been converted to agriculture, small ranches (a few acres or less), or dense urban use. Native habitat is generally either on sloped areas (sage scrub with some chaparral) or within the drainages (mulefat, cottonwood, willow scrub). This area has been heavily impacted by urban development. Roads bisect throughout the BSA, and to the south, southwest, east, and northeast is heavy urban and industrial development. Interstate 215 and Interstate 15 are to the west and southwest of the BSA, with SR-79 crossing the BSA in the north.

The BSA falls within WRCMSHCP Criteria Cells and is within Proposed Core 2 (for both the Proposed Project and Alternative Project); is within Proposed Constrained Linkage 18 (only within the Alternative Project); is near Existing Constrained Linkages E and A of the WRCMSHCP (for both the Proposed Project and Alternative Project); and is adjacent to Existing Core J (for both the Proposed Project and Alternative Project). The areas described for conservation associated with these cores and linkages are shown in Figure 20 Wildlife Movement Corridor and refer to the mapped areas in Figure 3-2 of the WRCMSHCP.

Due to the impacts of human activity, the WRCMSHCP cores and linkages reflect actual movement corridors that currently exist in this area of the BSA. The exception to this is for species dependent on agricultural habitat such as western burrowing owl. In general, agricultural land has not been included in the cores and linkages described below. The impact of the loss of agricultural habitat in this area is not discussed in detail below, but the loss of agricultural habitat due to implementation of the Proposed Project or Alternative Project is anticipated to be small relative to the amount of habitat currently available.

Existing Core J is composed of the areas of Diamond Valley Lake, Lake Skinner, and Johnson Ranch and is shown in Figure 20 Wildlife Movement Corridor as Public/Quasi-Public lands. Core J is important for species such as bobcat (*Lynx rufus*), mountain lion (*Puma concolor californicus*), coastal California gnatcatcher, least Bell's vireo, northern harrier, Quino, and Stephens' kangaroo rat. Within Existing Core J, maintenance of existing floodplain processes along Tucalota Creek and in Rawson Canyon is important. Proposed Core 2 is to the west of Existing Core J and is constrained in all directions by existing agricultural and urban development. Proposed Core 2 is important for Quino, as key populations of and habitat for this species is present. Other planning species associated with this core include Munz's onion, San Diego ambrosia, spreading navarretia, California Orcutt grass, western pond turtle (*Emys*



Legend

Cities

Existing Facilities

115 kV Substation

Terminal TSP

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Legend

Western Riverside County MSHCP Criteria Cells

Public/Quasi-Public Conserved Lands

MSHCP Criteria Area Wildlife

MSHCP Existing Constrained Linkage E

MSHCP Proposed Constrained Linkage 15

MSHCP Proposed Constrained Linkage 18

MSHCP Proposed Core 2

MSHCP Proposed Extension of Existing Core 5

Cell Groups

A' F'

B' G'

C' V

D' W

E' Z

NORTH

1 inch = 2,667 feet

0 760 1,520 2,280 3,040 Feet

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Figure 20
Wildlife Movement Corridor

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Filename: Figure20_wildlifeCorridor.mxd Date: 8/1/2014

marmorata), southern California rufous-crowned sparrow, grasshopper sparrow (*Ammodramus savannarum*), Bell's sage sparrow, Swainson's hawk (*Buteo swainsoni*), California horned lark, coastal California gnatcatcher, bobcat, and Los Angeles pocket mouse. Existing Constrained Linkage E exists due to a pre-existing conservation agreement and includes Tucalota Creek. This linkage is important for nesting and foraging habitat for species important in Proposed Core 2, and provides a connection between Existing Core J and Proposed Core 2. The BSA occurs within this linkage. Existing Constrained Linkage A includes lands in a conservation easement in Skunk Hollow and links Proposed Core 2 to the Johnson Ranch area of Existing Core J to the east of the linkage. This linkage is constrained on all sides by existing agriculture, but provides movement for common wildlife such as bobcat. Proposed Constrained Linkage 18 consists of an unnamed drainage that connects Proposed Core 2 to the west and Proposed Extension of Existing Core 7 (another western piece of Existing Core J). Proposed Constrained Linkage 18 is only within the Alternative Project. All other cores and linkages discussed above are within both the Proposed Project and Alternative Project. Agriculture constrains this linkage and plans for community development surround this linkage.

Due to the nature of the Proposed Project and Alternative Project, it is not possible to avoid areas described for conservation in the WRCMSHCP. However, work within areas described by the WRCMSHCP for conservation would be the minimum amount necessary. This means that no staging of equipment or personnel would occur within these areas, and no night work (or indirect night lighting) would occur within WRCMSHCP conservation areas. Treatment and management of edge effects due to proximity with linkages and cores (proposed and existing) would be necessary to ensure that the habitat provides movement functions for species. Guidelines pertaining to urban/wildlands interface per the WRCMSHCP must be adhered to.

6.2.7 Jurisdictional Waters and Wetlands

AECOM conducted a detailed jurisdictional waters and wetlands delineation for the waters survey area between December 2013 and March 2014. The results were presented in the AECOM JDR (AECOM, 2014a), which is included as Appendix B. The BSA supports 12 jurisdictional features consisting of two named features, Santa Gertrudis Creek and Tucalota Creek, in addition to nine ephemeral and intermittent streams, one swale, and their associated wetland/riparian vegetation. Waters within the BSA are discussed separately for both the Proposed Project area and Alternative Project area.

Soils within the BSA are described in Section 6.1.4, Soils.

The BSA supports 12 jurisdictional features that are potentially waters of the U.S. and/or State under the jurisdictional purview of USACE, RWQCB, and/or CDFW. Of these 12 jurisdictional

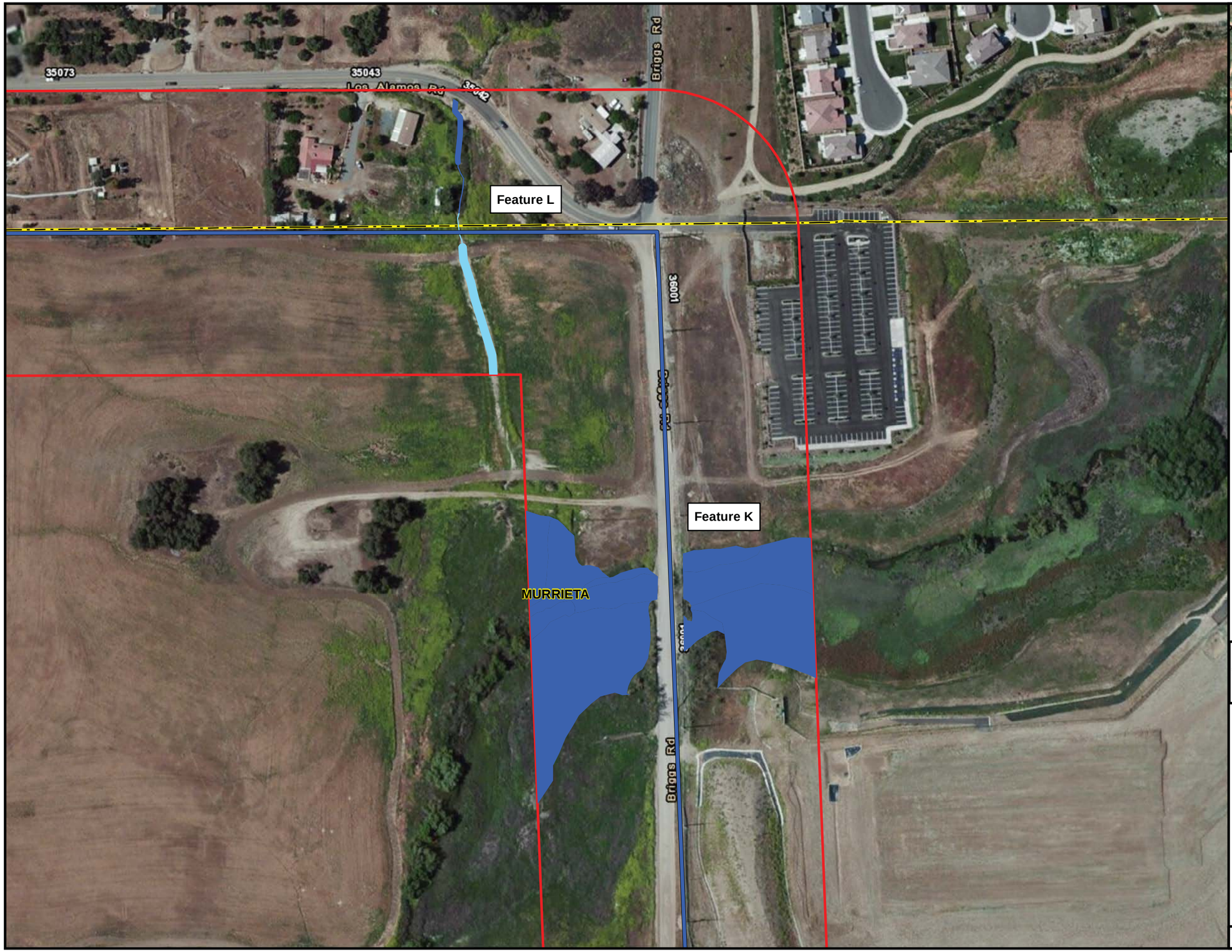
features, eight are within the Proposed Project area and four are within the Alternative Project area. The location and limits of the USACE and RWQCB jurisdictional areas are depicted in Figures 21a through 21i USACE and RWQCB Waters Jurisdiction, and those of the CDFW jurisdictional areas are depicted in Figures 22a through 22i CDFW Waters Jurisdiction.

The collective area of potential waters of the U.S. (and State) regulated by USACE totals 3.73 acres. Of the 3.73 acres, 1.13 acres occurs within the Proposed Project area and 2.60 acres occurs within the Alternative Project area.

The extent and distribution of jurisdictional waters regulated by the RWQCB is identical to the waters of the U.S. under USACE jurisdiction: 3.73 acres. Additional waters that are also regulated by the RWQCB include the 0.12 acre of unvegetated swale, resulting in a total of 3.85 acres regulated by the RWQCB. The other waters summarized below that are regulated by CDFW exclusively do not fall under RWQCB regulation because they do not meet the definition of CWC Section 13050(e) (i.e., they are not surface waters that present a "beneficial use"). Of the 3.85 acres, 1.13 acres occurs within the Proposed Project area and 2.72 acres occurs within the Alternative Project area.

The extent and distribution of jurisdictional waters regulated by CDFW includes the 3.73 acres that are under USACE and RWQCB jurisdiction, and also includes approximately 2.66 acres that are considered waters of the State exclusively, resulting in a total of 6.39 acres regulated by CDFW. Of the 6.39 acres, 3.26 acres occurs within the Proposed Project area and 3.13 acres occurs within the Alternative Project area.

Table 3 Waters of the U.S. and/or State Occurring within the Waters Survey Area for the Proposed Project provides the type and acreage of waters of the U.S. and State occurring within each jurisdictional feature within the Proposed Project area; Table 4 Waters of the U.S. and/or State Occurring within the Waters Survey Area for the Alternative Project provides the type and acreage of waters of the U.S. and State occurring within each jurisdictional feature within the Alternative Project area. In addition, Table 5 Summary of Potential Waters of the U.S. and State Occurring within the Waters Survey Area for the Proposed Project and Alternative Project summarizes the jurisdiction within both the Proposed Project area and the Alternative Project area based on each agency's jurisdiction. A detailed description of the 12 jurisdictional features that were formally delineated within the waters survey area, in addition to representative photographs and data forms for individual features, are provided in the AECOM JDR, which is included as Appendix B.



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

1 inch = 200 feet

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0 75 150 225 300 Feet

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21a

USACE and RWQCB Waters Jurisdiction

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Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014

Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21b

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014

Legend

250-foot buffer (Survey Area)

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State Only (RWQCB)

Top of Bank

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21c

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014

Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

AECOM

1 inch = 200 feet

0 75 150 225 300 Feet

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21d

USACE and RWQCB Waters Jurisdiction

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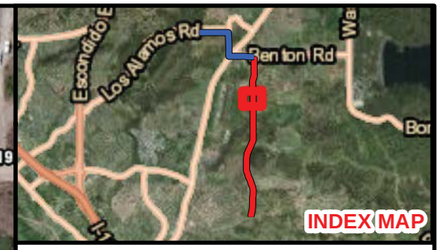
Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

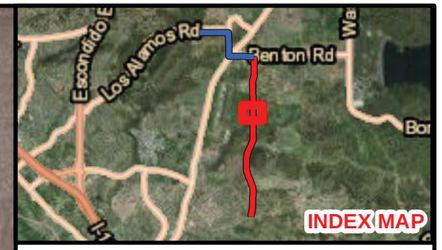
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21e

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

1 inch = 200 feet

AECOM

0 75 150 225 300 Feet

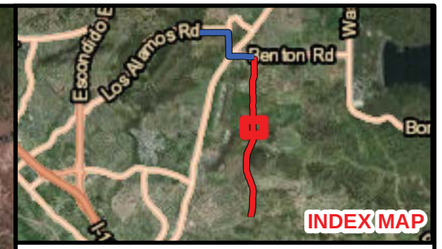
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21f

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

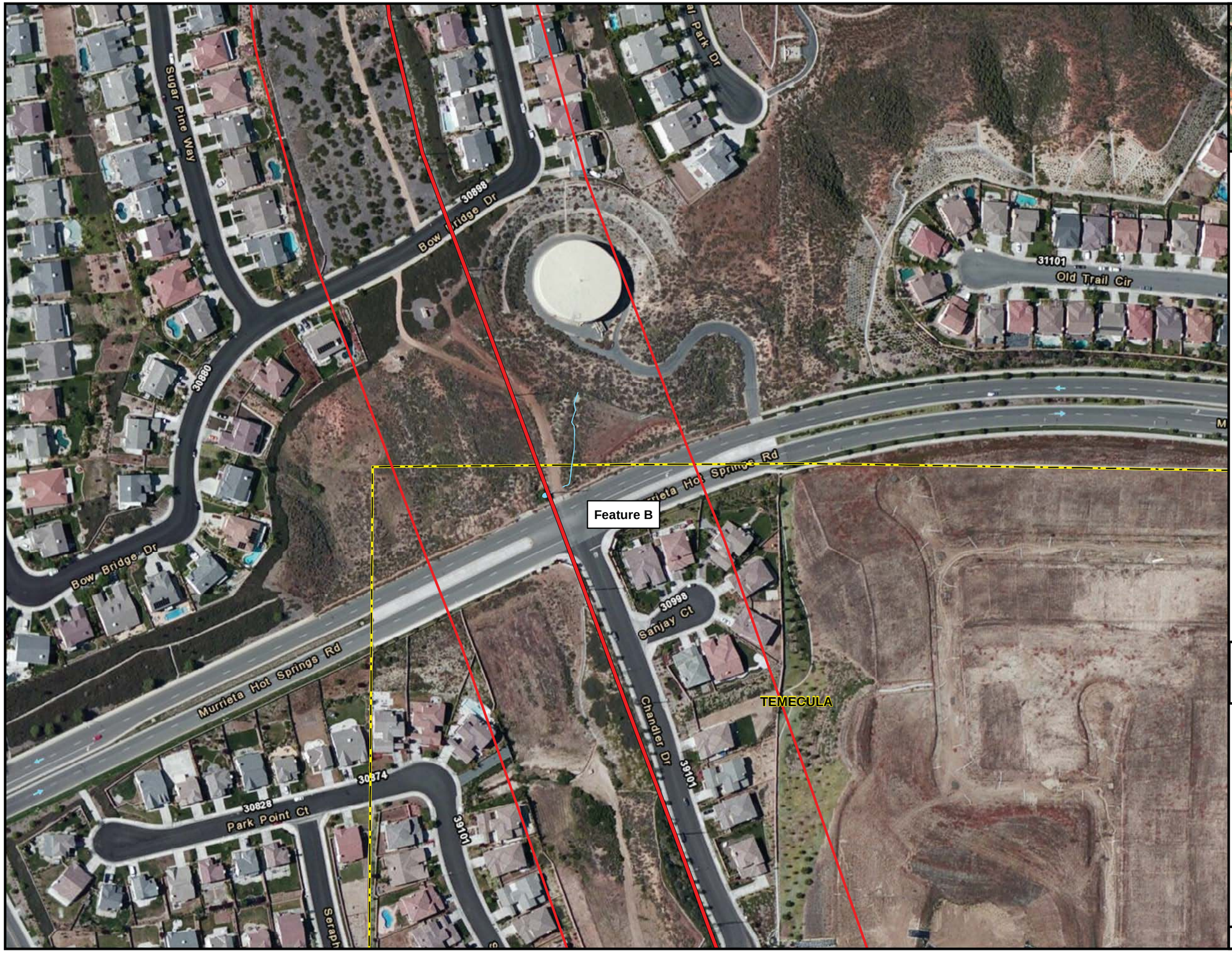
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21g

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

Nonwetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

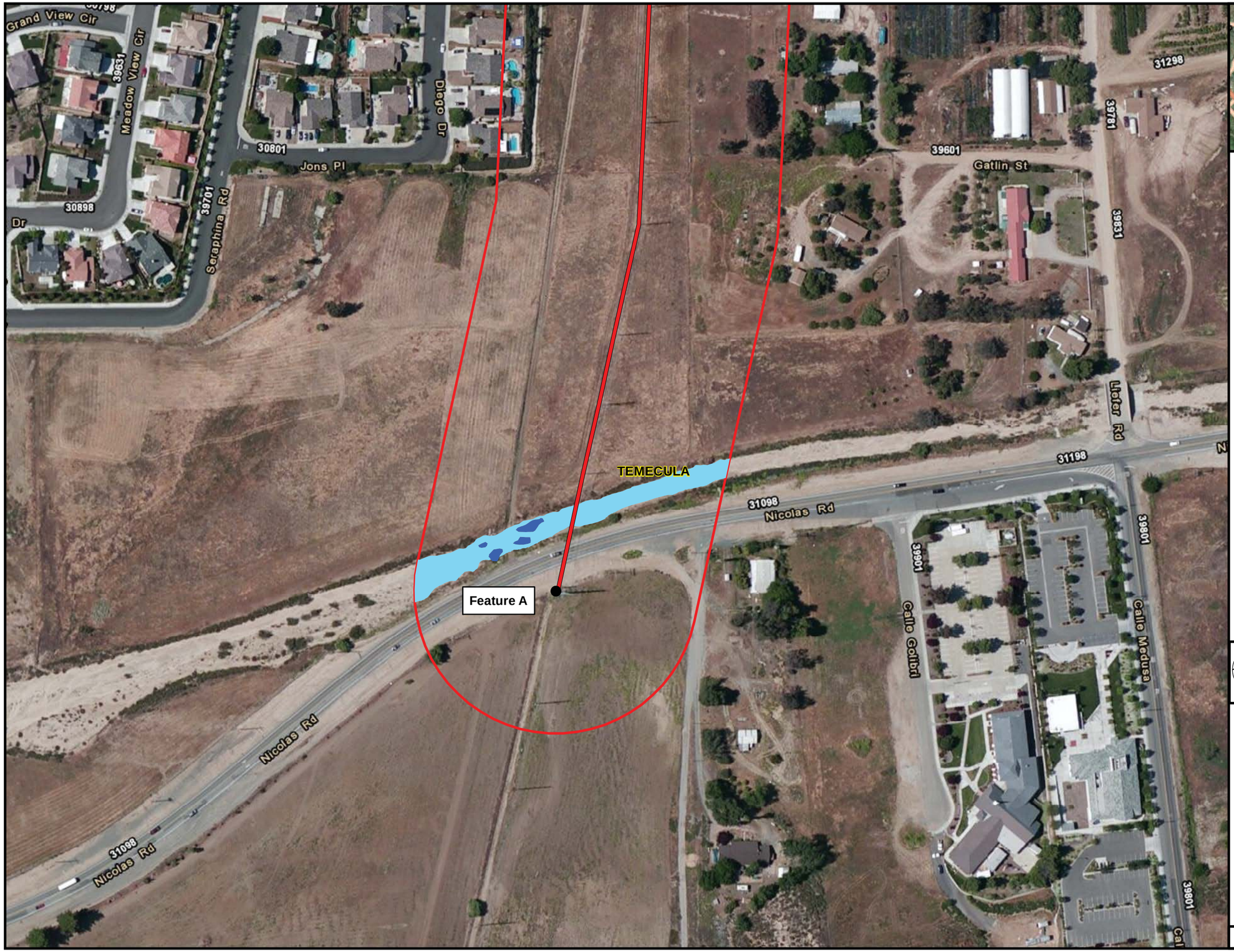
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21h

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

- 250-foot buffer (Survey Area)
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the U.S. and State

(USACE and RWQCB)

- Nonwetland Water
- Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

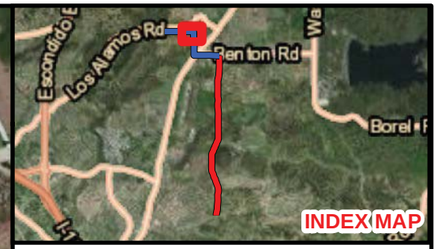
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 21i

USACE and RWQCB Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure21_USACE_RWQCB.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

Wetland Water

NORTH

AECOM

1 inch = 200 feet

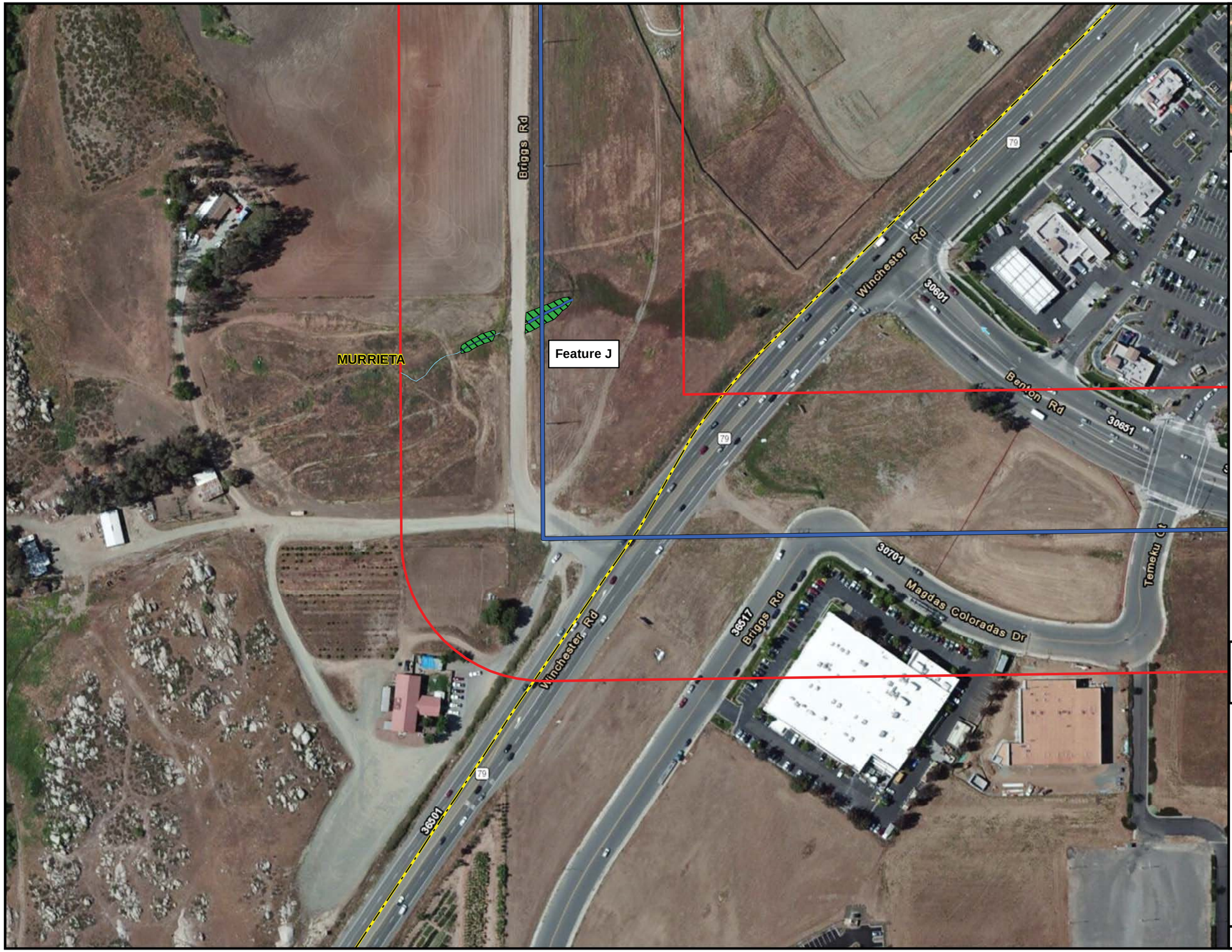
0 75 150 225 300 Feet

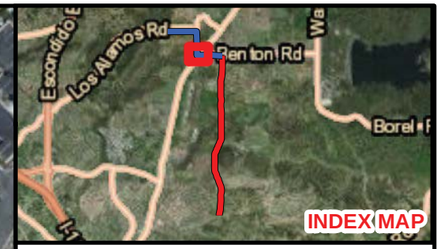
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22a
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014





Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

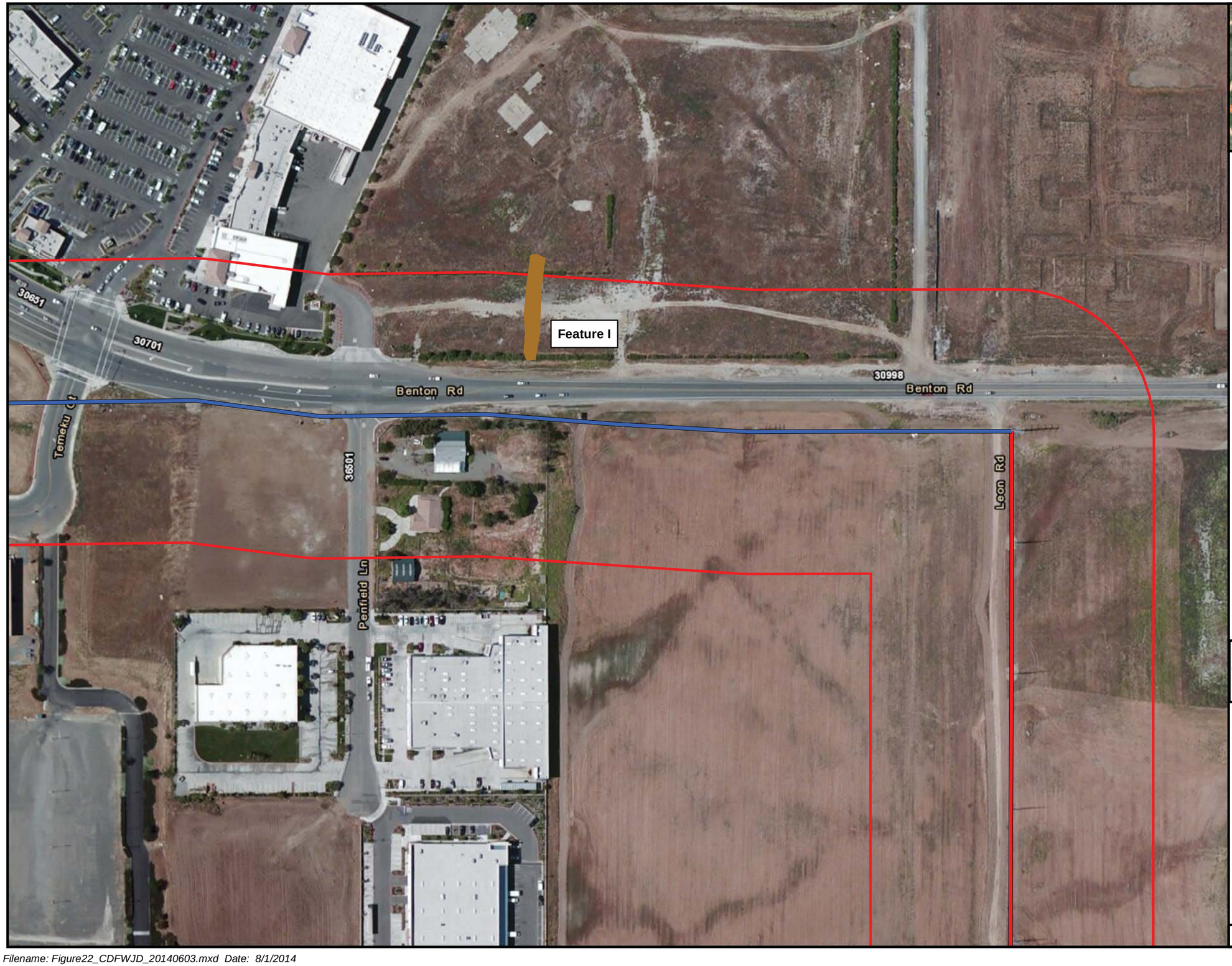
AECOM

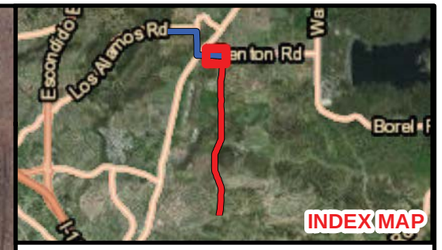
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22b
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014





Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Top of Bank

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

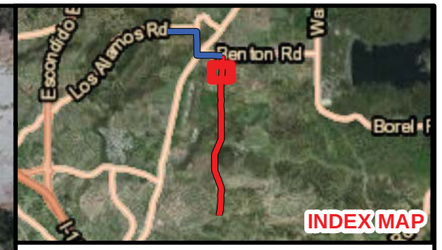
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22c
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

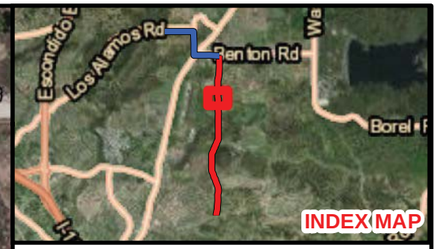
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22d
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014



Legend

- 250-foot buffer (Survey Area)

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

- Nonwetland Water
- Riparian Canopy
- Top of Bank
- Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

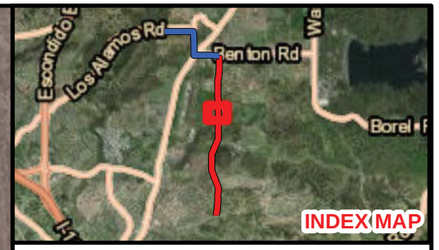
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22e
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014



Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

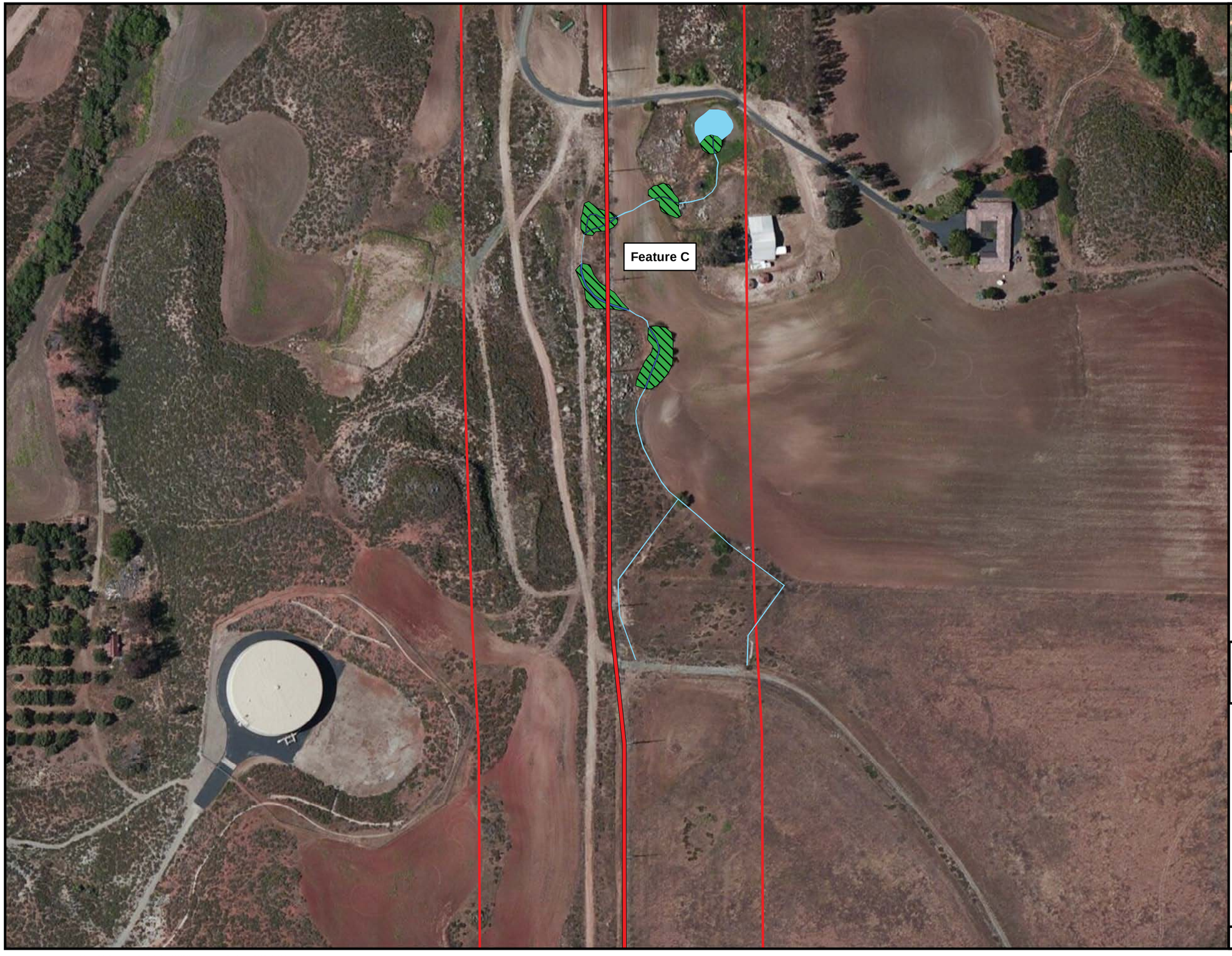
AECOM

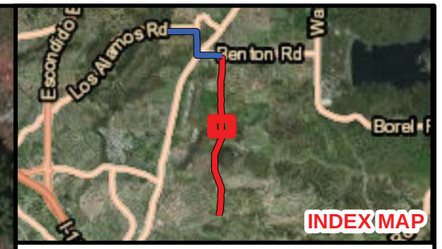
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22f
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014





Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

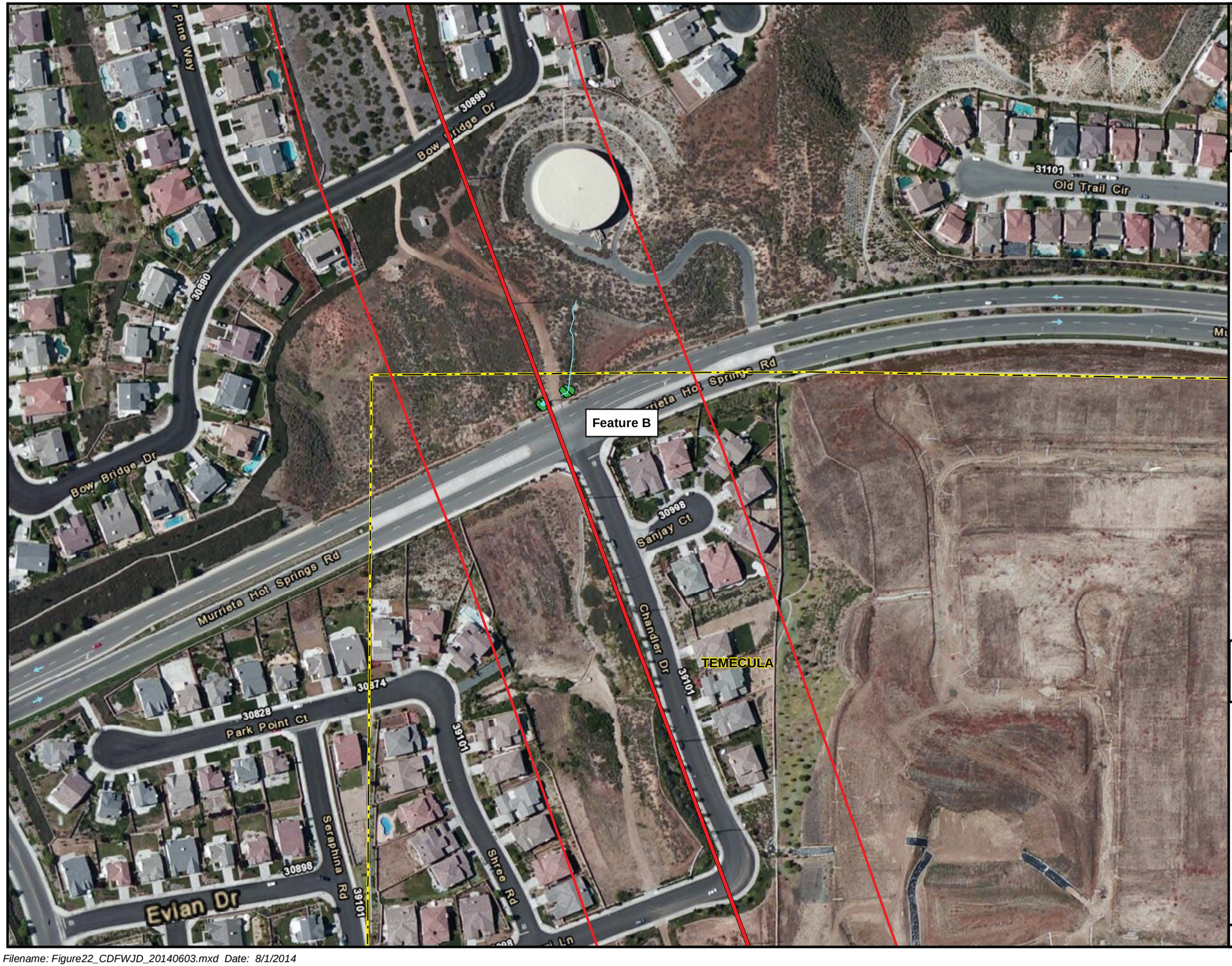
AECOM

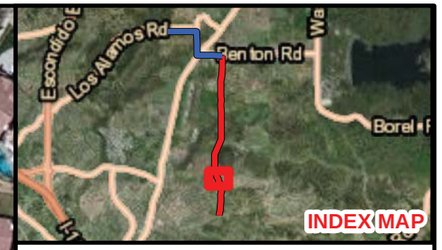
VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22g
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014





Legend

250-foot buffer (Survey

Project Components

Proposed 115 kV subtransmission line (Segment 2)

Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

Nonwetland Water

Riparian Canopy

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

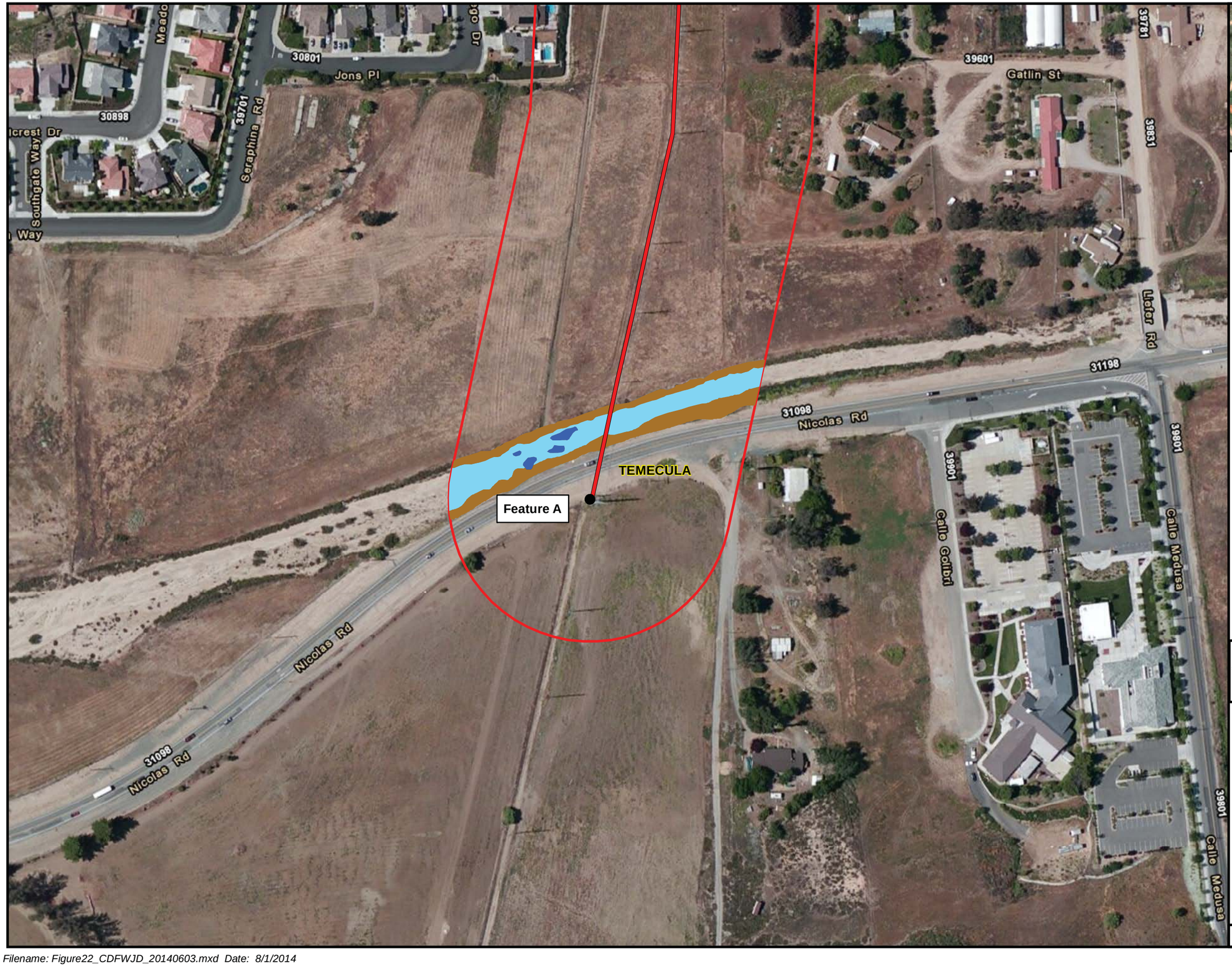
AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22h
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014



Legend

- 250-foot buffer (Survey Area)
- Terminal TSP

Project Components

- Proposed 115 kV subtransmission line (Segment 2)
- Alternative 115 kV subtransmission line (Segment 2)

Jurisdictional Waters of the State (CDFW)

- Nonwetland Water
- Top of Bank
- Wetland Water

NORTH

1 inch = 200 feet

0 75 150 225 300 Feet

AECOM

VALLEY SOUTH 115 KV SUBTRANSMISSION PROJECT

Figure 22i
CDFW Waters Jurisdiction

Ver. 01	8/1/2014

Filename: Figure22_CDFWJD_20140603.mxd Date: 8/1/2014

Table 3
Waters of the U.S. and/or State Occurring within the Waters Survey Area for the Proposed Project

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[1,2]	RWQCB (acres/linear feet)[1,2]	CDFW (acres/linear feet)[1,2]
Feature A (Santa Gertrudis Creek)	Wetland	Mulefat Scrub (63310)	0.03	0.03	0.03
	Non-Wetland Water	Unvegetated Channel (64200)	0.50/586	0.50/586	0.95/586[3]
Subtotal of Jurisdictional Waters			**0.53/586**	**0.53/586**	**0.99/586**
Feature B	Riparian Canopy[4]	Southern Riparian Scrub (63300)	-	-	0.01
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.01
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/193	0.01/193	0.01/193
Subtotal of Jurisdictional Waters			**0.01/193**	**0.01/193**	**0.03/193**
Feature C	Riparian Canopy	Mulefat Scrub (63310)	0.01	0.01	0.14
	Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.18
	Non-Wetland Water	Unvegetated Channel (64200)	0.06/1,267	0.06/1,267	0.06/1,267
	Non-Wetland Water	Open Water (64140)	0.06	0.06	0.06
Subtotal of Jurisdictional Waters			**0.14/1,267**	**0.14/1,267**	**0.43/1,267**
Feature D (Tucalota Creek)	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.20	0.20	0.20
	Riparian Canopy	Freshwater Seep	-	-	0.04
	Riparian Canopy	Southern Willow Scrub (63320)	-	-	0.06
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.20
Subtotal of Jurisdictional Waters			**0.20**	**0.20**	**0.50**
Feature E	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.03	0.03	0.11
	Non-Wetland Water	Unvegetated Channel (64200)	<0.01/65	<0.01/65	<0.01/65
Subtotal of Jurisdictional Waters			**0.03/65**	**0.03/65**	**0.11/65**
Feature F	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.13
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/240	0.01/240	0.03/240[3]
Subtotal of Jurisdictional Waters			**0.02/240**	**0.02/240**	**0.16/240**
Feature G	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.12
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/421	0.01/421	0.01/421

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[1,2]	RWQCB (acres/linear feet)[1,2]	CDFW (acres/linear feet)[1,2]
Subtotal of Jurisdictional Waters			**0.02/421**	**0.02/421**	**0.13/421**
Feature H	Wetland/Riparian Canopy	Mulefat Scrub (63310)	0.01	0.01	0.20
	Wetland/Riparian Canopy	Southern Cottonwood-Willow Riparian Forest (61330)	0.17	0.17	0.61
	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.10
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/103	0.01/103	0.01/103
Subtotal of Jurisdictional Waters			**0.20/103**	**0.20/103**	**0.92/103**
Grand Total of Jurisdictional Waters			**1.13/2,875**	**1.13/2,875**	**3.26/2,872**

[1] Jurisdictional waters acreage of the waters survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

[2] USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features would have acreage and linear feet provided as a component of measurement for established features and potential impacts.

[3] Additional acreage due to limits of waters of the State extending past the OHWM to the top of bank that supported upland vegetation.

[4] The riparian canopy consists of riparian areas associated with a stream that did not meet federal wetland definitions. Waters of the State limits extend past the top of bank and continue to the outer edge of their riparian extent.

Table 4
Waters of the U.S. and/or State Occurring within the Waters Survey Area for the Alternative Project

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[1,2]	RWQCB (acres/linear feet)[1,2]	CDFW (acres/linear feet)[1,2]
Feature I	Non-Wetland Water	Swale Feature	-	0.12/187	0.12/187
Subtotal of Jurisdictional Waters			**-**	**0.12/187**	**0.12/187**
Feature J	Wetland/Riparian Canopy[3]	Tamarisk Scrub (63810)	0.01	0.01	0.08
	Non-Wetland Water	Unvegetated Channel (64200)	<0.01/139	<0.01/139	<0.01/139
Subtotal of Jurisdictional Waters			**0.01/139**	**0.01/139**	**0.08/139**
Feature K	Wetland	Cismontane Alkali Marsh (52300)	1.61	1.61	1.61
	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.51	0.51	0.51
	Wetland	Freshwater Seep (45400)	0.17	0.17	0.17
	Wetland	Southern Coastal Salt Marsh (52120)	0.13	0.13	0.13
	Wetland	Southern Willow Scrub (63320)	0.05	0.05	0.05
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.07
	Riparian Canopy	Non-Native Woodland (79000)	-	-	0.18
Subtotal of Jurisdictional Waters			**2.47**	**2.47**	**2.72**
Feature L	Wetland/Riparian Canopy	Mulefat Scrub (63310)	0.03	0.03	0.13
	Non-Wetland Water	Unvegetated Channel (64200)	0.09/293	0.09/293	0.09/293
Subtotal of Jurisdictional Waters			**0.12/293**	**0.12/293**	**0.21/293**
Grand Total of Jurisdictional Waters			**2.60/432**	**2.72/619**	**3.13/619**

[1] Jurisdictional waters acreage of the waters survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
[2] USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features would have acreage and linear feet provided as a component of measurement for established features and potential impacts.
[3] The riparian canopy consists of riparian areas associated with a stream that did not meet federal wetland definitions. Waters of the State limits extend past the top of bank and continue to the outer edge of their riparian extent.

Table 5
Summary of Potential Waters of the U.S. and State Occurring within the Waters Survey Area for the Proposed Project and Alternative Project

Potential Waters of the U.S.	Proposed Project		Alternative Project		Total Segment 2 Project	
	Area (Acres)[1]	Linear Feet[2]	Area (Acres)[1]	Linear Feet[2]	Area (Acres)[1]	Linear Feet[2]
Wetland	0.47	-	2.51	-	2.98	-
Other Waters	0.66	*2,872*	0.09	432	0.75	3,307
Subtotal Waters of the U.S.	*1.13*	*2,872*	*2.60*	*432*	*3.73*	*3,307*
Potential Waters of the State, Exclusively	**Area (Acres)[1]**	**Linear Feet[2]**				
Riparian Component	2.13	-	0.41	-	2.54	-
Swale	-	-	0.12	187	0.12	187
Subtotal Waters of the State	*2.13*	-	*0.53*	*187*	*2.66*	*187*
Grand Total Potential Jurisdictional Waters	**3.26**	**2,872**	**3.13**	**619**	**6.39**	**3,494**

[1] Jurisdictional waters acreage of the waters survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
[2] USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features would have acreage and linear feet provided as a component of measurement for established features and potential impacts.

Two nonjurisdictional swale features and one large nonjurisdictional retention basin were also observed within the BSA. Swales were located within actively tilled/graded areas, dominated by nonnative grassland species. These swales do not support hydrophytic vegetation, evidence of OHWM, or wetland hydrology. In addition, these swales contain a smooth-toe transition and do not support a defined bed and bank, conveying flows only during extreme storm events. These features do not have the potential to support fish and/or wildlife, do not support beneficial uses, and lack OHWM and wetland parameters. Therefore, they are not considered jurisdictional. The retention basin is a storm water best management practice (BMP) constructed in 2011 as part of the adjacent housing development. The basin was designed to reduce storm water runoff volume and velocity and decrease pollutant loading on downstream receiving waters. Prior to 2011, the area where the basin now sits did not contain aquatic features. This feature is a permitted BMP constructed wholly in uplands; therefore, it is not considered jurisdictional.

6.2.8 Biological Resources within Inaccessible Parcels

Certain areas within the BSA could not be accessed for focused surveys conducted after April 2014. These areas are depicted in Figures 12 Special-Status Plant Species, Figures 13 Vernal Pool Species Resources, Figures 14 Amphibian and Reptile Species, Figures 15 Burrowing Owl Resources, Figures 16 Special-Status Bird Species, Figures 17 Special-Status Mammals, and Figures 19 Raptor Species.

One special-status plant species, paniculate tarplant, has a high potential to occur on the northern property because of the presence of suitable habitat and observations immediately to the north and south of this property (Figures 12 Special-Status Plant Species). Another plant species that may occur on this northern property is Parry's spineflower, as this species was noted as being previously detected (TRC, 2013) but was not verified during 2014 surveys. Long-spined spineflower, small-flowered morning glory, and Palmer's grapplinghook also have a potential to occur, as these species are known for openings in Diegan coastal sage scrub with clay soils. San Diego ambrosia was not detected during vegetation mapping surveys in December, as it is a perennial species that would have been observable at that time. Although this species is known to occur in coastal sage scrub, all mapped locations along the alignment occur in grassland habitat that does not occur on this northern property.

For the southern property, San Diego ambrosia and paniculate tarplant both have a high potential to occur, as these species were detected in similar habitats north of Nicolas Road. Parry's spineflower, long-spined spineflower, small-flowered morning glory, and Palmer's grappling hook have a low potential to occur as suitable habitats are not present.

Based on vegetation mapping, vegetation known to occur on the northern property includes riparian/wetland communities such as southern willow scrub, tamarisk scrub, and open water (Figure 11 Vegetation and Other Land Cover Types). These communities have a potential to support listed riparian species such as least Bell's vireo and southwestern willow flycatcher, which may breed or forage in southern willow scrub. Other sensitive wildlife species that may occur in these areas that were detected in the BSA include black-crowned night heron, white-faced ibis, yellow warbler, tricolored blackbird, and Lawrence's goldfinch. The upland vegetation community within the northern property includes Diegan coastal sage scrub. One listed species, coastal California gnatcatcher, has a potential to occur, as it was detected within Diegan coastal sage scrub in other areas within the BSA. Also, suitable habitat for Quino was mapped within coastal sage on the northern property (Figure 18 Quino Checkerspot Butterfly Suitable Habitat); this species has a high potential to occur as it was detected directly north of the BSA. Other special-status species known for this habitat type that were detected in other areas within the BSA are coastal western whiptail and Costa's hummingbird.

Suitable habitat for small mammals, including Stephens' kangaroo rat, Los Angeles pocket mouse, and northwestern San Diego pocket mouse, was present on both the northern property and the southern property; suitable habitat for San Diego desert woodrat was present on the northern property. Although a lack of native habitat was noted on the southern property, the openness of the habitat and proximity to high-quality native habitat provide suitable habitat for kangaroo rat and pocket mouse within this property.

Only two land cover types are present within the southern property: developed/urban and disturbed/ruderal (Figure 11 Vegetation and Other Land Cover Types). Generally, these cover types do not provide habitats for special-status species, but disturbed/ruderal cover type could provide foraging habitat for species detected in other areas of the BSA adapted to this cover type, such as California horned lark. Suitable habitat for small mammals, as noted above, is also present due to the proximity with native habitat. Evidence of previous ponding was noted on the southern property, and this property may support vernal pool species; however, the property was not assessed for pools during the survey season due to access issues. This property may possibly provide larval host plants for Quino, but this is unknown due to the lack of on-foot surveys of this property. At the time the focused Quino habitat assessment was conducted in January 2013, surveys were not conducted on the southern property as it was known at that time that access was not allowed.

Habitat generalists that may occur in both the northern property and southern property are raptors such as turkey vulture, Cooper's hawk, red-tailed hawk, American kestrel, and great horned owl.

7.0 PROJECT IMPACTS

7.1 INTRODUCTION

The following discussion describes potential impacts to sensitive biological resources during construction and operation of Segment 2 of the Proposed and the Alternative Projects. The thresholds of significance for this analysis to determine whether implementation of the Proposed and Alternative Projects would result in a significant effect are outlined below in Section 7.4, Significance Criteria. The purpose of this chapter is to evaluate project impacts to determine if impacts are significant and, if so, to provide mitigation measures to reduce significant impacts to less than significant.

Impacts can be permanent or temporary in nature. Impacts that result in irreversible loss of habitat or individuals are considered permanent. Impacts that end when construction is completed and result in the impacted area being restored to its pre-construction quality or better are considered temporary.

A project can result in significant impacts by: 1) causing direct physical changes to the environment, 2) triggering foreseeable indirect physical changes that are significant, or 3) having an effect that is cumulatively considerable. Additionally, the *CEQA Guidelines* define these three types of effects (or impacts):

Direct: Direct impacts are caused by the project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses of habitat, potential jurisdictional waters, wetlands, and special-status species, and diverting natural surface water flows. Direct impacts could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of plants, bulbs, or seeds.

Indirect: Indirect or secondary impacts occur at a different time or place than the project. Wildlife can be negatively affected by noise, ground vibration, and visual disturbance from construction activities. Impacts may include negative effects on communication (alarm calls etc.), impaired foraging, reduction in predator detection, and disrupted reproduction. These are significant effects if they adversely affect the life cycles of sensitive species or constrain animal movement through a wildlife corridor.

Cumulative: Cumulative impacts are two or more individual affects that, when considered together become considerable or compound / increase other environmental impacts. Cumulative impacts can occur from minor individual projects, but collectively can result in significant environmental impact, taking place over a period of time.

SCE would operate in compliance with all state and federal laws, regulations, and permit conditions and, as a participating special entity, SCE would implement requirements set forth in the WRCMSHCP to ensure consistency with the WRCMSHCP. As such, potential direct, indirect and cumulative impacts would be reduced to thresholds below significance, as already evaluated in the WRCMSHCP.

Biological impacts associated with the Proposed and Alternative Projects are evaluated with respect to the following special-status biological resources:

- Federally or state-listed endangered or threatened species of plants or wildlife
- Non-listed species that meet the criteria in the definition of rare or endangered in the *CEQA Guidelines* (i.e., Section 15380)
- Species designated as CDFW species of special concern
- Streambeds, wetlands, and their associated vegetation
- Habitats suitable to support federally or state-listed endangered or threatened plant or wildlife species
- Habitat, other than wetlands, considered special-status by regulatory agencies (e.g., USFWS, CDFW) or resource conservation organizations
- Habitat described for conservation by the criteria in the WRCMSHCP
- Other species or issues of concern to regulatory agencies or conservation organizations

Within the Proposed Project and Alternative Project areas, 57 special-status plant and 65 special-status animal species were evaluated for potential to occur. These species are identified and discussed in Chapter 6 Results, and in Appendix C Special-Status Plant Species with Potential to Occur and Appendix D Special-Status Wildlife with Potential to Occur, of this report. Six of the special-status plants and 14 of the special-status wildlife species were documented through surveys and others are considered likely to occur.

7.2 TYPES OF CONSTRUCTION IMPACTS

Proposed Project

The Project Description provided in this report is based on planning level assumptions. Exact details related to construction locations and associated impacts would be determined following completion of final engineering, identification of field conditions, availability of labor, material, and equipment, and compliance with applicable environmental and permitting requirements. Final engineering designs are not available, however, the Project Description utilizes conservative ground disturbance assumptions based on preliminary engineering to estimate surface area disturbance to determine estimates of maximum acreages of temporary and permanent impacts for the Proposed Project. Without precise final siting of construction features, temporary and permanent impacts by vegetation type or relative to specific biological resources can only be estimated. Therefore, in lieu of a final design, potential work areas were created by mapping a buffer around structures in GIS throughout the Proposed Project BSA to generate a potential "Impact Corridor." The potential Impact Corridor was then reduced to avoid impacts to all jurisdictional waters and riparian habitats, and, to the extent feasible, were minimized in areas of critical habitat and/or special status plant species occurrences. This resulted in approximately 55 acres identified within the Proposed Project BSA where construction impacts could occur (see Figure 23 Potential Impact Corridor). Standard work areas limits defined by construction type in Table 6 Approximate Laydown/Work Area Dimensions, would occur within the 55 acres.

Table 6
Approximate Laydown/Work Area Dimensions

Laydown/Work Area Feature	Preferred Size (L x W)
Guard Structures	150' x 75'
TSPs	200' x 150'
LWS/Wood Poles	150' x 75'
LWS/Wood Guy Poles	150' x 75'
Wood Poles/Down Guys (Removal)	150' x 75'
Reconfigure Pole Top	50' x 50'
Splicing Set Up Area	150' x 100'
Pull and Tension Area	300' x 100'
Note: The dimensions listed above are preferred for construction efficiency; actual dimensions may vary depending on project constraints	

Any developed areas or existing roads as mapped in Figure 23 Vegetation and Other Land Cover Types, were subtracted from the total Impact Corridor habitat acreage as activities within developed areas would not be considered a new impact. Based on the results of this exercise, approximately 40 acres of habitat occur within Segment 2 of the Proposed Project Corridor, as shown Table 7 Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed and Alternative Projects.

The potential "Impact Corridor" was generated to aid the analysis of potential significant impacts only, and should not be interpreted as final construction work area limits. As it relates to each of the Proposed Project components, this expanded surface area is provided for the purpose of ensuring the biological resource analysis included in the Proponents Biological Assessment sufficiently analyzes the potential biological resources that could be significantly impacted by the Proposed Project. For the purposes of this analysis, it is assumed that temporary and permanent impact calculations presented in Table 7 Subtransmission Approximate Land Disturbance could occur anywhere within the 55 acre Proposed Project potential Impact Corridor, but are expected to be less than 40 acres.

It is assumed that all direct temporary and permanent impacts such as structure installation and removal; stringing and pull sites; staging and stockpile areas; and equipment work areas would occur within the Impact Corridor. It is also assumed that direct impacts could occur within any part of the Impact Corridor. Thus it must be assumed that any biological resources within the Impact Corridor could be potentially impacted. For example, equipment would be placed in an area with disturbed vegetation or devoid of vegetation rather than within intact and/or sensitive habitat. The expected surface area disturbance (as indicated in Table 7 Acreages of Direct Impacts for the Proposed Project), would be approximately 0.0015 acres permanent impacts within the 55 acre potential Impact Corridor.

Indirect impacts may exist within and extend beyond the Impact Corridor. Actual impacts will be sited to avoid biological resources whenever possible or as required by the WRCMSHCP, and therefore would be less than the amount included in this analysis. Both wildlife and plants can have negative indirect impacts due to adjacent construction activities. Wildlife may be affected by indirect impacts leading to lowered reproductive success, increased predation, increased competition with other wildlife species, loss of movement corridors, death, etc. Plants may lose areas for new growth, lack dispersal corridors, increased loss of vegetation due to increased foraging by invasive wildlife, loss of native wildlife required for seed dispersal, among other impacts.

Nonnative and/or invasive plant species can be introduced through construction activities or may be better adapted to disturbance and so out-compete native species. This can affect both wildlife

and plants. Plants will need to compete with invasive for space and resources and wildlife may lose required native forage or suffer from reduced quality of forage species available. Wildlife may also lose plant species requires to complete their life cycles. An example of this would be Quino checkerspot butterfly habitat being degraded due to loss of host or nectar plants due to competition of native species by invasive plant species.

Construction related indirect impacts include increases in garbage in the construction area leading to attraction of predators, and/or increases in invasive wildlife species. Toxins may be released from vehicles (oil spills or leaks) or through the use of pesticides and herbicides. This may lead reduction in reproductive success in both plants and wildlife or death. Human presence during construction may affect wildlife behavior, causing animals to leave their home ranges and becoming more susceptible to predation. New roads for construction may increase human presence within areas adjacent to construction, leading to increasing habitat fragmentation and disturbance from things such as increased off-highway vehicle use or hiking. Invasive species may be used during landscaping and these species may invade off-site areas and out compete native vegetation. Disturbance adapted plant or animal species may use the construction site and enter into the edges of the off-site area and invade the edges. Dust from construction activities near biological resources can cover plants causing a reduction in photosynthesis and respiratory impairment in sedentary animals.

Alternative Project

A majority of the Alternative Project is shared with the Proposed Project except for 1.6 miles that is entirely unique to the Alternative Project. Impact discussions related to the Alternative Project within this chapter will be limited to the 1.6 mile segment only.

This analysis of impacts from the Alternative Project provides qualitative assessments of impacts to special status species and habitats, as no specific access routes, staging areas, pole sites, and other features have not been designed. The approach of this analysis distinguishes the areas of the Alternative Project that are distinct from the complete Proposed Project (unshared) and that do not overlap with the Proposed Project. The Impact Corridor is depicted differently for the Alternative Project (Figure 23 Potential Impact Corridor) because less precise engineering data are currently available for this section, and facilities could be constructed on either side of the Alternative Project centerline.

Figure 23 Potential Impact Corridor shows a 300-foot-wide potential Impact Corridor comprising 150 feet on either side of roadways closely paralleled by existing subtransmission lines.

All direct permanent and temporary construction activities, including structure installation/removal sites, stringing and pull sites, staging and stockpile areas, haul roads, and equipment work areas, are assumed to be within the limits of the Impact Corridor, which is generally defined here as a 300-foot-wide corridor (Figure 23 Potential Impact Corridor).
Similarly, it was not possible to calculate acreages for direct impacts associated with the Alternative Project as there is no design information for the Alternative Route. However the nature of the activities that would take place within the Alternative Project are similar to the Proposed Project, therefore it was assumed that the Alternative Project would have similar acreages of impacts. If impacts are similar within the 1.6 miles of the Alternative Project to that of the Proposed Project, the additional 1.6 mile route would result in an additional 0.00006 acres of permanent impact.

The types of indirect impacts to biological resources would be consistent between the Proposed Project and Alternative Project.

7.2.3 Post-Construction Activities (Project Operation)

Proposed Project

Operation and maintenance activities for the Proposed Project would be necessary to ensure reliable service, as well as the safety of utility personnel and the general public, as mandated by CPUC. SCE facilities are subject to Federal Energy Regulatory Commission jurisdiction. SCE transmission facilities are under operational control of the California Independent System Operator.

The subtransmission and distribution lines would be maintained in a manner consistent with CPUC General Order 95 and General Order 128 as applicable. SCE inspects subtransmission overhead and underground facilities minimally once per year via ground and/or aerial inspection. Maintenance activities include repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, re-stringing of conductors, repairing or replacing poles and towers, tree trimming, brush and weed control, and access road maintenance. Most regular operation and maintenance (O&M) activities of overhead facilities are performed from existing access roads with no surface disturbance. However, repairs to existing facilities could extend into adjacent undisturbed areas, as in the case of establishment of temporary wire-pulling sites and passing of conductors through existing vegetation.

No new access roads are planned for Segment 2, thus no routine access road maintenance is expected.

Periodic tree pruning may be performed at some structure sites for compliance with existing state and federal laws, rules, and regulations and is crucial for maintaining reliable service, especially during severe weather or disasters.

Clearance of brush and weeds around poles is required by local jurisdictions on fee-owned right-of-ways for fire protection. Ten-foot radial clearance around nonexempt poles (as defined by CCR Title 14, Article 4) and 25- to 50-foot radial clearance around non-exempt towers (as defined by CCR Title 14, Article 4) are maintained in accordance with Public Resource Code 4292.

Additionally, SCE conducts a wide variety of emergency repairs of any kind, in any location, with little or no notice.

Alternative Project

Impacts as a result of post-construction activities from of implementation of the Alternative Project would be consistent with the Proposed Project.

7.4 SIGNIFICANCE CRITERIA

Significance criteria discussed in this section is applicable to both the Proposed Project and the Alternative Project. Impacts to biological resources from the Proposed Project and the Alternative Project are assessed using impact significance criteria based on the policy in CEQA Section 21001(c) of the California Public Resources Code. 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.*

The determination of significant effects or impacts from a project is an important part of 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, their own significance thresholds that the agency would use in determining the impact of proposed actions. A significance threshold defines the quantitative, qualitative, or performance limits of a particular environmental effect. If these thresholds are exceeded, the agency would consider it to be significant.

Guidance for the development of significance thresholds for impacts to biological resources for CEQA evaluations is in Section 15065, Mandatory Findings of Significance, and the *CEQA*

Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect if:

> *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.*

Within Appendix G of the *CEQA Guidelines* are more specific and encompassing guidelines that include a broader range of biological resources to be considered, including candidate, sensitive, or other special-status species; riparian habitat or other special-status natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and adopted habitat conservation plans. During the Initial Study process, these factors are considered through the checklist of questions answered to determine a project's appropriate environmental documentation (i.e., Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report [EIR]). These questions are derived from standards employed in other laws, regulations, and commonly used thresholds, so it is reasonable to use these standards for defining significance thresholds in an EIR. For each of the thresholds below, the section of CEQA on which the threshold is based is stated. For the purpose of this analysis, impacts to biological resources are considered significant (without consideration of offsetting impacts via mitigation measures) if one or more of the following conditions would result from implementation of a proposed project:

- The project has the potential to substantially degrade the quality of the environment (Section 15065[a])
- The project has the potential to substantially reduce the habitat of any fish or wildlife species (Section 15065[a])
- The project would cause fish or wildlife populations to drop below self-sustaining levels (Section 15065[a])
- The project would threaten to eliminate a plant or animal community (Section 15065[a])
- The project would reduce the number or restrict the range of an Endangered, Rare, or Threatened species (Section 15065[a])[2]

[2] Endangered and Threatened species, as used in this threshold, are those listed by USFWS and/or CDFW as Threatened or Endangered. Section 15380 of CEQA indicates that a lead agency can consider a candidate species, or a non-listed species (e.g., CNPS List 1B plants) to be Endangered, Rare, or Threatened for the purposes of

- The project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a Candidate or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS (*CEQA Guidelines*, Appendix G, IV[a])
- The project has a substantial adverse effect on any riparian habitat or other special-status natural community identified in local or regional plans, policies, regulations, or by the CDFW or the USFWS (*CEQA Guidelines*, Appendix G, IV[b])
- The project has 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, among others) through direct removal, filling, hydrological interruption, or other means (*CEQA Guidelines*, Appendix G, IV[c])
- The project interferes substantially with the movement of any native or migratory fish or wildlife species; inhibits established native resident or migratory wildlife corridors; or impedes the use of native wildlife nursery sites (*CEQA Guidelines*, Appendix G, IV[d])
- The project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (*CEQA Guidelines*, Appendix G, IV[e])
- The project conflicts with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State Habitat Conservation Plan (*CEQA Guidelines*, Appendix G, IV[f])

To evaluate whether an impact to biological resources would result in a "substantial adverse effect," both the resource itself and how that resource fits into a regional context must be considered.

For impact analysis purposes, a "substantial adverse effect" is defined as the loss or harm of a magnitude which, based on current scientific data and knowledge, would (1) substantially diminish population numbers of a species or distribution of a habitat type within the region or (2) eliminate the functions and values of a biological resource in the region (*CEQA Guidelines*).

Significance Determination

CEQA if the species can be shown to meet the criteria in the definition of "Rare" or "Endangered". For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered in determining if a non-listed species met the definitions for "Rare" and "Endangered" according to Section 15380 of CEQA.

Consistency with the WRCMSHCP and measures as outlined in Section 7.9.1, Specific Impact Avoidance and Minimization Measures during Construction and Operations and Maintenance would mitigate for indirect impacts to less than significant levels. WRCMSHCP consistency includes compliance with Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface. These guidelines are outlined within this document in Section 7.9.2, General Impact Avoidance and Minimization Measures during Construction and Operations and Maintenance. These guidelines include requirements to reduce toxins from entering runoff and discharge into the WRCMSHCP Conservation Area; to avoid the use of invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP in landscaping plans for areas adjacent to WRCMSHCP Conservation Areas; to prohibit manufactured slopes in the WRCMSHCP Conservation Areas; and to use barriers to minimize unauthorized access or dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

7.7 POTENTIAL DIRECT BIOLOGICAL IMPACTS SUMMARY

Potential direct impacts to sensitive habitats, hydrological features, and special-status plant and animal species are assessed in this section on the basis of vegetation distribution, documented species locations from surveys in the BSA, and database sources (e.g., CNDDB). Additional species not detected, but with potential to occur within the Proposed Project area, are addressed in Appendix C Special-Status Plant Species with Potential to Occur and Appendix D Special-Status Wildlife Species with Potential to Occur.

The actual or potential occurrence of species within the Impact Corridor was assessed in the context of the significance criteria described above in Section 7.4 to determine whether impacts from the Proposed Project to these resources would be significant.

Permanent and temporary impacts cannot be stated per resource type described below as the exact siting and design of impact areas are currently unknown. Therefore, it has to be assumed that direct impacts, both temporary and permanent, could occur to any habitat, wildlife or plant species described below.

The Impact Corridor for the Proposed Project includes riparian and wetland vegetation. These vegetation types are protected in the WRCMSHCP so consistency with the WRCMSHCP would require either avoidance of these habitats or having a qualified biologist conduct a DBESP. In addition, at the discretion of the RCA, SCE may have to commit to avoiding habitats within Criteria Areas of the WRCMSHCP in areas described in the WRCMSHCP for conservation.

A summary of potential direct impacts to biological resources is discussed separately for the Proposed Project area and Alternative Project area in this section.

Table 7
Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed and Alternative Projects

Vegetation Communities and Land Cover Types		Segment 2 Proposed Project Area (acres)	Segment 2 Additional Alternative Project Area[3] (acres)
Holland Type[1]	**Manual of California Vegetation Type[2]**		
Disturbed Wetland (11200)	No Counterpart	0	0.06
Emergent Wetland (52440)	*Persicaria-Xanthium strumarium* Provisional Herbaceous Alliance *Distichlis spicata* Herbaceous Alliance	0	5.43
Freshwater Marsh (52400)	*Typha domingensis* Herbaceous Alliance	0	0.36
Mulefat Scrub (63310)	*Baccharis salicifolia* Shrubland Alliance	0.002	0.21
Southern Willow Scrub (63320)	*Salix laevigata* Woodland Alliance	0.10	0.22
Tamarisk Scrub (63810)	*Tamarix* semi-natural shrubland stands	0	0.01
Disturbed/Ruderal Habitat (11300)	No Counterpart	24.6	23.22
Diegan Coastal Sage Scrub	*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance	6.1	2.07
	Artemisia californica-Salvia mellifera Shrubland Alliance		
Nonnative Grassland	*Avena* Semi-Natural Herbaceous Stands	8.93	19.72
	Bromus-Brachypodium distachyon Semi-Natural Herbaceous Stands		
	Brassica and Other Mustards Semi-Natural Herbaceous Stands		
Nonnative Woodland/ Ornamental	*Eucalyptus* Semi-Natural Woodland Stands	0.32	0.32
	Schinus Semi-Natural Woodland Stands		
Urban / Developed (12000)		0	44.63
Total		**40.05**	**96.25**

[1] Holland, 1986
[2] Sawyer et al., 2009
[3] This column includes acreages for areas within the Impact Corridor Alternative Project that do not overlap with the Proposed Project. These acreages are unique to the Alternative Project.
[4] This column includes acreages for all areas within the Impact Corridor associated with the Proposed Project, including a portion of overlap with the Alternative Project.

7.7.1 Proposed Project

As discussed in Section 6.2.8, Biological Resources within Inaccessible Parcels, two properties could not be accessed following April 16th 2014. Although focused species surveys were not conducted for these parcels, potential occurrence of and, potential impacts to biological resources that may occur within these areas are qualitatively analyzed within this section.

The Proposed Project Impact Corridor includes approximately 40.05 acres of mapped vegetation (Figures 23 Potential Impact Corridor and Table 7 Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed and Alternative Projects). There are 0.10 acres of riparian and wetland habitat with most of this habitat being mulefat scrub, southern willow scrub and non- vegetated channel with some tamarisk scrub. Upland habitat consists of Diegan coastal sage scrub (6.1 acres) and nonnative grassland (8.93 acres) with some nonnative woodland/ornamental habitat (0.32 acre). Disturbed/ruderal is 24.6 acres of the total 40.05 acres. Disturbed/ruderal habitat is generally fallow or occasionally disked fields.

Sensitive Habitat

Coastal sage scrub is considered sensitive habitat by the State and federal resource agencies. Riparian and vernal habitat is also considered sensitive here, to comply with Section 6.1.2 of the WRCMSHCP.

Direct Impacts

There is 6.1 acres of coastal sage scrub and 0.1 acres of riparian and wetland habitat (mainly mulefat scrub and southern willow scrub)within the Proposed Project Impact Corridor Area.

Significance Determination

SCE has committed to avoidance of riparian/riverine habitat. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required to be in compliance with the WRCMSHCP. If avoidance is not feasible, a DBESP would be required, with the goal of no net loss of riparian habitat. Direct impacts to riparian habitat would, therefore, be avoided or mitigated through consistency with the WRCMSHCP through a DBESP and the measures specified in Section 7.9.1 of this document.

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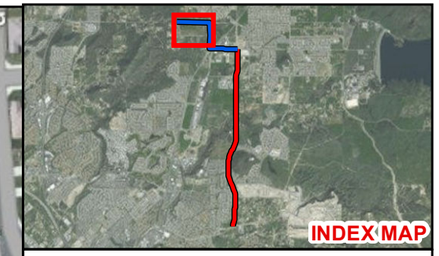


Legend

- VSSP Potential Impact Corridor

Vegetation Communities

- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Emergent Wetland
- Freshwater Marsh
- Non-native Grassland

NORTH

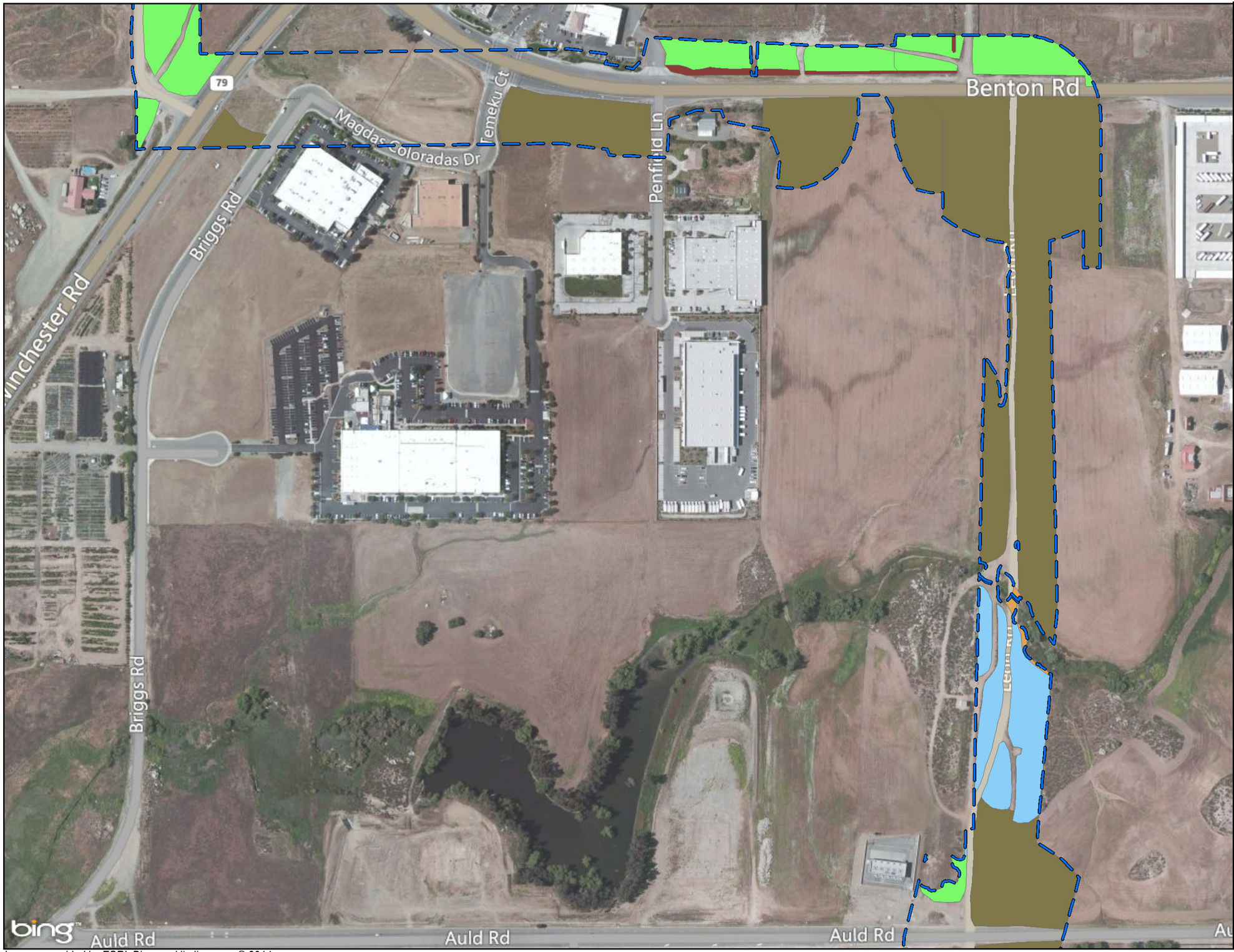
1 inch = 300 feet

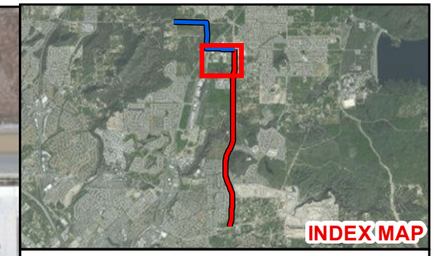
0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23a
Potential Impact Corridor

Ver. 02	11/17/2014





Legend

VSSP Potential Impact Corridor

Vegetation Communities

- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Disturbed Wetland
- Mulefat Scrub
- Non-native Grassland
- Nonnative Woodland/Ornamental
- Southern Willow Scrub

NORTH

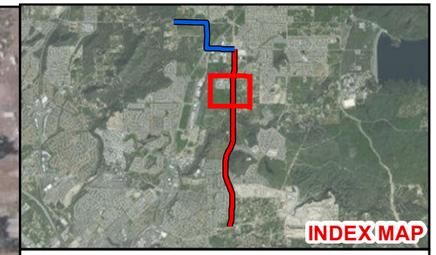
1 inch = 300 feet

0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23b
Potential Impact Corridor

Ver. 02	11/17/2014



Legend

VSSP Potential Impact Corridor

Vegetation Communities

Disturbed / Ruderal Habitat

Non-native Grassland

NORTH

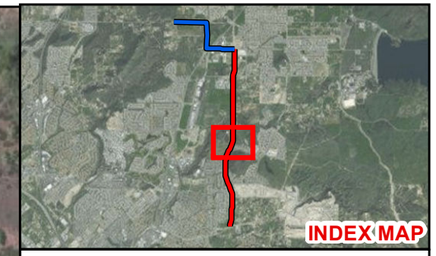
1 inch = 300 feet

0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23c
Potential Impact Corridor

Ver. 02	11/17/2014



Legend

VSSP Potential Impact Corridor

Vegetation Communities

- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Non-native Grassland

NORTH

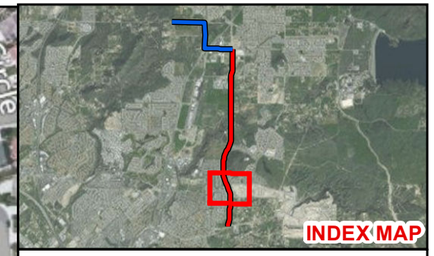
1 inch = 300 feet

0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23e
Potential Impact Corridor

Ver. 02	11/17/2014



Legend

VSSP Potential Impact Corridor

Vegetation Communities

- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Non-native Grassland

NORTH

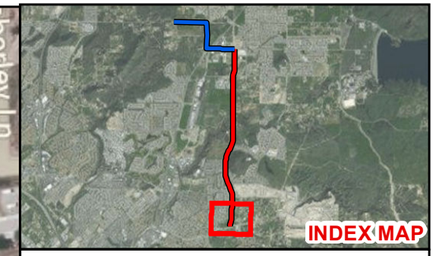
1 inch = 300 feet

0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23f
Potential Impact Corridor

Ver. 02	11/17/2014



Legend

VSSP Potential Impact Corridor

Vegetation Communities

- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Non-native Grassland

NORTH

1 inch = 300 feet

0 150 300 Feet

VALLEY SOUTH 115 KV
SUBTRANSMISSION PROJECT

Figure 23g
Potential Impact Corridor

Ver. 02	11/17/2014

The loss of coastal sage scrub habitat would be mitigated to less than significant through consistency with the WRCMSHCP. Coastal sage scrub habitat is designated for conservation throughout the WRCMSHCP Planning area.

Rare Plants

Rare plants observed in the Proposed Project area (Figures 12a through 12e Special-Status Plant Species) are paniculate tarplant (CNPS List 4.2), small-flowered morning glory (CNPS List 4.2), Palmer's grapplinghook (CNPS List 4.2), Parry's spineflower (CNPS List 1B.1), San Diego ambrosia (FE, CNPS List 1B.1), and long-spined spineflower (CNPS List 1B.2).

Paniculate Tarplant

Direct Impacts

Hundreds of individuals of paniculate tarplant were observed in scattered populations throughout the Proposed Project area on clay soils within nonnative grassland and openings in Diegan coastal sage scrub. The sensitive landowner parcels were not surveyed, but both parcels have high potential to support populations of paniculate tarplant.

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of paniculate tarplant.

Significance Determination

Paniculate tarplant is not a WRCMSHCP Covered Species. Paniculate tarplant is found on clay soils in nonnative grassland and openings in sage scrub. Conservation of habitat suitable for paniculate tarplant within the WRCMSHCP Criteria Areas and conservation of other NEPS and CAPS plant species that are typically found on clay soils as required within the entire WRCMSHCP Plan Area would reduce Proposed Project impacts to paniculate tarplant from the Proposed Project to less than significant through consistency with the WRCMSHCP.

Small-Flowered Morning-Glory

Direct Impacts

Small-flowered morning-glory was observed in scattered populations throughout the Proposed Project area on clay soils within areas of nonnative grassland and openings in Diegan coastal sage scrub. The most northern population of this species observed in the Proposed Project area occurs along Leon Road, south of Auld Road (approximately 50,646 individuals). South of this population along Leon Road, north of McGowans Pass, is another population (736 individuals). The most southern population within the Proposed Project area was observed just north of Murrieta Hot Springs Road (250 individuals).

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of small-flowered morning-glory.

Significance Determination

Small-flowered morning-glory is a plant species considered adequately conserved through implementation of the WRCMSHCP. Impacts to small-flowered morning-glory would, therefore, be less than significant through Proposed Project compliance with the WRCMSHCP.

Palmer's Grapplinghook

Direct Impacts

Within the Proposed Project area, Palmer's grapplinghook (985 plants) was observed along Leon Road, north of McGowans Pass, in clay areas of nonnative grassland and open Diegan coastal sage scrub.

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of Palmer's grapplinghook.

Significance Determination

Palmer's grapplinghook is a plant species considered adequately conserved through implementation of the WRCMSHCP. Impacts to Palmer's grapplinghook would, therefore, be less than significant through Proposed Project compliance with the WRCMSHCP.

Parry's Spineflower

Direct Impacts

Parry's spineflower was observed in a transitional area between nonnative grassland and Diegan coastal sage scrub on sandy loam soils. Two individuals were identified in an area of approximately 2 square feet, in the southern portion of the Proposed Project, east of Shree Road and south of Suzi Lane.

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of Parry's spineflower.

Significance Determination

Parry's spineflower is a plant species considered adequately conserved through implementation of the WRCMSHCP. Impacts to Parry's spineflower would, therefore, be less than significant through Proposed Project compliance with the WRCMSHCP.

San Diego Ambrosia

Direct Impacts

San Diego ambrosia was observed in areas of nonnative grassland on sandy loam and clay soils, just north of Nicolas Road. Approximately 6,315 individuals were identified in an area of 2.3 acres at this location.

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of San Diego ambrosia.

Significance Determination

San Diego ambrosia is a NEPS, and surveys are required for this species within the mapped survey area in the WRCMSHCP. None of the observed San Diego ambrosia is within the required WRCMSHCP survey area for this species. Per the WRCMSHCP, San Diego ambrosia found within the NEPS survey area would be conserved as described in Section 6.1.3 of the WRCMSHCP. However, since the observation was outside of the survey area for this species

and not within WRCMSHCP Criteria Cells, no conservation of the observed populations of San Diego ambrosia is required, per the WRCMSHCP.

Impacts to the San Diego ambrosia populations observed in the BSA are considered to be mitigated through implementation of the WRCMSHCP. As a result, impacts to San Diego ambrosia would be less than significant with compliance with the WRCMSHCP.

Long-Spined Spineflower

Direct Impacts

Approximately 400 individuals of long-spined spineflower were observed along Leon Road north of McGowans Pass.

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of long-spined spineflower.

Significance Determination

Long-spined spineflower is a plant species considered adequately conserved via implementation of the WRCMSHCP. Impacts to long-spined spineflower would, therefore, be less than significant through Proposed Project compliance with the WRCMSHCP.

Fairy Shrimp

Direct Impacts

Three basins were sampled in the Proposed Project area for fairy shrimp (Figures 13a and 13b Vernal Pool Species Resources). Drought conditions during the 2013/2014 wet season may have limited the detectability of fairy shrimp (i.e., rainfall levels were insufficient to allow basins to pond long enough to support hatching and development of Riverside and vernal pool fairy shrimp). Basins present within the BSA were generally shallow, ranging from 0.1 foot to 1.2 feet (AECOM, 2014b). Thus, Riverside fairy shrimp has a low potential to occur within the Proposed Project area. Similarly, drought conditions during the 2013/2014 wet season may have limited the detectability of vernal pool fairy shrimp. These basins did not pond long enough, as this species requires an average of 40 days of continuous inundation for hatching (Helm, 1998). Drought conditions during the survey period resulted in most basins drying quickly between sampling periods (AECOM, 2014b). Additionally, distribution of this species is extremely limited within its range. The basins may rarely fill long enough for vernal pool fairy shrimp to

hatch, and vernal pool fairy shrimp likely have a low potential to occur within the Proposed Project area.

Significance Determination

The exact siting and design of the elements of the Proposed Project are currently unknown; however, SCE has committed to avoidance of all pools that supported fairy shrimp within the BSA. This commitment would be in compliance with the WRCMSHCP. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required to be in compliance. If avoidance is not possible, a DBESP is required. Despite drought conditions possibly affecting the outcome of fairy shrimp surveys, direct impacts to fairy shrimp would be considered less than significant with avoidance of vernal pools or the preparation of a DBESP if avoidance is not feasible.

Herpetofauna

Direct Impacts

Herpetofauna observed in the Proposed Project area were Southern Pacific rattlesnake, coastal whiptail, side-blotched lizard, western fence lizard, gopher snake, and western toad (Figures 14a and 14b Amphibian and Reptile Species). No special-status lizards or amphibians were observed, but potential habitat for 11 special-status herpetofauna was identified within the BSA.

Significance Determination

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of lizards and amphibians. Of the 11 special-status lizard and amphibian species where potential habitat was present within the BSA, eight are covered species in the WRCMSHCP (arroyo toad requires additional surveys, discussed further below), and the remaining three would benefit directly through measures in the WRCMSHCP.

Arroyo toad is a species identified in Section 6.3.2 of the WRCMSHCP for which additional surveys are required when habitat is suitable. Arroyo toad had a low potential to occur in the Proposed Project area, but the potential habitat for this species was not within the mapped required survey area, so surveys for arroyo toad were not required for compliance with the WRCMSHCP. If arroyo toad were present within the Proposed Project area, conservation would not be required to be consistent with the WRCMSHCP.

Through consistency and SCE participation with the WRCMSHCP, direct impacts to lizards and amphibians would be less than significant.

Burrowing Owl

Direct Impacts

Suitable habitat with numerous potential burrows for burrowing owl is present throughout the Proposed Project area (Figures 15a through 15g Burrowing Owl Resources), and burrowing owls are known from the area. However, during surveys, no burrowing owls and no sign were observed. The lack of observations of burrowing owls could be due to drought conditions causing local populations to contract.

Suitable habitat for this species exists in both of the sensitive landowner properties, but surveys were not conducted in these areas.

Significance Determination

Burrowing owl is a species identified in Section 6.3.2 of the WRCMSHCP for which additional surveys are required when habitat is suitable. To consider burrowing owl to be adequately conserved through the WRCMSHCP, compliance with the Objectives in the Species Account for burrowing owl in the WRCMSHCP must occur. Since no burrowing owl or definitive burrowing owl sign was observed during surveys completed within the BSA for the Proposed Project, the only remaining Species Objective applicable to the Proposed Project would be to conduct burrowing owl pre-construction surveys, as specified in Section 7.9.1 of this document.

Per the Species Objectives for burrowing owls in the WRCMSHCP, burrowing owls are to be conserved on-site only when three or more pairs are present within one area, or where the population observed is required for the long-term conservation of the species. Despite drought conditions possibly being a reason for burrowing owls not being observed, it is extremely unlikely that the total acreage of the Proposed Project would support three burrowing owls, so even in the event that drought conditions have affected survey results, impacts to burrowing owl for the Proposed Project are considered less than significant.

Special-Status Avian Wildlife and Nesting Birds

Direct Impacts

Special-status bird species are mapped in Figures 16a and 16b Special-Status Bird Species. There was high avian species diversity observed in an unnamed drainage in the northern portion of the Proposed Project area, including least Bell's vireo, tricolored blackbird, black-crowned night heron, white-faced ibis, Lawrence's goldfinch, and Costa's hummingbird. Cooper's hawk, white-faced ibis, and willow flycatcher were observed near Tucalota Creek. White-faced ibis, black-crowned night heron, and coastal California gnatcatcher were observed just south of the northern sensitive landowner property in sage scrub habitat. A great-horned owl and red-tailed hawks were observed associated with eucalyptus groves near the southern extent of the Proposed Project. American kestrels and red-tailed hawks were observed throughout the Proposed Project area.

Significance Determination

SCE has committed to avoidance of riparian/riverine habitat. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required to be in compliance with the WRCMSHCP. If avoidance is not feasible, a DBESP would be required, with the goal of no net loss of riparian habitat. Most of the special-status avian species observed were associated with riparian/riverine habitat (as described above). White-faced ibis and black-crowned night heron would be expected to be highly associated with riparian areas for foraging and nesting, despite being observed in sage scrub habitat. Direct impacts to the avian species associated with riparian habitat would, therefore, be avoided or mitigated through the DBESP, consistency with the WRCMSHCP, and measures specified in Section 7.9.1 of this document. Impacts to these special-status bird species are, therefore, expected to be less than significant with mitigation.

Coastal California gnatcatcher is associated with sage scrub habitat, but is a species deemed adequately conserved with implementation of the WRCMSHCP. Therefore, SCE consistency with the WRCMSHCP would adequately mitigate direct impacts to this species to less than significant.

The Proposed Project would comply with CFGC Code 3503 and 3503.5 and the Migratory Bird Treaty Act to avoid any direct impacts to all nesting birds, including raptors. Direct impacts to nesting birds and nesting raptors would be avoided by measures (specifically Measure 2) listed in Section 7.9.1 of this document. Compliance with these measures would reduce direct impacts of the Proposed Project to nesting birds to less than significant.

The total loss of acreage of habitat for the Proposed Project is very small in relation to the size of foraging habitat required for a raptor. The Proposed Project's consistency with the WRCMSHCP and implementation of measures listed in Section 7.9.1 of this document would mitigate direct impacts to raptors to less than significant.

Small Mammals

Direct Impacts

Within the Proposed Project area (see small mammal report, Appendix L, and Figures 17a through 17k Special-Status Mammals), northwestern San Diego pocket mice were caught near an unnamed drainage in the northern portion of the Proposed Project (Trap Line 7, south of Benton Road) and at four trap lines south of the northern sensitive landowner property (Trap Lines 1, 2, 5n, and 6). Stephens' kangaroo rat was observed in Trap Lines 3B, 4, and 5, all south of the northern sensitive landowner property. San Diego desert woodrat was also observed.

Significance Determination

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of small mammals.

Stephens' kangaroo rat is considered adequately conserved through compliance with the Stephens' kangaroo rat HCP and the WRCMSHCP. SCE participation and compliance with both of these plans would mitigate direct impacts of the Proposed Project to Stephens' kangaroo rat to less than significant.

Northwestern San Diego pocket mouse is considered adequately conserved through implementation of the WRCMSHCP. SCE participation and compliance with the WRCMSHCP would, therefore, mitigate direct impacts of the Proposed Project to this species to less than significant.

San Diego desert woodrat is considered adequately conserved through implementation of the WRCMSHCP. SCE participation and compliance with the WRCMSHCP would, therefore, mitigate direct impacts of the Proposed Project to this species to less than significant.

Quino Checkerspot Butterfly

Direct Impacts

Suitable Quino habitat is present throughout the Proposed Project area (Figures 18a and 18b Quino Checkerspot Butterfly Suitable Habitat). Quino habitat in the Proposed Project area is of higher quality than that in the portions of the Alternative Project that do not overlap with the Proposed Project. This difference in quality is due to more available hilltops and ridgelines in the Proposed Project area.

Significance Determination

The exact siting and design of the elements of the Proposed Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to Quino. Quino is a species considered to be adequately conserved through implementation of the WRCMSHCP. Therefore, SCE consistency with the WRCMSHCP would adequately mitigate any direct impacts to Quino for the Proposed Project to less than significant.

Hydrological Features

Direct Impacts

Eight jurisdictional features consisting of two named features, Santa Gertrudis Creek and Tucalota Creek, in addition to nine ephemeral and intermittent streams, one swale, and their associated wetland/riparian vegetation are present in the Proposed Project area. The potential waters of the U.S. (and State) regulated by USACE that occur within the Proposed Project area is 1.13 acres. The extent and distribution of jurisdictional waters regulated by the RWQCB is identical to the waters of the U.S. under USACE jurisdiction. The extent and distribution of jurisdictional waters regulated by CDFW is 3.26 acres. The extent and distribution of jurisdictional waters regulated by the RWQCB is identical to the waters of the U.S. under USACE jurisdiction: 1.13 acres. Additional waters that are also regulated by the RWQCB are the 0.12 acre of unvegetated swale, resulting in a total of 3.85 acres regulated by the RWQCB.

Significance Determination

SCE has committed to avoiding all riparian/riverine habitat and vernal pool habitat, so no direct impacts to hydrological features are anticipated to occur. If impacts do occur, permitting through the required regulatory agencies would mitigate direct impacts to hydrological features to less than significant.

7.7.2 Alternative Project

The total Alternative Project Impact Corridor consists of the 3.4-mile route of the Proposed Project area and the unique 1.6-mile route of the Alternative Project area that does not overlap with the Proposed Project area, for a total of 5 miles in length.

The Impact Corridor for the Alternative Project includes 96.25 acres of mapped vegetation, in addition to the vegetation described above for the Proposed Project for the 3.4 mile overlap of the Proposed Project and Alternative Project (Figures 22a through 22j Potential Impact Corridor and Table 7 Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed and Alternative Projects). There are an additional 6.29 acres of riparian and wetland habitat, with most of this habitat being emergent wetland, and some disturbed wetland and freshwater marsh, mulefat scrub, and southern willow scrub. Most of this habitat is associated with an unnamed drainage described for conservation in Proposed Constrained Linkage 18 of the WRCMSHCP. Additional upland habitat includes mainly nonnative grassland and nonnative woodland/ornamental habitat (about 20 acres), a small area of coastal sage scrub (2.07 acre), and 44.63 acres of developed/urban landsand 23.22 acres of disturbed/ruderal vegetation.

Sensitive Habitat

Coastal sage scrub is considered sensitive habitat by the state and federal resource agencies. Riparian and vernal habitat is also considered sensitive here to comply with Section 6.1.2 of the WRCMSHCP.

Direct Impacts

In addition to the sensitive habitat described above for the Proposed Project for the overlap of the Proposed Project and Alternative Project, there is an additional 2.07 acre of coastal sage scrub and an additional 6.29 acres of riparian and wetland habitat for the Alternative Project.

Significance Determination

SCE has committed to avoidance of riparian/riverine habitat. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required to be in compliance with the WRCMSHCP. If avoidance is not feasible, a DBESP would be required, with the goal of no net loss of riparian habitat. Direct impacts to riparian habitat would, therefore, be avoided or mitigated through consistency with the WRCMSHCP or through a DBESP and measures specified in Section 7.9.1 of this document.

The loss of coastal sage scrub habitat would be mitigated to less than significant through consistency with the WRCMSHCP, as coastal sage scrub habitat is described for conservation throughout the WRCMSHCP Plan area.

Rare Plants

Direct Impacts

In addition to the rare plants described above for the Proposed Project and for the overlap of the Proposed Project and Alternative Project, rare plants observed in the Alternative Project area were paniculate tarplant (CNPS List 4.2) and long-spined spineflower (CNPS List 1B.2) (Figures 12a through 12e Special-Status Plant Species). Hundreds of individuals of paniculate tarplant are present parallel to Los Alamos east of Auld 115/12 kV Substation, at the turn along Briggs Road, on the west side of Briggs Road, and along Benton Road. Approximately 500 individuals of long-spined spineflower are present along Briggs Road.

Significance Determination

Long-spined spineflower is a plant species considered adequately conserved via implementation of the WRCMSHCP. Impacts to long-spined spineflower from the Alternative Project would, therefore, be less than significant through compliance with the WRCMSHCP.

Paniculate tarplant is not a WRCMSHCP Covered Species. Paniculate tarplant is found on clay soils in nonnative grassland and openings in sage scrub. Conservation of habitat suitable for paniculate tarplant within the entirety of the WRCMSHCP Criteria Areas and conservation of other NEPS and CAPS plant species that are typically found on clay soils throughout the WRCMSHCP would reduce impacts to paniculate tarplant from the Alternative Project to less than significant through consistency with the WRCMSHCP.

Fairy Shrimp

Direct Impacts

In addition to the special-status fairy shrimp described above for the Proposed Project and for the overlap of the Proposed Project and Alternative Project, four basins were sampled in the Alternative Project area for fairy shrimp (Figures 13a and 13b Vernal Pool Species Resources). Drought conditions during the 2013/2014 wet season may have limited the detectability of fairy shrimp (i.e., rainfall levels may have been insufficient to allow basins to pond long enough to support hatching and development of Riverside and vernal pool fairy shrimp). However, basins

present within the BSA are generally shallow, ranging from 0.1 foot to 1.2 feet, with the exception of one basin (TP-2) in the Alternative Project area that filled to a depth of at least 3.2 feet after heavy rains in March 2014 (AECOM, 2014b). Thus, Riverside fairy shrimp has a low potential to occur within the Alternative Project area. Similar to Riverside fairy shrimp, drought conditions during the 2013/2014 wet season may have limited the detectability of vernal pool fairy shrimp. These basins did not pond long enough, as this species requires an average of 40 days of continuous inundation for hatching (Helm, 1998). Drought conditions during the survey period resulted in most basins drying quickly between sampling periods (AECOM, 2014b). Vernal pool fairy shrimp distribution is extremely limited within its range. The pools present within the BSA may not pond for sufficient periods to support vernal pool fairy shrimp; thus, vernal pool fairy shrimp has a low potential to occur within the Alternative Project area.

Significance Determination

The exact siting and design of the elements of the Alternative Project are currently unknown; however, SCE has committed to avoidance of all pools that supported fairy shrimp within the BSA. This commitment would be in compliance with the WRCMSHCP. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required. If avoidance is not possible, a DBESP is required. Direct impacts to fairy shrimp for the Alternative Project would, therefore, be considered less than significant with avoidance mitigation.

Herpetofauna

Direct Impacts

In addition to the special-status herpetofauna described above for Proposed Project for the overlap of the Proposed Project and Alternative Project, the herpetofauna observed only in the Alternative Project area include granite spiny lizard, side-blotched lizard, western fence lizard, and western toad (Figures 14a and 14b Amphibian and Reptile Species). No special-status lizards or amphibians were observed in the Alternative Project area, but 11 lizard or amphibian species have some potential to occur.

Significance Determination

The exact siting and design of the elements of the Alternative Project are currently unknown; therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of lizards and amphibians. Of the 11 special-status lizard and amphibian species where potential habitat was present within the BSA, eight are Covered Species in the

WRCMSHCP (arroyo toad requires additional surveys, discussed further below) and the remaining three would benefit directly through measures in the WRCMSHCP.

Arroyo toad is a species identified in Section 6.3.2 of the WRCMSHCP for which additional surveys are required within mapped suitable habitat. Arroyo toad had a low potential to occur in the Alternative Project area, but the potential habitat for this species was not within the mapped required survey area, so surveys for arroyo toad were not required for compliance with the WRCMSHCP.

Through consistency and SCE participation with the WRCMSHCP, direct impacts to lizards and amphibians for the entire Alternative Project area would be less than significant.

Burrowing Owl

Direct Impacts

For the Proposed Project and Alternative Project overlap area, numerous potential burrows for burrowing owl are present within suitable habitat (Figures 15a through 15g Burrowing Owl Resources). No burrowing owls or sign was observed. The area contains open habitat with burrows, and burrowing owls are historically known to use the area. The lack of observation of burrowing owls may be due to population retraction during drought conditions.

Significance Determination

Burrowing owl is a species identified in Section 6.3.2 of the WRCMSHCP for which additional surveys are required within mapped suitable habitat. To consider burrowing owl to be adequately conserved through the WRCMSHCP, compliance with the Objectives in the Species Account for burrowing owl in the WRCMSHCP must be completed. Since no burrowing owl or definitive burrowing owl sign was observed during surveys completed within the BSA for the entirety of the Alternative Project area, the only remaining Objective applicable to the Alternative Project would be to conduct burrowing owl pre-construction surveys, as specified in Section 7.9.1 of this document.

Per the Species Objectives for burrowing owl in the WRCMSHCP, the species is to be conserved on-site only when three or more pairs are present within one area, or where the population observed is required for the long-term conservation of the species. Despite drought conditions possibly being a reason for burrowing owls not being observed, it is extremely unlikely that the total impact acreage of the Alternative Project would support three or more burrowing owls. The total direct impact acreage for the Proposed Project is just over 14 acres. It is assumed that the

total direct impact acreage for the Alternative Project would increase by approximately one-third and would therefore be approximately 19 acres. The probability that 19 acres of habitat could support three pairs of burrowing owls is very low. Impacts to burrowing owl for the Alternative Project are, therefore, considered to be less than significant with compliance with the WRCMSHCP and the measures set forth in Section 7.9.1 of this document.

Special-Status Avian Wildlife and Nesting Birds

Direct Impacts

In addition to the special-status avian wildlife described above for the Proposed Project for the overlap of the Proposed Project and Alternative Project, within the Alternative Project, red tailed hawks were observed along Los Alamos Road associated with eucalyptus groves. The following species were observed along Briggs Road: American kestrel, least Bell's vireo (in riparian habitat), yellow warbler, white-faced ibis, and California horned lark.

Significance Determination

SCE has committed to avoidance of riparian/riverine habitat. Per Section 6.1.2 of the WRCMSHCP, avoidance of 90 percent of riparian/riverine and vernal pool habitat is required to be in compliance with the WRCMSHCP. If avoidance is not feasible, a DBESP would be required, with the goal of no net loss of riparian habitat. Most of the special-status avian species observed were associated with riparian/riverine habitat (as described above). White-faced ibis and yellow warbler would be expected to be highly associated with riparian areas for foraging and nesting, despite being observed in sage scrub habitat. Direct impacts to the avian species associated with riparian habitat would, therefore, be avoided or mitigated through the DBESP, consistency with the WRCMSHCP, and measures specified in Section 7.9.1 of this document. Impacts to these special-status bird species are, therefore, expected to be less than significant with mitigation for the Alternative Project.

Coastal California gnatcatcher habitat is sage scrub, but this species is deemed adequately conserved with implementation of the WRCMSHCP. SCE's consistency with the WRCMSHCP would adequately mitigate direct impacts to this species to less than significant. Habitat to support California horned lark would also be sufficiently conserved per the WRCMSHCP to adequately mitigate direct impacts to this species.

The Alternative Project would comply with CFGC Code 3503 and 3503.5 and the Migratory Bird Treaty Act to avoid any direct impacts to all nesting birds, including raptors. Direct impacts to nesting birds and nesting raptors would be avoided by measures (specifically Measure 2) in

Section 7.9.1 of this document. Compliance with these measures would reduce direct impacts of the Alternative Project to nesting birds to less than significant.

The total loss of acreage of habitat for the Alternative Project is very small in relation to the size of foraging habitat required for a raptor. The Alternative Project's consistency with the WRCMSHCP and implementation of measures in Section 7.9.1 of this document would mitigate direct impacts to raptors to less than significant.

Small Mammals

Direct Impacts

In addition to the special-status avian wildlife described above for the Proposed Project for the overlap of the Proposed Project and Alternative Project, within the Alternative Project area (small mammal report, Appendix L, Figures 17a through 17k Special-Status Mammals), Stephens' kangaroo rat was observed in Trap Line 8, along a dirt road, just south of Los Alamos Road. Vegetation here is mapped as developed/urban and is adjacent to nonnative grassland.

Significance Determination

The exact siting and design of the elements of the Alternative Project are currently unknown. Therefore, it is assumed that direct impacts, both temporary and permanent, would occur to all observed individuals of small mammals.

Stephens' kangaroo rat is considered adequately conserved through compliance with the Stephens' kangaroo rat HCP and the WRCMSHCP. SCE participation and compliance with both of these plans would mitigate direct impacts of the Alternative Project to Stephens' kangaroo rat to less than significant.

Quino Checkerspot Butterfly

Direct Impacts

In addition to the suitable Quino habitat described above for the Proposed Project for the overlap of the Proposed Project and Alternative Project, suitable Quino habitat is present in the Alternative Project area (Figures 18a and 18b Quino Checkerspot Butterfly Suitable Habitat). The Quino habitat in the Alternative Project area is of lower quality than that in the combined Alternative/Proposed Project area, as the habitat in the Alternative Project area only is relatively

flat and low-lying. However, very-high-quality Quino habitat is present just to the west of the Alternative Project area in the Hogbacks.

Significance Determination

The exact siting and design of the elements of the Alternative Project are currently unknown. Therefore, it is assumed that direct impacts, both temporary and permanent, would occur to Quino. Quino is a species considered to be adequately conserved through implementation of the WRCMSHCP. Therefore, SCE's consistency with the WRCMSHCP would adequately mitigate any direct impacts to Quino for the Alternative Project to less than significant.

Hydrological Features

Direct Impacts

The Alternative Project supports 12 jurisdictional features consisting of two named features, Santa Gertrudis Creek and Tucalota Creek, in addition to nine ephemeral and intermittent streams, one swale, and their associated wetland/riparian vegetation.

The collective area of potential waters of the U.S. (and State) regulated by USACE that occur within the Alternative Project totals 3.73 acres. Of the 3.73 acres, 1.13 acres occurs within the Proposed Project area only.

The extent and distribution of jurisdictional waters regulated by the RWQCB is identical to the waters of the U.S. under USACE jurisdiction: 3.73 acres. Additional waters that are also regulated by the RWQCB include the 0.12 acre of unvegetated swale, resulting in a total of 3.85 acres regulated by the RWQCB.

The extent and distribution of jurisdictional waters regulated by CDFW includes the 3.73 acres under USACE and RWQCB jurisdiction, and also includes approximately 2.66 acres that are considered waters of the State exclusively, resulting in a total of 6.39 acres regulated by CDFW. Of the 6.39 acres, 3.26 acres occurs only within the Proposed Project area.

Significance Determination

SCE has committed to avoiding all riparian/riverine habitat and vernal pool habitat, so no direct impacts to hydrological features are anticipated to occur. If impacts do occur, permitting through the required regulatory agencies would mitigate direct impacts to jurisdictional features to less than significant.

7.6 POTENTIAL INDIRECT BIOLOGICAL IMPACTS SUMMARY

Potential indirect impacts to observed sensitive habitat, hydrological features, and special-status plant and animal species are assessed in this section on the basis of vegetation distribution and documented species locations from surveys in the BSA. Generally indirect biological impacts are similar for both the Proposed Project and the Alternative Project. Where differences exist, they are discussed below.

Sensitive Habitat

Impacts associated with mulefat and willow scrub habitats as indicated in Table 7 Vegetation and Land Cover Types within the Proposed Project Impact Corridor are not associated with jurisdictional waters, and while considered habitat for special status species, would not result in impacts to riparian or wetland areas. SCE's preliminary design anticipates spanning riparian and wetland habitats, avoiding direct impacts to wetlands, therefor impacts to riparian resources and associated special status species would be less than significant.

Coastal sage scrub is considered sensitive habitat by the state and federal resource agencies. Riparian and vernal habitat is also considered sensitive to comply with Section 6.1.2 of the WRCMSHCP. Diegan coastal sage scrub comprises 6.1 acres of habitat or 15 percent of the Proposed Project Impact Corridor with an additional 2.07 acres of Diegan coastal sage scrub compromising the Alternative Project Impact Corridor, for a total of 6.17 acres of impacts to Diegan coastal sage scrub.

Indirect Impacts

Temporary, indirect impacts to coastal sage scrub, riparian communities, and vernal pool habitats could result from construction activities that lead to increased runoff and sedimentation, increased erosion, increased fugitive dust, increased toxics, and unauthorized access. Erosion, runoff, and sedimentation can have a negative impact on sensitive habitats by damaging individuals or by altering conditions to make the habitat no longer suitable for plant species, or by increasing the success of invasive species adapted to disturbance that may out compete existing sensitive plant populations. Toxics may damage or kill individuals and may prevent plants from germinating or surviving. Dust from construction may reduce the effectiveness of photosynthesis and respiration. Unauthorized access may result in negative effects such as compaction of soil and bringing in nonnative seeds.

Permanent indirect impacts may also result from sensitive habitat becoming more fragmented and increasing nonnative exotic species in the area. Exotic species can out compete native plants in sensitive habitat, reduce growth, and impede dispersal and recruitment.

Rare Plants

Rare plants observed in the BSA (Figures 12a through 12e Special-Status Plant Species) include paniculate tarplant (CNPS List 4.2), small-flowered morning glory (CNPS List 4.2), Palmer's grapplinghook (CNPS List 4.2), Parry's spineflower (CNPS List 1B.1), San Diego ambrosia (FE, CNPS List 1B.1), and long-spined spineflower (CNPS List 1B.2).

Indirect Impacts

Temporary, indirect impacts to rare plants could result from construction activities, leading to increased runoff and sedimentation, erosion, fugitive dust, toxics, and unauthorized access. Erosion, runoff, and sedimentation can have a negative impact on plant populations by damaging individuals or by altering conditions to make the habitat no longer suitable. They can also increase the success of invasive species adapted to disturbance that may outcompete existing rare plant populations. Toxics may damage or kill individuals and may prevent plants from germinating or surviving. Dust from construction may reduce the effectiveness of photosynthesis and respiration.

Permanent indirect impacts may also result from populations becoming more fragmented and an increase in nonnative exotic species in the area. Exotic species may out compete rare plants, reduce growth, and impede dispersal and recruitment. Rare plant densities are generally low and are, therefore, more sensitive to habitat fragmentation.

Significance Determination

Consistency with the WRCMSHCP and measures as outlined in Section 7.9.1 of this document would mitigate indirect impacts to less than significant. WRCMSHCP consistency includes compliance with Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface. These guidelines are outlined within this document in Section 7.9.2. These guidelines include requirements to reduce toxins from entering runoff and discharge into the WRCMSHCP Conservation Area; to avoid use of invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP in landscaping plans for areas adjacent to WRCMSHCP Conservation Areas; to prohibit manufactured slopes in the WRCMSHCP Conservation Areas; and to use barriers to minimize unauthorized access or dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

Rare plants were observed in both the Alternative Project area and the Proposed Project area; however, with mitigation described above, indirect impacts to rare plants would be less than significant for both the Alternative Project and the Proposed Project.

Special-Status Avian Wildlife

Special-status bird species observed in the BSA are American kestrel, black-crowned night heron, California horned lark, coastal California gnatcatcher, Cooper's hawk, Costa's hummingbird, great-horned owl, Lawrence's goldfinch, least Bell's vireo, red-tailed hawk, tricolored blackbird, turkey vulture, white-face ibis, yellow warbler, and willow flycatcher; these are mapped in Figures 16a and 16b Special-Status Bird Species. These species consist of raptors, riparian species, and species found in both grassland and coastal sage scrub habitat.

Indirect Impacts

Potential permanent indirect impacts to special-status bird species include introduction and proliferation of invasive nonnative plant species. This impact is especially important for species that require native vegetation for nesting and foraging. This would apply to riparian bird species such as least Bell's vireo and southwestern willow flycatcher. Other indirect impacts to special-status bird species include impacts from noise, nighttime lighting, dust, sedimentation, and erosion.

Significance Determination

Consistency with the WRCMSHCP and the measures outlined in Section 7.9.1 of this document would mitigate indirect impacts to special-status bird species to less than significant. WRCMSHCP consistency includes compliance with Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, which are outlined in Section 7.9.2 of this document. These guidelines require that night lighting not enter into WRCMSHCP Conservation Areas; that noise caused by construction incorporate setbacks, berms, or walls to minimize impacts and that noise levels not exceed residential noise standards; that toxics not discharge into WRCMSHCP Conservation Areas; that invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP not be used in landscaping plans adjacent to WRCMSHCP Conservation Areas; that manufactured slopes not be allowed to extend into WRCMSHCP Conservation Areas; and that barriers be used to minimize unauthorized access or dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

Riparian habitat is required to be avoided per the WRCMSHCP, and if avoidance is not possible, a determination of biologically equivalent or superior preservation (DBESP) is required so there

is no net loss of riparian habitat. Avoidance of riparian habitat or a DBESP in conjunction with the Urban/Wildlands Interface Guidelines would mitigate indirect impacts to riparian bird species to less than significant.

Implementation of the WRCMSHCP, including the Urban/Wildlands Interface Guidelines and WRCMSHCP Objectives for WRCMSHCP Covered Species, would mitigate indirect impacts for other special-status avian species to less than significant.

Special-status bird species were observed in both the Proposed Project area and Alternative Project area; however, with mitigation described above, indirect impacts to special-status birds would be less than significant for both the Alternative Project and Proposed Project.

Special-Status Small Mammals

Special-status small mammals observed within the BSA are the northwestern San Diego pocket mouse, San Diego desert woodrat, and Stephens' kangaroo rat (Appendix L, Figures 17a through 17k Special-Status Mammals).

Indirect Impacts

Potential permanent indirect impacts to special-status small mammals include introduction and proliferation of invasive nonnative plant species, habitat fragmentation, changes in behavior due to noise or nighttime lighting, and impacts from erosion and dust.

Significance Determination

Consistency with the WRCMSHCP and measures as outlined in Section 7.9.1 of this document would mitigate indirect impacts to special-status small mammals to less than significant. WRCMSHCP consistency includes compliance with Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, and are outlined in Section 7.9.2 of this document. These guidelines require that night lighting not enter into WRCMSHCP Conservation Areas; that noise caused by construction incorporate setbacks, berms, or walls to minimize impacts and that noise levels not exceed residential noise standards; that invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP not be used in landscaping plans adjacent to WRCMSHCP Conservation Areas; that manufactured slopes not be allowed to extend into WRCMSHCP Conservation Areas; and that barriers be used to minimize unauthorized access or dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

Special-status mammals and habitat were observed in both the Alternative Project and the Proposed Project; however, with mitigation described above, indirect impacts to special-status mammals would be less than significant for both the Alternative Project and Proposed Project.

Special-Status Invertebrates

Suitable habitat for Quino (Figures 18a and 18b Quino Checkerspot Butterfly Suitable Habitat) and special-status fairy shrimp (Figures 13a and 13b Vernal Pool Species Resources) was observed within the BSA.

Indirect Impacts

Temporary, indirect impacts to Quino could result from construction activities that lead to fugitive dust, introduction of toxins, and unauthorized access into Quino habitat. Potential permanent indirect impacts to Quino include introduction and proliferation of invasive nonnative plant species and habitat fragmentation. Toxics may damage or kill individuals. Exotic invertebrates may proliferate in nonnative vegetation and may out-compete Quino.

Temporary, indirect impacts to fairy shrimp could result from construction activities that lead to increased runoff and sedimentation, erosion, fugitive dust, toxics, and unauthorized access. Erosion, runoff, and sedimentation can have a negative impact on fairy shrimp populations by altering conditions to make the habitat no longer suitable by affecting water quality, turbidity, and/or dissolved solids, or by increasing the success of invasive wildlife species that may out-compete or feed on fairy shrimp. Dust from construction may affect water quality in pools. Permanent indirect impacts may result from populations becoming more fragmented and an increase in nonnative exotic species in the area. Toxics may damage or kill individuals and may prevent fairy shrimp or cysts from surviving. Exotic species can out-compete fairy shrimp and impede dispersal and recruitment. Fairy shrimp densities are generally low and are, therefore, more sensitive to habitat fragmentation.

Significance Determination

Consistency with the WRCMSHCP and measures as outlined in Section 7.9.1 of this document would mitigate indirect impacts to less than significant. WRCMSHCP consistency includes compliance with Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface. These guidelines are outlined within this document in Section 7.9.2. These guidelines include requirements to reduce toxins from entering runoff and discharge into the WRCMSHCP Conservation Area; to avoid the use of invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP in landscaping plans for areas adjacent to WRCMSHCP Conservation Areas;

to prohibit manufactured slopes in the WRCMSHCP Conservation Areas; and to use barriers to minimize unauthorized access and dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

Habitat for special-status invertebrates was observed in both the Alternative Project and the Proposed Project; however, with mitigation described above, indirect impacts to special-status invertebrates would be less than significant for both the Alternative Project and Proposed Project.

Hydrological Features

The BSA supports 12 jurisdictional features consisting of two named features, Santa Gertrudis Creek and Tucalota Creek, in addition to nine ephemeral and intermittent streams, one swale, and their associated wetland/riparian vegetation.

Indirect Impacts

Temporary, indirect impacts to hydrological features could result from construction activities that lead to increased runoff and sedimentation, erosion, toxics, and unauthorized access. Erosion, runoff, and sedimentation can have a negative impact on water quality, turbidity, and dissolved solids, by increasing the success of invasive wildlife species. Dust from construction may affect water quality. Permanent indirect impacts may also result from hydrological features becoming more fragmented and an increase in nonnative exotic species in these features. Toxics may reduce water quality or kill native vegetation.

Significance Determination

Consistency with the WRCMSHCP and measures as outlined in Section 7.9.1 of this document would mitigate indirect impacts to less than significant. WRCMSHCP consistency includes compliance with Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface. These guidelines are outlined within this document in Section 7.9.2. These guidelines include requirements to reduce toxins from entering runoff and discharge into the WRCMSHCP Conservation Area; to avoid the use of invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP in landscaping plans for areas adjacent to WRCMSHCP Conservation Areas; to prohibit manufactured slopes in the WRCMSHCP Conservation Areas; and to use barriers to minimize unauthorized access or dumping into WRCMSHCP Conservation Areas. Dust suppression measures during construction would also be required.

Hydrologic features were observed in both the Alternative Project and the Proposed Project; however, with mitigation described above, indirect impacts to hydrologic features would be less than significant for both the Alternative Project and Proposed Project.

7.8 IMPACTS IN THE CONTEXT OF THE WRCMSHCP

For both the Proposed Project and Alternative Project, Segment 2 of the Valley South 115 kV Subtransmission Project occurs within the conservation planning framework of the WRCMSHCP. The system of Area Plans, Subunits, and Criteria Cells provides conservation objectives or criteria for species, vegetation/habitat acreages, and preserve function features designed to achieve plan goals at various spatial scales.

Section 3.3.2 Multiple Species Habitat Conservation Plan, Figure 3 Western Riverside County WRCMSHCP Planning Areas, and Figure 4 Western Riverside County WRCMSHCP Criteria Cells identify the general planning units within which the Proposed Project and Alternative Project occur. Table 10 Portions of the WRCMSHCP Planning Areas Intersected by the Valley South 115 kV Subtransmission Project provides specific information on applicable planning units at all scales within the BSA of the Proposed and Alternative Projects.

Table 8
Portions of the WRCMSHCP Planning Areas Intersected by the Valley South 115 kV Subtransmission Project

Area Plan	Subunit	Criteria Cells / Cell Groups within BSA	Planning Species	Bio Issues & Considerations
Southwest Area	**5:** French Valley / Lower Sedco Hills	**Group W:** cells 6071, 6074; **Group V:** cells 5969, 5976; **Group B':** cells 5672, 5781; **Group Z:** cells 5576, 5569, 5570; **Ungrouped cells:** 5672, 5677, 5572, 5778, 5781, 5879, 5979, 6180	sage sparrow, horned lark, California gnatcatcher, grasshopper sparrow, rufous-crowned sparrow, Quino checkerspot, bobcat, Los Angeles pocket mouse, western pond turtle, long-spined spineflower, Munz's onion, Palmer's grappling hook	• Provide linkage to southwest • Conserve clay soils for long-spined spineflower, Munz's onion, and Palmer's grapplinghook • Maintain core for several species • Determine core for LA pocket mouse along Warm Springs Creek • Maintain habitat cores for Quino checkerspot butterfly, western pond turtle, and Riverside fairy shrimp

The portions of the Proposed and Alternative Projects within the Southwest Area Plan are discussed below in terms of potential impacts to identified natural features, in the context of the significance criteria provided in Section 7.4.

7.8.1 Southwest Area Plan

The Proposed Project and Alternative Project are within the Southwest Area Plan. The Proposed Project and Alternative Project generally follow unpaved rural roads or heavily used paved roads. The Alternative Project is adjacent to Proposed Core 2 and is between Proposed Core 2 and Proposed Constrained Linkage 18. The Proposed Project is on the east side of Proposed Core 2 and bisects the link between Proposed Core 2 and Existing Constrained Linkage E, which connects to public/quasi-public lands (Figure 19 Wildlife Movement Corridor).

The following special-status species were documented in the course of project surveys within the Southwest Area Plan and others are likely to occur (see Appendix C Special Status Plant Species with Potential to Occur and Appendix D Special Status Wildlife Species with Potential to Occur). Species indicated by * are also WRCMSHCP Planning Species (see Table 8 Portions of the WRCMSHCP Planning Area Intersected by the Valley South 115 kV Subtransmission Project).

- Paniculate tarplant
- Small-flowered morning-glory
- Long-spined spineflower*
- Palmer's grapplinghook*
- Parry's spineflower
- Red-tailed hawk (nest)
- Cooper's hawk
- Black-crowned night heron
- White-faced ibis
- Costa's hummingbird
- Lawrence's goldfinch
- Least Bell's vireo
- Coastal California gnatcatcher*
- California horned lark*
- Yellow warbler
- Tricolored blackbird
- Stephens' kangaroo rat
- Northwestern San Diego pocket mouse
- San Diego desert woodrat
- Coastal western whiptail

The above list indicates that several important species occur in the vicinity of the Proposed Project and Alternative Project and some may incur significant permanent and temporary

impacts due to vulnerability to direct and indirect impacts. Assuming that special-status habitats such as coastal sage scrub, riparian vegetation, and wetlands could be avoided, these species include long-spined spineflower, Parry's spineflower, nesting raptors and other birds, Stephens' kangaroo rat, and San Diego pocket mouse. These species are either sessile (plants); have high potential to burrow or nest directly in nonnative grassland and ruderal vegetation; or are sensitive to noise, vibration, or dust disturbance during the reproductive season (late winter through summer).

Considering the noncontinuous nature of the Proposed Project and Alternative Project and the fact that the majority of impacts would be temporary, these measures are expected to reduce any impacts to below the level of significance. More localized pre-construction surveys may be required to refine the distributions of features such as rare plants for avoidance. Failure to avoid impacts to riparian/riverine habitat for example, may require the development of a DBESP.

7.9 MANAGEMENT RECOMMENDATIONS FOR IMPACT AVOIDANCE AND MINIMIZATION

Based on the potential impact analysis to biological resources provided in Section 7.6, the following impact avoidance and minimization measures are provided as recommendations for implementation. The measures are distinguished as "Specific" and "General." Recommendations included here apply to both the Proposed Project and the Alternative Project unless otherwise discussed below.

Specific measures are geared to address those potential impacts that have been identified as significant. Therefore, these measures entail strategies specifically designed to mitigate impacts to special-status species and habitats to a less than significant level. General avoidance measures are typically BMPs to avoid impacts to all sensitive biological resources. General measures associated with requirements per the WRCMSHCP are presented below in Section 7.9.2, General Impact Avoidance and Minimization Measures during Construction and Operations and Maintenance.

7.9.1 Specific Impact Avoidance and Minimization Measures during Construction and Operations and Maintenance

Measure 1: Pre-Construction Clearance Surveys and Construction Monitoring

Pre-construction biological clearance surveys would be performed at specific construction and other work sites adjacent to the Proposed Project and Alternative Project to minimize impacts on special-status wildlife and plant species. If special-status species are present, biological monitors

would be on-site, as needed, during project implementation in suitable habitat areas and would aid crews in implementing avoidance measures during project construction. Since SCE would be enrolled in the WRCMSHCP as a Participating Special Entity (PSE), impacts that cannot be adequately avoided would be compensated via the provisions of the WRCMSHCP program. In the event that SCE enrollment in the WRCMSHCP program is not feasible, SCE would coordinate with USFWS and CDFW for further guidance as appropriate. It is recommended that potential significant findings identified during pre-construction surveys may be added to the Worker Environmental Awareness Program (WEAP) training.

Measure 2: Pre-construction Surveys for Nesting Birds and Raptors

To minimize potential impacts to selected nesting special-status birds, including raptors, or other bird species protected under the provisions of the Migratory Bird Treaty Act and CFGC Codes 3503 and 3503.5, to the extent feasible, planned vegetation clearing would take place during the nonbreeding season (between September 1 and January 31). This would discourage the species from nesting within or near work areas. Existing trees, shrubs, or other vegetation that provide suitable structure for nesting would be removed. If vegetation clearing must take place during nesting season (February 1–August 31), a biologist would conduct pre-construction nesting bird surveys prior to clearing for the sites that have potential to support nesting birds. If the biologist finds an active nest within or adjacent to the construction area and determines that there may be impacts to the nest, the biologist would delineate an appropriate buffer zone around the nest depending on the sensitivity of the species, type of construction activity, topography, etc. Construction activities approved by the biologist would take place within the buffer zone until the nest is vacated. If an active nest cannot be avoided by project activities, SCE would suspend work until nesting has been completed (to be determined by biologist).

Measure 3: Stephens' Kangaroo Rat Mitigation

Since both the Proposed Project and Alternative Project are located within the Stephens' kangaroo rat fee area pursuant to the 1996 HCP, SCE would address the compensation for Stephens' kangaroo rat impacts by paying the fee to Riverside County (RCHCA, 1996). In the event that SCE enrollment in the WRCMSHCP program (or mitigation through the payment of the Stephens' kangaroo rat fee) is not feasible, SCE would coordinate with USFWS and CDFW for further guidance, as appropriate.

If additional avoidance measures for WRCMSHCP Covered Species are required within areas described for conservation that cannot be avoided within WRCMSHCP Criteria Areas, those measures for Stephens' kangaroo rat may include installation of fencing to remove Stephens'

kangaroo rat from the work area, and trapping and relocation of Stephens' kangaroo rat behind fenced areas until construction is completed.

Measure 4: Pre-Construction Vernal Pool Marking for Riverside and Vernal Pool Fairy Shrimp

While neither Riverside nor vernal pool fairy shrimp species were found during surveys onsite, the drought conditions of the survey year may have resulted in false negative findings for these species. A determination would be made by the RCA as to whether fairy shrimp surveys are consistent with the WRCMSHCP. To aid in avoidance and minimization of potential impacts to these species should they be present on-site, pre-construction marking of previously mapped pool sites would be performed by a qualified biologist with a permit to handle fairy shrimp and reflected in construction plans and specifications for avoidance.

Measure 5: Pre-construction Burrowing Owl Surveys and Passive Relocation

Focused surveys conducted along the Proposed Project and Alternative Project revealed no burrowing owls; however, suitable habitat is present throughout the Proposed Project and Alternative Project areas. To comply with Objective 6 of the Burrowing Owl Species Account in the WRCMSHCP, pre-construction presence/absence surveys for burrowing owl where suitable habitat is present is required. Take of active nests would be avoided and passive relocation would occur when owls are present outside the nesting season. Per Objective 6 of the WRCMSHCP and the Burrowing Owl Survey Instructions (Riverside County, 2006), pre-construction presence/absence surveys for burrowing owl would occur within suitable habitat within 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation is permissible when burrowing owls are present outside of the nesting season.

Nesting activity for burrowing owl in the region normally occurs between March and August. Protection of nesting burrowing owls will be at the discretion of the biological monitor, but may consist of the following: (1) Construction activities would be restricted until the burrow is no longer active, as determined by a biologist; (2) clearing and grubbing would not occur within a 500-foot buffer around any active burrow, unless otherwise determined by a biologist; and (3) access and surveying would be restricted within 300 feet of any active burrow, unless otherwise determined by a biologist. Encroachment into the buffer area around the active burrow would only be allowed if the biologist determines that the proposed activity would not disturb the nest occupants. Construction would proceed when the biologist has determined that fledglings have left the nest.

SCE would address potential unavoidable impacts to burrowing owl habitat via the provisions of the WRCMSHCP, as a PSE. In the event that SCE enrollment in the WRCMSHCP program is not feasible, SCE would coordinate with CDFW for further guidance as appropriate.

Measure 6: Coastal California Gnatcatcher Avoidance

The strategy for achieving impact avoidance and minimization for gnatcatchers would involve avoidance of coastal sage scrub vegetation where project design allows. Additionally, avoidance of active nests would be accomplished through Measure 2, above. SCE would compensate for unavoidable loss of coastal sage scrub as a PSE under the provisions of the WRCMSHCP. In the event that SCE enrollment in the WRCMSHCP program is not feasible, SCE would coordinate with USFWS and CDFW for appropriate action.

To comply with the Terms and Conditions of the federal take permit for the WRCMSHCP (TE088609), clearing of occupied coastal California gnatcatcher habitat within public/quasi-public lands or Criteria Areas is prohibited between March 1 and August 1. A modified 3-day survey within suitable coastal California gnatcatcher to determine presence/absence would be required prior to ground disturbance during this period.

Measure 7: Listed Riparian Birds Avoidance and Mitigation

SCE has committed to full avoidance of riparian and other wetland habitats from direct construction impacts. Furthermore, the possibility of indirect impacts to nesting pairs of these species in subsequent years would be addressed by Measure 2, above.

If impacts to riparian habitat would occur, a determination of biologically equivalent or superior preservation (DBESP) would need to be prepared to comply with the WRCMSHCP and "no net loss" of riparian habitat should occur.

Measure 8: Quino Checkerspot Butterfly Mitigation

This species is considered adequately conserved per the WRCMSHCP, thus, mitigation for this species is not required for consistency with the WRCMSHCP. However, since the Proposed Project and Alternative Project cannot completely avoid areas described for conservation within the WRCMSHCP, to be consistent, the RCA may require that habitat for certain species within areas described for conservation (as shown in Figure 4 Western Riverside County WRCMSHCP Criteria Cells and Figure 19 Wildlife Movement Corridor) be avoided as much as possible. If this is required, impacts to both grassland and sage scrub habitat would need to be minimized.

SCE would address potential impacts to this species via its anticipated PSE status under the provisions of the WRCMSHCP. In the event that SCE enrollment in the WRCMSHCP program is not feasible, SCE would pursue appropriate actions through consultation with USFWS and CDFW.

7.9.2 The Urban/Wildlands Interface Guidelines

Urban/Wildlands Interface Guidelines, as described in Section 6.1.4 of the WRCMSHCP, would be adhered to where work is near the WRCMSHCP Conservation Areas. The following measures would be instituted:

- Drainages – the quality and quantity of runoff discharged into the WRCMSHCP Conservation Area would not be altered in an adverse way
- Toxics – the use of chemicals or generation of bioproducts that are potentially toxic or may adversely affect wildlife species would not be allowed
- Lighting – night lighting would be directed away from the WRCMSHCP Conservation Area and shielding would be incorporated into the design to ensure ambient lighting in WRCMSHCP Conservation Areas is not increased; night work would be avoided whenever possible
- Noise – setbacks, berms, or walls would be used to minimize the effects of noise on WRCMSHCP Conservation Areas
- Invasives – invasive, nonnative plant species included in Table 6-2 of the WRCMSHCP would not be used in proximity to the WRCMSHCP Conservation Area

7.9.3 General Impact Avoidance and Minimization Measures during Construction and Operations and Maintenance

In addition to species-specific avoidance and minimization measures, SCE would implement more general BMPs designed to minimize adverse effects to lands, waterways, and biological features.

- A WEAP and training would be implemented to increase understanding of environmental constraints and restrictions, introduce environmental monitors, identify contingent actions for certain circumstances, and establish lines of communication for resolution of unanticipated issues in the field

- Vehicles and other equipment would remain on established roadways or approved access routes or work areas; these would be clearly marked
- SCE would endeavor to contain artificial lighting at work sites to within a small radius of designated work areas should any night work be required; fugitive light would not be allowed to extend significantly into surrounding natural habitats
- Control of fugitive dust per standard measures would be implemented by SCE
- SCE would clean up and restore areas that would be temporarily disturbed by construction of the Proposed and/or Alternative Projects to as close to pre-construction conditions as feasible or to the conditions agreed upon among landowners, SCE, and the appropriate agencies following the completion of construction
- If restoration occurs within sensitive habitats, a habitat restoration and revegetation plan would be developed by SCE with the appropriate resource agencies and implemented after construction is complete

Considering the noncontinuous nature of construction of the Proposed Project and the Alternative Project (removal and installation of structures not directly adjacent to each other, stringing and pull sites not next to each other) and the fact that the majority of impacts would be temporary, these measures are expected to reduce any impacts to below the level of significance. More localized pre-construction surveys may be required to refine the distributions of features such as rare plants for avoidance. Failure to avoid such impacts would require the development of a DBESP.

The BMPs as described in Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface in the WRCMSHCP would be used. These are expected to be communicated to construction and operation crews to be used where applicable. These measures would be identified prior to construction and would be incorporated into construction and maintenance operations.

The application of the above measures is also expected to satisfy the Biological Issues & Considerations identified in Table 7 Impacts to Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed Project and the Alternative Project of the 115 kV Subtransmission Line. The dispersed nature of the final project along existing roads is not expected to compromise current levels of wildlife linkage through the area and measures applied during construction are expected to minimize the impairment of wildlife movement. The Alternative Project would also not compromise the current value of the surrounding undeveloped landscape as a core habitat area.

7.10 IMPACTS TO WILDLIFE MOVEMENT

The discussion below refers to anticipated impacts to wildlife corridors for both the Proposed Project and Alternative Project. The Proposed Project and the Alternative Project are anticipated to occur in a landscape that is currently dedicated to agricultural and urban uses with some large blocks of intact habitat. Movement within the area of the BSA is constrained by commercial and housing developments, the French Valley airport, and roads. The habitat within both the Proposed Project and the Alternative Project has been fragmented by agricultural uses and areas with dense human development including housing and commercial uses and associated infrastructure.

Linkages for the WRCMSHCP within the area of the Proposed Project and Alternative Project are constrained linkages and include Proposed Constrained Linkage 18 for the Alternative Project (only) and Existing Constrained Linkage E for both the Proposed and Alternative Project (Figure 19 Wildlife Movement Map). Also shown on this map is WRCMSHCP Proposed Core 2, which is discontinuous with large areas of urban development, interspersed within the Core and lands, mainly to the east of the Proposed Project. Proposed Core 2 is constrained in all directions by urban development and agricultural uses. The core provides key live-in habitat for Quino. Wildlife movement can occur along the riparian habitat of an unnamed drainage in Proposed Constrained Linkage 18 in the Alternative Project. This linkage connects Proposed Core 2 and Proposed Extension of Existing Core 7. The linkage is constrained by agricultural uses and there is a large amount of edge effect here. Proposed Core 2 provides live-in and movement habitat. Existing constrained linkage E is within both the Proposed Project and Alternative Project and includes lower Tucalota Creek. This linkage provides nesting habitat for grasshopper sparrow and Bell's sage sparrow. Maintenance of floodplain processed along Tucalota Creek is important for this linkage. This linkage likely provides for movement of animals such as bobcat.

Barriers and hazards to dispersal within the Proposed Project and Alternative Project include major roadways, dirt roads, subdivisions of homes, commercial developments, and areas under active agricultural production. Major watercourses are not tightly constrained by human development, are generally allowed to flow on the surface (as opposed to being enclosed within culverts), and are intersected by relatively few major roadways.

Similar to Segment 1 to the north, in Segment 2, the most heavily traveled roadways in the local landscape, such as SR 79 are relatively few and are only two to four lanes wide and generally free of peripheral barriers to wildlife movement, such as fences and walls. SR-215, west of the Proposed Project and the Alternative Project, is a major freeway that likely constitutes a significant barrier and hazard to wildlife movement.

The majority of the Proposed Project and Alternative Project follow either existing moderately travelled paved roads or dirt roads, and the paved roads provide an obstruction to wildlife movement. Work would generally occur near existing roads; therefore, construction phase activities would likely result in significant, but temporary and localized, increases in local disturbance that may impede local wildlife movement at times. However, Proposed Project and Alternative Project work would remain fairly concentrated and noncontinuous, allowing movement of animals between concentrated work areas, especially at night, when most animal dispersal occurs. Night work would be avoided wherever possible. Long-term construction impacts to animal movement are expected to be less than significant if proper site management BMPs regarding equipment staging, times of activity, and night-lighting are observed. Post-construction operation of the subtransmission line would not result in impediments to wildlife movement above current levels.

The discussion above refers to anticipated impacts to wildlife corridors for both the Proposed Project and Alternative Project. In addition, the Alternative Project extends further north and west beyond the Proposed Project overlap area and approaches habitat that has been known to support Quino populations (Hogbacks) and Warm Springs Creek, which is within Proposed Constrained Linkage 15 of the WRCMSHCP. Proposed Core 2 (of which the Proposed Project and Alternative Project are within) connects to Proposed Constrained Linkage 15. The Alternative Project is also within the Warm Springs Core Area associated with Quino. The Alternative Project crosses an unnamed drainage that is described by the WRCMSHCP for conservation; if impacts were to occur within this drainage, a DBESP would be required to ensure no net loss of riparian habitat.

7.11 IMPACTS TO CRITICAL HABITAT

Potential impacts to critical habitat are discussed separately below for the Proposed Project and Alternative Project.

7.11.1 Proposed Project

The Proposed Project area is within USFWS-designated critical habitat for one species, San Diego ambrosia.

A population of approximately 6,315 individuals of San Diego ambrosia were identified in nonnative grassland just north of Nicolas Road (Figure 12e Special-Status Plant Species) and this population is within the USFWS-proposed San Diego ambrosia critical habitat, Unit: 3 Santa Gertrudis Creek watershed (USFWS, 2009). Avoidance of the population may be possible but is not assumed herein.

7.11.2 Alternative Project

The USFWS critical habitat described above is present within the 3.4-mile overlap of the Proposed Project and Alternative Project. Within the 1.6-mile portion of the Alternative Project that does not overlap with the Proposed Project, there is no USFWS critical habitat, so the impacts to critical habitat discussed above for the Proposed Project are the same for the Alternative Project.

7.12 SUMMARY OF IMPACT SIGNIFICANCE

An Impact Corridor study was conducted for the Proposed Project area and Alternative Project area to determine potential direct impacts to both habitat types and sensitive species. Total permanent and temporary acreages were estimated based on the Project Description. While it is not possible to ascertain impacts to individual habitat types and species, the Impact Corridor study and acreage estimation can provide an idea of the level of impacts to be expected.

SCE would operate in compliance with all state and federal laws, regulations, and permit conditions and, as a participating special entity, SCE would implement requirements set forth in the WRCMSHCP to ensure consistency with the WRCMSHCP. Guidelines outlined in Section 7.8, Management Recommendations for Impact Avoidance and Minimization, above, and within the WRCMSHCP in Section 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface would be incorporated into the Proposed Project and Alternative Project to avoid and minimize potential impacts to sensitive biological resources.

Regular O&M of the subtransmission line is expected to be infrequent and require mostly localized activities not to extend beyond established access and work areas around each structure. Nevertheless, certain infrequent O&M activities may cause impacts to sensitive biological resources. The measures set forth in Section 7.8.2, General Impact Avoidance and Minimization Measures, would be adhered to during O&M. In addition, access routes, tower pads, etc. would be properly designed and maintained to prevent discharge of runoff into wetlands or substantially alter local hydrology. Compliance with the measures in Section 7.8.2 is expected to ensure that subtransmission line O&M effects would be reduced below the level of significance.

Vegetation/cover types that are less sensitive (i.e., developed/urban, disturbed/ruderal, and agriculture) comprise the majority of the Proposed Project Impact Corridor (Table 7 Impacts to Vegetation Communities and Land Cover Types within the Impact Corridor for the Proposed and Alternative Projects of the 115 kV Subtransmission Line). Within the 1.6 miles of the Alternative Project these cover types also comprise the majority of cover types. Riparian and wetland habitat

within the Proposed Project and Alternative Project comprise about 1 percent of the Diegan coastal sage scrub comprises about 17 percent of the Proposed Project and >1 percent of the 1.6 miles of the Alternative Project. Nonnative grassland comprises about 15 percent of the Proposed Project and nonnative woodland/ornamental >1 percent of the Proposed Project. Nonnative grassland comprises 32 percent of the 1.6 miles of the Alternative Project and nonnative woodland/ornamental >1 percent of the 1.6 miles of the Alternative Project.

The Impact Corridor for the Proposed Project area and the Alternative Project area includes riparian and wetland vegetation. To be consistent with the WRCMSHCP, SCE would have to commit to complete avoidance of riparian/wetland vegetation or conduct a DBESP. In addition, at the discretion of the RCA, SCE may have to commit to avoiding habitat described for conservation within the WRCMSHCP. These areas would need to be avoided by perimeter marking and careful siting of structures and work areas.

In terms of individual special-status species or groups of such species, impacts from the Proposed Project or Alternative Project construction would differ by habitat type. Whereas a high degree of certainty surrounds the avoidance of localized, sensitive habitats such as coastal sage scrub or riparian, concentration of construction and operational activities would necessarily occur in more open vegetation types, such as nonnative grassland and ruderal, thus increasing the likelihood of significant impacts to certain species, such as smooth tarplant, Quino, fairy shrimp, orange-throated whiptail, burrowing owl, foraging raptors, and Stephens' kangaroo rat.

Wildlife movement can be affected by construction. Movement by birds is likely to be unaffected by temporary and permanent construction impacts. The impediment to landscape movement imposed by some existing roadways would be somewhat exacerbated during construction for animals such as mammals and reptiles by the Proposed Project or Alternative Project. However, project work would remain fairly concentrated and noncontinuous, allowing movement of animals between concentrated work areas. Furthermore, most animal dispersal occurs at night and active construction would occur during the day, facilitating avoidance. O&M impacts would be less than significant to wildlife movement, as no impediment to such movement is expected above current levels from the final project configuration. Operational impacts would be less than significant for both the Proposed Project area and the Alternative Project area. The Valley South 115 kV Subtransmission Project is not expected to contribute to fragmentation of existing habitat areas so as to increase deleterious edge effects due to the small amount of new construction to be conducted and the fact that most impacts will be temporary in nature. The transmission line is already in place and will consist only of upgraded.

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APPENDIX A

BIOLOGICAL RESOURCES SURVEYS SUMMARY

Appendix A
Biological Resources Surveys Summary

Biological Resource	Survey Area	Survey Number of Total Required	Start	Finish	Personnel
Reconnaissance Habitat Assessment	Project corridor and 500-foot buffer	1 of 1	4/25/2013	4/25/2013	Shelly Dayman, Andrew Fisher
Vegetation Mapping	Project corridor and 500-foot buffer	1 of 1	12/23/2013	12/27/2013	Onkar Singh
Jurisdictional Delineation	Project corridor and 250-foot buffer	1 of 2	12/12/2013	12/12/2013	Lanika Cervantes
			12/17/2013	12/17/2013	Lanika Cervantes
			12/20/2013	12/20/2013	Lanika Cervantes
		2 of 2	3/25/2014	3/25/2014	Lanika Cervantes
Special-Status Plants	Project corridor and 250-foot buffer	1 of 3	3/31/2014	4/4/2014	Onkar Singh
		2 of 3	5/7/2014	5/13/2014	Onkar Singh
		3 of 3	6/24/2014	6/26/2014	Onkar Singh
Fairy Shrimp (Wet Season)	Project corridor and 250-foot buffer	1 of 10	12/13/2013	12/13/2013	Lance Woolley
		2 of 10	12/27/2013	12/27/2013	Lance Woolley
		3 of 10	1/10/2014	1/10/2014	Lance Woolley
		4 of 10	1/24/2014	1/24/2014	Lance Woolley
		5 of 10	3/12/2014	3/12/2014	Andrew Fisher
		6 of 10	3/25/2014	3/25/2014	Lance Woolley
		7 of 10	4/8/2014	4/8/2014	Lance Woolley
Fairy Shrimp (Dry Season)	Project corridor and 250-foot buffer	1 of 1	5/29/2014	5/29/2014	Christopher Rogers
Quino Checkerspot Butterfly Focused Habitat Assessment[1]	Project corridor and 250-foot buffer	1 of 1	1/10/2014	1/10/2014	Erin Bergman
Amphibians and Reptiles	Project corridor and 250-foot buffer	N/A	All Dates		ALL PERSONNEL (Incidental Observations)
Nesting Raptors	Project corridor and 500-foot buffer	1 of 1	5/26/2014	5/26/2014	Brennan Mulrooney
Western Burrowing Owl	Project corridor and 500-foot buffer	1 of 4	4/28/2014	4/30/2014	Marija Minic, Jon Lucas
		2 of 4	5/13/2014	5/16/2014	Shelly Dayman, Dave Lohr
		3 of 4	5/27/2014	6/2/2014	Matt Kedziora, Keoni Calantas, Dave Lohr, Brennan Mulrooney
		4 of 4	6/17/2014	6/19/2014	Dave Lohr

Biological Resource	Survey Area	Survey Number of Total Required	Start	Finish	Personnel
Least Bell's Vireo (LBV)	Project corridor and 500-foot buffer	1 of 8	4/24/2014	4/24/2014	Brennan Mulrooney
		2 of 8	5/5/2014	5/5/2014	Brennan Mulrooney
		3 of 8	5/15/2014	5/15/2014	Brennan Mulrooney
		4 of 8	5/27/2014	5/27/2014	Brennan Mulrooney
		5 of 8	6/9/2014	6/9/2014	Brennan Mulrooney
		6 of 8	6/19/2014	6/19/2014	Brennan Mulrooney
		7 of 8	6/30/2014	6/30/2014	Brennan Mulrooney
		8 of 8	7/11/2014	7/11/2014	Brennan Mulrooney
Southwestern Willow Flycatcher (SWFL)[2]	Project corridor and 500-foot buffer	1 of 5	5/15/2014	5/15/2014	Brennan Mulrooney
		2 of 5	5/27/2014	5/27/2014	Brennan Mulrooney
		3 of 5	6/9/2014	6/9/2014	Brennan Mulrooney
		4 of 5	6/19/2014	6/19/2014	Brennan Mulrooney
		5 of 5	7/11/2014	7/11/2014	Brennan Mulrooney
Small Mammals	Project corridor and 250-foot buffer	1 of 1[3]	3/23/2014	3/29/2014	Steve Montgomery
		1 of 2	5/1/2014	5/6/2014	Steve Montgomery
		2 of 2	5/9/2014	5/14/2014	Steve Montgomery

[1] No focused surveys were conducted
[2] SWFL surveys to be conducted concurrently with LBV surveys
[3] Habitat assessment conducted.
N/A = not applicable

APPENDIX B

2014 JURISDICTIONAL DELINEATION REPORT

Version 3 May 21, 2014

DRAFT

JURISDICTIONAL DELINEATION REPORT FOR POTENTIAL WATERS OF THE U.S. AND STATE OF CALIFORNIA

SOUTHERN CALIFORNIA EDISON VALLEY SOUTH 115 kV SUBTRANSMISSION PROJECT

Prepared for:

Southern California Edson
1218 South Fifth Avenue
Monrovia, California 91016

Prepared by:

AECOM
1420 Kettner Boulevard, Suite 500
San Diego, California 92101
(619) 233-1454
Contact: Lanika Cervantes

May 2014

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1.0 SUMMARY

Southern California Edison (SCE) is proposing to construct the Valley South 115 kV Subtransmission Project (VSSP). The Proposed Project is approximately 15.4 miles in total length and would be located within unincorporated Riverside County and the cities of Menifee, Murrieta, and Temecula (Figures 1 and 2 [all figures are included in Attachment A]). The Proposed Project (Segment 1) involves construction a of new 115 kV subtransmission line originating at SCE's existing Valley 500/115 kV Substation and connecting at a Tubular Steel Pole (TSP) located at the southeast corner of Leon and Benton Roads, for a total of 12 miles. Proposed Project (Segment 1) would cross through the City of Menifee, unincorporated Riverside County, and a small portion of the City of Murrieta.

The Proposed Project (Segment 2) involves reconductoring a section of the existing Valley-Auld-Triton 115 kV Subtransmission Line. Proposed Project (Segment 2) begins at the TSP located at the southeast corner of Leon and Benton Roads and continues southerly to the existing Terminal TSP located on the south side of Nicholas Road, for a total of 3.4 miles. The Proposed Project (Segment 2) would cross through unincorporated Riverside County and the City of Temecula.

The Proposed Project (Segment 1) was assessed for waters of the U.S. and state by TRC Solutions in 2012 (TRC 2012).

SCE's Alternative Project would be approximately 19 miles in total length and would extend approximately 3.6 miles longer than the Proposed Project. The Alternative Project (Segment 1) would follow an identical route to that of the Proposed Project (Segment 1) for the first 8.2 miles and then would turn westerly at Scott Road until its termination point near SCE's Auld 115/12 kV Substation, for a total of 14 miles.

The Alternative Project (Segment 2) would begin at an existing TSP located east of Auld Substation and would connect to the existing Valley-Auld-Triton 115 kV subtransmission line paralleling Los Alamos Road for approximately 0.5 mile until it reaches Briggs Road and would turn south for approximately 0.5 mile. It would then span SR-79 in an easterly direction and parallel Benton Road before merging with the Proposed Project (Segment 2). At this location, the Alternative Project (Segment 2) would follow the identical 3.4-mile route as the Proposed Project (Segment 2), for a total of 5 miles. The Alternative Project would include the same improvements as the Proposed Project.

The Alternative Project (Segment 1) was assessed for waters of the U.S. and state by TRC Solutions in 2012 (TRC 2012).

Since both the Proposed Project (Segment 1) and Alternative Project (Segment 1) were previously analyzed by TRC in 2012, this jurisdictional delineation report (JDR) evaluates water of the U.S. and state within the 3.4-mile route the Proposed Project (Segment 2) and 1.6-mile route of the Alternative Project (Segment 2), for a total length of approximately 5 miles.

As part of the environmental review process, this JDR outlines and summarizes the latest applicable federal and state guidance and methodologies employed in delineating potential waters of the U.S. and State of California (state); the results of the fieldwork; and the amount, type, and location of the potential jurisdictional waters occurring within the survey area. The survey area includes the Proposed Project (Segment 2) and a 250-foot buffer on either side, resulting in a 500-foot-wide corridor.

Approximately 3.73 acres of potential waters of the U.S. and state were delineated within the survey area, composed of 2.98 acres of vegetated wetlands and 0.75 acre (3,307 linear feet) of other waters. Final acreages of waters of the U.S. will be based on the jurisdictional determination (JD) process established by U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA).

Approximately 2.66 acres of aquatic features were delineated as potential exclusive waters of the state, composed of 0.12 acre (187 linear feet) of unvegetated swale and 2.54 acres of riparian component.

2.0 INTRODUCTION

This section describes the purpose of the assessment of potential jurisdictional waters and identifies the survey area location.

2.1 Description of Proposed Project

SCE is proposing to replace 5 miles of overhead conductor of the existing Valley-Auld-Triton 115 kV Subtransmission Line (known as Segment 2) located in unincorporated Riverside County and the cities of Murrieta and Temecula.

This JDR addresses only Segment 2 of VSSP; however, both segments are described below for overall project context.

Segment 1

- Modification of SCE's existing Valley 500/115 kV Substation would include equipping an existing 115 kV line position and providing protection equipment as required.

- Construction of a new 115 kV subtransmission line originating at SCE's existing Valley 500/115 kV Substation and connecting at a TSP, which is located at the southeast corner of Leon and Benton Roads. The TSP is the common point of the three-terminal existing Valley-Auld-Triton 115 kV Subtransmission Line. The new construction and associated reconfiguration would result in the formation of the Valley-Auld No. 2 and Valley-Triton 115 kV Subtransmission Lines. The new 115 kV subtransmission line would be approximately 12 miles in length. Proposed Project.

- Relocation of existing distribution and telecommunication lines would be required to support the installation of the new 115 kV subtransmission line.

- Installation of telecommunication equipment at Triton and Valley Substations would support the new 115 kV subtransmission line.

Segment 2

- Replacement of a segment of overhead conductor of the existing Valley-Auld-Triton 115 kV Subtransmission Line beginning at the TSP located at the southeast corner of Benton and Leon Roads continuing south to the Terminal TSP located on the south side of Nicholas Road, approximately 250 feet west of Los Chorus Ranch Road in the City of Temecula.

The overall purpose of the VSSP is to provide safe and reliable electrical services, add capacity to serve long-term forecasted electrical demand requirements, and maintain or improve system reliability.

2.2 Purpose of Jurisdictional Delineation

The purpose of performing a jurisdictional delineation is to identify the presence or absence (including types, location, boundaries, and acreages) of potential waters of the U.S. and state (including wetlands) occurring within the survey area. Once the presence or absence of potential jurisdictional waters is identified per federal and state delineation methods and guidelines, the results of this JDR will be verified by USACE, the California

Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB).

This JDR is intended to support and provide documentation for the following:

- Support and assistance to SCE with Proposed Project design efforts and allow for avoidance and/or minimization of impacts to potential waters of the U.S. and state.
- Permitting under Section 404 of the Clean Water Act (CWA), as regulated by USACE (as applicable).
- Certification of compliance under Section 401 of the CWA, as regulated by the RWQCB (as applicable).
- Issuance of Waste Discharge Requirements (WDRs) or waiver under Article 4 of the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) (as regulated by the RWQCB, as applicable).
- Permitting under California Fish and Game Code (CFGC) Chapter 6 Section 1600 et seq. (as regulated by CDFW, as applicable).

3.0 REGULATORY FRAMEWORK

Aquatic environments and habitats occurring within California are regulated under the following federal and state laws, as applicable to the survey area, and are discussed below.

3.1 Federal Regulations

Clean Water Act, Section 404

Pursuant to Section 404 of the CWA, USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S., which include those waters listed in 33 Code of Federal Regulations (CFR) Part 328 (Definitions). The fundamental rationale of Section 404 of the CWA is that no discharge of dredged or fill material should be permitted if there is a practicable alternative that would be less damaging to aquatic resources or if significant degradation would occur to waters of the U.S. (including wetlands).

USACE, with oversight by USEPA, has the principal authority to issue CWA Section 404 Permits (40 CFR Part 230). Under two 1989 Memorandums of Agreement (MOAs) between USEPA and the Department of Defense, USACE is given sole responsibility for making final permit decisions pursuant to Section 404, and "conducts jurisdictional delineations associated with the day-to-day administration of the Section 404 program." However, USEPA retains the authority to enforce compliance with Section 404, and maintains the power to overrule USACE decisions on the issuance or denial of permits. If there is a dispute about whether an area can be regulated, USEPA has the ultimate authority to determine the actual geographic scope of waters of the U.S. subject to jurisdiction under all sections of the CWA, including the Section 404 regulatory program (USEPA 1989a, 1989b).

Clean Water Act, Section 401

If it is determined that an activity proposed within jurisdictional waters requires a permit pursuant to Section 404 of the CWA, then, pursuant to Section 401 of the CWA, the RWQCB (Region 9) must certify that the discharge will comply with state water quality standards, or waive the certification requirement. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 water quality certification or waiver.

3.2 State Regulations

Lake and Streambed Alteration Program

Pursuant to Section 1600 et seq. of the CFGC, CDFW is authorized to regulate any activity that would alter the flow, bed, channel, or bank of streams and lakes. Jurisdictional waters of the state, as defined by Section 1600 regulations, include the "bed, channel, or bank of any river, stream, or lake designated by [CDFW] in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit." In practice, CDFW usually extends its jurisdictional limit to the top of the bank of a stream or lake, or to the continuous outer edge of its riparian extent, whichever is wider.

Section 1601(a) is based on Title 14 California Code of Regulations (CCR) 720, which designates "all rivers, streams, lakes, and streambeds in the state of California, including all rivers, streams, and streambeds which may have intermittent flows of water" as regulated by the Lake and Streambed Alteration Program. Therefore, all semi-

arid and arid region aquatic features with ephemeral flow (including some swales that exhibit short-duration, low-volume flow) are under CDFW's regulation and protection because these semi-arid and arid region aquatic features can and do support fish and wildlife (directly or indirectly). CDFW links stream protection, conservation, and management with the presence (and/or indirect consideration) of fish and wildlife and their habitats.

Porter-Cologne Water Quality Control Act

Pursuant to Section 13000 et seq. of the California Water Code (CWC) (Porter-Cologne), the RWQCB is authorized to regulate any activity that would result in discharges of waste or fill material into waters of the state, including "isolated" waters and/or wetlands (e.g., vernal pools and seeps), saline waters, and groundwater within the boundaries of the state (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all waters of the state, and directs the RWQCB to develop and implement regional Basin Plans that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region (CWC Section 13050[j]).

CWC Section 13170 also authorizes the SWRCB to adopt water-quality control plans on its own initiative. The Water Quality Control Plan for the San Diego Basin (RWQCB Region 9), as amended, is designed to maintain, preserve, and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of surface and ground waters, designate water-quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 9 (RWQCB 1994). Designated beneficial uses of state waters that may be protected against degradation includes preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

4.0 ENVIRONMENTAL SETTING

4.1 Delineation Survey Area Location

The survey area for Segment 2 is located in Southern California within the cities of Murrieta and Temecula in southwestern Riverside County (Figures 1, 2, 3a, and 3b).

The approximate 5-mile-long Segment 2 survey area begins at an existing TSP located east of Auld Substation and parallels Los Alamos Road for approximately 0.5 mile until it reaches Briggs Road and turns south for approximately 0.5 mile. The survey area then spans SR-79 in an easterly direction and parallels Benton until it reaches Leon Road and turns south continuing south to the existing Terminal TSP located on the south side of Nicholas Road (Figure 4).

The survey area location is within the U.S. Geological Survey (USGS) Bachelor Mountain and Murrieta Quadrangle (7.5-minute series [USGS 1978, 1979]) (Figures 1, 2, 3a, and 3b).

4.2 Vegetation and Cover Types

The survey area is dominated by nonnative grassland and supports 12 jurisdictional features consisting of ephemeral and intermittent streams, swales, and wetland/riparian vegetation (Figures 4, 5-1 through 5-31). The vegetation communities mapped within each jurisdictional feature is provided on Figures 6-1 through 6-31 and discussed in detail in Section 6.1 below. Representative photos of aquatic features observed within the survey area are included in Photo Sheets 1 through 10 (all Photo Sheets are provided in Attachment B).

4.3 Topography

Topography across the survey area is predominantly flat, with elevation ranges between approximately 1,400 feet above sea level (asl) along the northern portion to approximately 1,160 feet asl along the southern portion. Twelve jurisdictional features occur within the survey area. Of these, 11 flow through the survey area and directly connect to the Santa Margarita River, and one swale feature (approximately 187 linear feet) begins and ends (abating into uplands) within the survey area.

4.4 Climate

Climate conditions within the survey area are characterized as a semi-arid, Mediterranean-type, with hot, dry summers and a relatively wet rainy season during winter and spring.

The active climatological station closest to the survey area that monitors temperature and precipitation is the Sun City, California, Climate Station (COOP ID: 048655[1]) located approximately 9.2 miles north of the survey area. The mean annual temperatures documented at the Sun City, California, Climate Station range from a minimum of 46.3 degrees Fahrenheit (°F) to a maximum of 80.7°F. Mean annual rainfall at the Sun City, California, Climate Station is 11.22 inches (WRCC 2014).

4.5 Watershed

The survey area is located within the approximately 222-square-mile Murrieta Creek Watershed (Hydrologic Unit Code [HUC] 10: 1807030204). The survey area is also located within the Santa Margarita Hydrologic Unit (HU) within the RWQCB Region 9, San Diego Basin Planning Area (Figure 7). The hydrologic areas and subareas within this watershed are indicated below in Table 1, along with their unit codes (RWQCB 1994).

Table 1
RWQCB Region 9, San Diego Hydrologic Watersheds within the Survey Area

Survey Area	Hydrologic Unit	Hydrologic Area	Hydrologic Subarea(s)
Northern End	Santa Margarita (902.00)	Murrieta (902.30)	French (902.33)
Southern End	Santa Margarita (902.00)	Auld (902.40)	Bachelor Mountain (902.41) Gertrudis (902.42)

The Santa Margarita HU is a rectangular-shaped watershed encompassing approximately 750 square miles. The Santa Margarita River is formed near the city of Temecula in Riverside County at the confluence of the Temecula and Murrieta Creek systems. Once formed, the majority of the Santa Margarita River main stem flows within San Diego County through unincorporated areas, the community of Fallbrook, and Marine Corps Base Camp Pendleton (Project Clean Water 2014; RWQCB 1994).

The lower river and estuary have largely escaped the development typical of other regions of coastal Southern California, and are, therefore, able to support a relative abundance of functional habitats and wildlife. The beneficial uses designated for the waterbodies delineated within the survey area, Santa Gertrudis Creek and Tucalota

[1] Climactic data was collected at the Sun City, California, Climate Station beginning in 1973, and had been in continuous operation between 1973 and 2005 (when climactic data collection ceased) (WRCC 2014).

Creek, and downstream receiving waters, Murrieta Creek and Warm Spring Creek, are listed in Table 2. The watershed contains a variety of nearly intact habitats, including chaparral-covered hillsides, riparian woodlands, and coastal marshes. The upper watershed basin lies in Riverside County, one of the fastest-growing areas (by population) in California.

Table 2
Beneficial Uses for Waterbodies within the Survey Area and Receiving Waters

	Waterbody	Designated Beneficial Uses
Within Survey Area	Santa Gertrudis Creek	Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Ground Water Recharge (GWR)[a], Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), and Wildlife Habitat (WILD)
	Tucalota Creek	MUN, AGR, IND, PROC, GWR[a], REC1, REC2, WARM, Cold Freshwater Habitat (COLD), and WILD
Receiving Waters	Murrieta Creek	MUN, AGR, IND, PROC, GWR, REC1[a], REC2, WARM, and WILD
	Warm Springs Creek	MUN, AGR, IND, PROC, REC1[a], REC2, WARM, and WILD

[a] Potential Beneficial Use.

Several waterbodies within the Santa Margarita HU are listed on the CWA 303(d) List (impaired water bodies) due to excessive nutrients from a variety of sources, including agriculture, nursery operations, municipal wastewater discharges, urban runoff, septic systems, and golf course operations. Other serious water quality and environmental concerns in the watershed include excessive sedimentation from development and agricultural areas, groundwater degradation and contamination with nitrates and other salts, habitat loss, channelization, flooding, and scour (Project Clean Water 2014). The Santa Gertrudis Creek located within the survey area, and receiving waters; Murrieta Creek and Warm Springs Creek are listed on the CWA 303(d) List (impaired water bodies)(SWRCB 2014). The pollutants listed on the CWA 303(d) List for these waterbodies are presented in Table 3.

Table 3
CWA 303(d) Listed Waterbodies

	Waterbody	Pollutant
Within Survey Area	Santa Gertrudis Creek	Chlorpyrifos, Escherichia coli (E. coli), Copper, Fecal Coliform, Iron, and Phosphorus
Receiving Waters	Murrieta Creek	Chlorpyrifos, Copper, Iron, Manganese, Nitrogen, Toxicity
	Warm Springs Creek	Chlorpyrifos, E. coli, Fecal Coliform, Iron, Manganese, Phosphorus, Total Nitrogen as N

5.0 JURISDICTIONAL DELINEATION METHODOLOGY

5.1 Pre-Survey Investigations

The purpose of pre-survey investigations is to obtain contextual information relevant to a survey area that may aid in the evaluation of jurisdictional waters and may not be evident from the ground during the field survey. Therefore, before conducting the field delineation for potential waters of the U.S. and state (including wetlands and potential vernal pools), AECOM biologist Lanika Cervantes reviewed recent biological reports, local and regional climactic data, and areas with topographical configurations and vegetative signatures occurring within the survey area that may suggest the potential for or presence of waters of the U.S. and state at the time of the field survey. This information was evaluated by consulting the following available sources:

- 7.5-minute Bachelor Mountain Quadrangle (USGS 1978)
- 7.5-minute Murrieta Quadrangle (USGS 1979)
- The web-based National Hydrography Dataset (NHD) (USGS 2014)
- 2012 aerial maps of the survey area (U.S. Department of Agriculture [USDA] National Agriculture Imagery Program) (USDA 2012)
- The web-based 2013 National Wetland Plant List (NWPL) (USACE 2013a, 2013b)
- The web-based National Wetlands Inventory Wetlands Mapper (USFWS 2014)
- The Soil Survey of Western Riverside County, California (Knecht 1971)
- The web-based Natural Resources Conservation Service (NRCS) Soils Website (NRCS 2014a)
- The web-based NRCS Web Soil Survey (NRCS 2014b)

- The web-based Soil Survey Geographic Database (SSURGO) (NRCS 2014c)
- The web-based U.S. General Soil Map (STATSGO) (NRCS 2014d)
- The web-based U.S. Hydric Soil Technical Notes (NRCS 2014e)
- The web-based National List of Hydric Soils (NRCS 2012)
- The web-based Western Regional Climate Center (WRCC 2014)
- The web-based National Weather Service Climate Office (NOAA 2014)
- The web-based Digital Watershed (USEPA 2014)
- The web-based California Watershed Portal (CalEPA 2014)
- The web-based California Watershed Network (CWN 2014)
- The web-based Project Clean Water San Diego (Project Clean Water 2014)

5.2 Field Delineation of Jurisdictional Waters

AECOM biologists delineated the jurisdictional waters (including wetlands) occurring within the survey area. All acquired field data were obtained by recording the presence (including extents, types, and boundaries) of potential jurisdictional waters using a Trimble XH subfoot accuracy handheld Global Positioning System (GPS) unit.

All acquired field data were post-field processed using geographic information system (GIS) software. Post-field analysis to code, define, designate, and edit all acquired GPS field data representing potential jurisdictional waters occurring within the survey area was conducted using ArcGIS (Version 10.1) software by AECOM GIS specialists and the biologists who performed the fieldwork. The dates, AECOM personnel, and type of activity conducted for this field jurisdictional delineation are listed in Table 4.

Table 4
Survey Dates and Personnel Conducting Field Delineation in the Survey Area

Dates	Personnel	Activity
December 12, 2013	Rey Pellos and Joshua Zinn	Field survey and delineation of jurisdictional waters
December 17, 2013	Rey Pellos and Lance Woolley	Field survey and delineation of jurisdictional waters
December 20, 2013	Rey Pellos and Lance Woolley	Field survey and delineation of jurisdictional waters
March 25, 2014	Lanika Cervantes and Lance Woolley	Field survey and delineation of potential vernal pools and groundtruthing

5.2.1 Field Delineation for Waters of the U.S.

Waters of the U.S. include those waters listed in 33 CFR 328.3 (Definitions of Waters of the United States). All potential waters of the U.S. were delineated to their jurisdictional limits as defined by 33 CFR 328.4 (Limits of Jurisdiction), which states that, in nontidal waters, the limits of jurisdiction are as follows:

1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark (OHWM); or
2. When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands; or
3. When the water of the U.S. consists only of wetlands, the jurisdiction extends to the limit of the wetland.

Through pre-field surveys (remote analysis), the survey area was determined to have potential for the presence of wetlands and other waters as defined in 33 CFR 328.3[b], 40 CFR 230.3[t], and USACE guidance documents, warranting the two field methodologies described below.

<u>Methodology One: Delineations for Waters of the U.S. in the Form of Wetlands</u>

Delineations for waters of the U.S. in the form of wetlands are based on the three-parameter method (Environmental Laboratory 1987). The three-parameter method for identifying and delineating wetlands is outlined in, and done in accordance with, the latest federal guidance, methodologies, and procedures provided in the following:

- *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987)
- *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008 Supplement) (Environmental Laboratory 2008)
- 2013 NWPL (Lichvar 2013; USACE 2013a, 2013b)
- USACE *Wetland Plants of Specialized Habitats in the Arid West* (Lichvar and Dixon 2007)

- All applicable USACE Regulatory Guidance Letters (RGLs) and Special Public Notices (SPNs) for wetlands

With the exception of some atypical situations, USACE guidelines for delineating wetlands (e.g., 1987 Manual and 2008 Supplement) require co-occurrence of positive wetland indicators for each parameter (i.e., hydrophytic vegetation, wetland hydrology, and hydric soil).

The delineation for federally defined wetlands was conducted in accordance with Part IV (Methods), Section D (Routine Determinations), Subsection 1 (Onsite Inspection Necessary) of the 1987 Manual's "Routine Determinations for Areas Greater Than Five Acres in Size." The 1987 Manual recommends that a baseline be established that parallels a major watercourse(s) (and/or should be perpendicular to the hydrologic gradient) through the survey area. Based on the linear survey area, if hydrophytic vegetation was present, a transect was performed at each feature identified to properly identify the jurisdictional limits.

A positive wetland determination was made for those observation points that exhibited positive wetland field indicators for each of the three wetland parameters. Furthermore, for wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover at the peak of the growing season (Environmental Laboratory 2008). A positive determination for potential nonwetland waters of the U.S. was made for areas that did not meet all three parameters for a federally defined wetland, but met the definitions of other waters of the U.S. (see Methodology Two, below).

Although the 2008 Supplement also uses the three-parameter method that is outlined in the 1987 Manual, it identifies specific sections of the 1987 Manual that are replaced by 2008 Supplement guidance (see Table 1 of the 2008 Supplement) that must be used within applicable land resource regions, as outlined in the 2008 Supplement (the survey area is within Region C [Mediterranean California]). Therefore, the 2008 Supplement takes precedence over the 1987 Manual for applications in the Arid West region, and states the following in Chapter 3:

> (Hydric) indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators.

In Chapter 4:

> The Arid West is characterized by extended dry seasons in most years and by extreme temporal and spatial variability in rainfall even in "normal" years. Many wetlands in the region are dry for much of the year and, at those times, may lack hydrology indicators entirely. Therefore, *lack of an indicator is not evidence for the absence of wetland hydrology*. [Italics in the original.]

In Chapter 5:

> In general, *wetland determinations on difficult or problematic sites must be based on the best information available to the field inspector, interpreted in light of his or her personal experience, and knowledge of the ecology of wetlands in the region*. [Italics in the original.]

The guidance for the Arid West region is particularly relevant to vernal pools, for which the assessment of all three wetland parameters may not be possible (see reference to "Problem Soils" and "Difficult Situation" in the discussion of Hydric Soil, below).

Figures 5-1 through 5-31 show all potential vernal pools (labeled as temporary ponded areas [TPAs]) occurring within the survey area that were delineated for the Proposed Project.

Based on guidance from the Los Angeles District of USACE, TPAs within the survey area are only considered vernal pools if these features support a federally defined wetland (as defined in 33 CFR 328.3[b], 40 CFR 230.3[t], the 1987 Manual [Environmental Laboratory 1987], and the 2008 Supplement [Environmental Laboratory 2008]). The wetland within these features may or may not be dominated by vernal pool indicator species that were outlined in the November 25, 1997, Special Public Notice. Only those TPAs that occur within (entirely or partially) the survey area were surveyed by AECOM. These were assigned a temporary spatial unique identification (ID) (TPAs 1 through 7). All TPAs were formally delineated. If the TPA did not support wetland, it was not considered as a vernal pool.

Field data were recorded in the 2008 Supplement Wetland Determination Data Forms – Arid West Region (Version 2.0), which is appropriate for application of both the 1987 Manual and the 2008 Supplement "routine" method. Copies of the Arid West Region

data forms are included in Attachment C to this report. Information regarding the delineation criteria for the three wetland parameters and other details relevant to the survey area are provided below.

Where feasible, the baseline for establishing the transect (and field sample point) location(s) was situated in upland and/or nonwetland, nonaquatic habitat, and a second field sample point was used to confirm the presence or absence of a federally defined wetland within a feature that presented the potential to support the simultaneous presence of all three wetland parameters.

Obvious upland areas (with exception to upland confirmation points) were not mapped as part of this analysis, as they did not represent potential waters, wetland, and/or riparian communities that warranted a jurisdictional delineation.

In accordance with the 1987 Manual and the 2008 Regional Supplement, the following wetland delineation criteria, primary field indicators, and best professional judgment were used for the collection of data pertinent to assessment of the mandatory technical criteria. Wetland Field data were recorded in the Data Forms from the 2008 Supplement (Attachment C).

Hydrophytic Vegetation

Vegetation mapping surveys of wetland/riparian habitat were conducted in tandem with the field delineation efforts and were refined to include results of wetland field delineation.

Only those plant species that are listed within the 2013 NWPL (Arid West) (Lichvar 2013) as hydrophytic, or have the potential to be hydrophytic, and form wetland plant communities within the survey area are addressed herein. This JDR uses the Holland Code Classification System (Holland 1986) to describe riparian and wetland (e.g., hydrophytic) vegetation communities occurring within the survey area.

An area was determined to support hydrophytic vegetation if more than 50% of the dominant species was listed as Obligate Wetland (OBL), Facultative Wetland (FACW), or Facultative (FAC) species on the USACE 2013 NWPL. Vegetation was assessed using the “50/20 Rule” to determine dominant species and federally accepted hydrophytic vegetation communities.

By definition, dominant species are the most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that exceed 50% of the total dominance measure (e.g., basal area or areal coverage) for the stratum, plus any additional species that individually compose 20% or more of the total dominance measure for the stratum (Tiner 1999).

Hydric Soil

AECOM consulted and field verified within the survey area the *Soil Survey Western Riverside County, California* (Knecht 1971) and the digital soil survey metadata provided in the USDA NRCS Soil Survey Geographic Database (SSURGO) and State Soil Geographic Database (STATSGO) as provided by NRCS (2014c, 2014d), respectively.

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (NRCS 2014g). The NTCHS definition identifies general soil properties that are associated with wetness. Additionally, specific criteria that identify those estimated soil properties unique to hydric soils have been established by NTCHS (NTCHS 1995). Therefore, hydric soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

Hydric soil definitions and NTCHS-approved hydric soil criteria are used to generate hydric soil lists (Environmental Laboratory 2008). The National Hydric Soils List (NRCS 2012), primarily used as a pre-survey assessment tool, contains a listing of soils that have a probability of being hydric. Hydric soil indicators are primarily morphological indicators used for field identification of hydric soils and/or soils meeting the hydric soil definition. These hydric soil indicators are a subset of the NTCHS *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 7.0* (USDA 2010).

If hydric soil indicators are absent and indicators of understory and/or herbaceous hydrophytic vegetation and wetland hydrology are simultaneously present within an appropriate landscape setting, then, by definition, the presence of a problematic soil would be justified as meeting the criteria to be considered a hydric soil (Environmental Laboratory 2008). Guidance for soil lacking hydric indicators is found in the 2008 Supplement Chapter 3, page 27, which states:

> Indicators are not intended to replace or relieve the requirements contained in the definition of a hydric soil. Therefore, a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators.

Guidance used for problem wetland situations in the Arid West for a soil considered hydric (or considered "hydric by definition"), but lacking hydric indicators, is found in the 2008 Supplement: Chapter 5, page 96, which outlines that a soil can be considered as hydric with faint or no hydric soil indicators (for example, recently developed wetlands may lack hydric soil indicators because insufficient time has passed for their development and/or where a soil underlies an area where there is evidence of wetland hydrology and hydrophytic vegetation being simultaneously present). Therefore, a soil can be considered hydric by definition and meet the definition of a hydric soil despite the lack of other hydric indicators.

Based on guidance from the Los Angeles District of USACE, no subsurface investigations for hydric soil (e.g., soil pits) were conducted within any potential vernal pools (TPAs 1 through 7) within the survey area as part of this formal delineation. Subsurface investigations for determining the presence (or absence) of hydric soil were not conducted to avoid possibly impacting (i.e., permanently breaching a potential impermeable layer) features that are currently considered vernal pools or could potentially be determined to be vernal pools by USACE at a later time (AECOM 2012).

Not conducting subsurface investigations for soil during this delineation can result in conclusions of an atypical delineation. Therefore, the soils underlying the features occurring within the survey area would be considered "Problem Soils" and a "Difficult Situation."

The 2008 Supplement provides guidance for "Difficult Situations in the Arid West" concerning "hydric soil indicators for problem soils" (Chapter 5, page 54), which states:

> [Hydric] indicators are not currently recognized for general application by the NTCHS, or they are not recognized in the specified geographic area. However, these indicators may be used in problem wetland situations in the Arid West where there is evidence of wetland hydrology and hydrophytic vegetation, and the soil is believed to meet the definition of a hydric soil despite the lack of other indicators of a hydric soil. To use these indicators, follow the procedure described in the section on Problematic

> Hydric Soils in Chapter 5 (of the 2008 Supplement). If any of the following indicators is observed, it is recommended that the NTCHS be notified by following the protocol described in the "Comment on the Indicators" section of *Field Indicators of Hydric Soils in the United States* (retained in USDA 2010).

Therefore, if a feature or an area under delineation simultaneously supports wetland hydrology *and* hydrophytic vegetation,[2] the soil can potentially be considered hydric by definition (with or without a subsurface investigation) at the point of investigation.

The survey area soil pits were also evaluated for the presence of subsurface wetland hydrology indicators such as soil saturation, oxidized root channels, and other hydric soil indicators (see results discussion in Section 6.0, below).

Wetland Hydrology

Wetland hydrology is essentially a result of watershed-driven processes of hydrological inputs from precipitation that provide sufficient groundwater and/or surface flows to support hydrophytic plants. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987).

The formation, persistence, size, and function of wetlands are controlled by hydrologic processes within the watershed. Water sources from continual inputs (e.g., immediate proximity to a hydrological feature such as a lake, a river [including small intermittent stream features], the ocean, and/or a wet climate) and the ability to retain or slow down water flow are necessary for the creation and existence of wetlands. Hydrologic processes occurring in wetlands are the same processes that occur in uplands and are collectively referred to as the hydrologic cycle. Major components of the hydrologic cycle are precipitation, surface-water retention, surface-water flow, groundwater flow, and evapotranspiration. Wetlands and uplands continually receive or lose water through exchange with the atmosphere, streams, and groundwater. Wetland hydrology is a result of a favorable topographic and geologic setting and an adequate or persistent supply of water (USGS 1996).

[2] For wetland delineation purposes, an area is considered to be vegetated if it has 5% or more total plant cover at the peak of the growing season (Environmental Laboratory 2008).

USACE has set a quantitative wetland hydrology threshold as it applies to all types of nontidal wetlands (Environmental Laboratory 1987). Specifically, an area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence).[3]

Additionally, the hydrology requirements for a wetland can be defined as follows: On average, an area must be inundated or the soils saturated to the surface in more than half the years (1 out of 2, 5 out of 10, or 50 out of 100) for more than 5% of the growing season to conclude with reasonable certainty that the area has wetland hydrology. The survey area is located in a region that supports a Mediterranean climate, where the growing season is year-round. By using this protocol, the hydrology of nontidal jurisdictional wetlands can often be empirically identified using a minimum of 10 years of climactic data (to represent normal conditions).

The survey area was evaluated for wetland hydrology factors (per the guidance outlined in the 1987 Manual and 2008 Supplement) such as topography, soil permeability, and plant cover, in concert with available climactic data. All observation points within a hydrophytic vegetation community were surveyed for the presence of surface wetland hydrological field indicators such as inundation, saturation, water marks, drift lines, drainage patterns, and sediment deposits. All wetland hydrology indicators (both primary and secondary) observed were recorded where there was adequate potential for surface water inundation, saturation, and retention occurring in exposed soil (e.g., unlined channels and/or swales or low topographic areas). Areas that have hydrophytic vegetation and hydric soils generally also have wetland hydrology unless the hydrologic regime has changed due to natural events or human activities (National Research Council 1995).

Methodology Two: Delineations for Potential Waters of the U.S. in the Form of Other Waters

Delineations for “other waters” of the U.S. in the form of other nonwetland waters were based on field indicators to define and identify the jurisdictional lateral extent of the OHWM, as defined by 33 CFR 238.3(e), federal guidance, methodologies, and procedures, including the following:

[3] The growing season in Southern California is estimated to be 365 days a year; therefore, an area has wetland hydrology if it is inundated or saturated to the surface continuously for 18 days.

- *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (Lichvar and McColley 2008)[4]
- *Review and Synopsis of Natural and Human Controls on Fluvial Channel Processes in the Arid West Channels* (Lichvar and Field 2007)
- *Distribution of Ordinary High Water Mark (OHWM) Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (Lichvar et al. 2006)
- All applicable USACE RGLs and SPNs for other waters (including RGL 88-06 and RGL 05-05)

OHWM indicators were used to delineate the lateral jurisdictional extent of potential nonwetland waters of the U.S. Lateral jurisdictional limits were established for all drainage features/channels occurring within the survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of the drainage features/channels was identified on the basis of one (or more) of the following:

- water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks;
- scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil;
- type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation and the presence or absence of litter and debris within the ephemeral dry washes;
- consideration of precipitation patterns and lack of consistent flow; and/or
- geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, and gravel sheets).

[4] Datasheets from this field delineation manual were used as guidance documents only and are not included in this JDR.

The lateral limits of jurisdiction specified by a technically defensible method such as the portion of the drainage features/channels supporting an OHWM would indicate a sufficiency to carry the mean annual flow, as determined through the extrapolation of field indicators and rainfall data. Lateral jurisdictional limits were established for the drainage features/channels occurring within the survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits (and other potential waters of the U.S. existing within this limit). The criteria for frequency and duration of the OHWM have not been defined under the CWA or under any guidance from USACE for field delineators. Therefore, identifiable field indicators and characteristics of OHWM, best professional judgment, and appropriate RGLs were applied to determine the potential jurisdictional extent of OHWM within the survey area.

OHWM and the limits of jurisdiction are discussed in the preamble to the USACE November 13, 1986, Final Rule, Regulatory Programs of the Corps of Engineers, Federal Register Volume 51, No. 219, page 41217, which discusses the proper interpretation of 33 CFR Part 328.4 (c)(1) as follows:

> Section 328.4: *Limits of Jurisdiction.* Section 328.4 (c)(1) defines the lateral limit of jurisdiction in nontidal waters as the OHWM provided that the jurisdiction is not extended by the presence of wetlands. Therefore, it should be concluded that in the absence of wetlands, the upstream limit of [USACE] jurisdiction also stops when the OHWM is no longer perceptible.

In addition, RGL 88-06, issued June 27, 1988, discussed the OHWM as follows:

> The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel high flows, not the average annual flood elevation that generally extends beyond the channel.

Many stream channels in arid regions are dry for much of the year and, at times, may lack hydrology indicators entirely or exhibit relic OHWM features from exceptional hydrological events. RGL 05-05 further states the following:

> When making OHWM determinations, districts should be careful to look at characteristics associated with ordinary high water events, which occur on a regular or frequent basis. Evidence resulting from extraordinary events,

including major flooding and storm surges, is not indicative of OHWM. For instance, a litter or wrack line resulting from a 200-year flood event would, in most cases, not be considered evidence of an OHWM.

Swales observed within the survey area occur within nonnative grassland habitat. Swales are generally poorly defined surface aquatic features characterized by low-volume, infrequent, or short-duration flow, and are usually shallow topographical features in the landscape that *may* convey water across upland areas during and following uncommon large storm events. Swales are generally not considered waters of the U.S. because, among other things, they lack an identifiable OHWM, are not tributaries to any receiving water, and do not support interstate commerce.

5.2.2 Field Delineation for Waters of the State

In addition to pre-field surveys, potential waters of the state were assessed and delineated within the survey area. Two state agencies may have jurisdiction over aquatic features occurring within the survey area (CDFW and RWQCB), each with its own definition of jurisdictional waters, as summarized below. Three separate delineation methodologies for state-regulated waters were required, as defined and described below.

CDFW

CDFW does not currently have a published (or internal) delineation manual for jurisdictional aquatic features occurring within California. Therefore, in addition to the regulatory framework outlined above for the state's Lake and Streambed Alteration Program, potential waters of the state regulated by CDFW were assessed and delineated by AECOM within the survey area pursuant to definitions and guidance provided in the following:

- All applicable and relevant guidance outlined in *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFG 2010)
- *Project Conservation Challenges in a Dryland Stream Environment* (Vyverberg 2010)
- *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979)

Field Methods for Ephemeral Washes and Riverine Features

Boundaries for waters of the state in the form of ephemeral washes and unvegetated channels were determined (and recorded) by the presence of shelving and/or scour resulting in an established bank, bed, or channel, and any associated riparian areas (where applicable).

Field Methods for Riparian Component

State waters under the purview of CDFW are also represented by the associated riparian component of riverine features. The riparian component does not necessarily have to be composed of a hydrophytic vegetation community, and only needs to be an aquatic-related resource that includes the habitat upon which fish and/or wildlife depend for continued viability.

For aquatic-related habitats occurring in California, CDFW relies on the U.S. Fish and Wildlife Service's (USFWS) wetland definition and classification system, which is based on *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979). The Cowardin method requires diligence to avoid false positive conclusions (e.g., concluding that an area with no transitional relation to the aquatic system is a wetland based on presence of vegetation equally likely to be found in wetland or nonwetland circumstances).

Therefore, the riparian component within the survey area is included as the extent of riparian habitat composed of hydrophytic vegetation communities. These hydrophytic vegetation communities can support fish and wildlife dependent on aquatic-related resources, and are distinct from the surrounding upland habitat, which cannot.

Field Methods for Swales

Based on the CFGC Section 1600 et seq. definition, relevant state regulations (see Regulatory Framework, above), CDFW regulatory practice, and past CDFW field guidance, swale features that had the potential to support fish and wildlife occurring within the survey area were also noted, delineated, and recorded as potential waters of the state. Swales are described as microtopographic features that convey surface water in low volume and short duration (hours to days [usually in sheetflow within the swale feature]), commonly associated with riverine features (Hauer and Lamberti 2007).

Often swales do not have a developed bed and bank. Instead, swales have a smooth, subtle transition from the "head" of the swale to the "bed" of the swale, with no clear impressionable line or shelving resulting from surface water flow. Swales may still contribute to a surface hydrologic connection between upland and aquatic features if they are identifiable and are part of a network (and, thus, would be considered jurisdictional under the purview of CDFW [e.g., "waters of state interest"]). However, for underdeveloped, abandoned/relictual, and/or limited and abrupt swale features occurring in this region of California, such hydrological connections are dependent on large, uncommon storm events.

RWQCB

For jurisdictional water features occurring within the survey area, RWQCB jurisdiction was mapped identically for nonwetland waters (riverine features) as noted above for CDFW and USACE jurisdiction. RWQCB jurisdiction was delineated based on the presence of aquatic features that simultaneously meet the definition for waters of the state (CWC Section 13050[e]) *and* present "beneficial use" as outlined in the *Water Quality Control Plan for the San Diego Basin* (RWQCB 1994 [as amended]). Therefore, if it was determined that any type of aquatic and/or aquatic-related features occurring within the survey area would present "beneficial use," the aquatic feature would be delineated (this would include some swale features).

6.0 RESULTS

A total of 12 jurisdictional features were formally delineated within the survey area. Each feature was provided with a letter identifier (A through L) in order to properly distinguish one feature from another. A detailed description of each jurisdictional feature is included in Section 6.4 below. Specific findings for hydrophytic vegetation, hydric soils, and wetland hydrology are discussed in detail below.

6.1 Riparian and Wetland Plant Communities

Ten riparian vegetation communities were recorded and mapped within the survey area during the field delineation (Figures 6-1 through 6-31). These riparian vegetation communities and their acreage occurring within the survey area are summarized in Table 5.

Table 5
Riparian Vegetation Communities Occurring within the Survey Area[a]

Vegetation Community (Holland 1986)	Acreage within the Survey Area (Acres)[a]
Cismontane Alkali Marsh	1.61
Coastal and Valley Freshwater Marsh	0.71
Freshwater Seep	0.21
Mule Fat Scrub	0.50
Nonnative Woodland	0.18
Southern Coastal Salt Marsh	0.13
Southern Cottonwood-Willow Riparian Forest	0.61
Southern Riparian Scrub	0.01
Southern Willow Scrub	0.73
Tamarisk Scrub	0.36
Total	**5.04**

[a] Acreage of the vegetation communities occurring within the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).

Cismontane Alkali Marsh (Holland Code 52300)

Within this vegetation community, standing water or saturated soil is present during most or all of the year. High evaporation and low input of fresh water render these marshes somewhat salty, especially during the summer.

All areas that supported this community were determined to be wetland waters of the U.S. and state. Cismontane alkali marsh was only observed within Feature K, dominated by Yerba mansa (*Anemopsis californica*) (OBL) and annual rabbitsfoot grass (*Polypogon monspeliensis*) (FACW). Refer to Figure 5-5 for jurisdictional limits and Figure 6-5 for the location of the cismontane alkali marsh.

Coastal and Valley Freshwater Marsh (Holland Code 52410)

This vegetation community is dominated by perennial, emergent monocots to 10 to 15 feet tall, often forming completely closed canopies. This community occurs within permanently flooded areas that lack significant currents.

All areas that supported this community in the survey area were determined to be wetland waters of the U.S. and state. Coastal and valley freshwater marsh was observed within Features D and K and was dominated by southern cattail (*Typha domingensis*) (OBL), bulrush (*Schoenoplectus* sp.) (OBL), and *Eleocharis* sp. (OBL).

Refer to Figures 5-05 and 5-17for jurisdictional limits and Figures 6-05 and 6-17 for the location of the coastal and valley freshwater marsh.

Freshwater Seep (Holland Code 45400)

This vegetation community supports mostly perennial herbs, especially sedges and grasses, that usually form complete cover, are often low-growing but sometimes taller, and grow throughout the year in areas with mild winters. This community typically occurs within permanently moist or wet soil and is often associated with grasslands or meadows.

Freshwater seep observed within Feature K (Figure 5-5) was determined to be wetland waters of the U.S. and state, composed of celery (*Apium graveolens*) (Not Listed), rabbitsfoot grass (FACW), and Mexican rush (*Juncus mexicanus*) (FACW). This area also supported wetland hydrology and hydric soils. Freshwater seep observed within Feature D (Figure 5-17) was considered waters of the state under the exclusive purview of CDFW due to the lack of wetland hydrology indicators; it was dominated by upland vegetation. Freshwater seep species observed within Feature D consisted of alkali seaheath (*Frankenia salina*) (FACW), cuman ragweed (*Ambrosia psilostachya*) (Facultative Upland [FACU]), shortpod mustard (*Hirschfeldia incana*) (Not Listed), and Menzies' goldenbush (*Isocoma menziesii*) (FAC). Refer to Figures 6-5 and 6-17 for the location of the freshwater seep.

Nonnative Woodland (Holland Code 79000)

This vegetation community is made up of a woodland of exotic trees, usually intentionally planted, that are not maintained or artificially irrigated. It is usually made up of *Eucalyptus* spp. or *Tamarix* spp., but other nonnative species may occur.

Nonnative woodland was observed within Feature K and was considered waters of the state under the exclusive purview of CDFW due to the lack of wetland hydrology indicators and dominance of upland vegetation. Species observed within this vegetation community was black locust (*Robinia pseudoacacia*) (FACU*).* Refer to Figure 5-5 for jurisdictional limits and Figure 6-5 for the location of Nonnative woodland.

Southern Coastal Salt Marsh (Holland Code 52120)

This vegetation community is highly productive, herbaceous and suffructescent, salt-tolerant hydrophytes forming moderate to dense cover and growing up to 1 meter tall. Southern "specialties" include *Atriplex watsonii, Batis maritima, Lyeium californicum, Monanthochloe littoralis, Sueda californica,* and *Salicornia subterminalis*.

All areas that supported this community were determined to be wetland waters of the U.S. and state. Southern coastal salt marsh was observed within Feature K and was dominated by alkali seaheath (OBL). Refer to Figure 5-5 for jurisdictional limits and Figure 6-5 for the location of southern coastal salt marsh.

Southern Cottonwood-Willow Riparian Forest (Holland Code 61330)

This vegetation community supports tall, open, broad-leafed winter-deciduous riparian forests that are dominated by *Populus fremontii*, *P. trichocarpa*, and several tree willows. Understories usually consist of shrubby willows. This community typically occurs within sub-irrigated and frequently overflowed lands along rivers and streams.

Southern cottonwood-willow riparian forest that occurred within the stream channel and near the banks of the survey area were considered wetland waters of the U.S.; areas above the channel banks and occurring within the outer floodplain of the channels generally where considered waters of the state under the purview of CDFW. Areas considered exclusively under CDFW purview were generally within the canopy of the southern cottonwood-willow riparian forest, but lacked hydric soils and wetland hydrology indicators. Southern cottonwood-willow riparian forest occurred within Feature H. Refer to Figure 5-11for jurisdictional limits and Figure 6-11 for the location of southern cottonwood-willow riparian forest.

Southern Riparian Scrub (Holland Code 63300)

This vegetation community occurs in riparian zones dominated by small trees or shrubs and lacking taller riparian trees. This community mostly occurs in major river systems where flood scour occurs, and has expanded due to increased urban and agricultural run-off.

Southern riparian scrub habitat was only observed in the survey area within Feature B. It included two individuals of mature Fremont cottonwood (*Populus fremontii*) (FAC)

mixed with California sagebrush (*Artemisia californica*) (Not Listed). This area was determined for be under the exclusive purview of CDFW due to the lack of hydric soils and did not meet the hydrophytic vegetation parameter. Refer to Figure 5-26 for jurisdictional limits and Figure 6-26 for the locations of southern riparian scrub.

Mule Fat Scrub (Holland Code 63310)

Mule fat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mule fat (*Baccharis salicifolia*). This early seral community is maintained by frequent flooding. Absent this, most stands would succeed to cottonwood- or sycamore-dominated riparian forests or woodlands. Site factors include intermittent stream channels with fairly coarse substrate and moderate depth to the water table.

Mule fat scrub considered wetland waters of the U.S. within the survey area was dominated by mule fat with no understory. Mule fat scrub in areas determined to be under CDFW purview only supported mule fat on the outer floodplains of the channels in areas that lacked wetland hydrology indicators and hydric soils. The mule fat scrub was observed within Features A, C, H, and L. Refer to Figures 5-4, 5-11, 5-18, and 5-31 for jurisdictional limits and Figures 6-4, 6-11, 6-18, and 6-31for the location of the mule fat scrub.

Southern Willow Scrub (Holland Code 63320)

This vegetation community is dense, broadleaved, winter-deciduous riparian scrub dominated by willow species, with scattered emergent Fremont cottonwood and California sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development.

Southern willow scrub that occurred within the stream channel and near the banks were considered wetland waters of the U.S., and southern willow scrub habitat above the channel banks and occurring within the outer floodplain of the channels were considered waters of the state under the purview of CDFW. This was due to the lack of hydric soils and wetland hydrology indicators. Understory observed within this vegetation community consisted of stinging nettle (*Urtica dioica*) (FAC), Maltese star thistle (*Centaurea melitensis*) (Not Listed), and shortpod mustard (Not Listed). Southern willow scrub occurred within Features C, D, E, F, G, H, and K. Refer to Figures 5-5, 5-11, and 5-14 through 5-18 for jurisdictional limits and Figures 6-5, 6-11, and 6-14 through 6-18for the locations of southern willow scrub.

Tamarisk Scrub (Holland Code 63810)

This disturbed wetland community consists of areas with permanently or periodically inundated water that has been significantly modified by human activities. Invasive species dominate this community.

This vegetation community is dominated by invasive salt cedar. Tamarisk scrub considered wetland waters of the U.S. in the survey area supported an understory of mule fat (FAC), and tamarisk scrub under the exclusive purview of CDFW jurisdiction typically supported an understory of California sagebrush (Not Listed) and lacked wetland hydrology indicators. Tamarisk scrub was observed within Features B, D, J, and K. Refer to Figures 5-5, 5-7, 5-17, and 5-26 for the jurisdictional limits and Figures 6-5, 6-7, 6-17, and 6-26 for the location of tamarisk scrub.

6.2 Hydric Soils

As addressed in Section 5.0, only those soils within the survey area that are listed as hydric, have diagnostic hydric properties and/or features, have hydric inclusions, meet the criteria and/or definition for a hydric soil, or have the potential for being hydric by definition are addressed herein.

Only one soil land type,[5] Riverwash (RsC), within delineated jurisdictional waters is listed on the National List of Hydric Soils (NRCS 2012). All mapped soils occurring within the survey area are included in Figures 5-1 through 5-31.

Only some areas supported distinct redoximorphic features (hydric soil field indicators) in the form of a depleted matrix, but redoximorphic features were not present at all points of investigation in the survey area. As noted above, the general absence of hydric soil field indicators should not exclude the soils occurring within the survey area from being considered as hydric where the field indicators for understory and/or herbaceous hydrophytic vegetation and wetland hydrology are simultaneously present.

[5] In most areas surveyed, there are places where the soil material is so rocky, so shallow, or so severely eroded that it cannot be classified by soil series. These places are shown on the San Diego County soil map and are described in the survey. While still technically considered a soil, these soil materials are called land types (not soil series) and are given descriptive names. Riverwash is classified as a land type in the Western Riverside Area (Knecht 1971).

During the field investigation and delineation efforts, the soils occurring within the survey area were observed to generally conform to the Western Riverside County Soil Survey description (Knecht 1971) (where there were no impervious surfaces obstructing observations and subsurface investigations).

The one hydric land type occurring within the survey area is described below.

Riverwash Land Type

The Riverwash land type occurs in perennial and intermittent stream channels and is classified as an entisol (i.e., geologically young soil) (Knecht 1971). The material is typically sandy and/or gravelly alluvium. It is excessively drained and rapidly permeable (Knecht 1971; NRCS 2014f). The dynamic nature of Riverwash soils provides insufficient time for redoximorphic features to develop and persist. The criterion established by the NTCHS (1995), with which Riverwash soils meet the definition of hydric, is “the soils are frequently ponded for long duration or very long duration during the growing season.”

6.3 Wetland Hydrology

All jurisdictional features within the survey area drain in a western/southwestern direction into Murrieta Creek, located west of the survey area. Twelve jurisdictional features were delineated within the survey area. Of the 12 jurisdictional features, 11 features supported wetland and non-wetland waters of the U.S. and state, including riparian components. These 11 features eventually flow into Murrieta Creek, which flows directly into the Santa Margarita River that connects to the Pacific Ocean through the Santa Margarita Lagoon, located approximately 27 miles away.

The remaining feature (Feature I; also labeled as TPA 2) is a swale that did not support an OHWM and is exclusively a water of the state. This swale forms and dissipates within the survey area, abating within an upland field, and is not connected to receiving waters downstream.

In addition, seven TPAs were assessed within the survey area to determine if they meet the definition of a federal wetland and support vernal pool indicator species. None of the TPAs delineated met the definition of a three-parameter wetland. However, one TPA (TPA 2/Feature I) was determined to be a swale feature and is described above as Feature I.

6.4 Potential Waters of the U.S. and State

The collective area of potential waters of the U.S. (and state) regulated by USACE that occur within the survey area totals 3.73 acres.[6]

The extent and distribution of jurisdictional waters regulated by RWQCB is identical to the waters of the U.S. under USACE jurisdiction: 3.73 acres. Additional waters that are also regulated by RWQCB include the 0.12 acre of unvegetated swale, resulting in a total of 3.85 acres regulated by RWQCB. The other waters summarized below that are regulated by CDFW exclusively do not fall under RWQCB regulation because they do not meet the definition at CWC Section 13050(e) (i.e., they are not surface waters that present a "beneficial use").

The extent and distribution of jurisdictional waters regulated by CDFW includes the 3.73 acres that are under USACE and RWQCB jurisdiction, and also includes approximately 2.66 acres that are considered waters of the state exclusively. Table 6 provides the type and acreage of waters of the U.S. and state occurring within each jurisdictional feature within the survey area; Table 7 summarizes the jurisdiction based on each agency's jurisdiction. The acreages included in this section for each site are the entire areas delineated during the field effort. A detailed description of the 12 jurisdictional features that were formally delineated within the survey area is discussed below.

Table 6
Waters of the U.S. and/or State Occurring within the Survey Area

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[a,b]	RWQCB (acres/linear feet)[a,b]	CDFW (acres/linear feet)[a,b]
Feature A (Santa Gertrudis Creek)	Wetland	Mule Fat Scrub (63310)	0.03	0.03	0.03
	Non-Wetland Water	Unvegetated Channel (64200)	0.50/586	0.50/586	0.95/586[c]
Subtotal of Jurisdictional Waters			**0.53/586**	**0.53/586**	**0.99/586**
Feature B	Riparian Canopy[d]	Southern Riparian Scrub (63300)	-	-	0.01
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.01

[6] The jurisdictional status will be based on a preliminary Jurisdictional Determination (see below).

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[a,b]	RWQCB (acres/linear feet)[a,b]	CDFW (acres/linear feet)[a,b]
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/193	0.01/193	0.01/193
Subtotal of Jurisdictional Waters			**0.01/193**	**0.01/193**	**0.03/193**
Feature C	Riparian Canopy	Mule Fat Scrub (63310)	0.01	0.01	0.14
	Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.18
	Non-Wetland Water	Unvegetated Channel (64200)	0.06/1,267	0.06/1,267	0.06/1,267
	Non-Wetland Water	Open Water (64140)	0.06	0.06	0.06
Subtotal of Jurisdictional Waters			**0.14/1,267**	**0.14/1,267**	**0.43/1,267**
Feature D (Tucalota Creek)	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.20	0.20	0.20
	Riparian Canopy	Freshwater Seep	-	-	0.04
	Riparian Canopy	Southern Willow Scrub (63320)	-	-	0.06
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.20
Subtotal of Jurisdictional Waters			**0.20**	**0.20**	**0.50**
Feature E	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.03	0.03	0.11
	Non-Wetland Water	Unvegetated Channel (64200)	<0.01/65	<0.01/65	<0.01/65
Subtotal of Jurisdictional Waters			**0.03/65**	**0.03/65**	**0.11/65**
Feature F	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.13
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/240	0.01/240	0.03/240[c]
Subtotal of Jurisdictional Waters			**0.02**/240	**0.02**/240	**0.16**/240
Feature G	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.12
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/421	0.01/421	0.01/421

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[a,b]	RWQCB (acres/linear feet)[a,b]	CDFW (acres/linear feet)[a,b]
Subtotal of Jurisdictional Waters			**0.02/421**	**0.02/421**	**0.13/421**
Feature H	Wetland/Riparian Canopy	Mule Fat Scrub (63310)	0.01	0.01	0.20
	Wetland/Riparian Canopy	Southern Cottonwood-Willow Riparian Forest (61330)	0.17	0.17	0.61
	Wetland/Riparian Canopy	Southern Willow Scrub (63320)	0.01	0.01	0.10
	Non-Wetland Water	Unvegetated Channel (64200)	0.01/103	0.01/103	0.01/103
Subtotal of Jurisdictional Waters			**0.20/103**	**0.20/103**	**0.92/103**
Feature I	Non-Wetland Water	Swale Feature	-	0.12/187	0.12/187
Subtotal of Jurisdictional Waters			**-**	**0.12/187**	**0.12/187**
Feature J	Wetland/Riparian Canopy	Tamarisk Scrub (63810)	0.01	0.01	0.08
	Non-Wetland Water	Unvegetated Channel (64200)	<0.01/139	<0.01/139	<0.01/139
Subtotal of Jurisdictional Waters			**0.01/139**	**0.01/139**	**0.08/139**
Feature K	Wetland	Cismontane Alkali Marsh (52300)	1.61	1.61	1.61
	Wetland	Coastal and Valley Freshwater Marsh (52410)	0.51	0.51	0.51
	Wetland	Freshwater Seep (45400)	0.17	0.17	0.17
	Wetland	Southern Coastal Salt Marsh (52120)	0.13	0.13	0.13
	Wetland	Southern Willow Scrub (63320)	0.05	0.05	0.05
	Riparian Canopy	Tamarisk Scrub (63810)	-	-	0.07
	Riparian Canopy	Non-Native Woodland (79000)	-	-	0.18
Subtotal of Jurisdictional Waters			**2.47/45**	**2.47/45**	**2.72/45**

Feature Name	Type of Water	Type of Habitat (Holland 1986)	USACE (acres/linear feet)[a,b]	RWQCB (acres/linear feet)[a,b]	CDFW (acres/linear feet)[a,b]
Feature L	Wetland/Riparian Canopy	Mule Fat Scrub (63310)	0.03	0.03	0.13
	Non-Wetland Water	Unvegetated Channel (64200)	0.09/293	0.09/293	0.09/293
Subtotal of Jurisdictional Waters			**0.12/293**	**0.12/293**	**0.21/293**
Grand Total of Jurisdictional Waters			**3.73/3,307**	**3.85/3,600**	**6.39/3,600**

[a] Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
[b] USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features will have acreage and linear feet provided as a component of measurement for established features and potential projected impacts occurring within the project boundary.
[c] Additional acreage due to limits of waters of the state extending past the OHWM to the top of bank that supported upland vegetation.
[d] The riparian canopy consists of riparian areas associated with a stream that did not meet federal wetland definitions. Waters of the state limits extend past the top of bank and are continue to the outer edge of their riparian extent.

Feature A

Feature A is located at Nicolas Road and is the Santa Gertrudis Creek, which is an intermittent stream with a gravel/cobble bed. The creek drains approximately 23.4 square miles upstream of the survey area. The feature flows generally from east to west where it joins Murrieta Creek. Murrieta Creek flows south to the Santa Margarita River, which connects to the Pacific Ocean through the Santa Margarita Lagoon. Within the survey area, the Santa Gertrudis Creek streambed is mostly unvegetated with some interspersed mule fat, sparse tarragon (*Artemisia dracunculus*), and tree tobacco (*Nicotiana glauca*). The slopes of the creek within the survey area are covered with coastal sage scrub species such as California sagebrush and California buckwheat (*Eriogonum fasciculatum*). The limits of waters of the U.S. were delineated through the evidence of OHWM such as shelving, sediment deposits, and changes in vegetation composition (Figures 5-31 and 6-31 and Photograph 1 of Photo Sheet 1). The limits of OHWM, averaging 38 feet wide, were inclusive of the hydrophytic vegetation, and the limits of waters of the state extended past the OHWM to the top of the bank, which supported upland vegetation. A total of 0.99 acre of waters of the U.S. and state occur within this feature.

Feature B

Feature B is located near Murrieta Hot Springs Road and is an unnamed ephemeral stream that drains a relatively small area of land, mainly consisting of storm water runoff from the surrounding lands and potable water storage tank. The feature begins at the water tank's storm water outlet and flows southwest where it is culverted under a dirt access road. On the west end of the dirt access road, a riser pipe accepts flow where it continues underground in the municipal separate storm sewer system (MS4) (Photograph 4 of Photo Sheet 2). The MS4 most likely discharges into either Santa Gertrudis Creek or Tucalota Creek. Both are tributaries of Murrieta Creek and, as discussed above, connect to the Pacific Ocean via Santa Margarita River. The upstream portion of this feature is dominated by coastal sage scrub species and is highly eroded due to the steepness of the hillside. However, the bottom of the feature does support OHWM indicators, including shelving, sediment deposits, and the destruction of upland vegetation. A small area of tamarisk scrub dominated by tamarisk and California sagebrush and southern riparian scrub, which consists of two cottonwood trees is present at the downstream end of Feature B (Figures 5-26 and 6-26 and Photograph 3 of Photo Sheet 2). These riparian areas did not support a three-parameter wetland (sample points T10.1 and T10.2), and therefore the OHWM define the jurisdictional limits for waters of the U.S., while waters of the state under the exclusive purview of CDFW was extended to the outer edge of the tamarisk scrub and southern riparian habitat. The average width of the OHWM within upstream portion is two feet, while the downstream portion is nine feet. A total of 0.03 acre of waters of the U.S. and state occur within this feature.

Feature C

Feature C is located along Leon Road is an unnamed intermittent stream that drains a small area of agricultural land and residential land. Due to the narrow size of the drainage and observed characteristics, the watershed area is expected to be relatively small. The feature flows from north to the south toward Tucalota Creek. Tucalota Creek is a tributary to Santa Gertrudis Creek and connects to the Pacific Ocean, as described above. This feature is mostly an unvegetated channel with areas of mule fat scrub and southern willow scrub. Upstream of this feature is a storm water retention basin constructed as a best management practice (BMP) for the newly developed housing development. This BMP retention basin was determined to be non-jurisdictional and is further discussed under the non-jurisdictional features section, below. The feature begins downstream of the BMP retention basin and crosses a recently plowed field on

private land. The feature meanders along the field and ponds before entering Tucalota Creek. Surface water was present during the survey. Mule fat scrub and southern willow scrub located within the channel met the definition of a three-parameter wetland. The areas above the channel did not exhibit positive wetland hydrology and were not considered USACE jurisdiction (sample points T9.1 and T9.2). In addition, the unvegetated channel was delineated using evidence of OHWM such as shelving, sediment deposits, and the destruction of upland vegetation (Figures 5-18, 5-19, 6-18, and 6-19 and Photograph 5 of Photo Sheet 3). The average width of the OHWM is two feet. A total of 0.43 acre of waters of the U.S. and state occur within this feature.

Feature D

Feature D is located at Borel Road and Leon Road and is Tucalota Creek, an intermittent stream. As described above, Tucalota Creek is connected to the Pacific Ocean via Santa Gertrudis, Murrieta Creek, and Santa Margarita River. Tucalota Creek drains approximately 162 square miles upstream of the survey area and includes Skinner Reservoir and its tributaries. Within the survey area, the feature flows from east to west through a large culvert under Leon Road. Surface water was present during the survey. Coastal and valley freshwater marsh occupy the channel bottom, and southern willow scrub, tamarisk scrub, and cismontane alkali marsh are present along the banks and the terrace above the channel bottom (Figures 5-17 and 6-17 and Photograph 6 of Photo Sheet 3). Three-parameter wetlands were supported within the channel bottom, and the adjacent riparian vegetation is exclusively CDFW jurisdiction due to a lack of wetland hydrology (sample points 8.1 and 8.2). A total of 0.50 acre of waters of the U.S. and state occur within this feature.

Feature E

Feature E is located south of the intersection at Leon Road and Allen Road and is an intermittent stream that discharges into an unnamed tributary of Tucalota Creek, which, in turn, connects to the Pacific Ocean. The feature drains a relatively small area of land. On the east side of Leon Road, the feature has been disturbed by active agricultural management, and only a subtle concave landform can be seen to concentrate runoff. Flows pass under Leon Road through a culvert and continue west outside of the survey area. West of Leon Road, the feature has a more distinct bed and bank, constituting OHWM and supporting southern willow scrub farther downstream (Figures 5-16 and 6-16 and Photograph 7 of Photo Sheet 4). The average width of the OHWM is five feet. A total of 0.11 acre of waters of the U.S. and state occur within this feature.

Feature F

Feature F is located north of the intersection at Leon Road and Allen Road and is an intermittent stream that discharges into an unnamed tributary of Tucalota Creek, which, in turn, connects to the Pacific Ocean. The feature drains a relatively small area of land. On the east side of Leon Road the feature has been disturbed by a single-family home. Only a subtle concave landform can be seen to concentrate runoff. Flows pass under Leon Road through a culvert and continue west outside of the survey area. West of Leon Road, the feature has a more distinct bed and bank, constituting OHWM and supporting southern willow scrub farther downstream (Figures 5-15 and 6-15). The average width of the OHWM is two feet. A total of 0.16 acre of waters of the U.S. and state occur within this feature.

Feature G

Feature G is located south of the intersection at Leon Road and Van Gaale Lane and is an intermittent stream that discharges to the same unnamed tributary to Tucalota Creek as describe for Feature F. This feature drains a relatively small area of land. Flow has been culverted under Leon Road where it continues to the southwest. Most of the channel is considered unvegetated channel, although at the western end of the survey area, some southern willow scrub is present. This southern willow scrub area did not support three-parameter wetlands since the species composition did not meet the hydrophytic vegetation parameter. It supports a co-dominance of red willow (*Salix laevigata*) and tecalote (*Centaurea melitensis*) (sample point T5.1). The unvegetated channel was delineated using evidence of OHWM such as drainage patterns, bed and bank, and sediment deposits (Figures 5-14 and 6-14and Photograph 8 of Photo Sheet 4). The average width of the OHWM is two feet. A total of 0.13 acre of waters of the U.S. and state occur within this feature.

Feature H

Feature H crosses Leon Road north of Auld Road and is mapped on the NHD as an intermittent unnamed tributary to Warm Springs Creek. Warm Springs Creek is a tributary of Murrieta Creek that is connected to the Pacific Ocean via the Santa Margarita River. The feature drains approximately 7.6 square miles and general flows from east to west. The eastern half of the survey area was populated by cottonwood willow riparian forest and the western half was composed of southern willow scrub and mule fat scrub (Figures 5-11 and 6-11 and Photographs 9 and 10 of Photo Sheet 5).

Only areas occurring within the main channel of the feature supported three-parameter wetlands. Riparian habitat above the main channel, at a slightly higher terrace, lacked hydric soils and did not meet wetland hydrology indicators (sample points T4.1 and T4.2). The feature crosses two maintained dirt roads. During storm events, flow crosses the road. OHWM was delineated across the road to maintain the width at the defined channel. The portions of jurisdictional waters in the road were considered unvegetated channel. A potential vernal pool was investigated along this feature within the road, but was not considered jurisdictional (refer to non-jurisdictional discussion, below). The average width of the OHWM is five feet. A total of 0.92 acre of waters of the U.S. and state occur within this feature.

Feature I

Feature I (also labeled as TPA 2) is a swale feature that is depressional, allowing for water to pond for several days following storm events. This feature appears to have been a constructed ditch to drain the surrounding fields. East of this feature is a small erosional feature caused by runoff from the road before water enters this swale/ditch. Water tends to pond within this area due to the slightly higher elevation moving west. The swale/ditch then abates into the upland field and is no longer a defined feature. Because this feature appears to pond for several days following storm events, it has the potential to support fish and/or wildlife and support beneficial uses for wildlife and rare, threatened, or endangered species within the HSA; therefore, it is considered a water of the state under the purview of RWQCB and CDFW. A total of 0.12-acre of waters of the state occurs within this feature (Figures 5-9 and 6-9 and Photographs 13 and 14 in Photo Sheet 7).

Feature J

Feature J crosses Briggs Road north of State Route 79 and is mapped on the NHD as an intermittent unnamed tributary to Warm Springs Creek. As described above, Warm Springs Creek is a tributary of Murrieta Creek, which is connected to the Pacific Ocean through the Santa Margarita River. The feature drains a relatively small area of land east of the survey area. A vernal pool was investigated on the eastern side of the survey area, but was determined to not be jurisdictional (refer to non-jurisdictional discussion, below). A defined bed and bank does not begin until just east of Briggs Road. The drainage then flows west through a culvert under Briggs Road, where it discharges into another unnamed tributary of Warm Springs Creek. Tamarisk scrub was dominant on the eastern side of Briggs Road; the west side supported southern willow scrub (Figures 5-7 and 6-7 and Photograph 15 of Photo Sheet 8). The average width of

the OHWM is one foot. A total of 0.08 acre of waters of the U.S. and state occur within this feature.

Feature K

Feature K crosses Briggs Road north of Porth Road from east to west and is mapped on the NHD as an intermittent unnamed tributary to Warm Springs Creek. As described above, Warm Springs Creek is a tributary of Murrieta Creek, which is connected to the Pacific Ocean via the Santa Margarita River. Feature K supports a large floodplain, draining approximately 30 square miles upstream of the survey area, including Diamond Valley Lake and its tributaries, allowing for this feature to support a large area of wetlands. Surface water was present during the site visit. Observed positive three-parameter wetland indicators showed that typical rain events cause localized flooding within the survey area and has supported the development of cismontane alkali marsh, southern coastal salt marsh, and freshwater seep above the main channel. The main channel is dominated by freshwater marsh, with southern willow scrub in the western portion of the survey area; the channel is culverted under Briggs Road (Figures 5-5 and 6-5 and Photographs 18 and 19 of Photo Sheets 9 and 10). A total of 2.72 acres of waters of the U.S. and state occur within this feature.

Feature L

Feature L is located west of the intersection of Los Alamos Road and Briggs Road, crosses Los Alamos Road from the north, and flows south toward Feature K. The feature drains approximately 1.2 square miles upstream of the survey area. The feature discharges downstream of Feature K, which is an unnamed tributary of Warm Springs Creek. As described above, Warm Springs Creek is a tributary of Murrieta Creek, which is connected to the Pacific Ocean via the Santa Margarita River. Surface water was present during the survey, and the site supported three-parameter wetland indicators within the main channel. The northern (upstream) portion of Feature L is dominated by mule fat scrub. Further south (downstream), the mule fat scrub vegetation ceases and no longer supports hydrophytic vegetation. At this point it is therefore classified as an unvegetated channel (Figures 5-4 and 6-4 and Photograph 20 of Photo Sheet 10). The unvegetated channel exhibits evidence of OHWM such as drainage patterns, sediment deposits, and defined bed and bank. The average width of the OHWM within upstream portion is 15 feet, while the downstream portion is two feet. A total of 0.21 acre of waters of the U.S. and state occur within this feature.

Non-Jurisdictional Features

None of the seven TPAs occurring within the survey area features supported federally defined wetland composed of vernal pool indicator species; therefore, none were considered vernal pools, but rather temporary ponded areas/road ruts. Six of the seven TPAs were mostly unvegetated, containing only one or two nonnative grassland species. Photographs 2 and 11 are representative photos of these six pools (Photo Sheets 1 and 6). One TPA, TPA-1, was a large ponded area that supported a variety of plant species. Small patches of hydrophytic vegetation was observed and recorded within the area, but the site was overrun with upland nonnative grassland species such as annual fescue (*Vulpia myuros*) and San Diego tarweed (*Deinandra paniculata*); therefore, the site did not meet the hydrophytic vegetation parameter (refer to Data Forms in Attachment C and Photographs 16 and 17 [Photo Sheets 8 and 9]). As discussed above, TPA 2 (Feature I) is considered a jurisdictional swale.

A large BMP retention basin is present just south (upstream) of Feature C. The retention basin was constructed as a storm water BMP in 2011 as part of the adjacent housing development. The basin was designed to reduce storm water runoff volume and velocity and decrease pollutant loading on downstream receiving waters. Prior to 2011, the area where the basin now sits did not contain aquatic features. This feature is a permitted BMP constructed wholly in uplands; therefore, it is not considered jurisdictional (Figure 5-19).

Two non-jurisdictional swale features were observed. One swale was observed crossing Leon Road south of Benton Road (Figure 5-10). The area is actively tilled by agricultural tractors. There is a subtle concave linear feature that would flow generally from northeast to southwest. Near the western edge of the survey area, scour has occurred around a concrete structure (Photograph 12 of Photo Sheet 6). A second swale feature was observed just south of the intersection of Benton Road and Temeku Street (Figure 5-8). The surrounding area appeared to have been recently graded. The swale appears to be draining the graded lot to the east of Temeku Street. It flows to the west in a culvert under Temeku Street and daylights in the graded lot west of Temeku Street, with no defined flow path downstream. Some individuals of California buckwheat were present, but the area was dominated by nonnative grassland species. These swales do not support hydrophytic vegetation, evidence of OHWM, or wetland hydrology. In addition, these swales contain a smooth-toe transition and do not support a defined bed and bank, conveying flows only during extreme storm events. These features do not

have the potential to support fish and/or wildlife, do not support beneficial uses, and lack OHWM and wetland parameters. Therefore, they are not considered jurisdictional.

A summary of the potential waters of the U.S. and state occurring within the survey area is provided in Table 7. The location and distribution of potential waters of the U.S. and state, field sample points, and locations and orientation of the field photographs taken during the field delineation are provided in Figures 5-1 through 5-31. Representative survey area photos of the field delineation are included in Photo Sheets 1 through 10.

Table 7
Summary of Potential Waters of the U.S. and State
Occurring within the Survey Area

Potential Waters of the U.S.	**Area (Acres)[a]**	**Linear Feet[b]**
Wetland	2.98	-
Other Waters	0.75	3,307
Subtotal Waters of the U.S.	*3.73*	*3,307*
Potential Jurisdictional Waters of the State, Exclusively	**Area (Acres)[a]**	**Linear Feet[b]**
Riparian Component	2.54	-
Swale	0.12	187
Subtotal Waters of the State	*2.66*	*187*
Grand Total Potential Jurisdictional Waters	**6.39**	**3,600**

[a] Jurisdictional waters acreage of the survey area was determined by using ArcGIS. All acreages are rounded to the nearest hundredth (which may account for minor rounding error).
[b] USACE only uses the measurement of linear feet for impacts to stream/riverine features. Therefore, only stream features will have acreage and linear feet provided as a component of measurement for established features and potential projected impacts occurring within the project boundary.

6.5 Preliminary JD Form for Potential Waters of the U.S.

Based on RGL 08-02, the permit applicant may elect to use a preliminary JD to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner, permit applicant, or other "affected party" to move ahead expeditiously to obtain CWA Section 404 permit authorization where applicants determine that it is in their best interest to do so.

Preliminary JDs do not make an official determination of jurisdictional waters *and* are nonbinding advisements that potential waters of the U.S. (including wetlands) *may* be present within a site and therefore should be assumed to be jurisdictional by USACE. A preliminary JD is not appealable under the USACE appeal process because it is not an official jurisdictional determination. If a preliminary JD is received by USACE, an

approved JD can always be requested by the applicant at a later time, if necessary. Preliminary JDs cannot be used for determining whether a site has no aquatic features, no potential waters of the U.S. (including wetlands), geographically isolated waters and/or wetlands, or some jurisdictional and some non-jurisdictional waters.

This JDR and one preliminary JD Form (Attachment D) are meant to provide assistance and support to USACE (Los Angeles District) to determine that approximately 3.73 acres of delineated aquatic features (in the form of vegetated wetland and other waters) "may be" waters of the U.S. and, thus, under its regulatory administration. For this jurisdictional delineation, a preliminary JD Form was prepared to present the following:

- 2.98 acres of potential waters of the U.S. (in the form of vegetated wetlands) directly abutting and/or adjacent to a non-relatively permanent waterway (RPW) that presents a "significant nexus" (SNX) by flowing directly or indirectly into a traditional navigable water (TNW) (i.e., the Pacific Ocean).
- 0.75 acre of potential waters of the U.S. (in the form of other waters) as stream channel (OHWM) existing as a non-RPW that presents an SNX by flowing directly or indirectly into a TNW (i.e., the Pacific Ocean).

The completed preliminary JD Form for this jurisdictional delineation is located in Attachment D.

7.0 DISCUSSION

7.1 Avoidance and Minimization

Impact avoidance and minimization measures to waters of the U.S. and state should be implemented through Proposed Project design and be employed during the construction process to avoid and minimize potential impacts to jurisdictional waters to the greatest practicable extent. If no regulated activities would result in permanent and/or temporary impacts to jurisdictional waters (as a result of the Proposed Project), then no formal authorizations or permitting would be required by the resource agencies.

7.2 Requisite Permitting

Potential impacts resulting from the Proposed Project cannot be estimated at this time because the exact Proposed Project footprint has not been provided. However, results of this delineation will be used to estimate the location, type, extent, and amount of

impacts to potential jurisdictional waters prior to submittal of any notifications or applications to the appropriate agencies.

If it is determined that anticipated unavoidable impacts (permanent and/or temporary) would occur to jurisdictional waters of the U.S. and/or state as a result of the Proposed Project, then meeting all terms and conditions of federal and state law would be required for the issuance of the following authorizations and permits (as applicable) from the appropriate resource agencies.

CWA Section 404 Permitting

The Proposed Project may be covered under the CWA Section 404 Nationwide Permit (NWP) program (33 CFR 330). Specifically, the Proposed Project may be covered under NWP 12 (Utility Line Activities)[7] provided the single and complete project does not result in the loss of greater than 0.5 acre of waters of the U.S.

For linear projects, USACE defines "single and complete project" as follows:

> That portion of the total linear project proposed that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

If the Proposed Project impacts do not meet the terms of NWP 12, then a CWA Section 404 Standard Individual Permit would be required and the Proposed Project would be required to comply with the 404(b)(1) Alternatives Analysis guidelines.

[7] It is at the discretion of USACE to assign the type of NWP(s) that it determines to qualify for a project based on the information submitted as part of a Pre-Construction Notification.

For CWA Section 404 authorization, USACE requires compensatory mitigation for temporary and permanent impacts that cannot be avoided.[8]

For projects that require authorization from USACE, the Los Angeles District of USACE recognizes that, in addition to the discharge of dredged or fill into waters of the U.S., any activity that may result in the reduction of aquatic resource functions, values, or services that would result in the project having more than minimal impacts would require USACE/USEPA to ensure that all direct, indirect, and cumulative impacts are avoided, minimized, and mitigated, when appropriate.[9] RWQCB regulates discharges and beneficial use toward waters of the state; RWQCB also considers cumulative impacts to waters of the U.S. as part of its review under Section 401 of the CWA.

Permit review and issuance by USACE follows a sequence process that encourages avoidance of impacts, followed by minimizing impacts, and, finally, requiring mitigation for unavoidable impacts to the aquatic environment. This sequence is described in the guidelines in Section 404(b)(1) of the CWA. For any temporary and permanent loss of waters of the U.S., mitigation is a requirement of CWA Section 404 permit applications. Compensatory mitigation will follow Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.[10]

CWA Section 401 Water Quality Certification

Under Section 401 of the CWA, RWQCB implements the water quality certification process for any activity that requires a federal permit or license and that may result in the discharge of pollutants into waters of the U.S. RWQCB reviews the proposal to determine whether the activity would comply with state water quality objectives and, subsequently, will either issue a certification with conditions or deny the certification. According to the CWA, water quality standards include beneficial uses, water quality objectives, and complying with USEPA's anti-degradation policy.[11]

[8] Compensatory mitigation is used to meet the U.S. overall policy goal of "no net loss" of wetlands. However, the policy does not differentiate between no net loss of function and no net loss in area (Council on Environmental Quality 1993).

[9] Special Public Notice (posted February 16, 2012): Standard Operating Procedure for Determination of Mitigation Ratios.

[10] 40 CFR Part 230. Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations (19594–19705).

[11] 40 CFR Part 131.12.

In many cases, the conditions of the RWQCB CWA Section 401 certification are more stringent than the CWA Section 404 permit. All parties proposing to discharge waste that could affect waters of the state, but do not affect federal waters (which requires a CWA Section 404 permit *and* CWA Section 401 certification), must also obtain a Waste Discharge Permit[12] or receive a Waiver

It is anticipated that an application for CWA Section 401 Water Quality Certification will be submitted to RWQCB Region 9 for the Proposed Project concurrently with the submittal of an NWP Pre-Construction Notification.

CFGC Section 1600 et seq. Permitting

A Lake or Streambed Alteration Agreement (SAA) Notification to the CDFW South Coast Region would be required for the VSSP. CDFW will determine which (or all) of the delineated aquatic features occurring within the survey area will be under its regulatory administration. The SAA Notification process also allows CDFW to determine whether aquatic features will become "substantially adversely affected" under CFGC Section 1602(a), and to provide guidance on requisite and appropriate compensatory mitigation for any unavoidable impacts to these aquatic resources as a result of the Proposed Project.

[12] CWC Section 13260.

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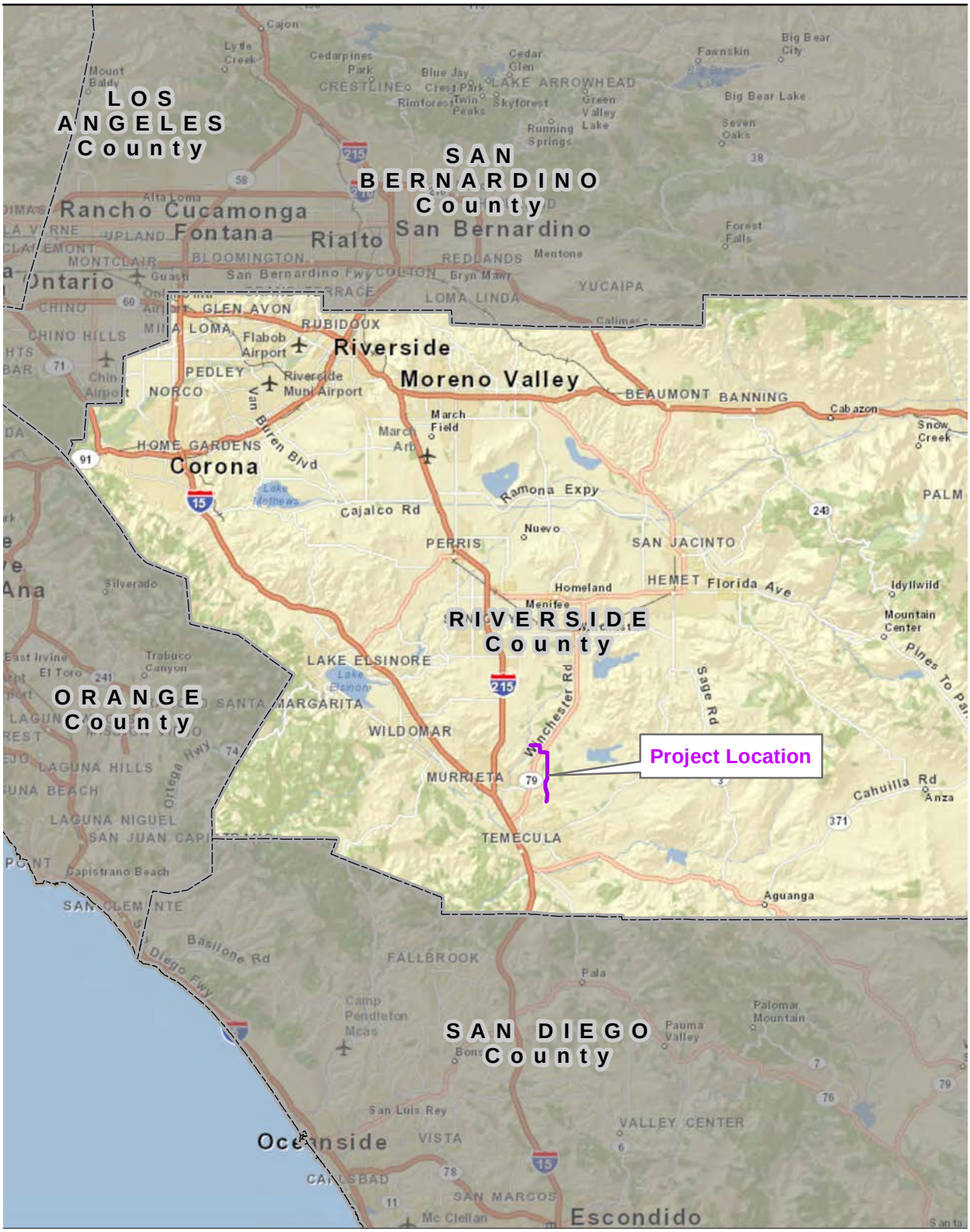
ATTACHMENT A

FIGURES



Source: ESRI 2014; USGS 7.5' Topographic Quadrangle Murrieta, CA 1980, Bachelor Mountain, CA 1978

NORTH

Scale: 1:633,600;1 inch = 10 miles

Miles

0 2.5 5 7.5 10

Figure 1
Regional Map

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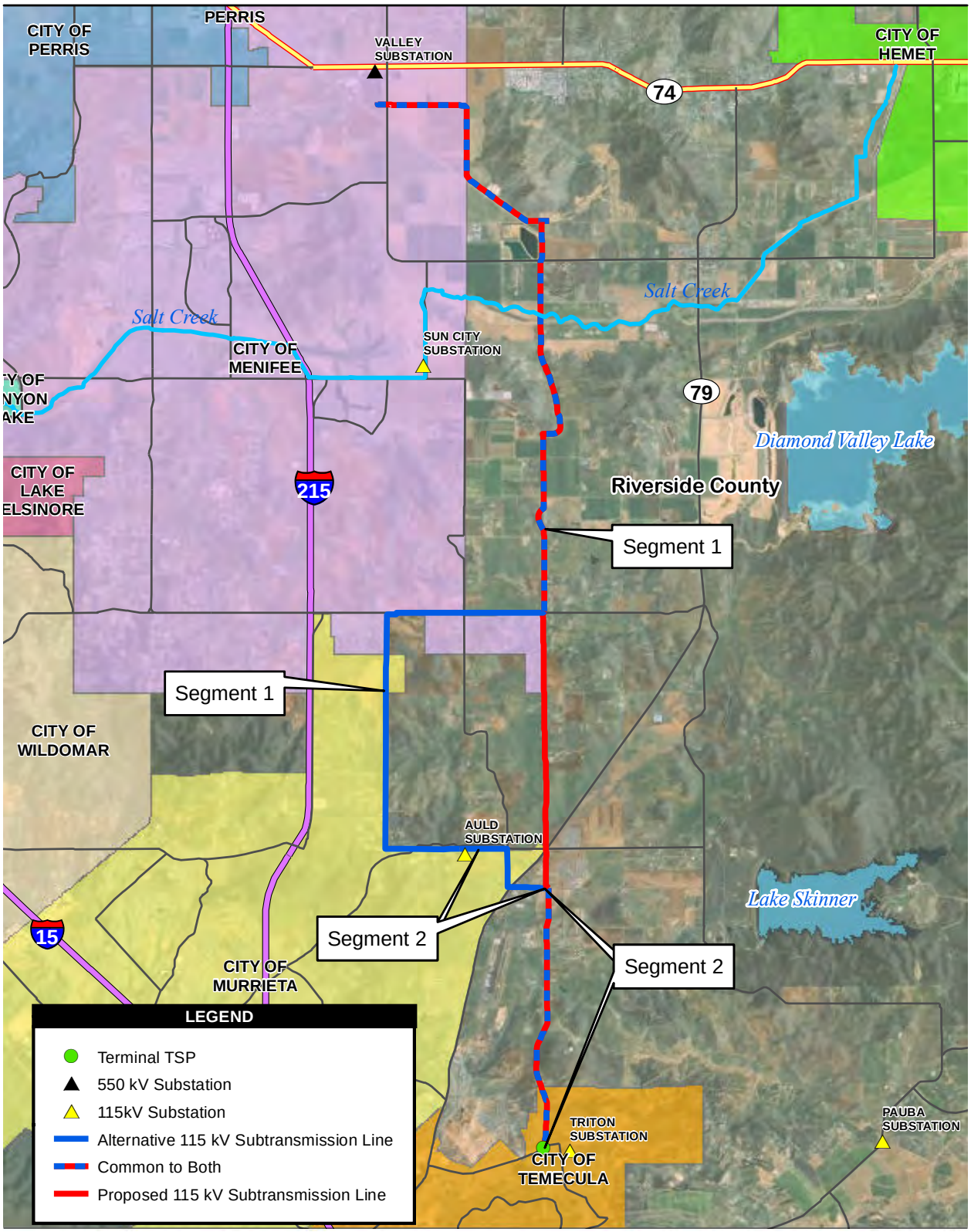


Source: Esri 2013

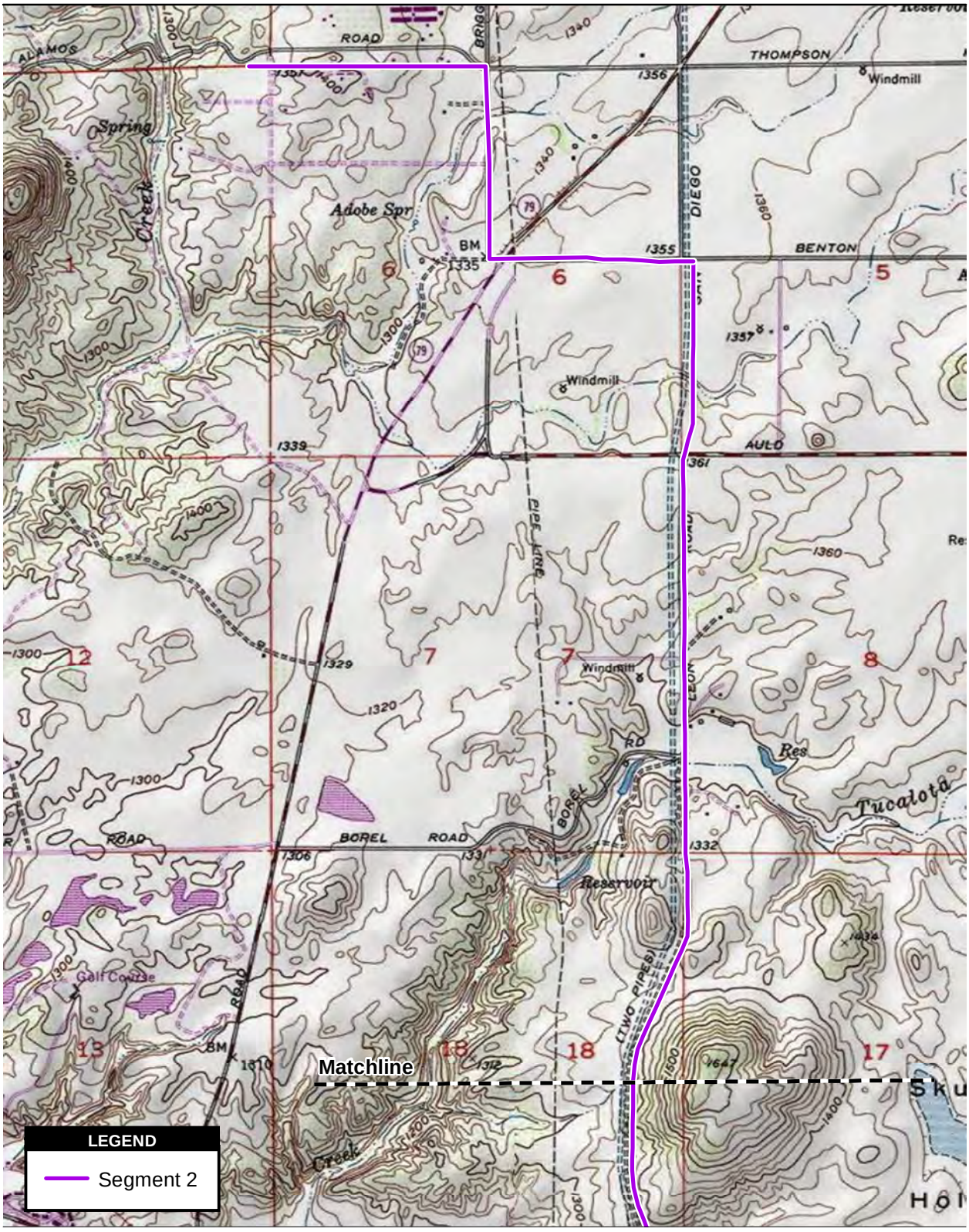
NORTH

Scale: 1:120,000 1 inch = 10,000 feet

0 2,500 5,000 7,500 10,000 Feet

Figure 2
Segment 1 & 2 Locations

Path: C:\Users\wallacerj\Desktop\VSSP_KMZ\VSSPJDWorkspace_20140409\VSSP_8x11_JD_Fig2_20140520.mxd, 5/21/2014, WallaceRJ



Source: ESRI 2014; USGS 7.5' Topographic Quadrangle Murrieta, CA 1980, Bachelor Mountain, CA 1978

NORTH

Scale: 1:24,000;1 inch = 2,000 feet

Feet

0 500 1,000 1,500 2,000

Figure 3a
Vicinity Map - North

Path: \\ussdg2fp001.na.aecomnet.com\data\Projects\2012\60247921\06GIS\6.3_Layout\Figure_Templates\Figure2_Vicinity_Map.mxd, 5/20/2014, SorensenJ

Source: ESRI 2014; USGS 7.5' Topographic Quadrangle Murrieta, CA 1980, Bachelor Mountain, CA 1978

NORTH

Scale: 1:24,000;1 inch = 2,000 feet

Feet

0 500 1,000 1,500 2,000

Figure 3b
Vicinity Map - South

Path: \\ussdg2fp001.na.aecomnet.com\data\Projects\2012\60247921\06GIS\6.3_Layout\Figure_Templates\Figure2_Vicinity_Map.mxd, 5/20/2014, SorensenJ

Source: Esri 2013

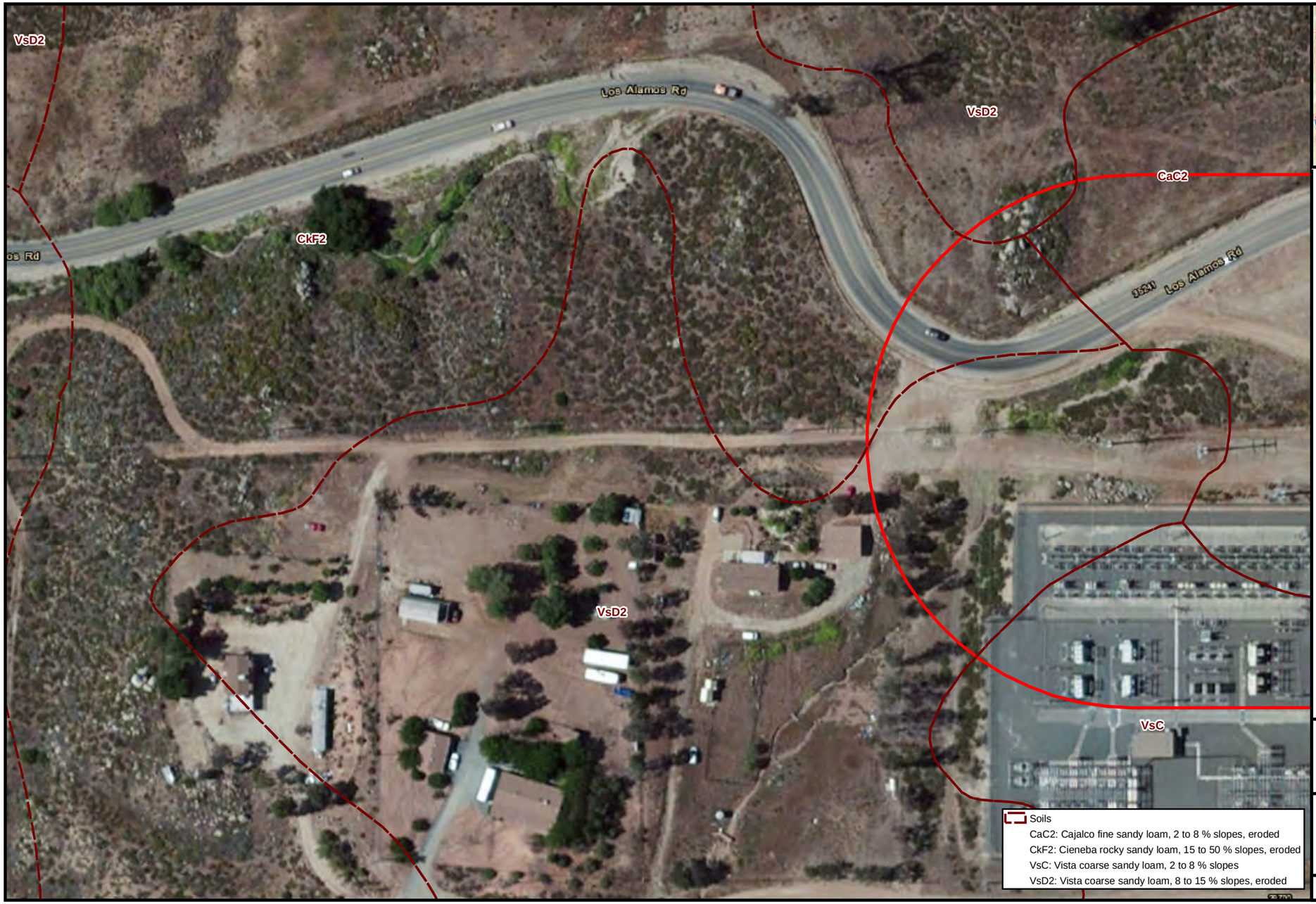
NORTH

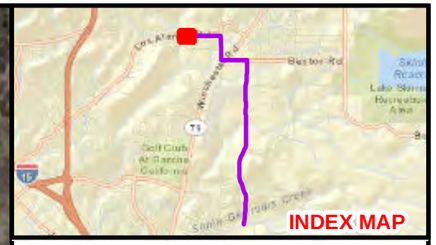
Scale: 1:36,000;1 inch = 3,000 feet

0 760 1,520 2,280 3,040 Feet

Figure 4
Survey Area Overview Map

Path: C:\Users\wallacerj\Desktop\VSSP_KMZ\VSSPJDWorkspace_20140409\VSSP_8x11_JD_Fig4_20140520.mxd, 5/20/2014, WallaceRJ





Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 01

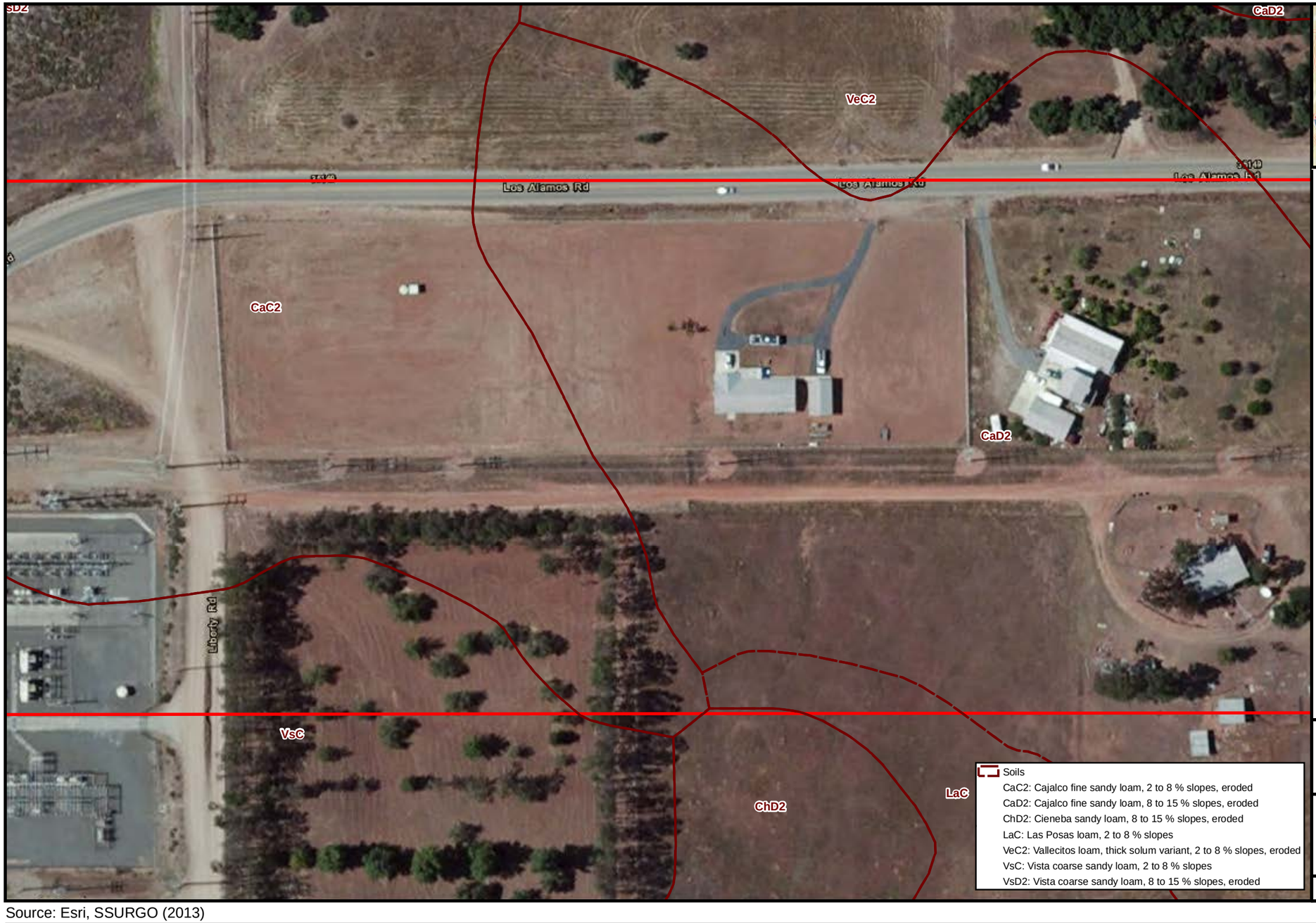
Jurisdictional Waters and Soils Map Book Series

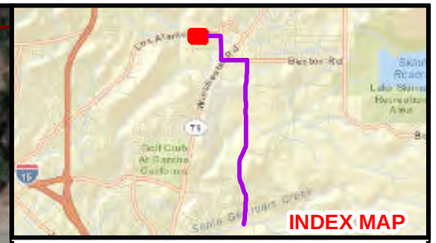
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

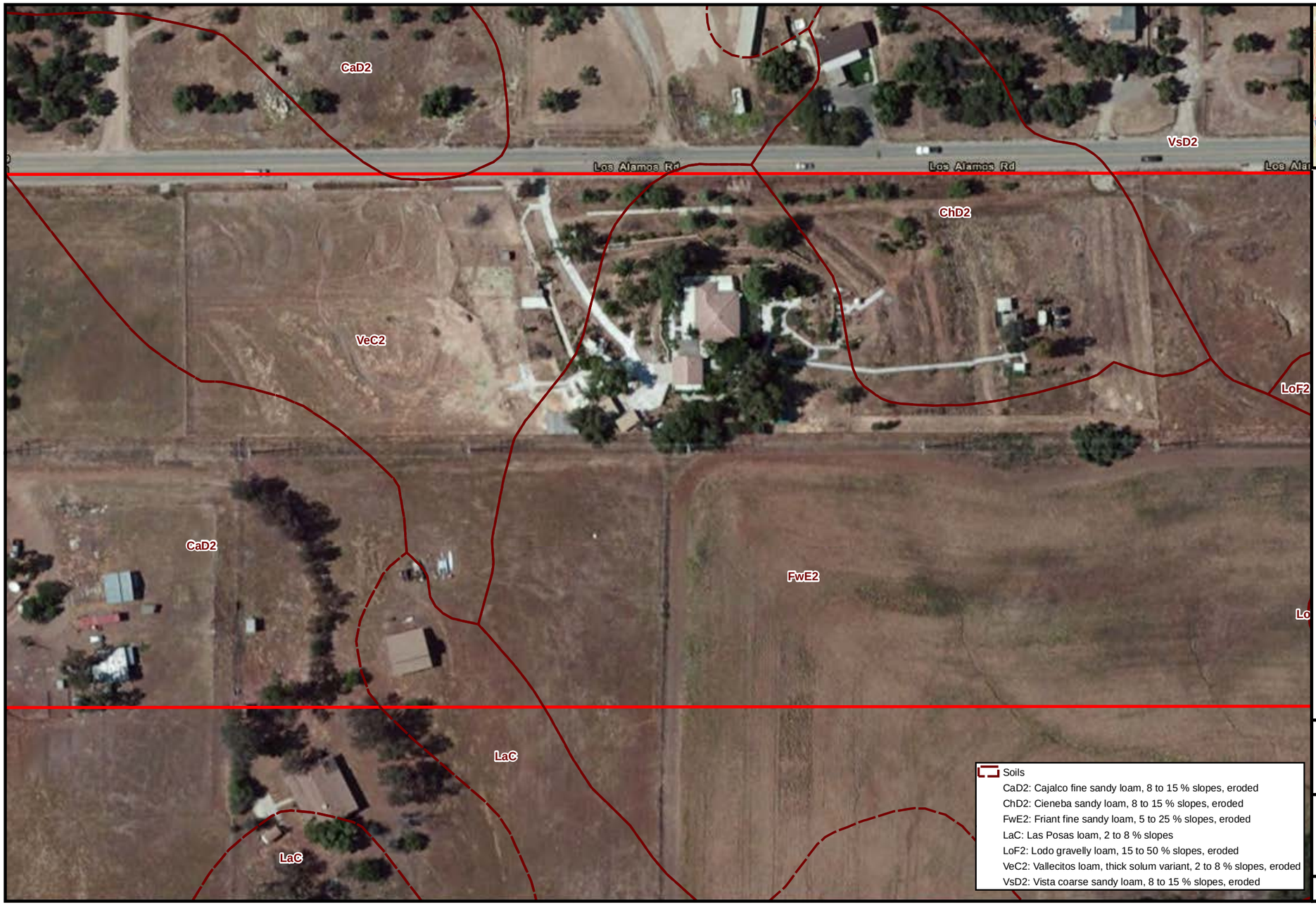
AECOM

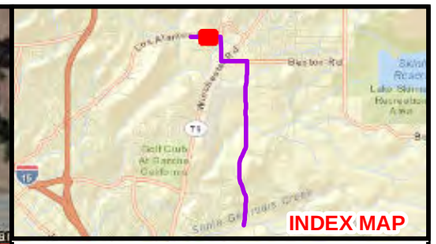
Figure 5- 02

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 03

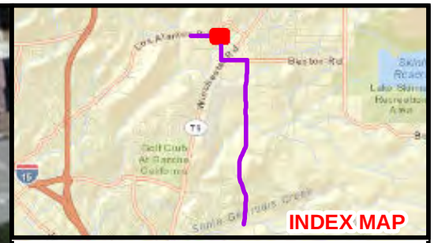
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014



Legend

- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*
- Culvert

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Soils

- BkC2: Buchenau silt loam, 2 to 8 % slopes, eroded
- CaC2: Cajalco fine sandy loam, 2 to 8 % slopes, eroded
- ChD2: Cieneba sandy loam, 8 to 15 % slopes, eroded
- FwE2: Friant fine sandy loam, 5 to 25 % slopes, eroded
- LaC: Las Posas loam, 2 to 8 % slopes
- LoF2: Lodo gravelly loam, 15 to 50 % slopes, eroded
- VsD2: Vista coarse sandy loam, 8 to 15 % slopes, eroded
- WyC2: Wyman loam, 2 to 8 % slopes, eroded

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

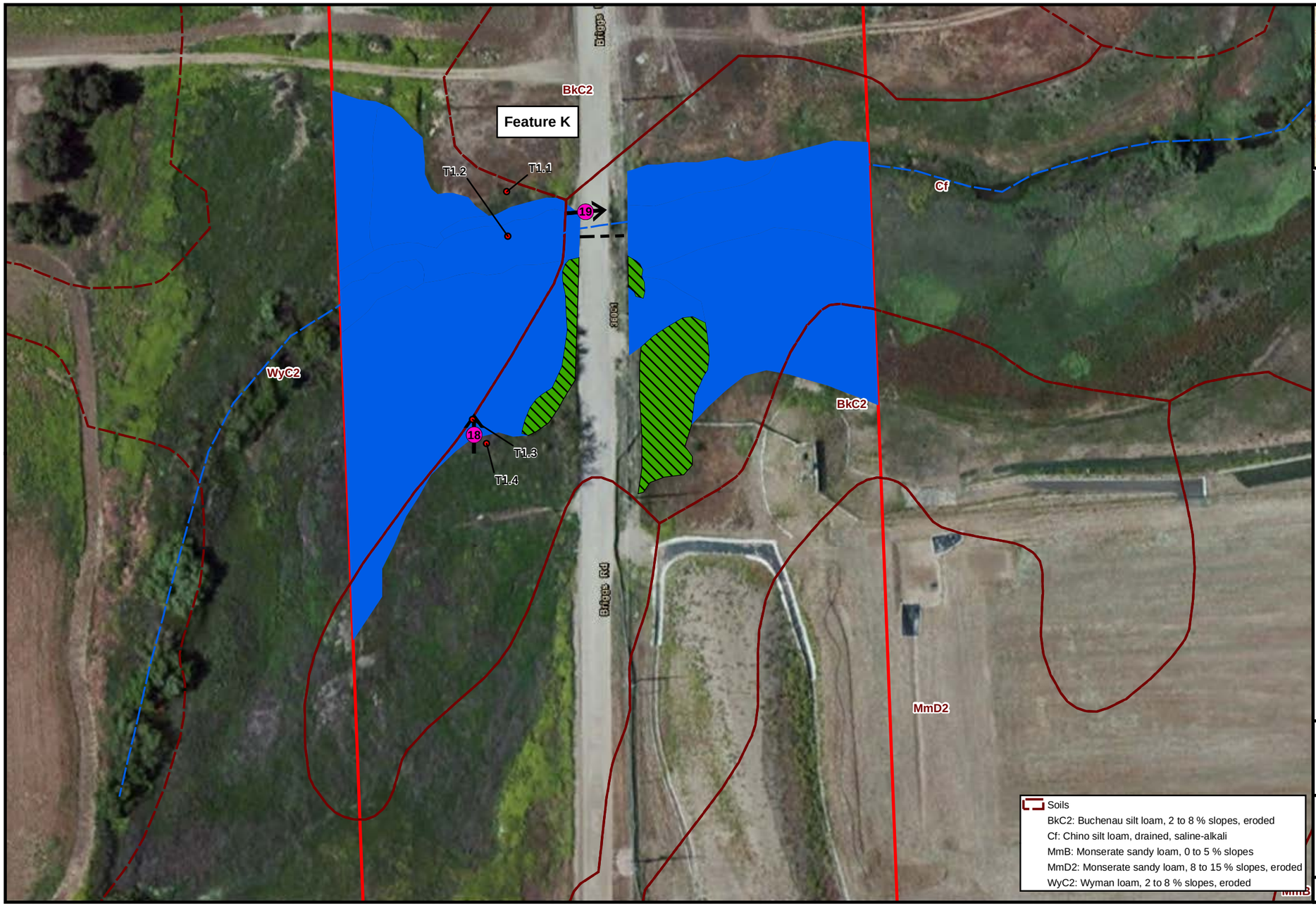
AECOM

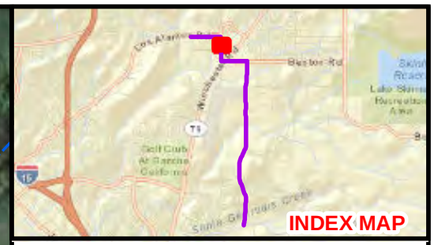
Figure 5- 04

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Survey Area
- Photo Point Location
- Sample Point
- Flow line
- Culvert

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

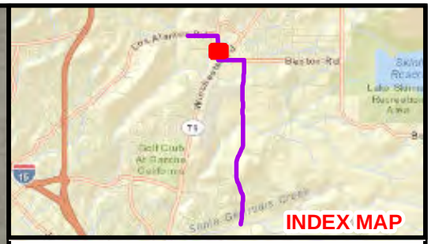
Figure 5- 05

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014



Legend

Survey Area

Non-Jurisdictional Features

Temporary Ponded Area

Soils

- BfC: Bosanko clay, 2 to 8 % slopes
- BkC2: Buchenau silt loam, 2 to 8 % slopes, eroded
- MmB: Monserate sandy loam, 0 to 5 % slopes
- MmD2: Monserate sandy loam, 8 to 15 % slopes, eroded
- WyC2: Wyman loam, 2 to 8 % slopes, eroded

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 06

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

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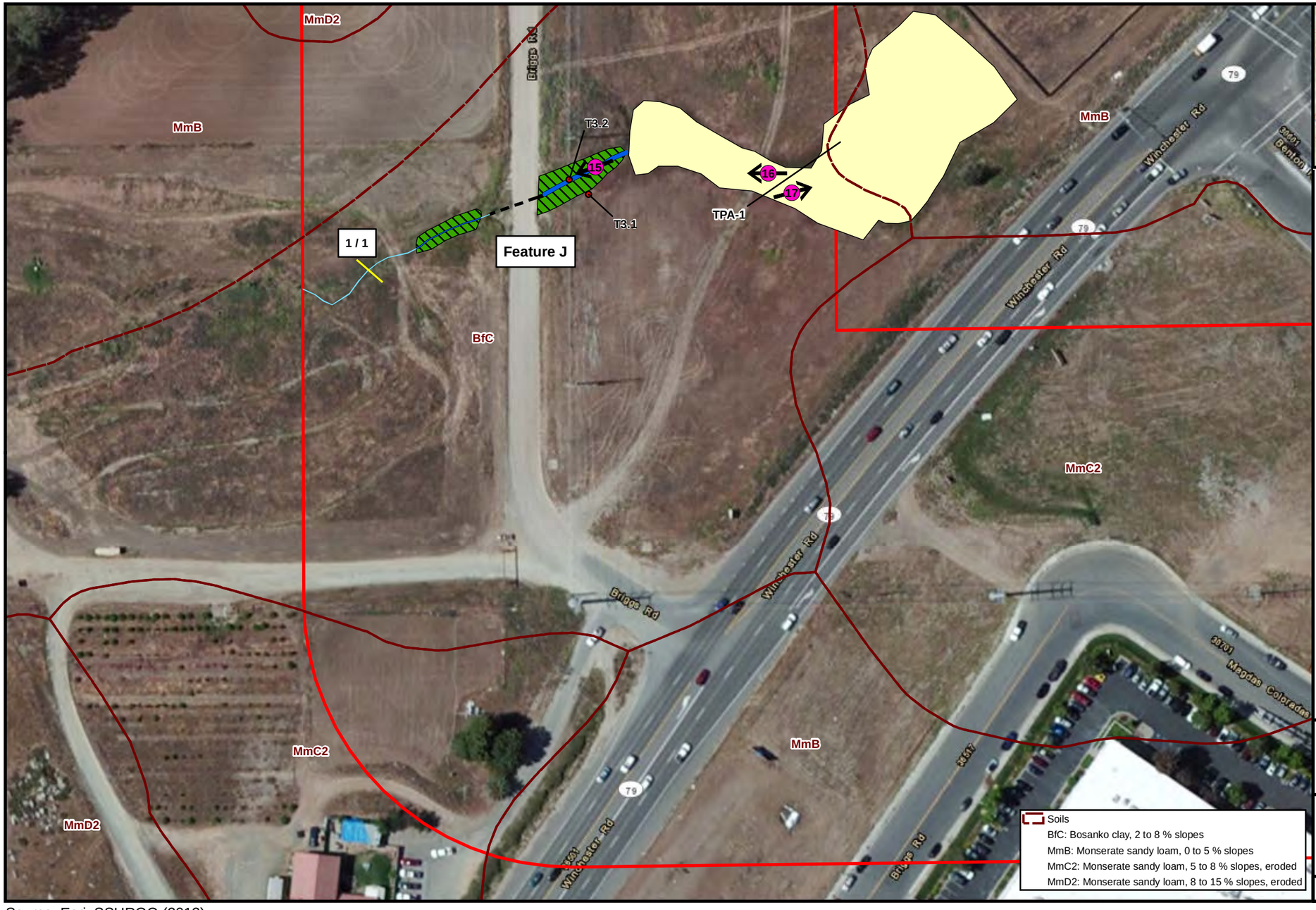
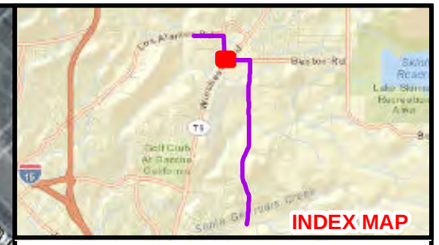




Legend

- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*
- Culvert

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Non-Jurisdictional Features

- Temporary Ponded Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

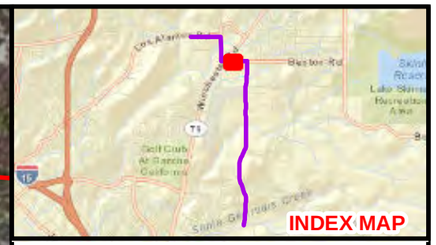
Figure 5- 07

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Non-Jurisdictional Features

- Erosional Feature

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 08

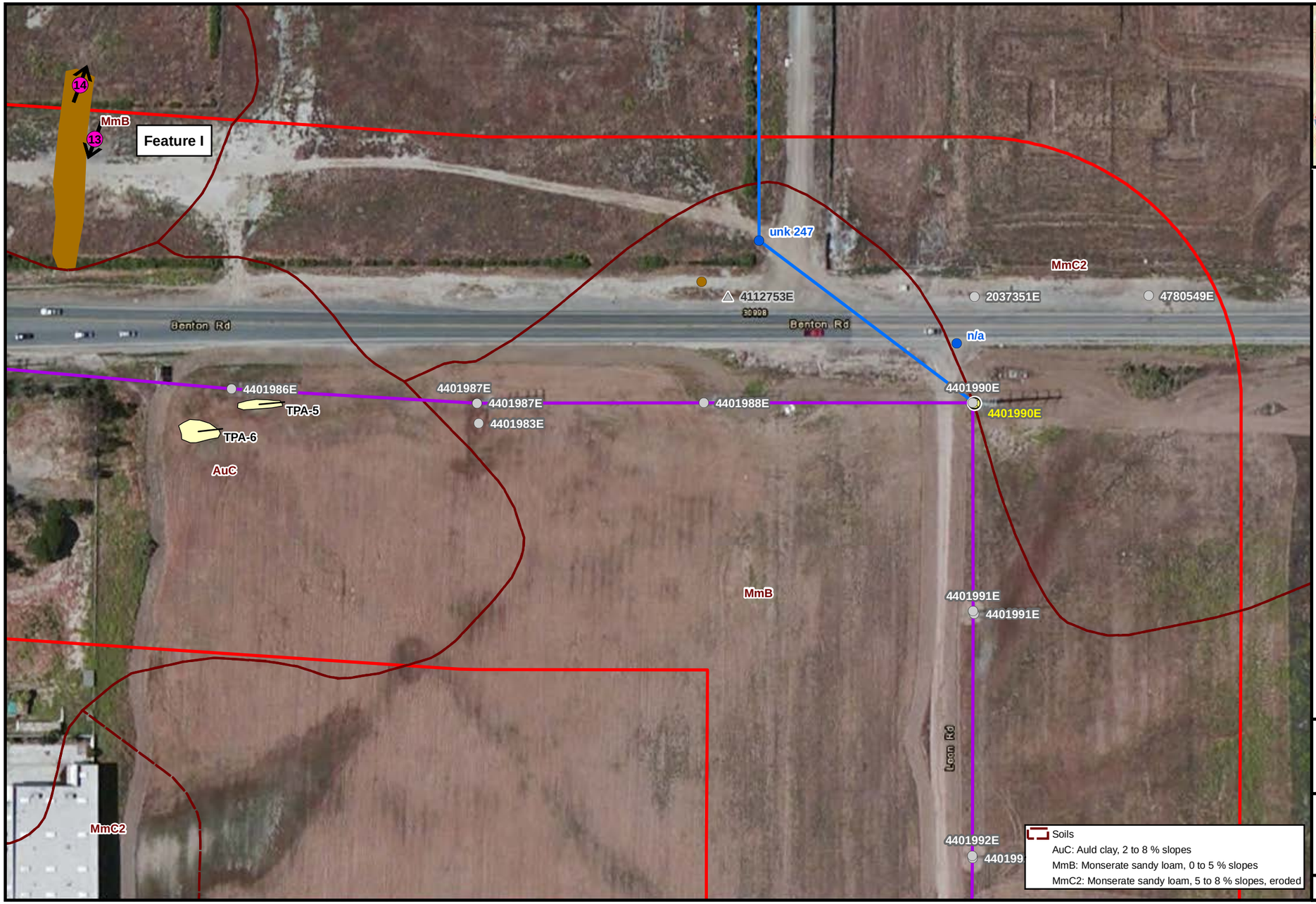
Jurisdictional Waters and Soils Map Book Series

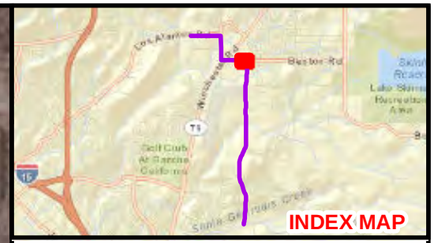
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- New TSP
- New Wood
- Existing
- Modify
- Potentially Remove or Relocate

Line_Name

- Preferred Route
- Segment 2

- Survey Area
- Photo Point Location

Jurisdictional Waters of the State Only (RWQCB, CDFW)

- Top of Bank

Non-Jurisdictional Features

- Temporary Ponded Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 09

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

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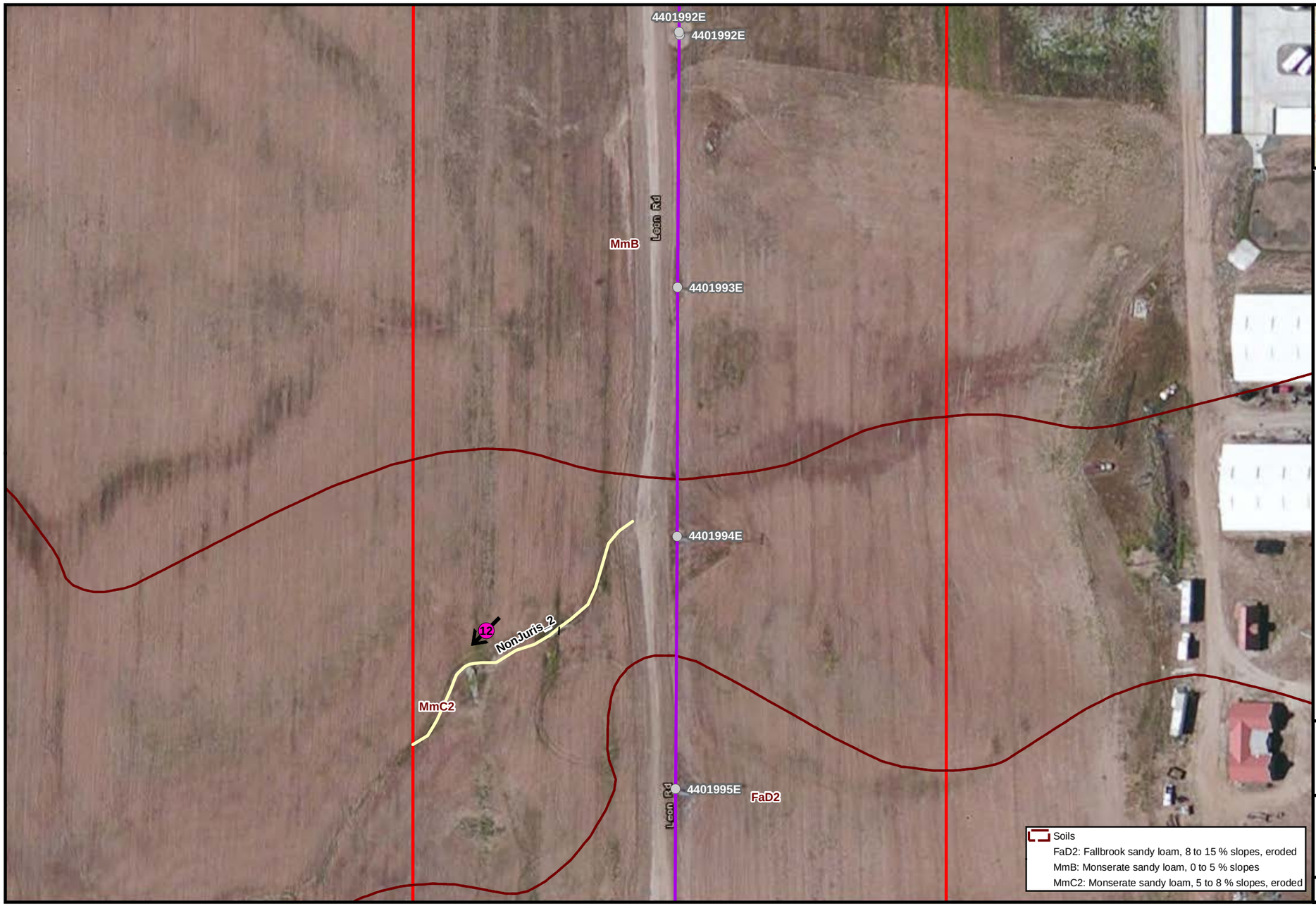

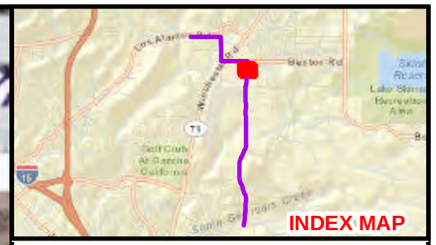

Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location

Non-Jurisdictional Features

- Erosional Feature

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 10

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

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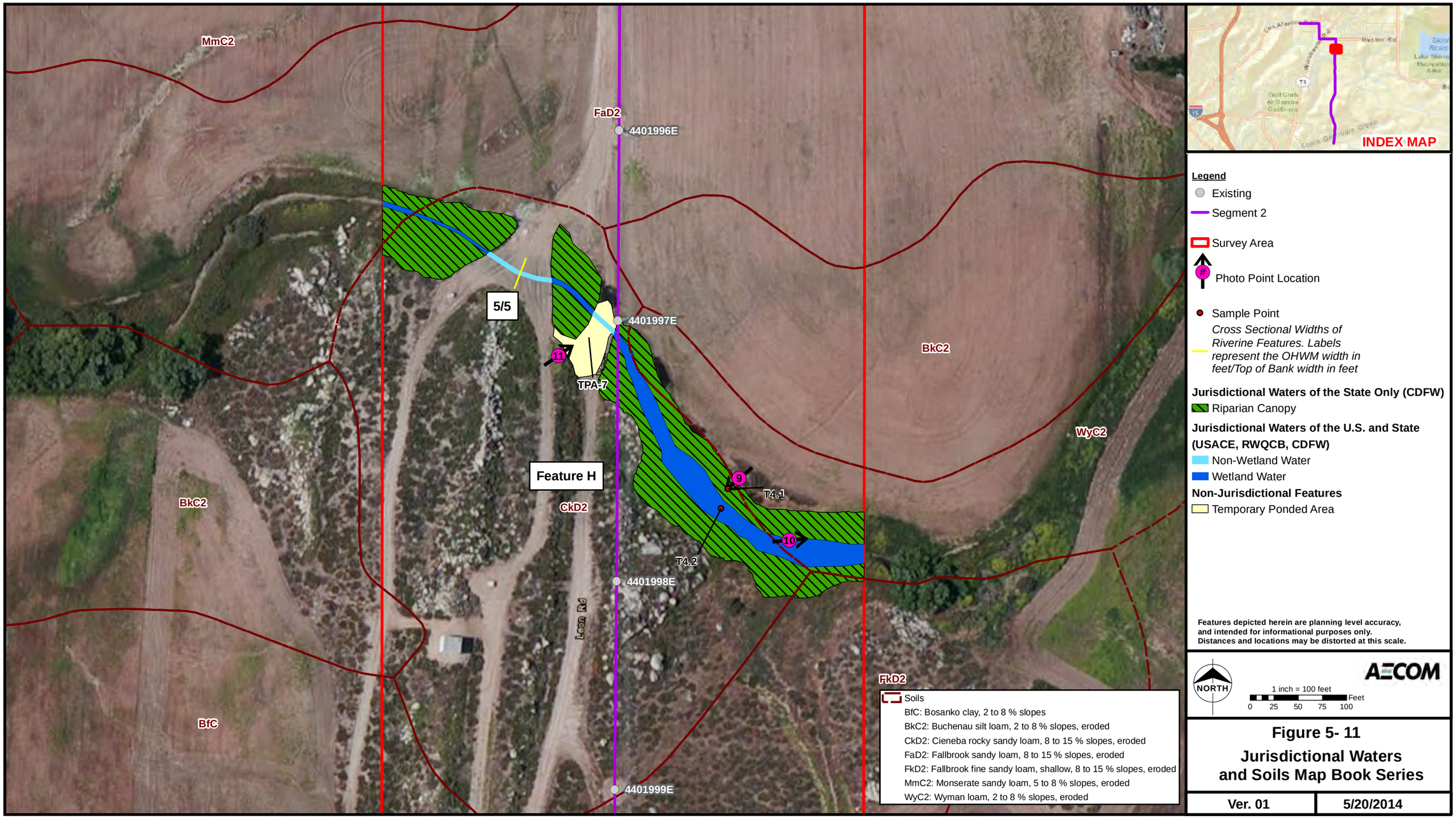
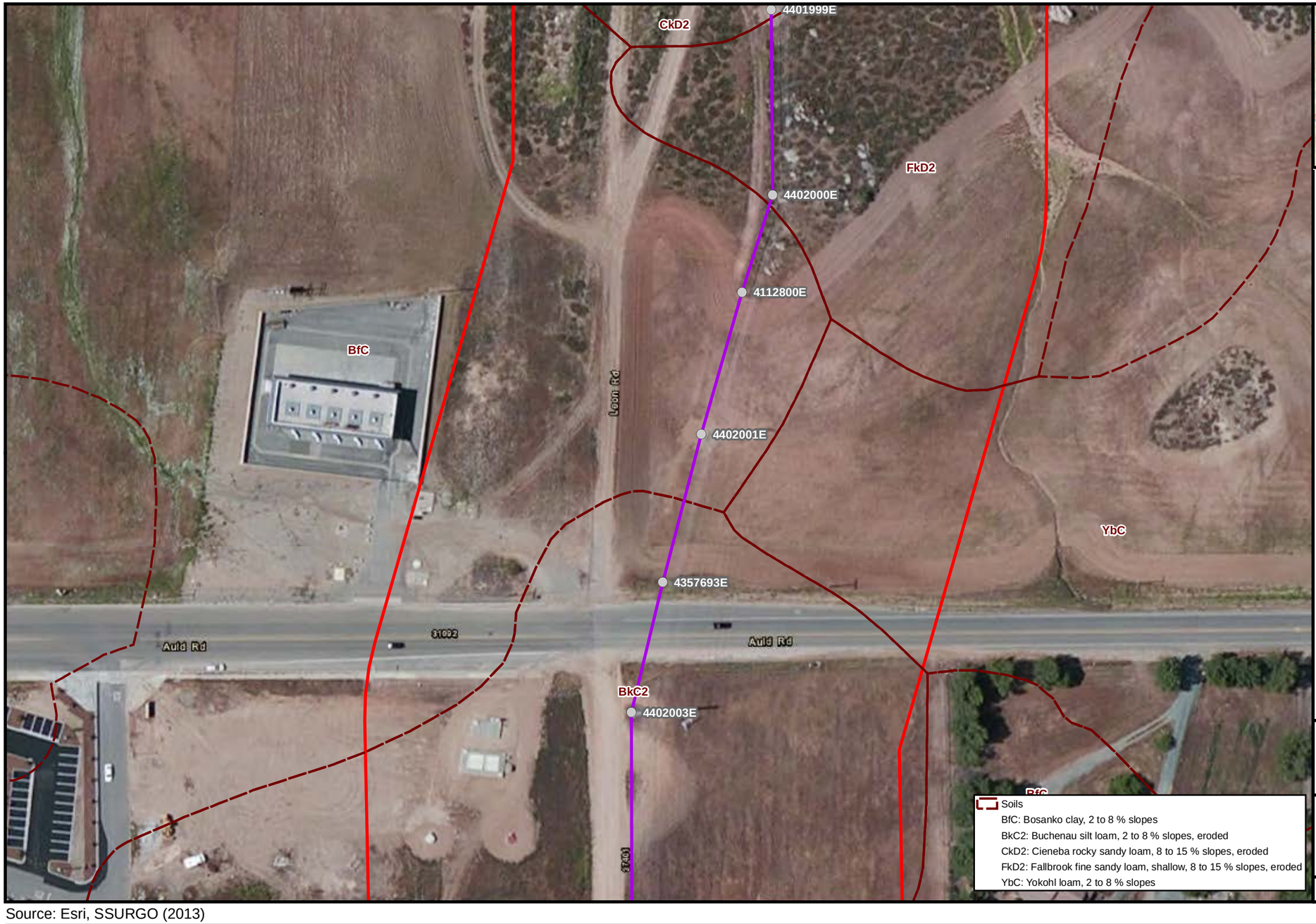


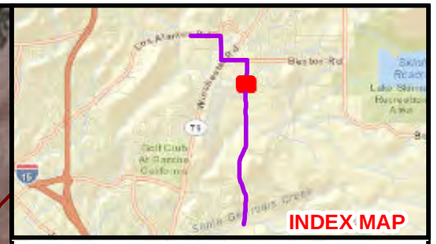
Figure 5- 11

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

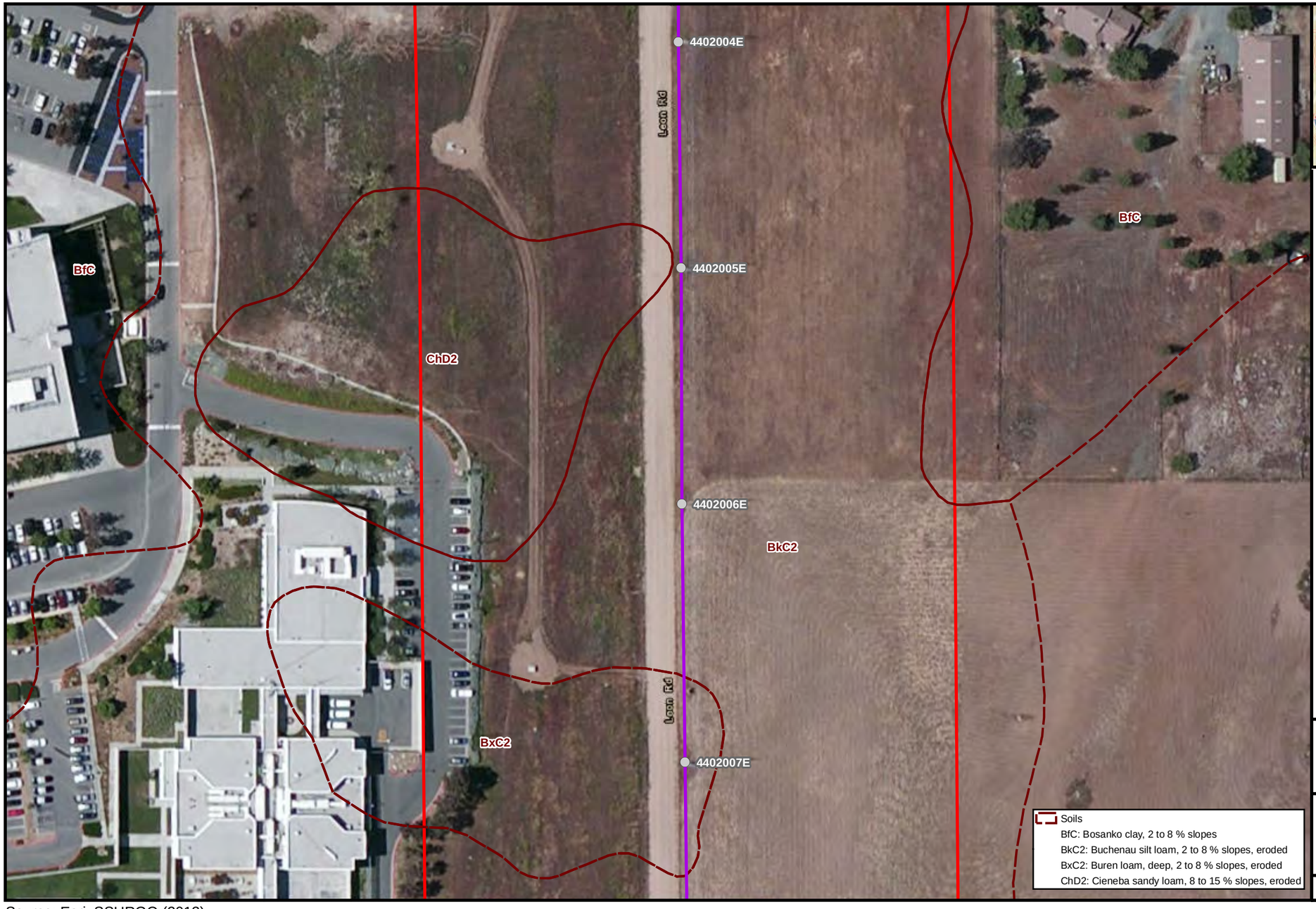
AECOM

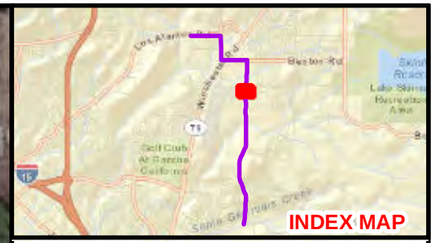
Figure 5- 12

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

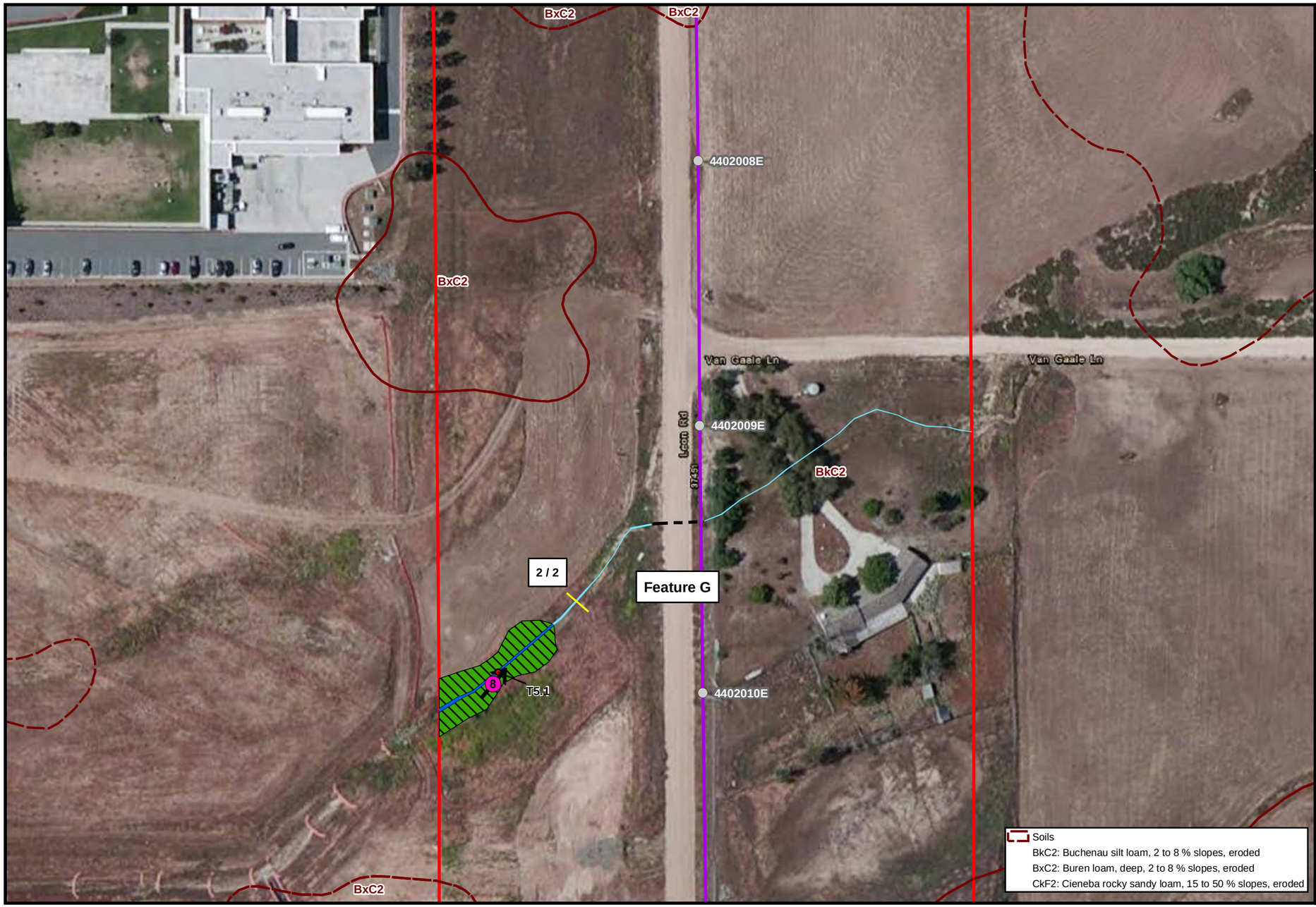
Figure 5- 13

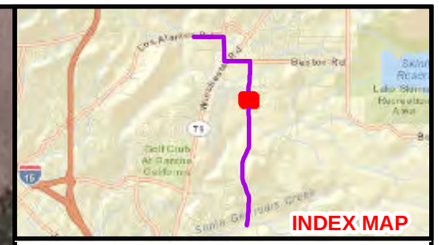
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*
- Culvert

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 14

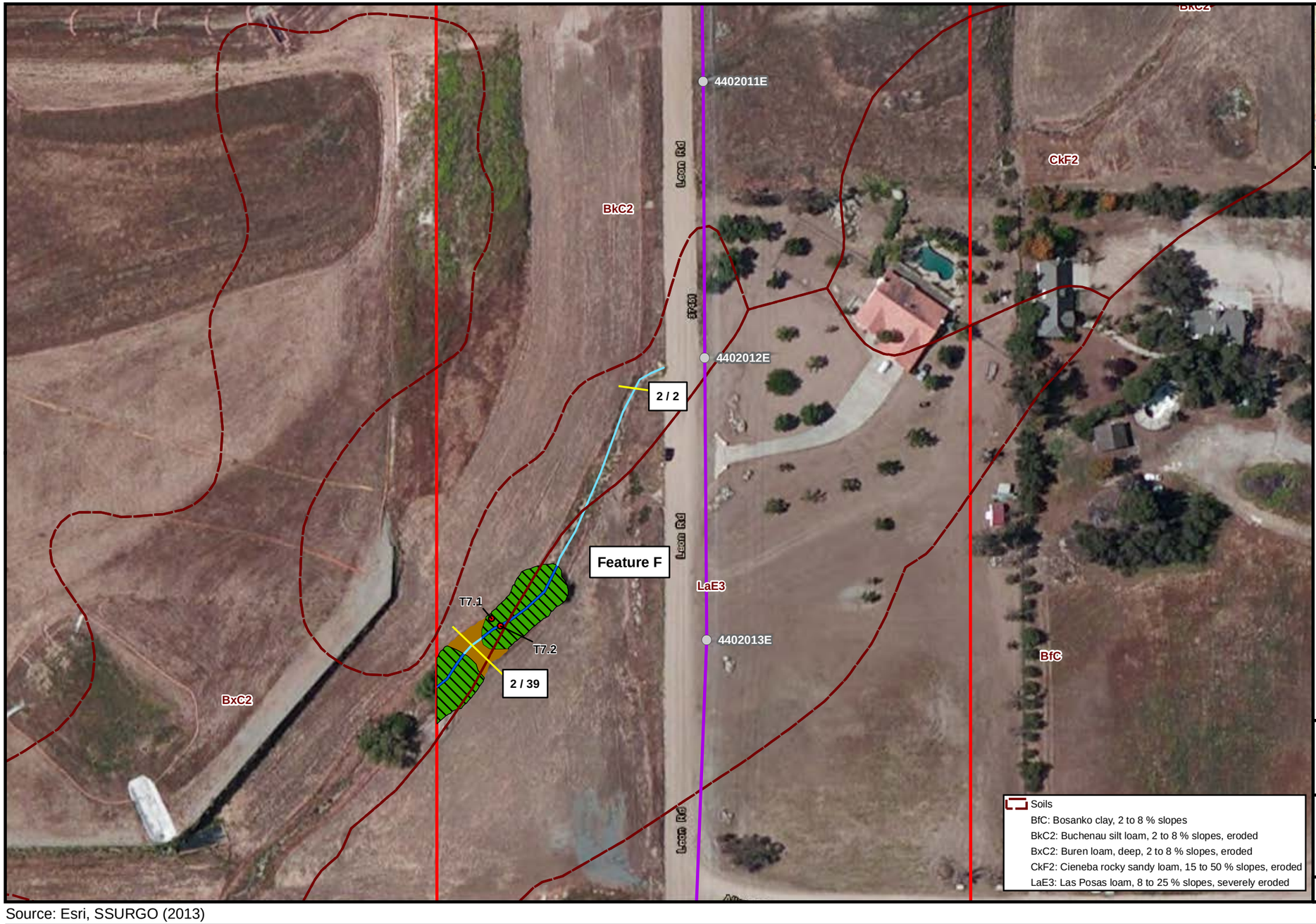
Jurisdictional Waters and Soils Map Book Series

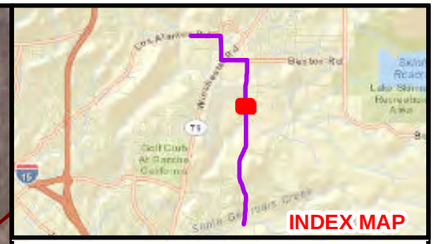
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy
- Top of Bank

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

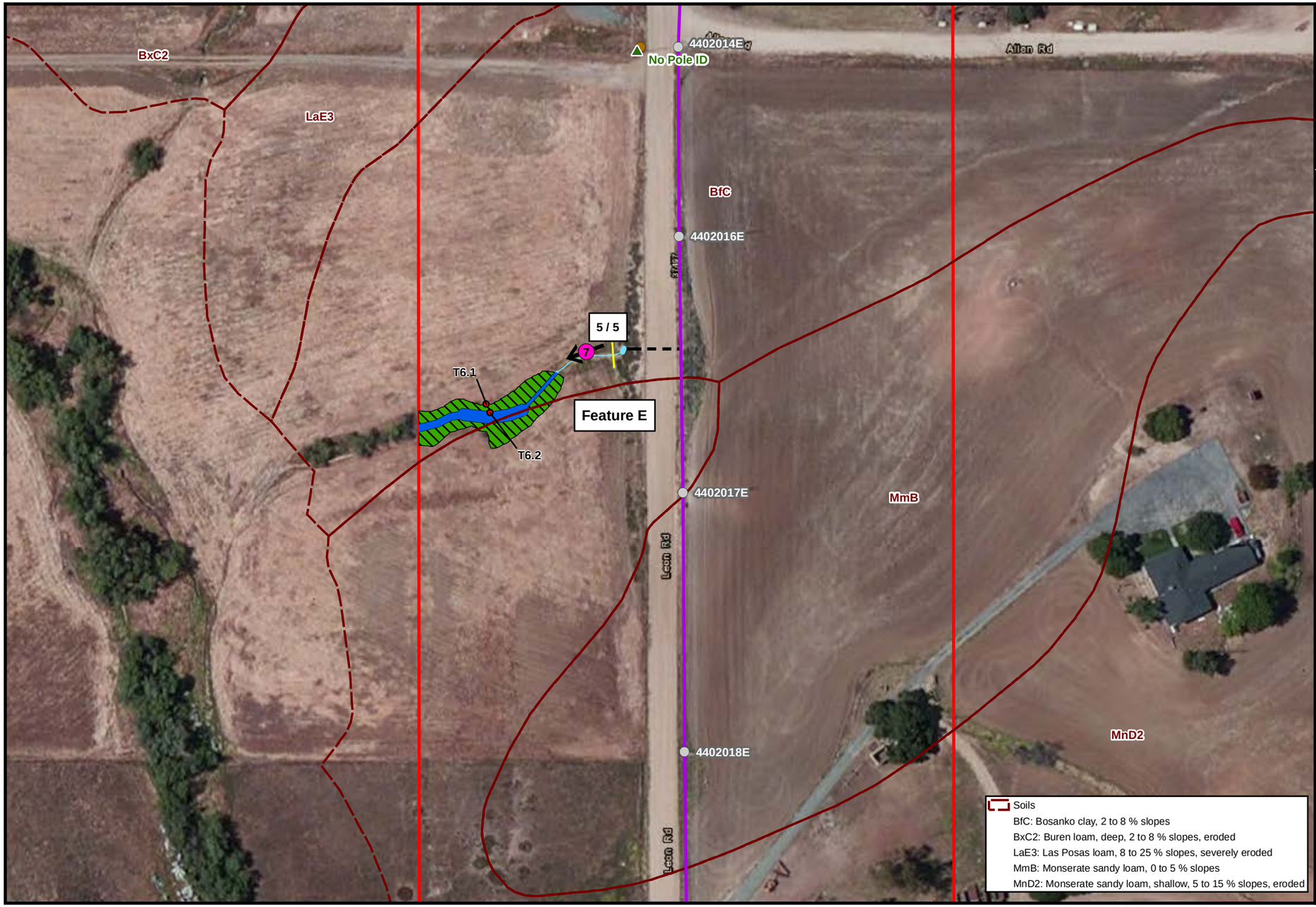
Figure 5- 15

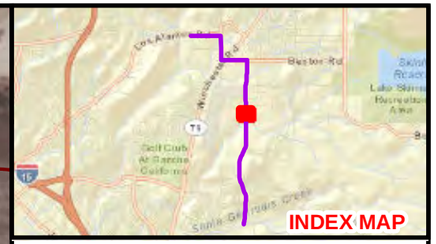
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- New Wood
- Existing
- Remove
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*
- Culvert

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 16

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014

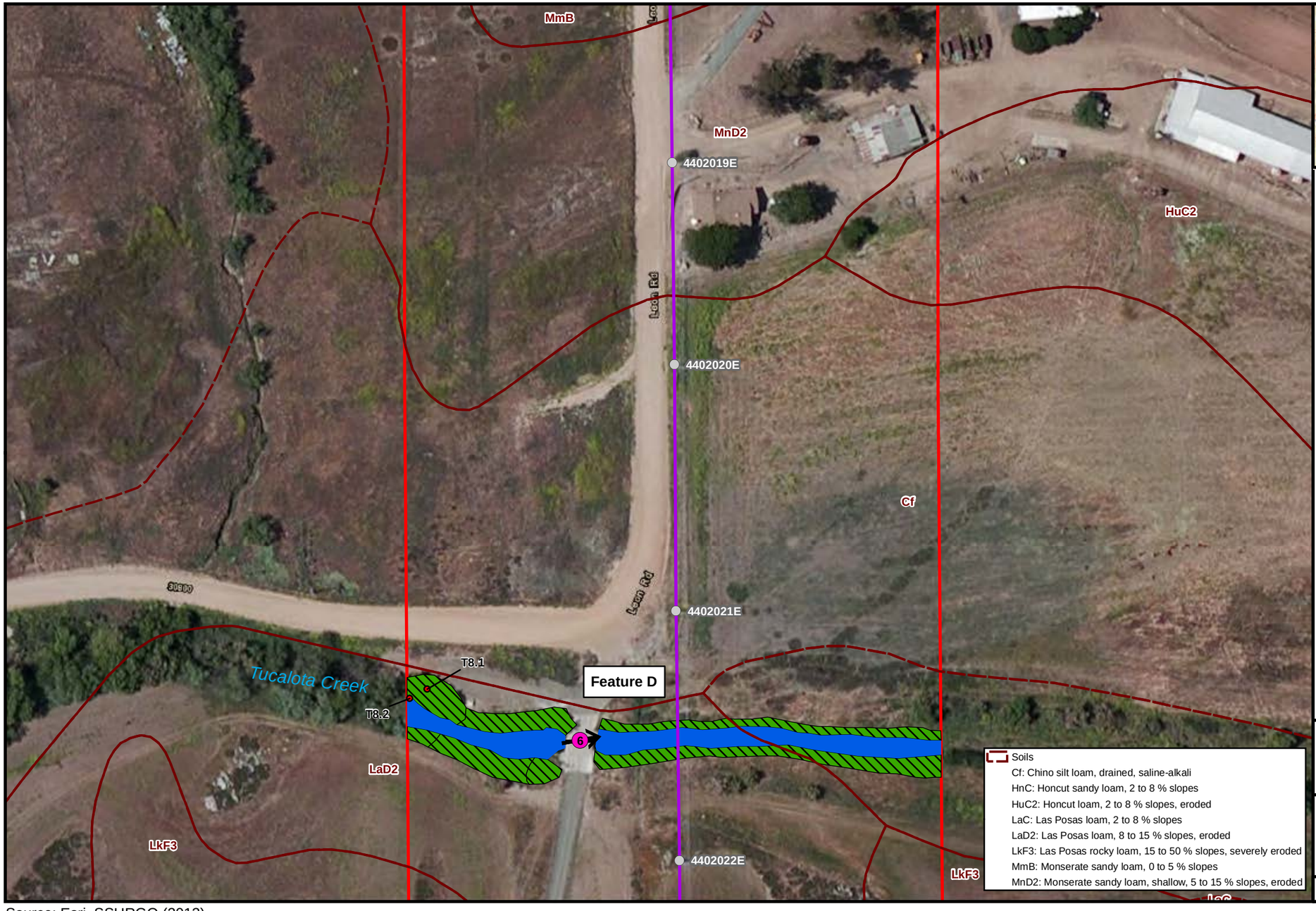
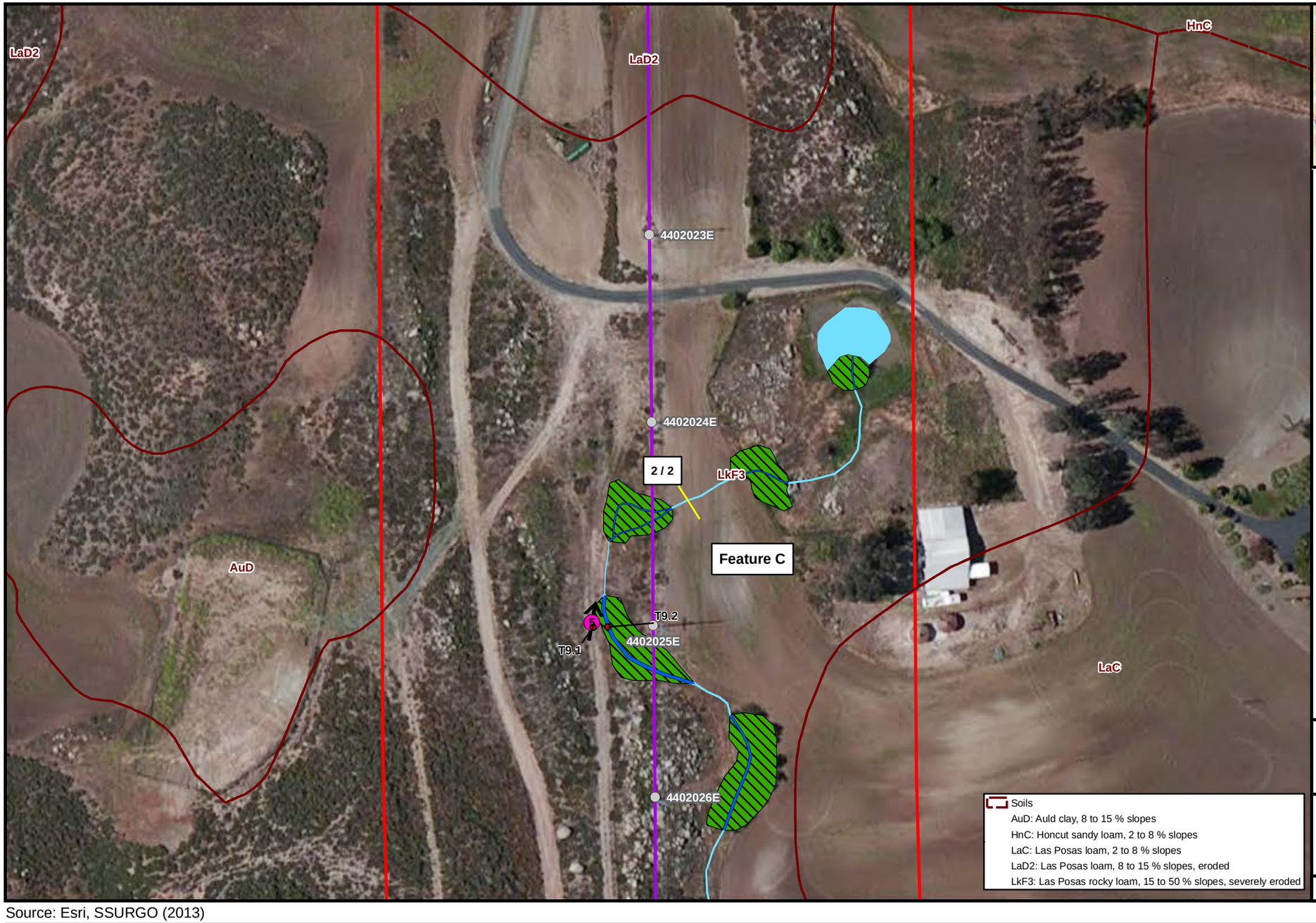


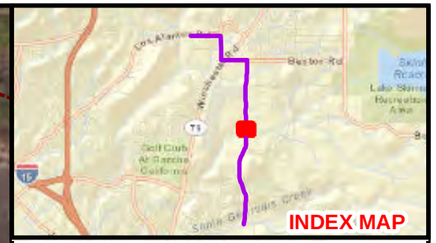
Figure 5- 17

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*

Jurisdictional Waters of the State Only (CDFW)

- Riparian Canopy

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

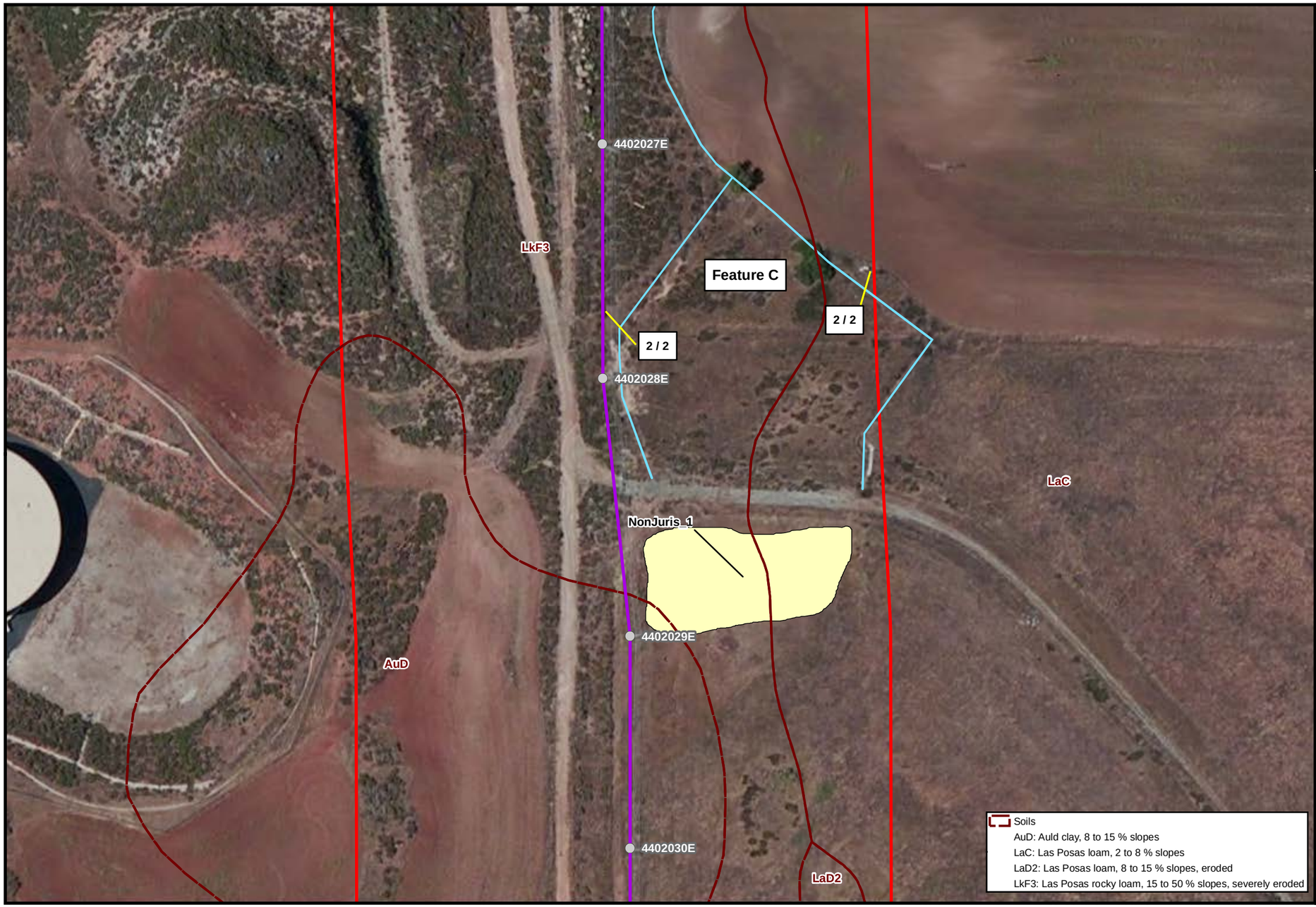
Figure 5- 18

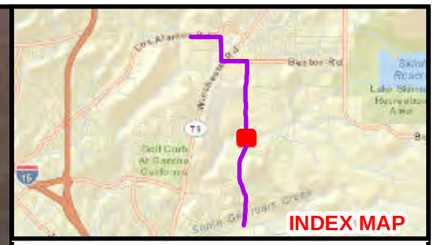
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water

Non-Jurisdictional Features

- BMP Retention Basin

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

AECOM

1 inch = 100 feet

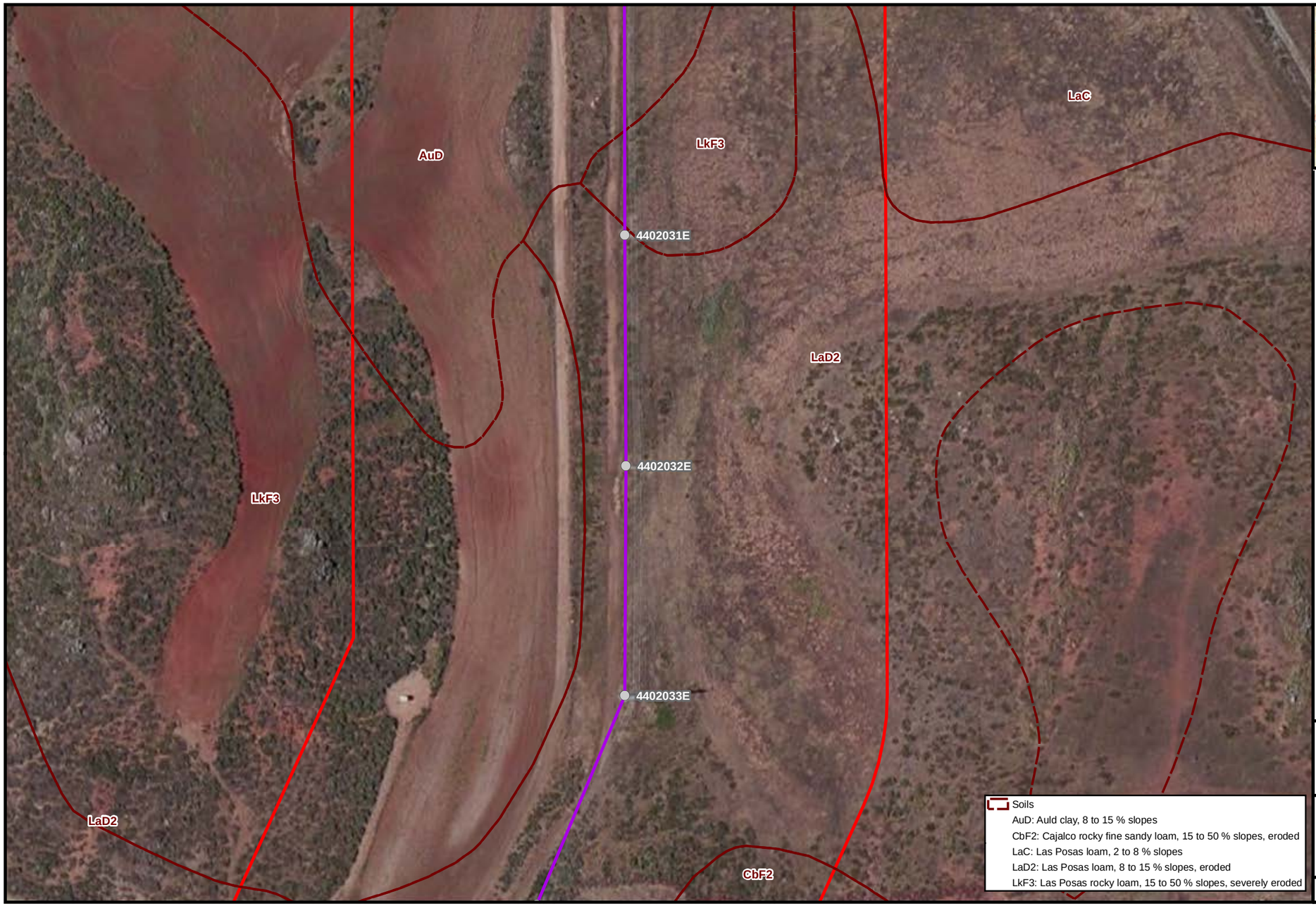
0 25 50 75 100 Feet

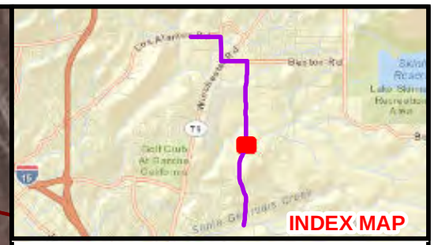
Figure 5- 19

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Soils

- AuD: Auld clay, 8 to 15 % slopes
- CbF2: Cajalco rocky fine sandy loam, 15 to 50 % slopes, eroded
- LaC: Las Posas loam, 2 to 8 % slopes
- LaD2: Las Posas loam, 8 to 15 % slopes, eroded
- LkF3: Las Posas rocky loam, 15 to 50 % slopes, severely eroded

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 20

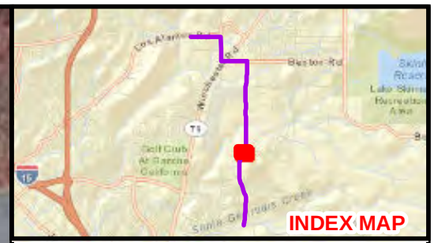
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

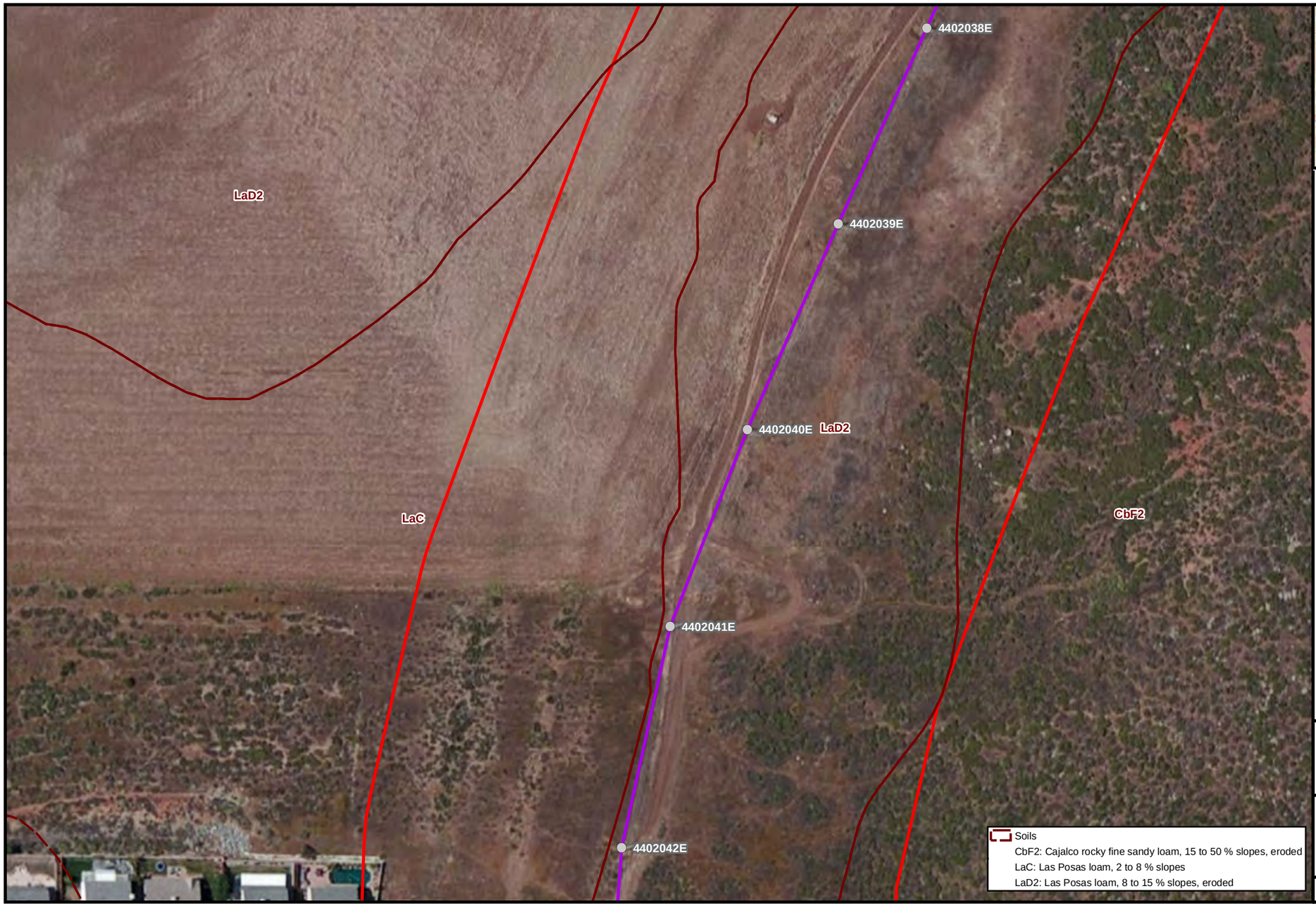
AECOM

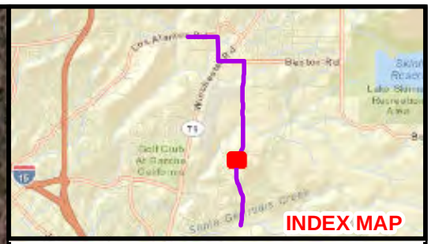
Figure 5- 21

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

AECOM

1 inch = 100 feet

0 25 50 75 100 Feet

Figure 5- 22

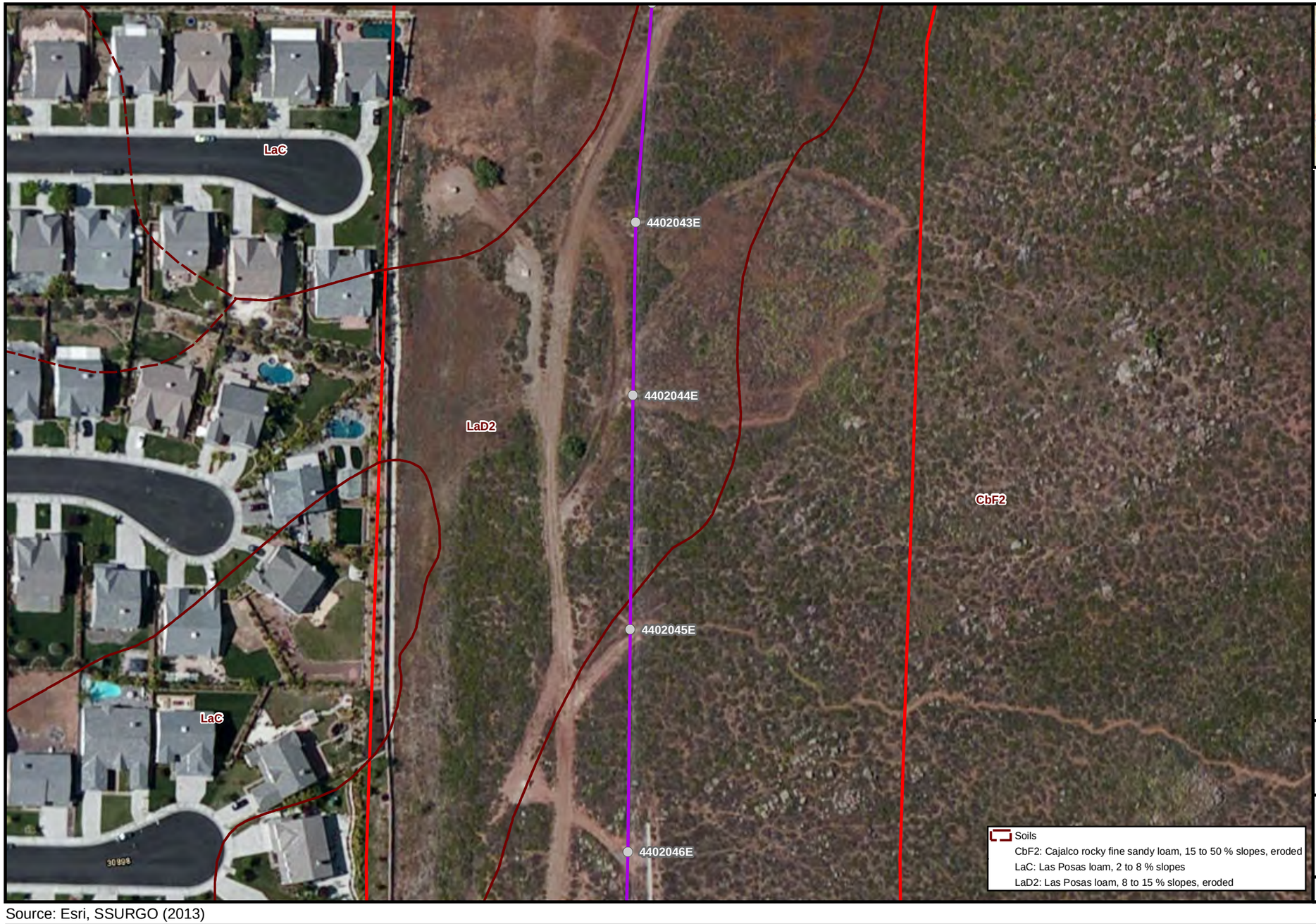
Jurisdictional Waters and Soils Map Book Series

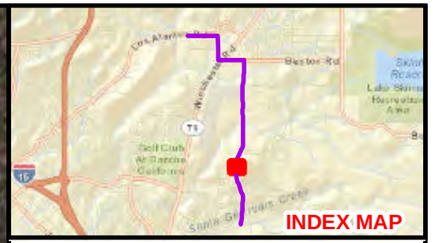
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Soils

- CbF2: Cajalco rocky fine sandy loam, 15 to 50 % slopes, eroded
- LaC: Las Posas loam, 2 to 8 % slopes
- LaD2: Las Posas loam, 8 to 15 % slopes, eroded

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

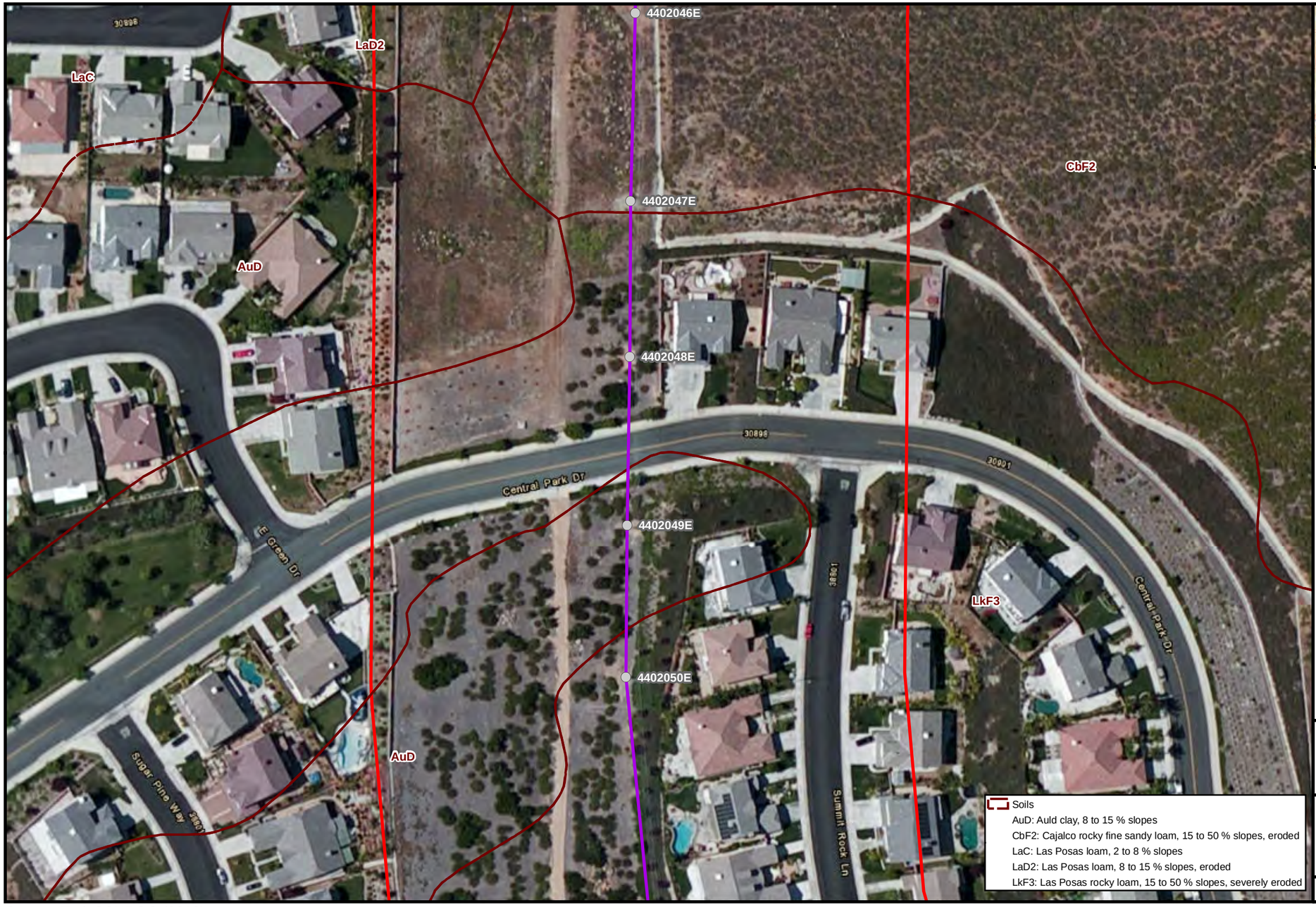
Figure 5- 23

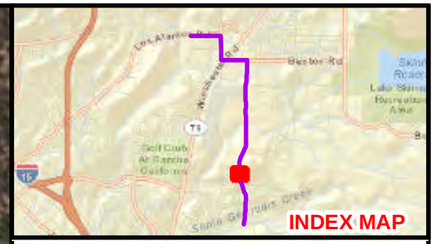
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Soils

- AuD: Auld clay, 8 to 15 % slopes
- CbF2: Cajalco rocky fine sandy loam, 15 to 50 % slopes, eroded
- LaC: Las Posas loam, 2 to 8 % slopes
- LaD2: Las Posas loam, 8 to 15 % slopes, eroded
- LkF3: Las Posas rocky loam, 15 to 50 % slopes, severely eroded

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

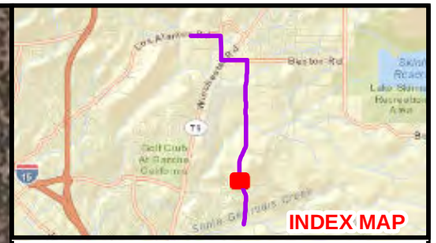
AECOM

Figure 5- 24

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Legend

- Existing
- Segment 2
- Survey Area
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 25

Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014

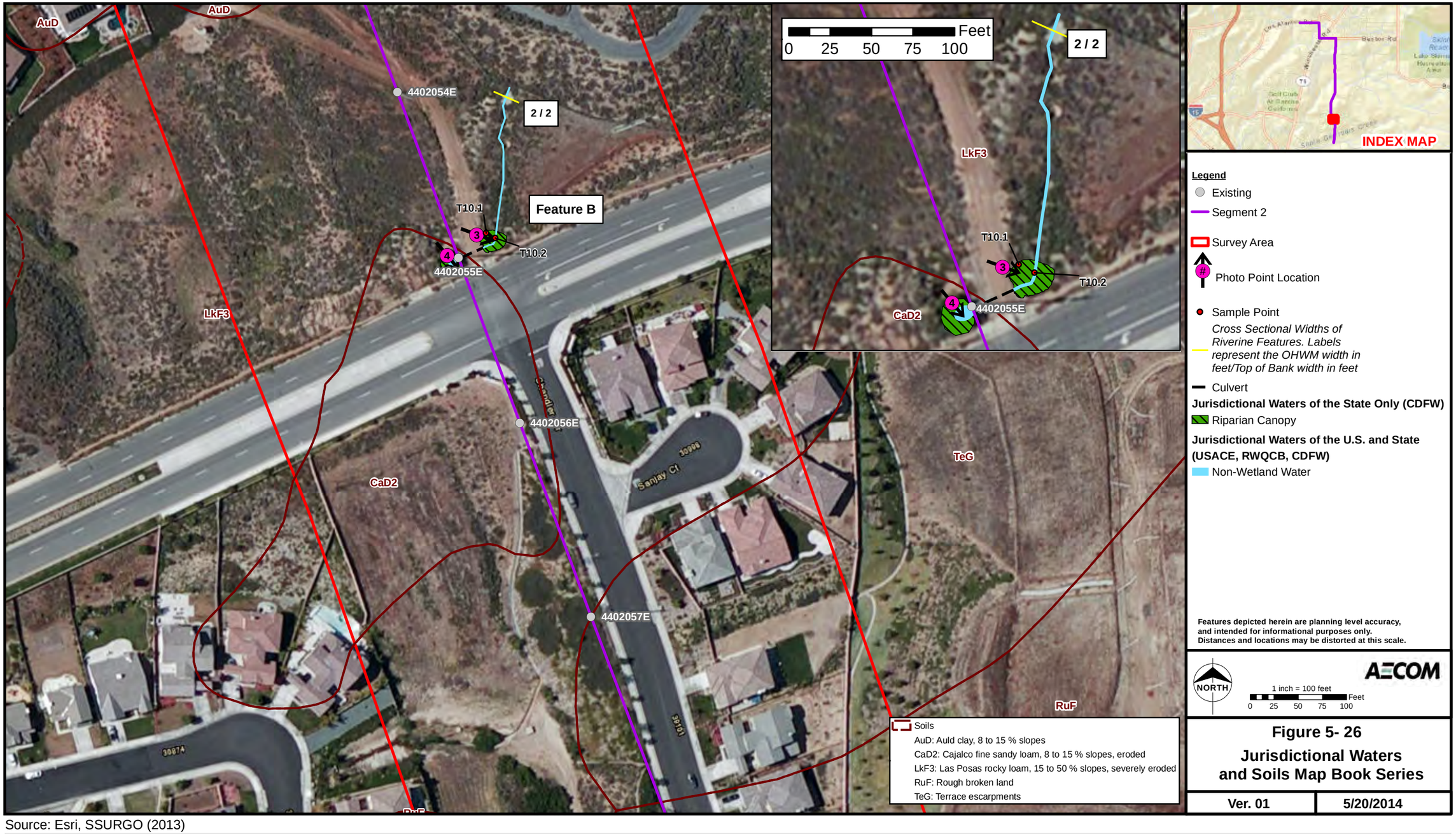


Figure 5- 26

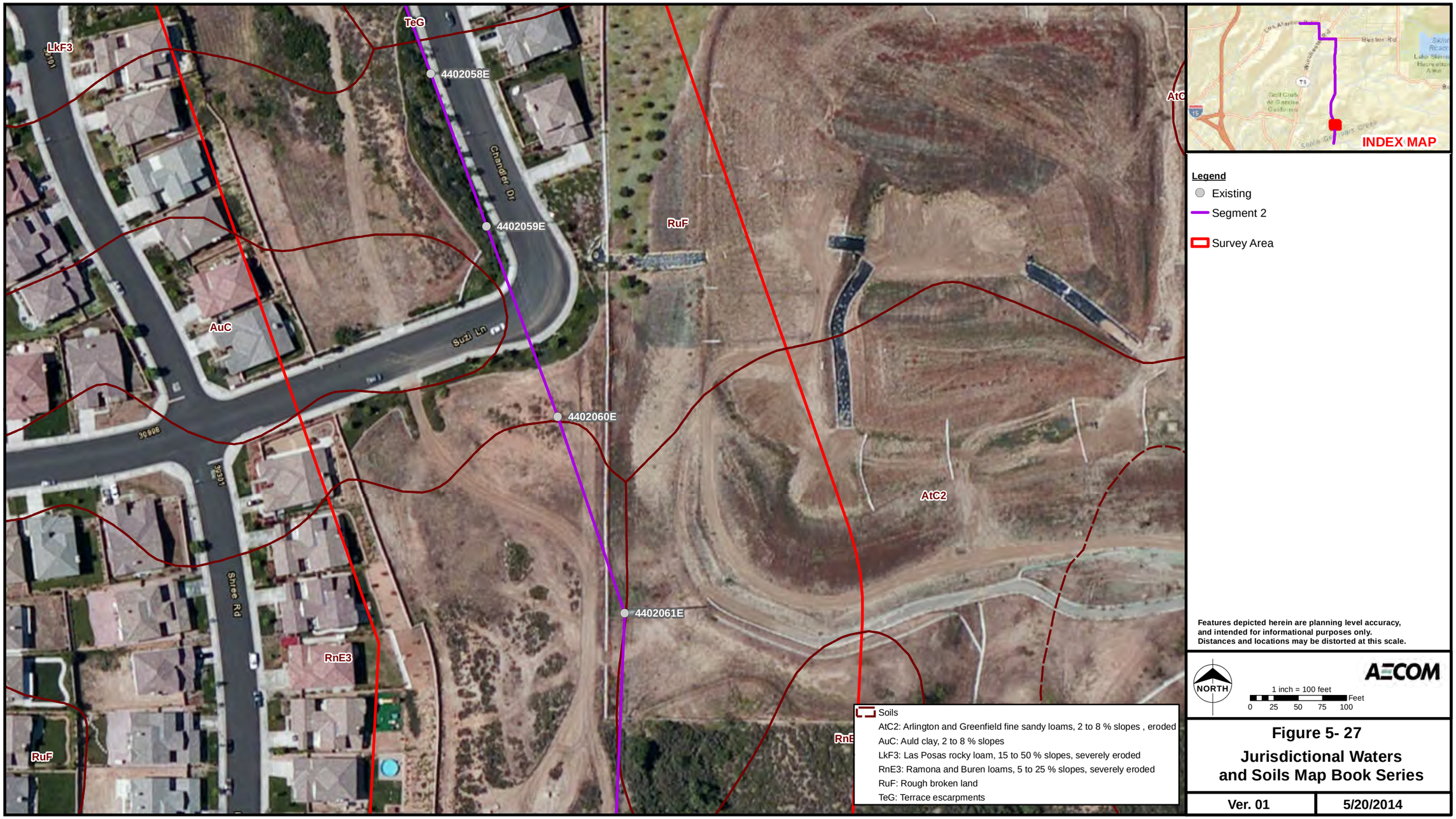
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

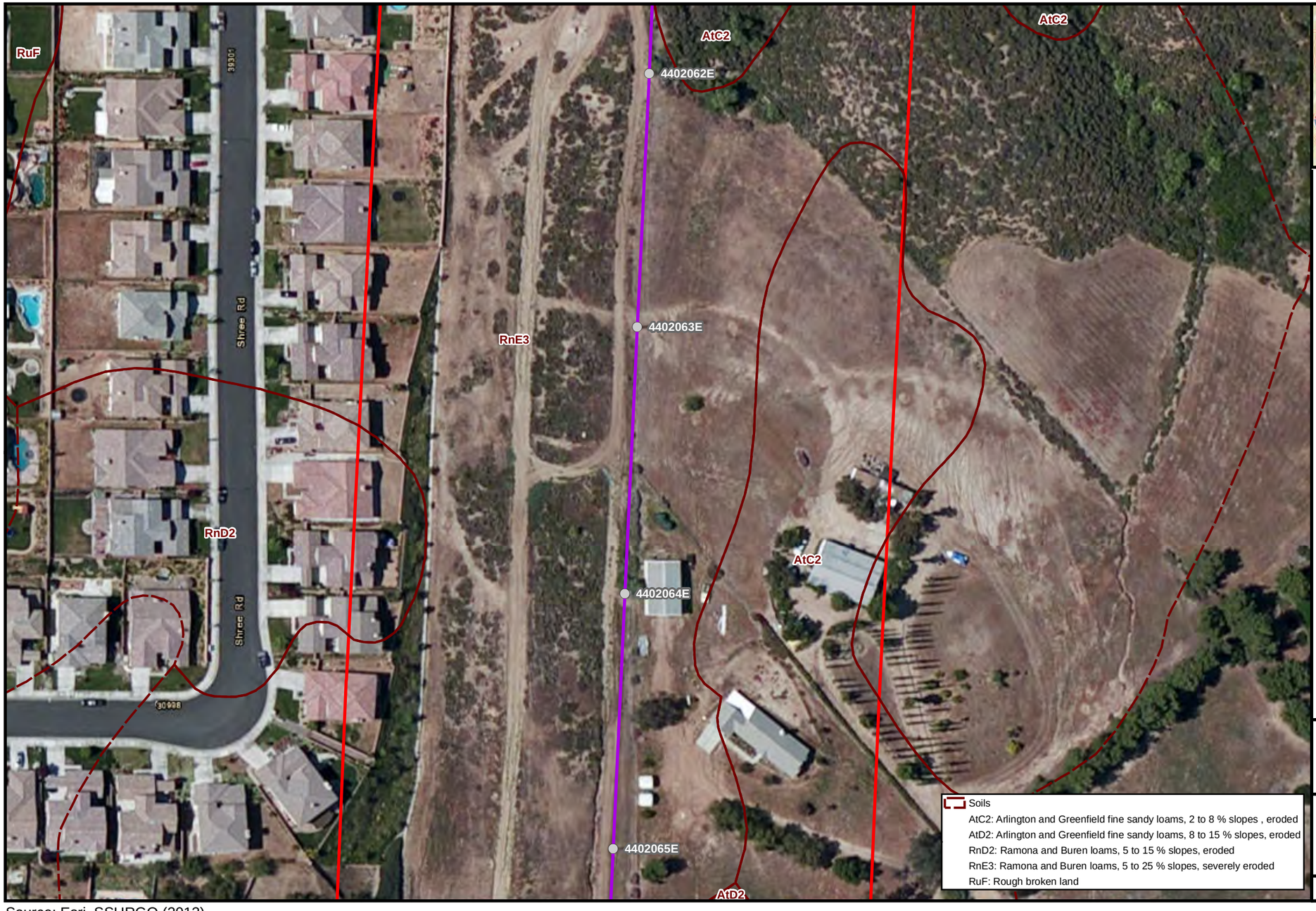
Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014

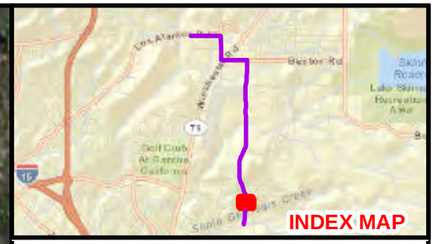


Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

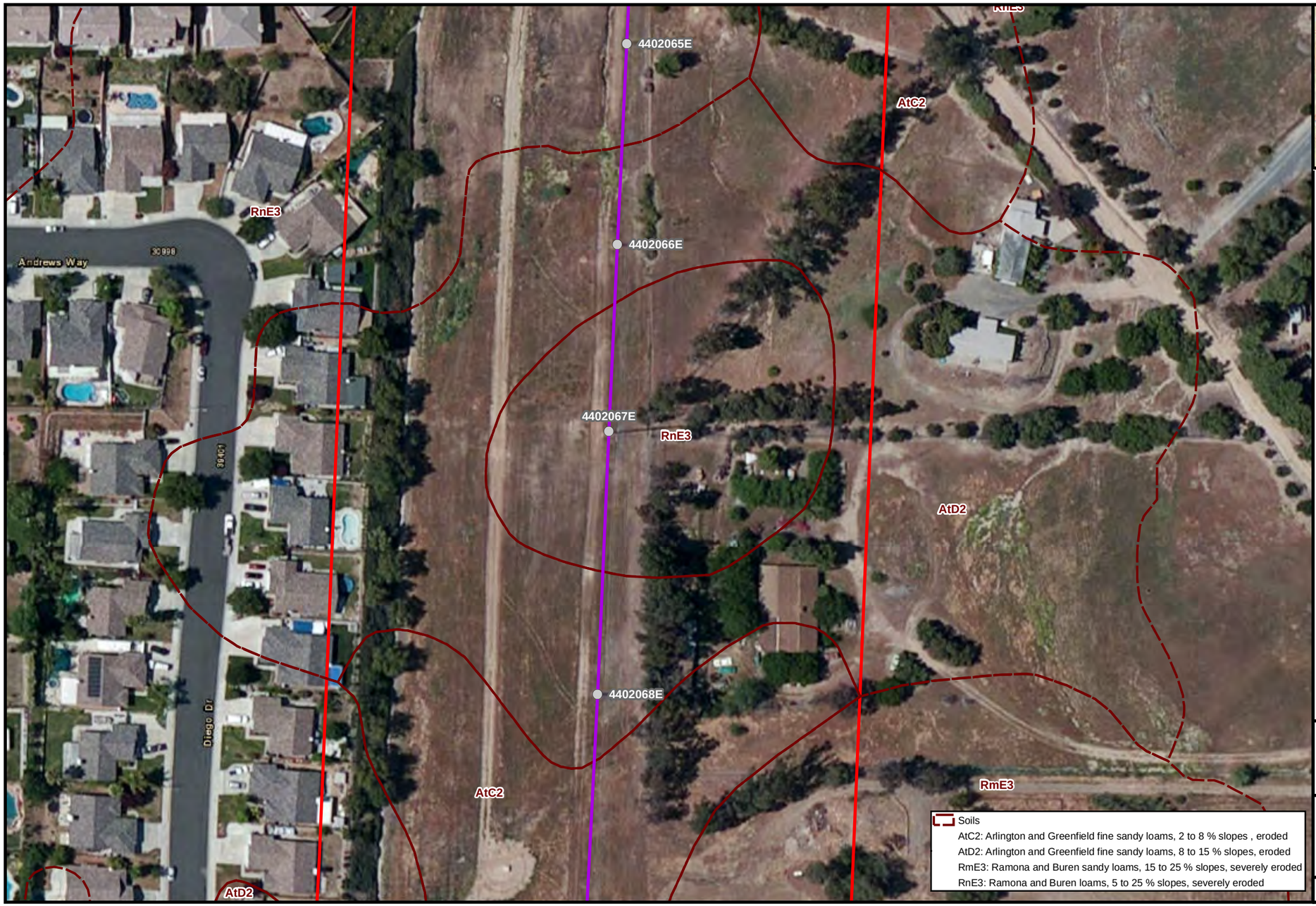
Figure 5- 28

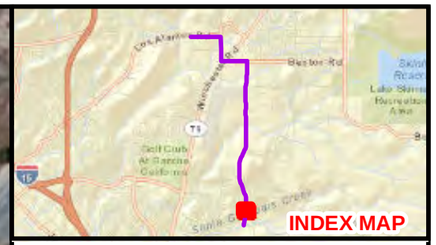
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 29

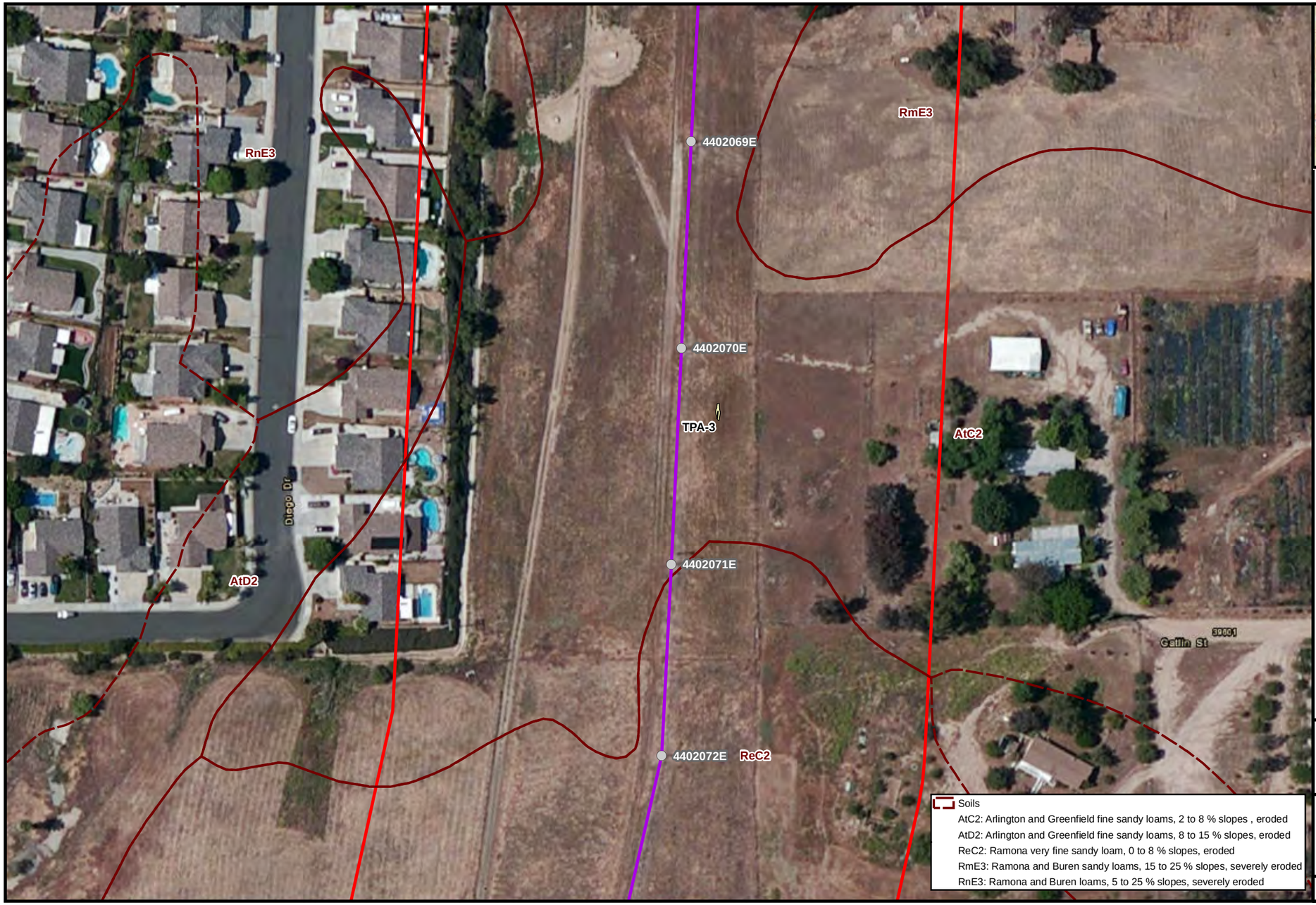
Jurisdictional Waters and Soils Map Book Series

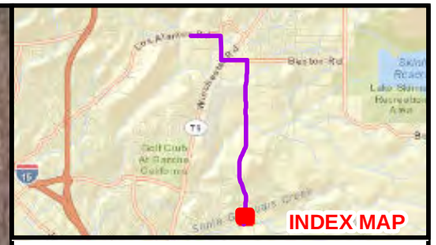
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Non-Jurisdictional Features

- Temporary Ponded Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 30

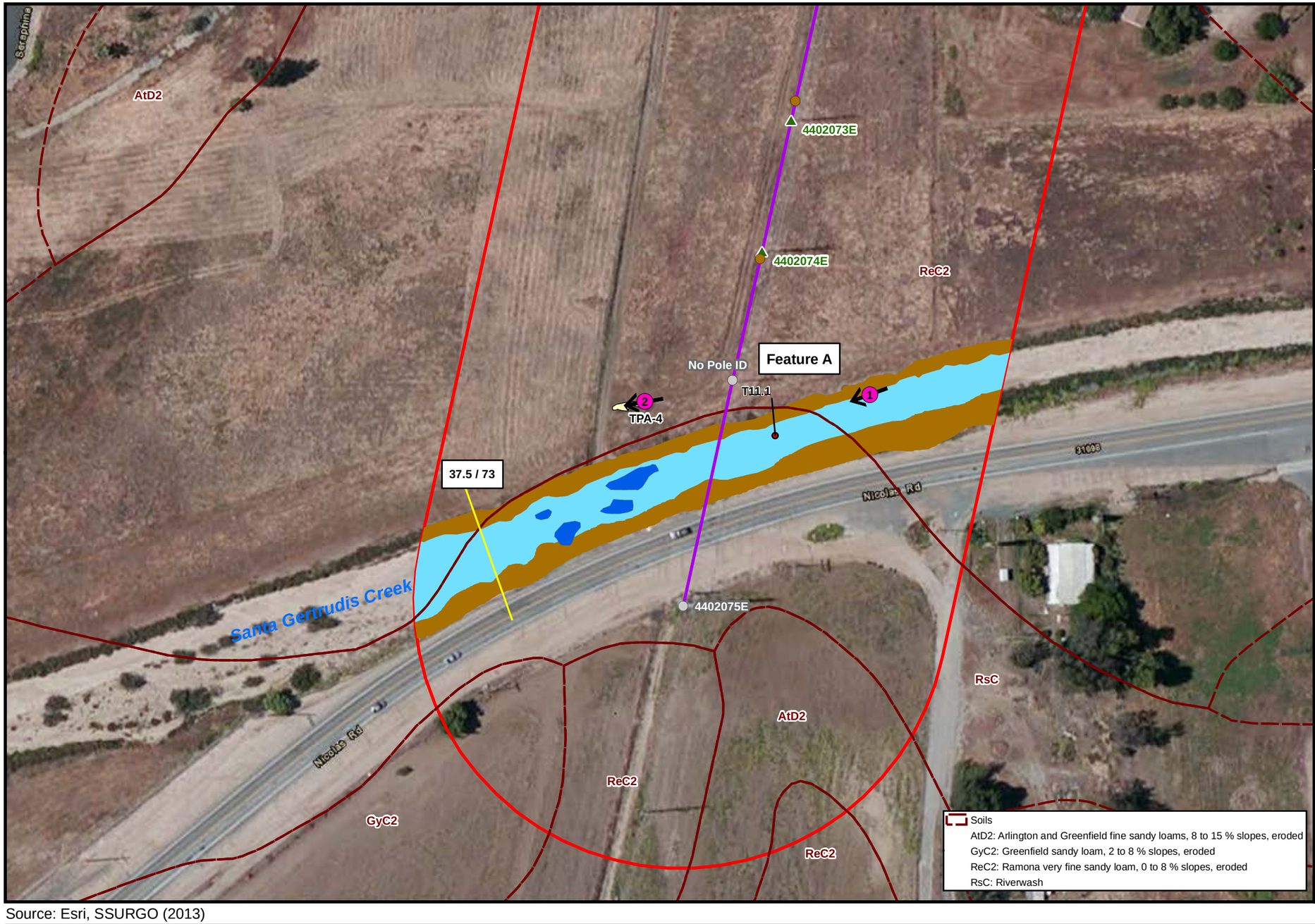
Jurisdictional Waters and Soils Map Book Series

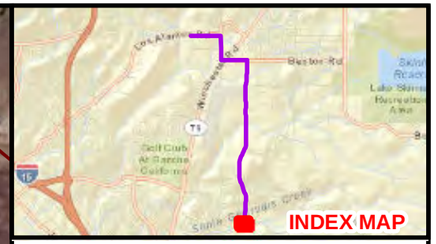
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014





Legend

- New Wood
- Existing
- Remove
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- *Cross Sectional Widths of Riverine Features. Labels represent the OHWM width in feet/Top of Bank width in feet*

Jurisdictional Waters of the State Only (CDFW)

- Top of Bank

Jurisdictional Waters of the U.S. and State (USACE, RWQCB, CDFW)

- Non-Wetland Water
- Wetland Water

Non-Jurisdictional Features

- Temporary Ponded Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 5- 31

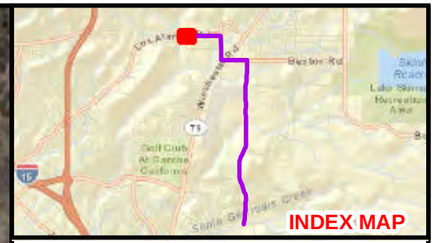
Jurisdictional Waters and Soils Map Book Series

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig5_20140520.mxd Date: 5/20/2014



Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 01

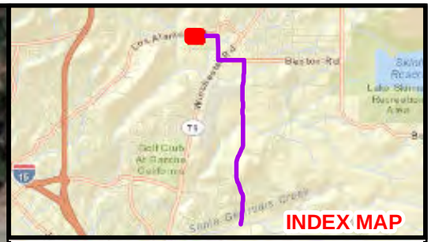
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

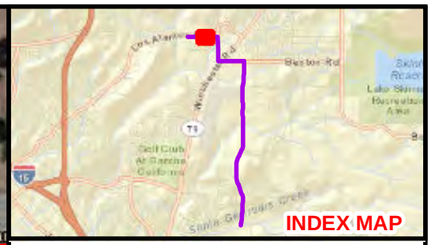
Figure 6- 02
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 03

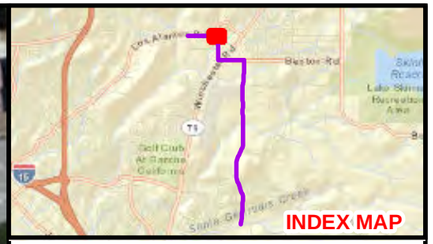
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Survey Area
- # Photo Point Location
- Sample Point
- Culvert

Vegetation Community

- Mule Fat Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 04

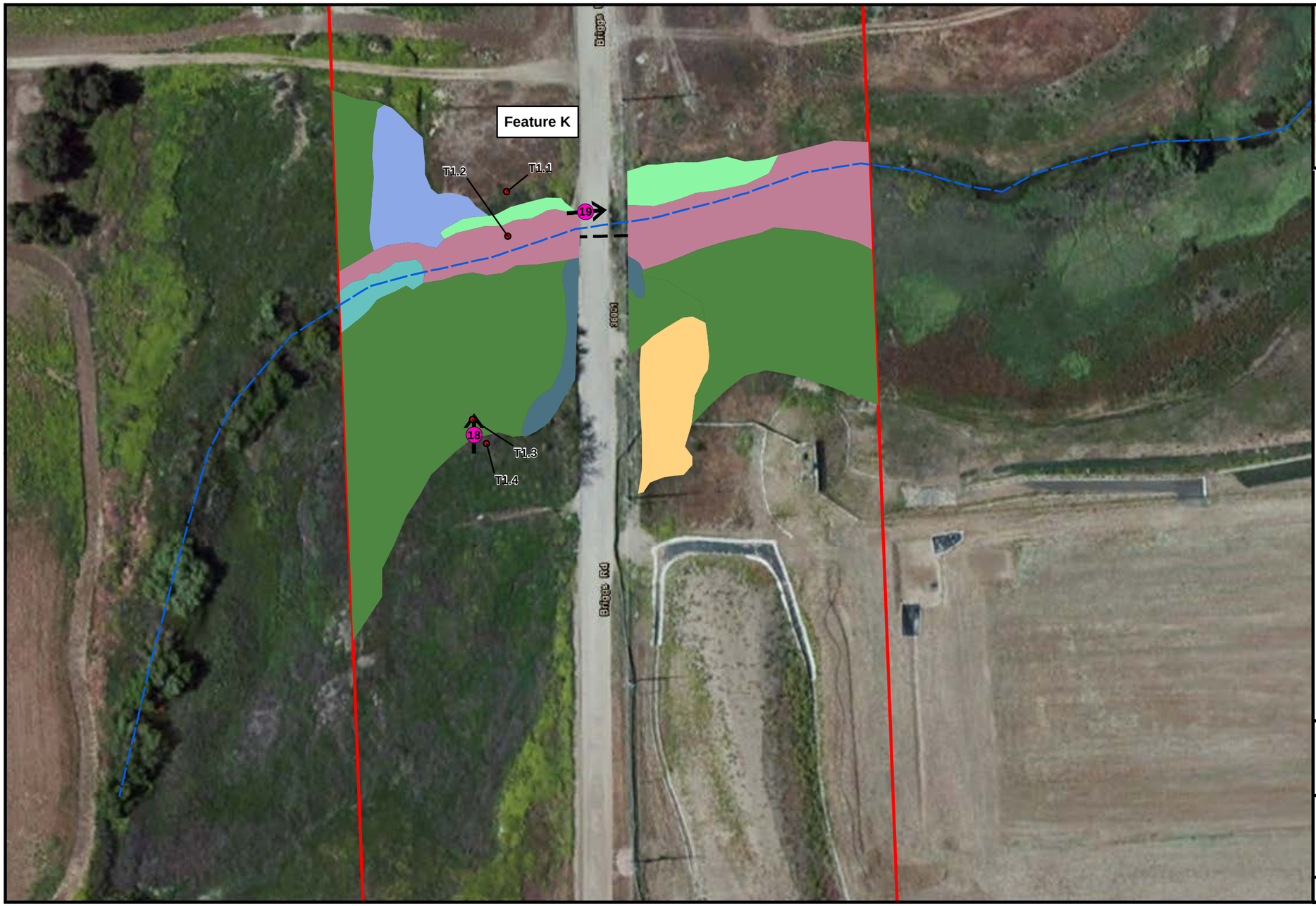
Vegetation Communities

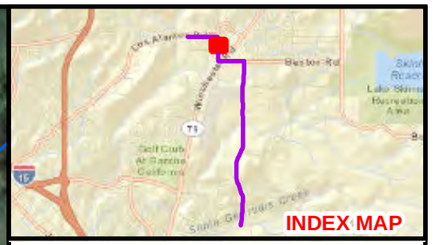
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- Survey Area
- Photo Point Location
- Sample Point
- Flow line
- Culvert

Vegetation Community

- Cismontane Alkali Marsh
- Coastal and Valley Freshwater Marsh
- Freshwater Seep
- Non-Native Woodland
- Southern Coastal Salt Marsh
- Southern Willow Scrub
- Tamarisk Scrub

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

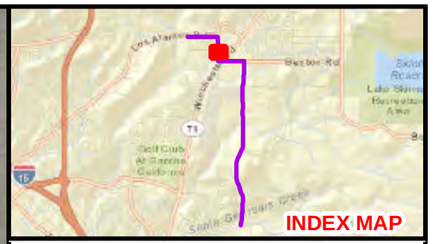
Figure 6- 05

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 06

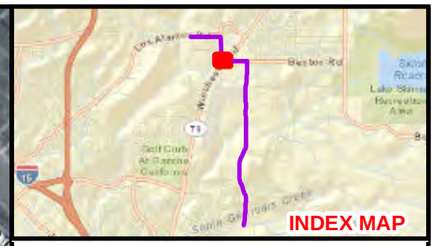
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Survey Area
- Photo Point Location
- Sample Point
- Culvert

Vegetation Community

- Tamarisk Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 07

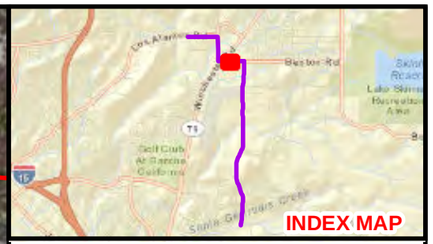
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 08

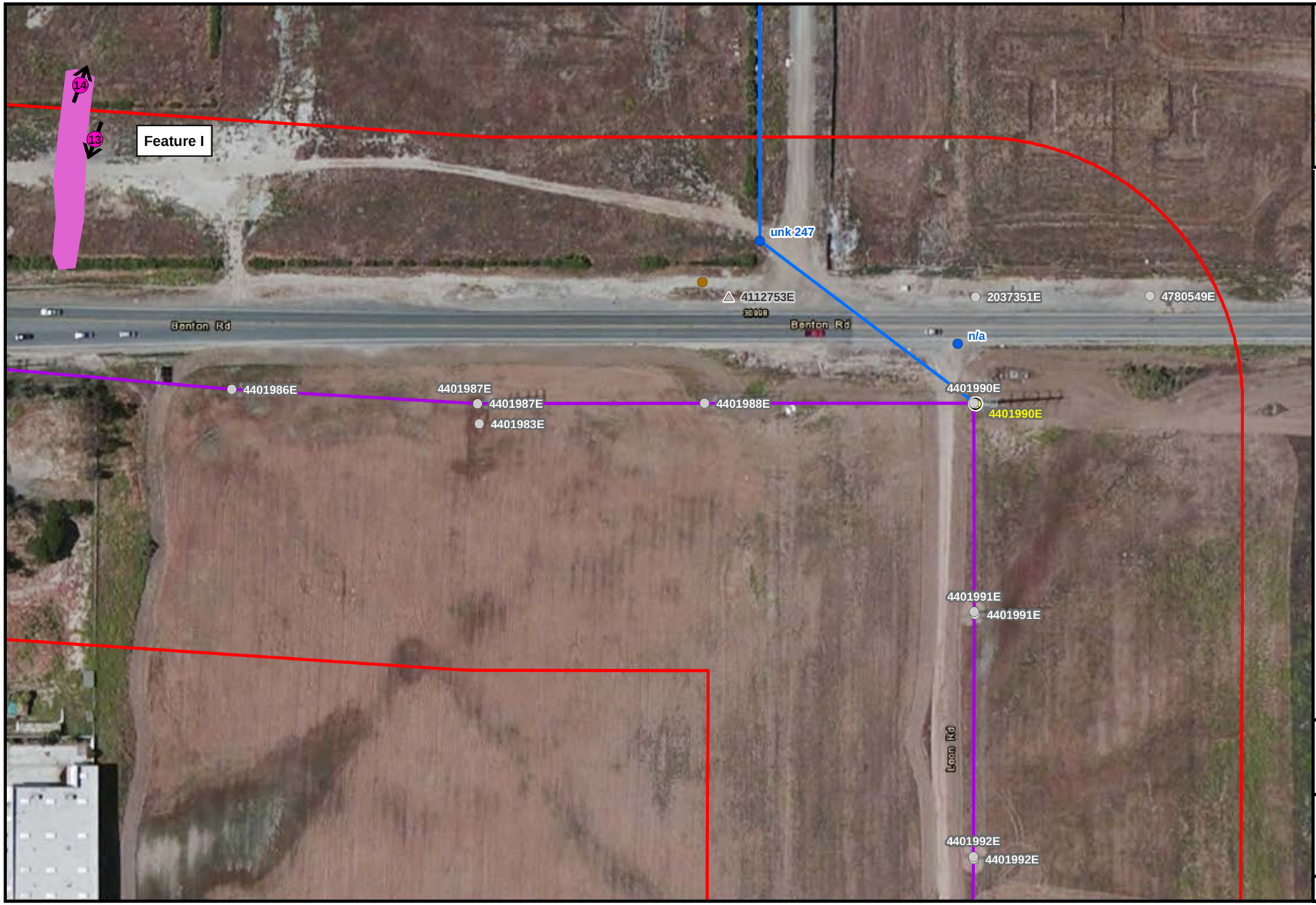
Vegetation Communities

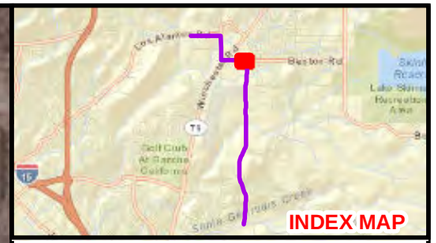
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- New TSP
- New Wood
- Existing
- Modify
- Potentially Remove or Relocate

Line_Name

- Preferred Route
- Segment 2

- Survey Area
- Photo Point Location

Vegetation Community

- Unvegetated Swale

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 09

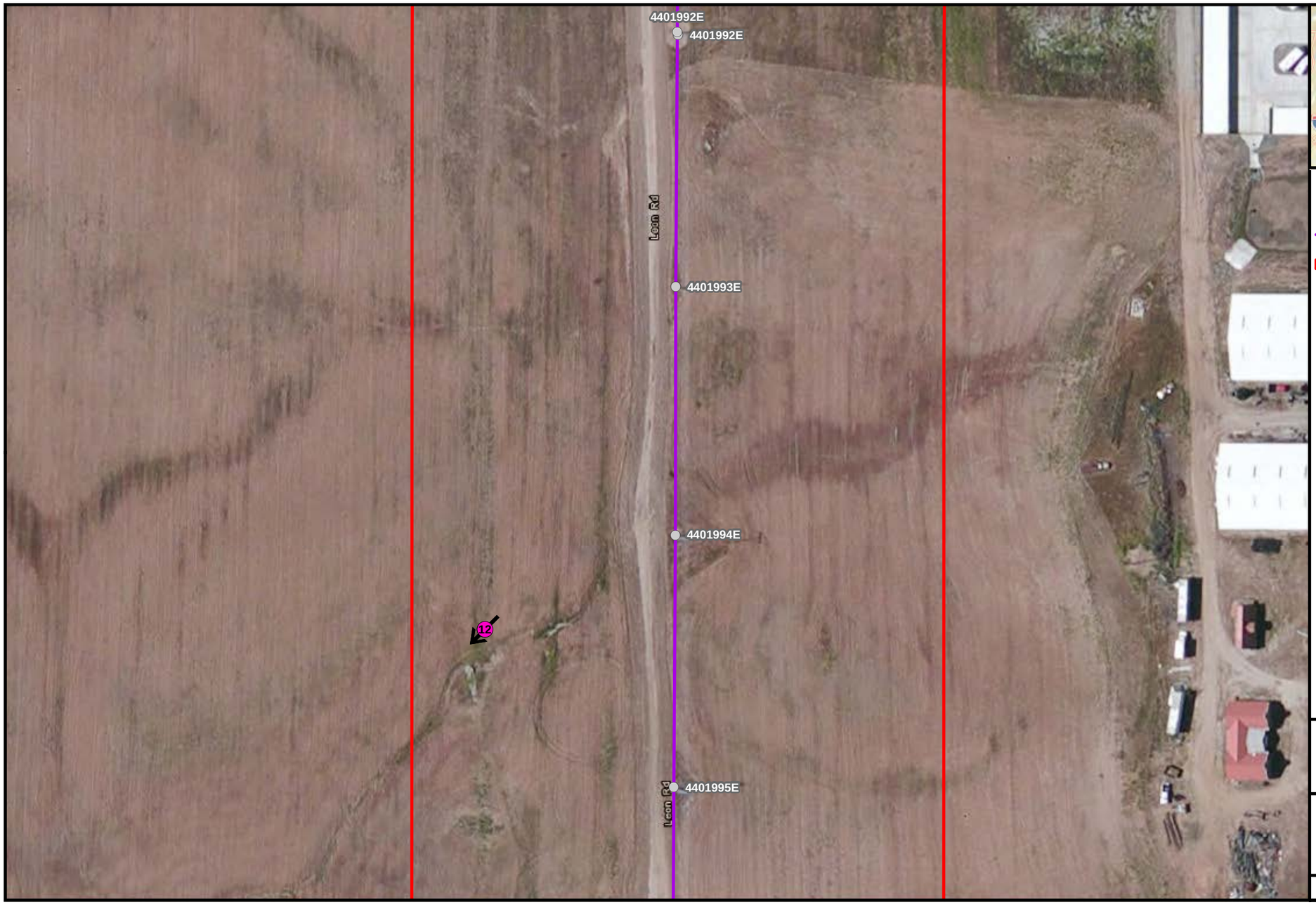
Vegetation Communities

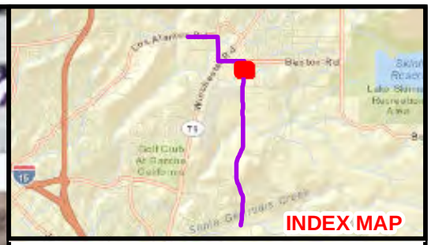
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

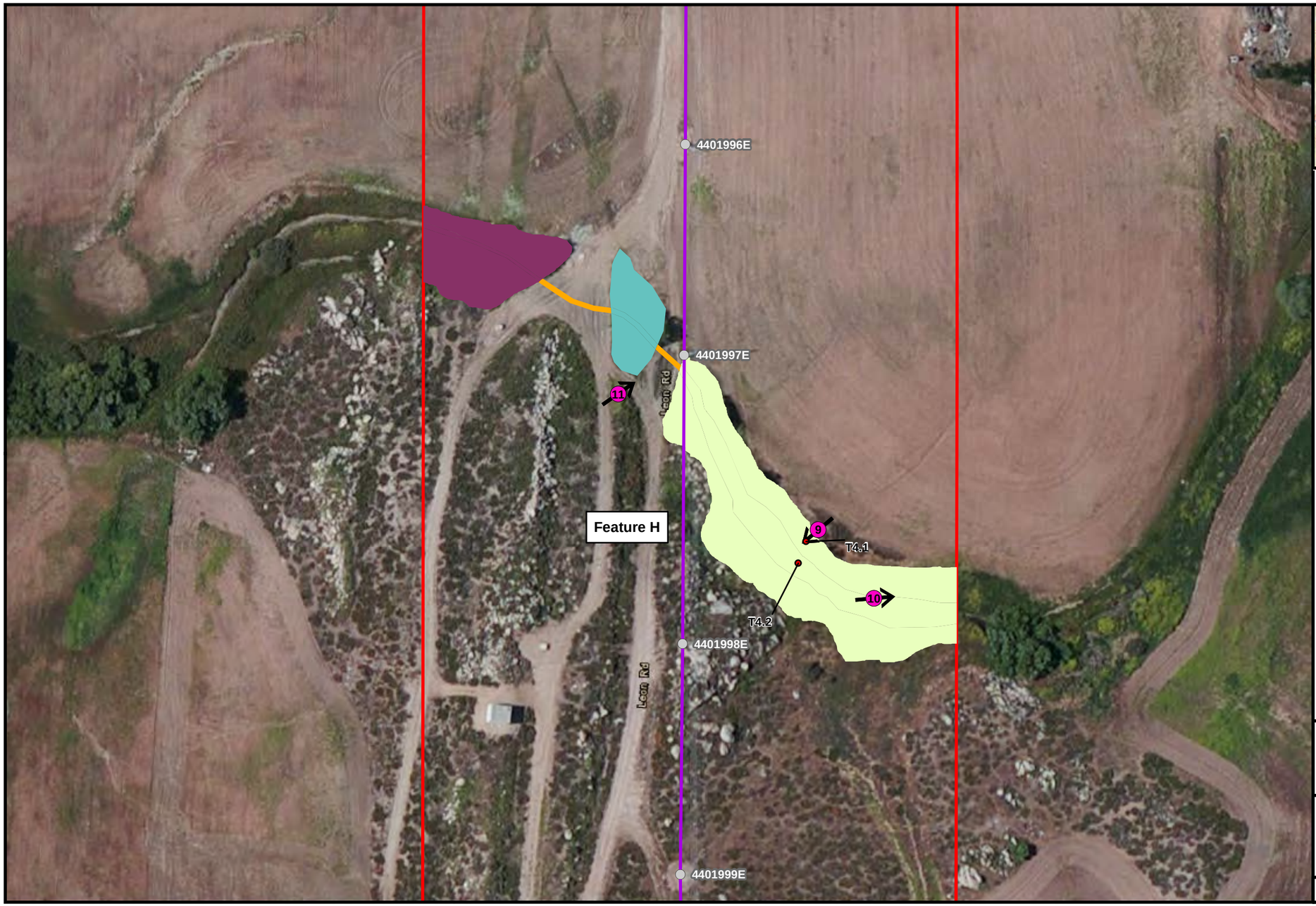
AECOM

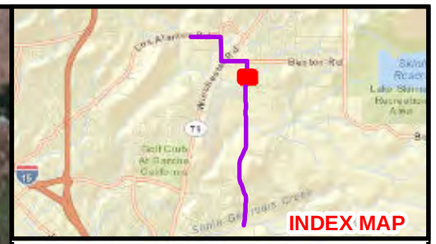
Figure 6- 10

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point

Vegetation Community

- Mule Fat Scrub
- Southern Cottonwood-Willow Riparian Forest
- Southern Willow Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

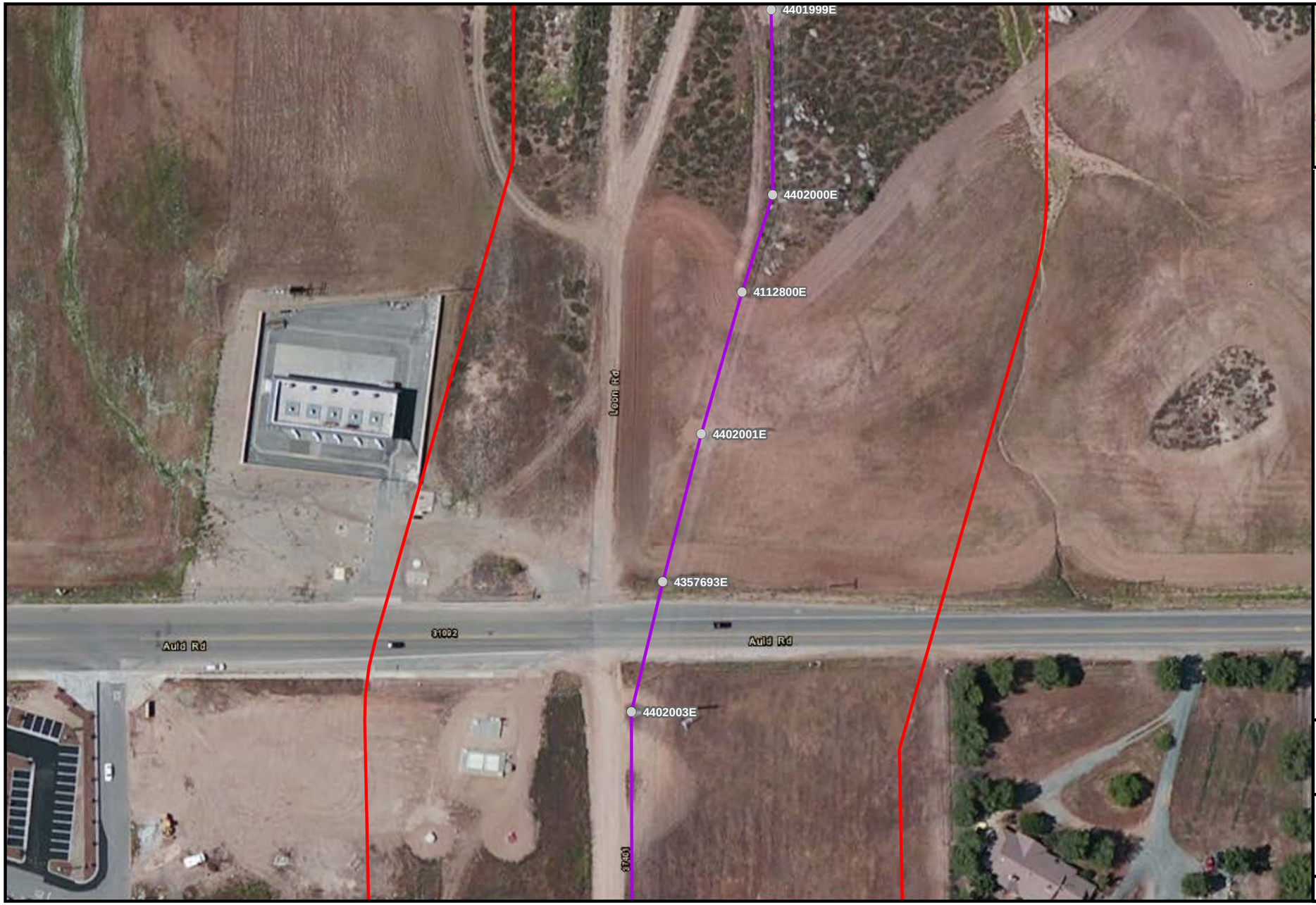
AECOM

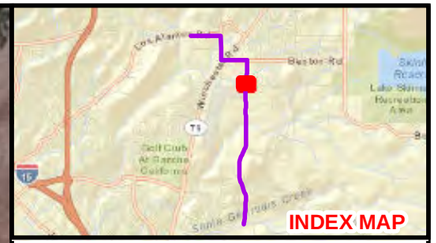
Figure 6- 11

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 12

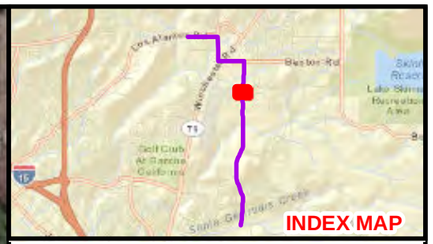
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

AECOM

1 inch = 100 feet

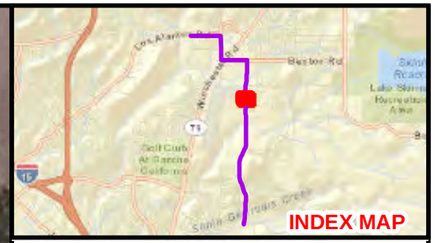
0 25 50 75 100 Feet

Figure 6- 13

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- Culvert

Vegetation Community

- Southern Willow Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

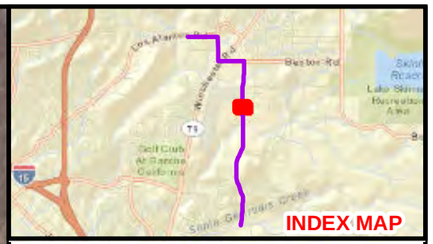
AECOM

Figure 6- 14
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area
- Sample Point

Vegetation Community

- Non-Native Grassland
- Southern Willow Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

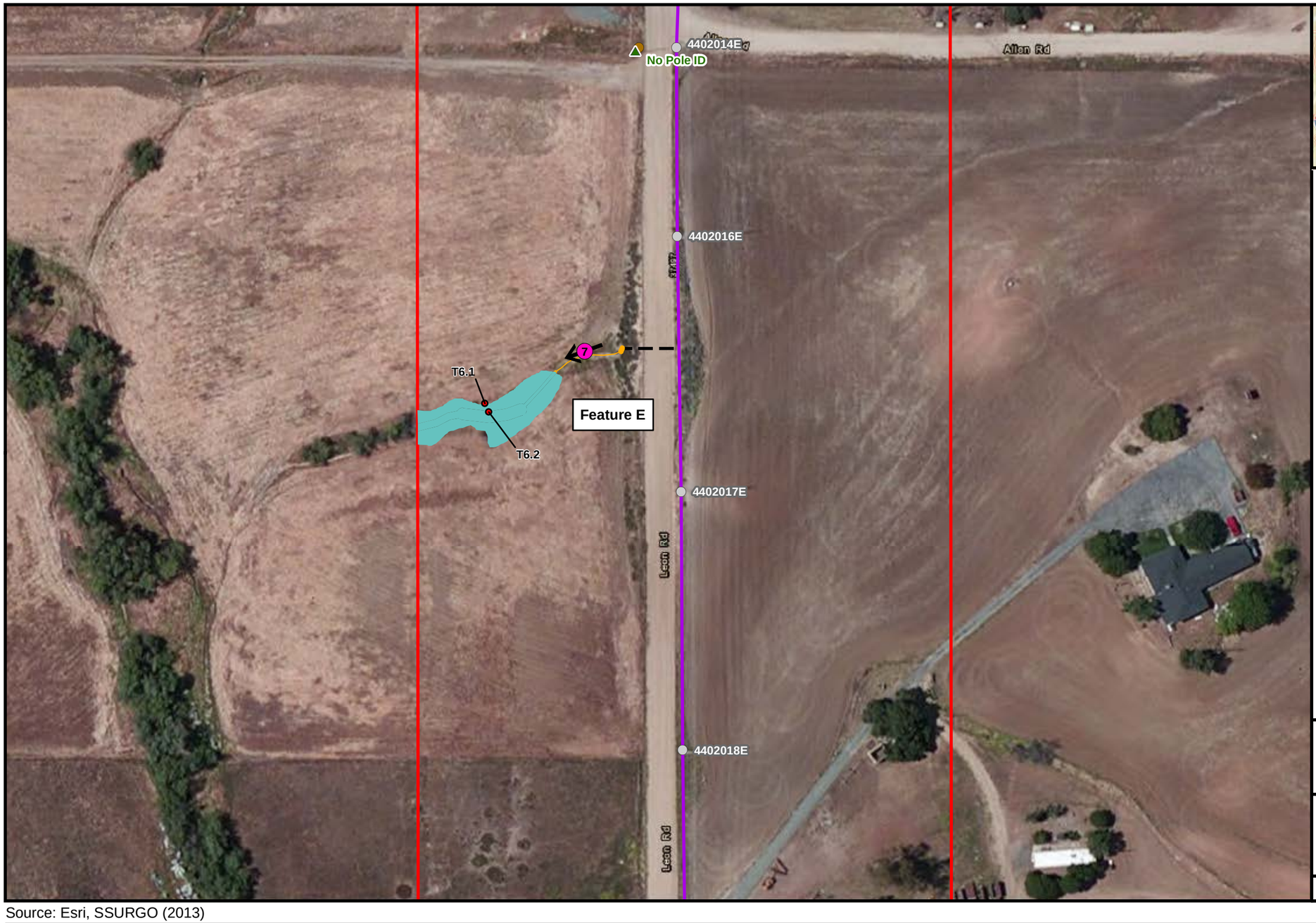
AECOM

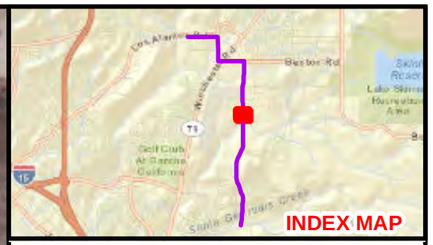
Figure 6- 15
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- New Wood
- Existing
- Remove
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- Culvert

Vegetation Community

- Southern Willow Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

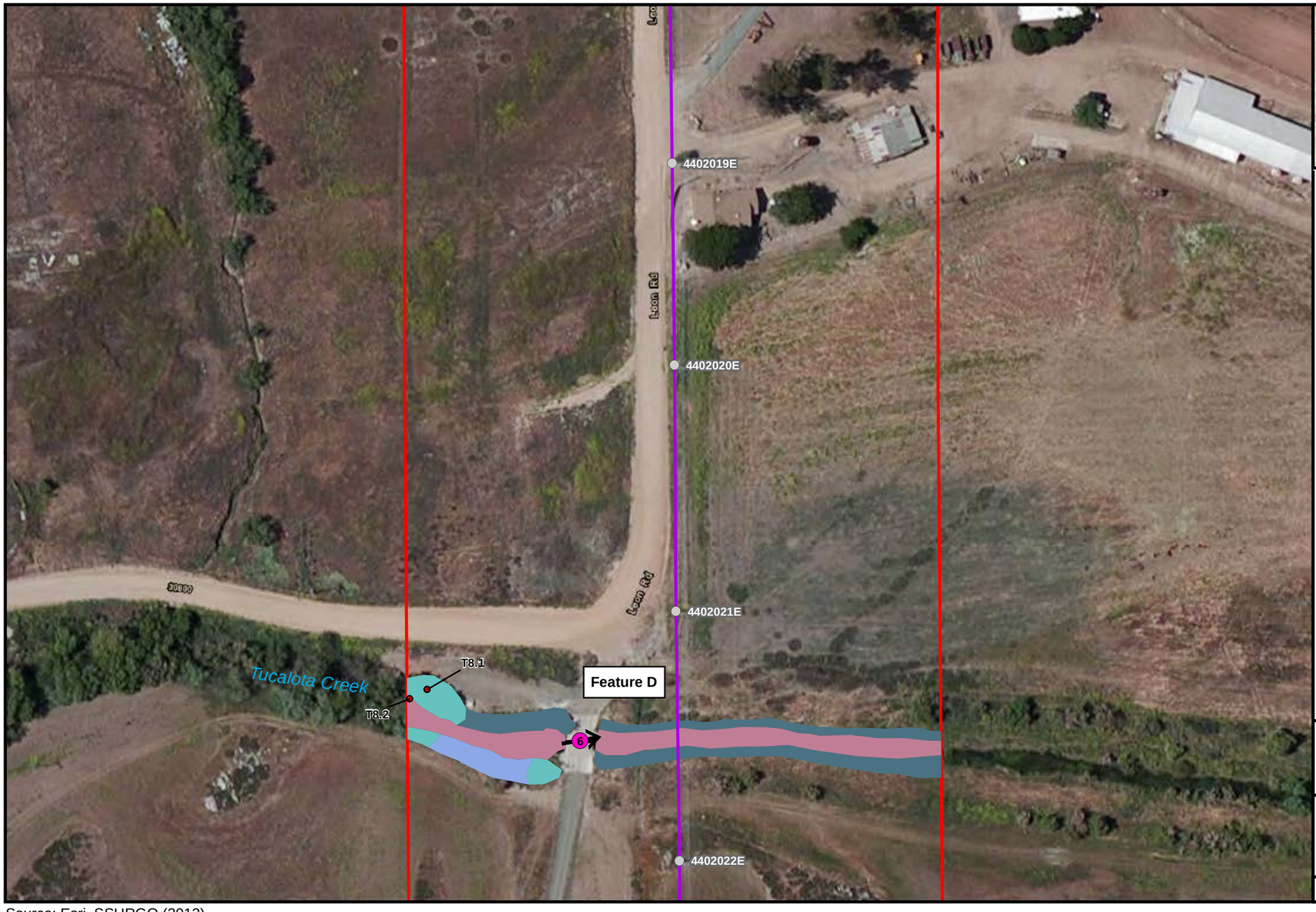
Figure 6- 16

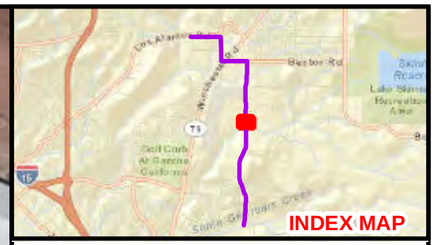
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point
- Culvert

Vegetation Community

- Coastal and Valley Freshwater Marsh
- Freshwater Seep
- Southern Willow Scrub
- Tamarisk Scrub

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

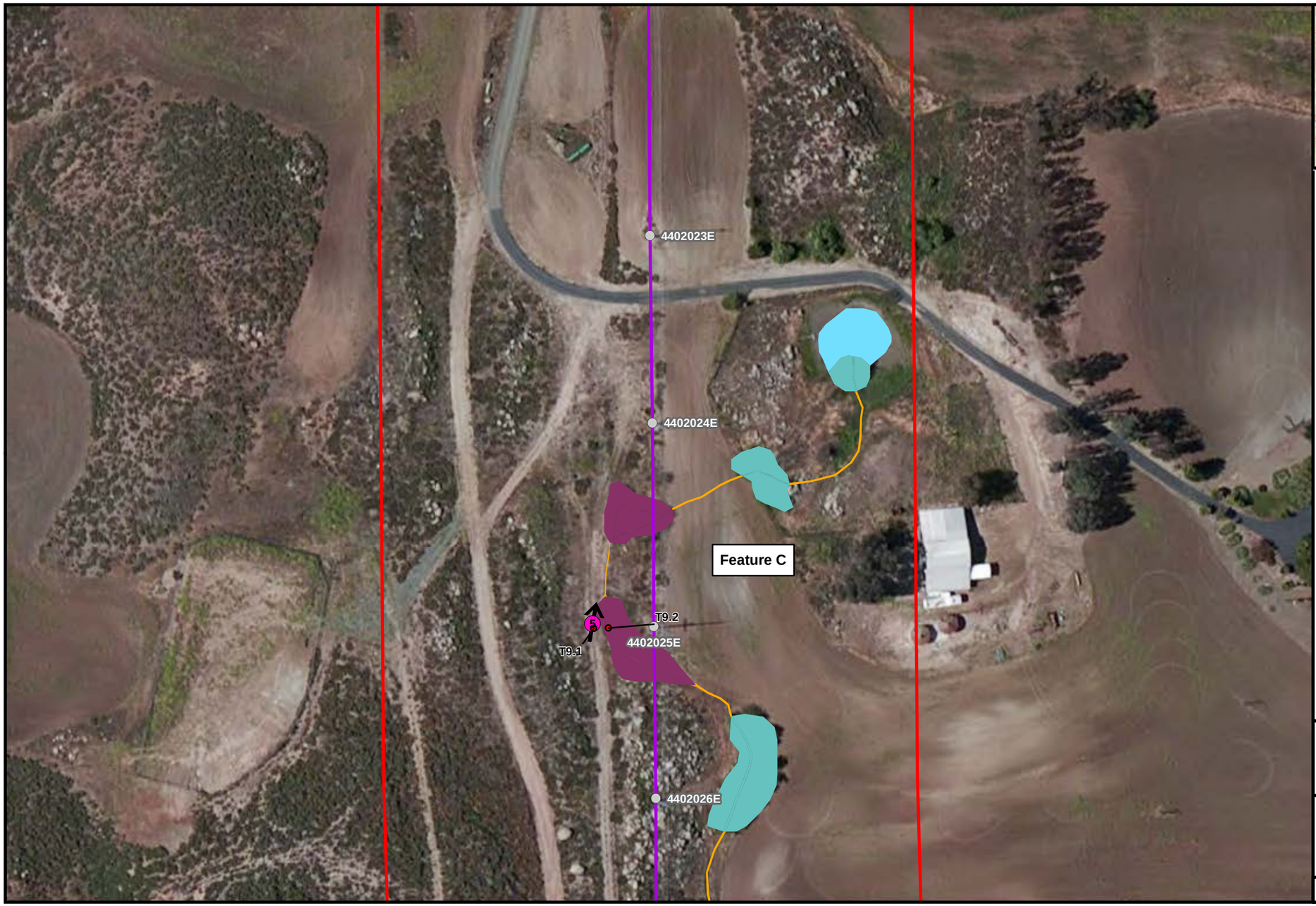
0 25 50 75 100 Feet

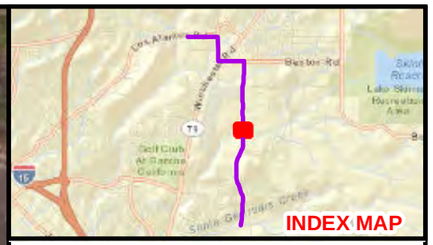
AECOM

Figure 6- 17
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point

Vegetation Community

- Mule Fat Scrub
- Open Water
- Southern Willow Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

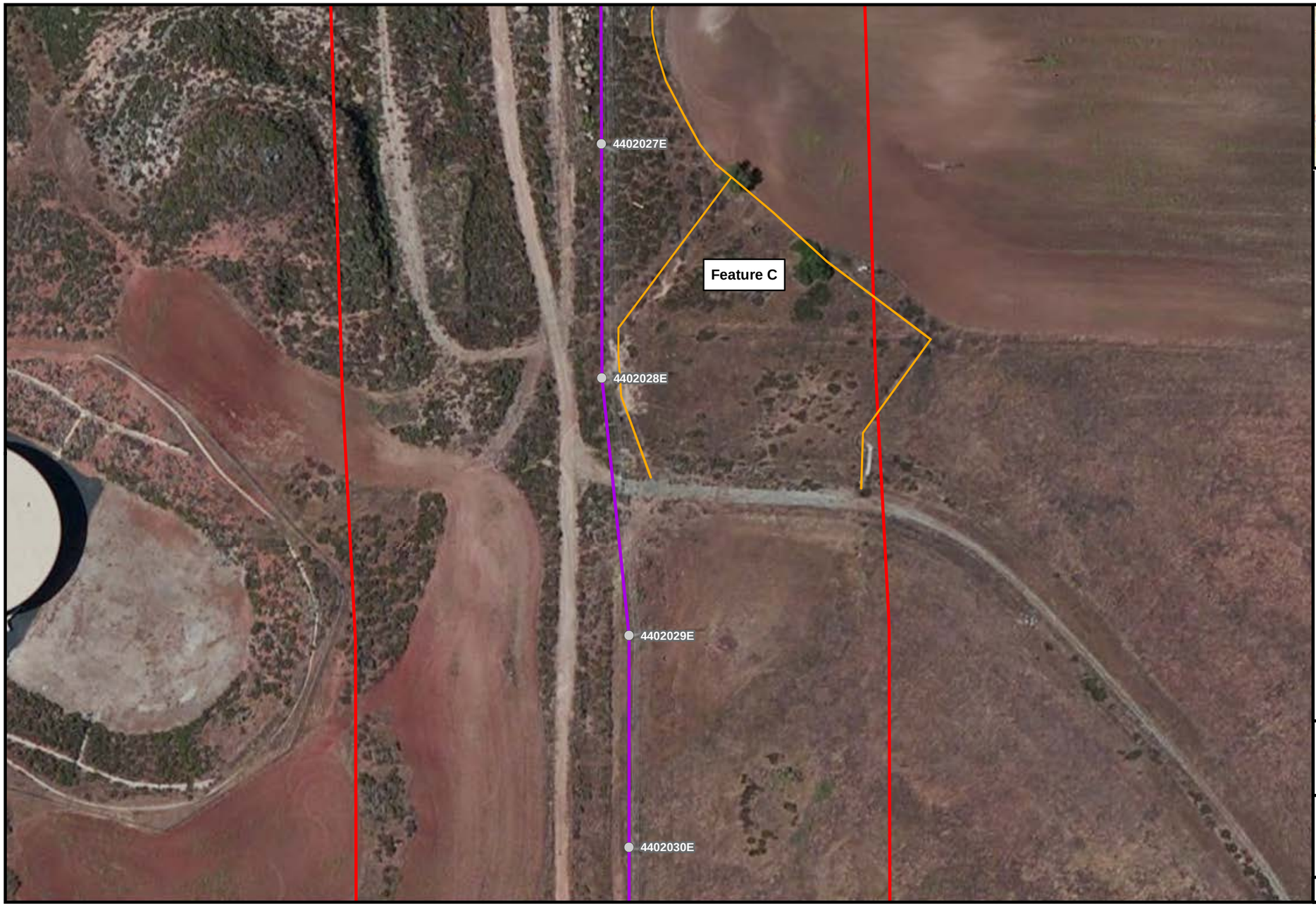
Figure 6- 18

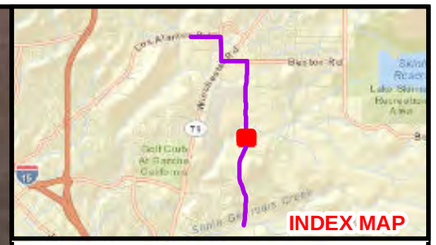
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Vegetation Community

- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

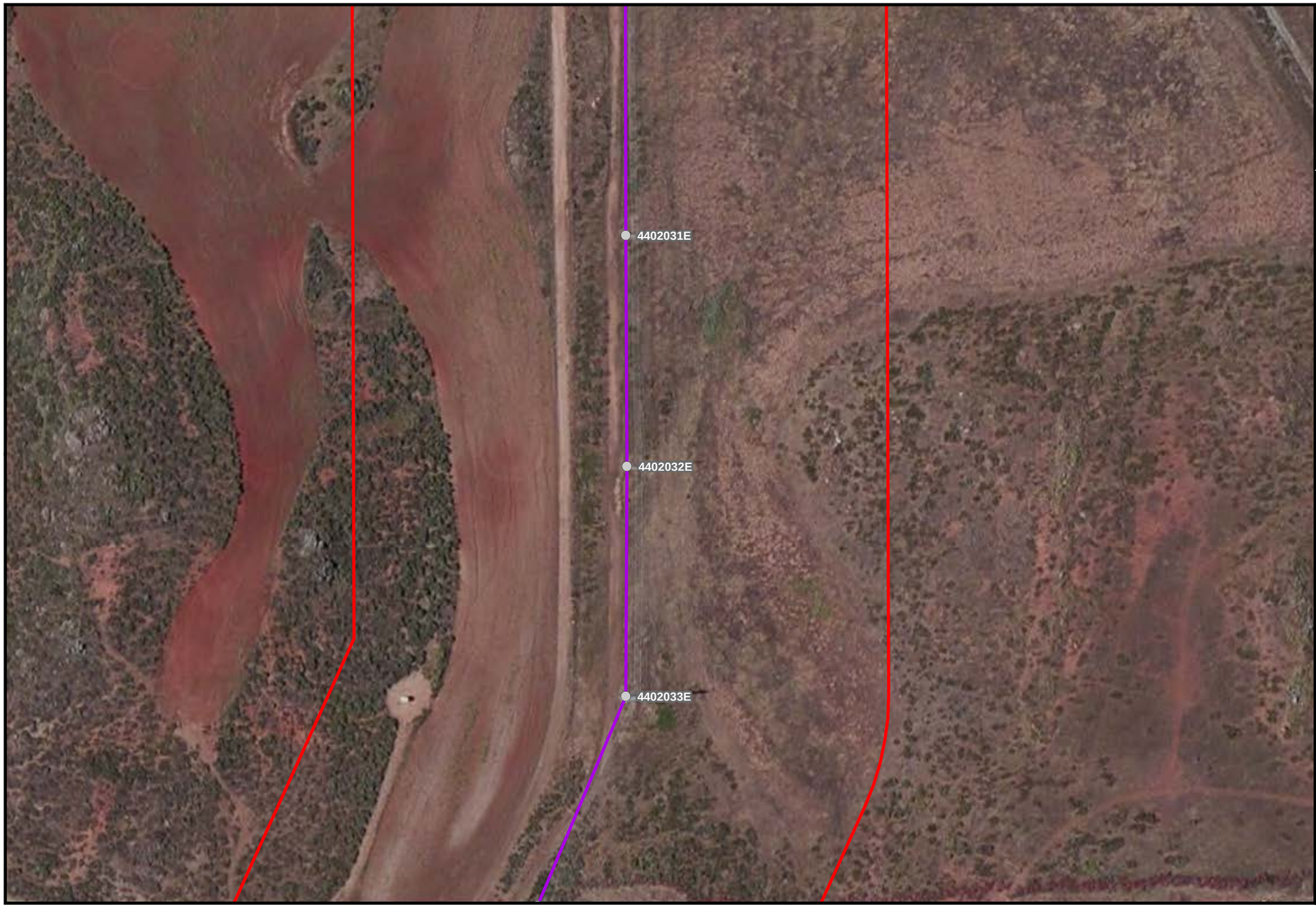
AECOM

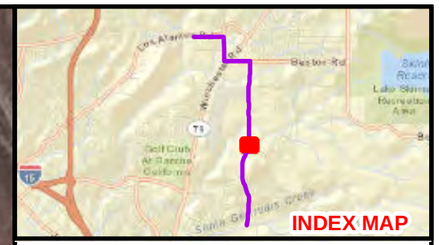
Figure 6- 19

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

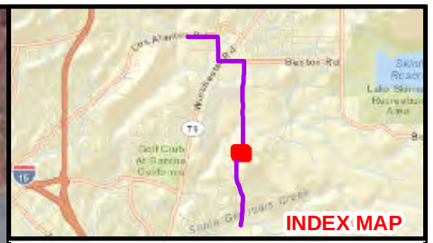
AECOM

Figure 6- 20

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

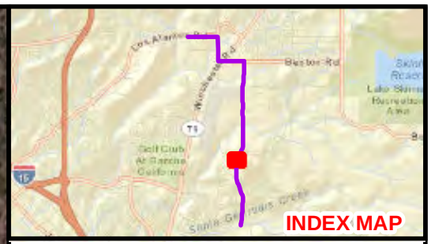
AECOM

Figure 6- 21

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

AECOM

1 inch = 100 feet

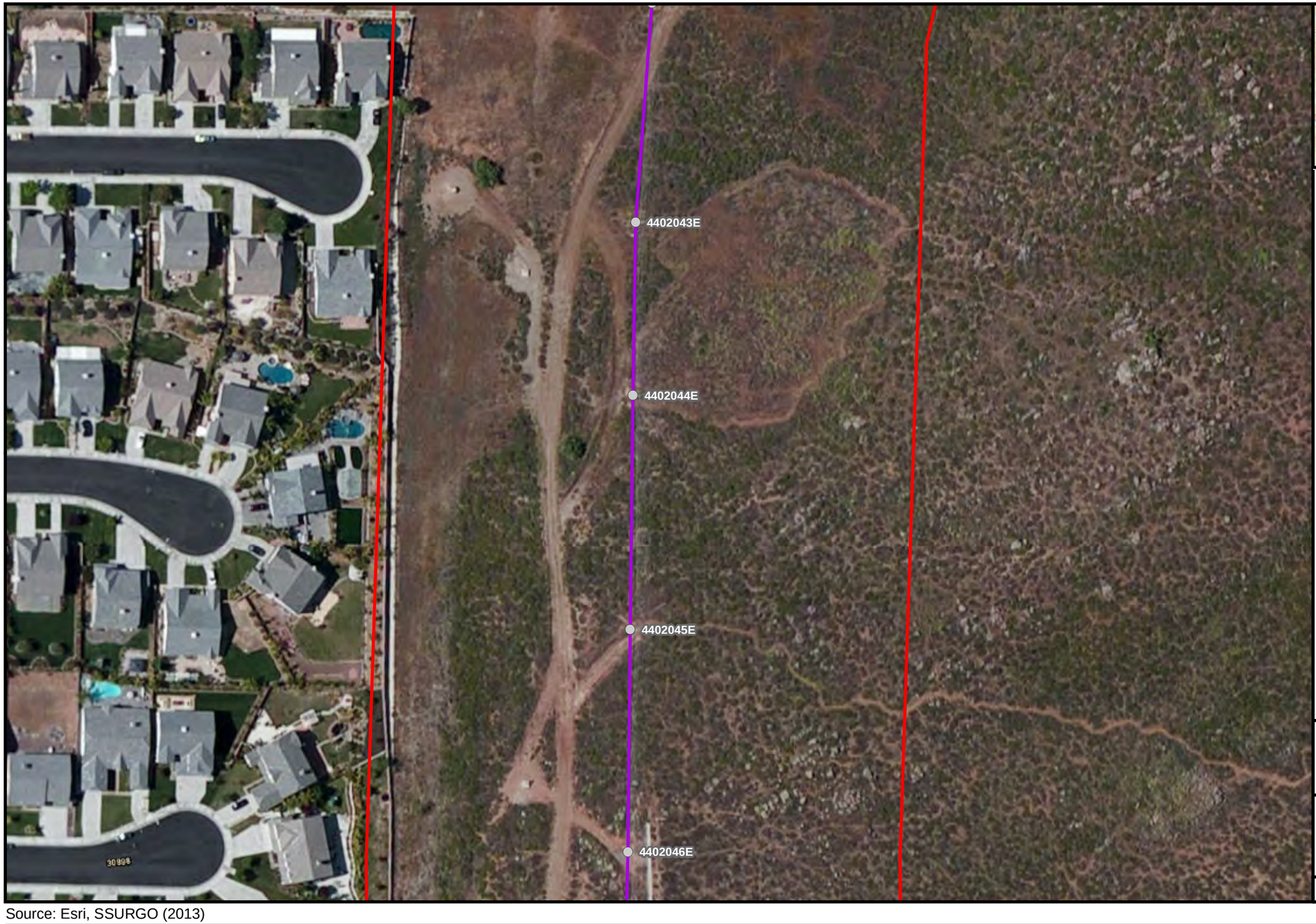
0 25 50 75 100 Feet

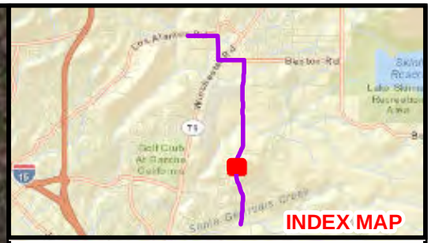
Figure 6- 22

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

AECOM

1 inch = 100 feet

0 25 50 75 100 Feet

Figure 6- 23

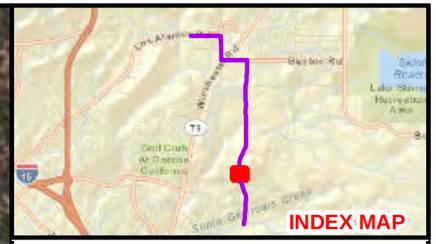
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

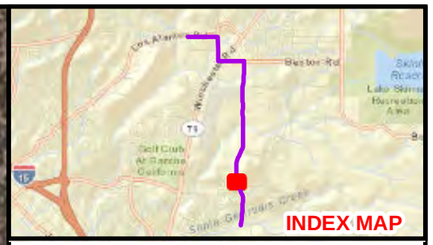
AECOM

Figure 6- 24
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Vegetation Community

- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 25
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014

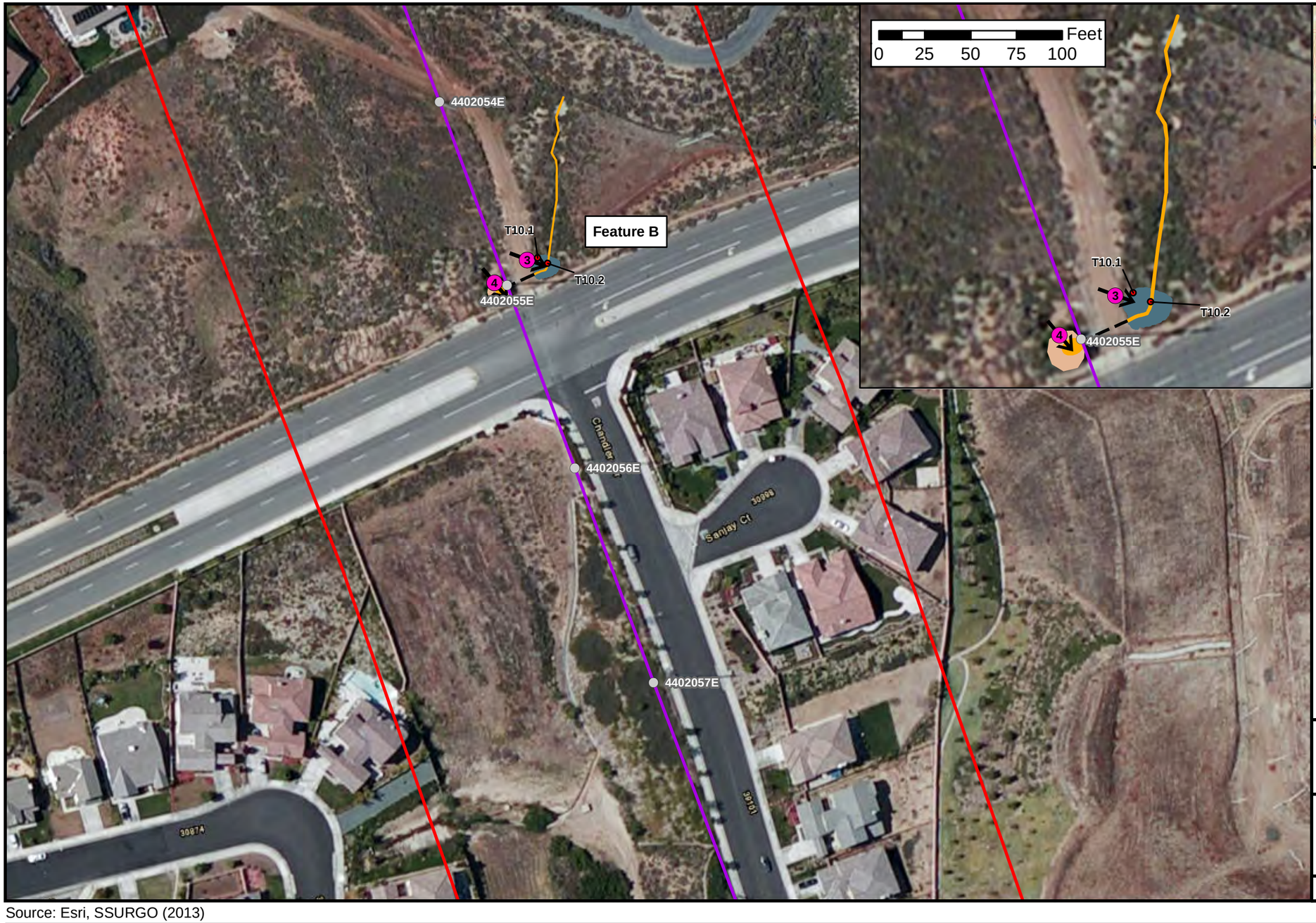


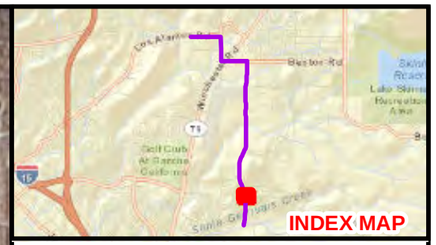
Figure 6- 26
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 27

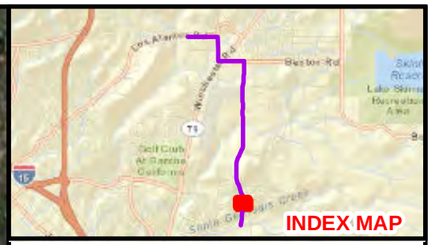
Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

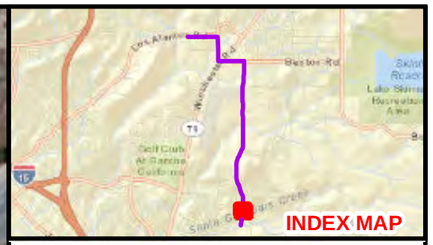
AECOM

Figure 6- 28

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

Figure 6- 29

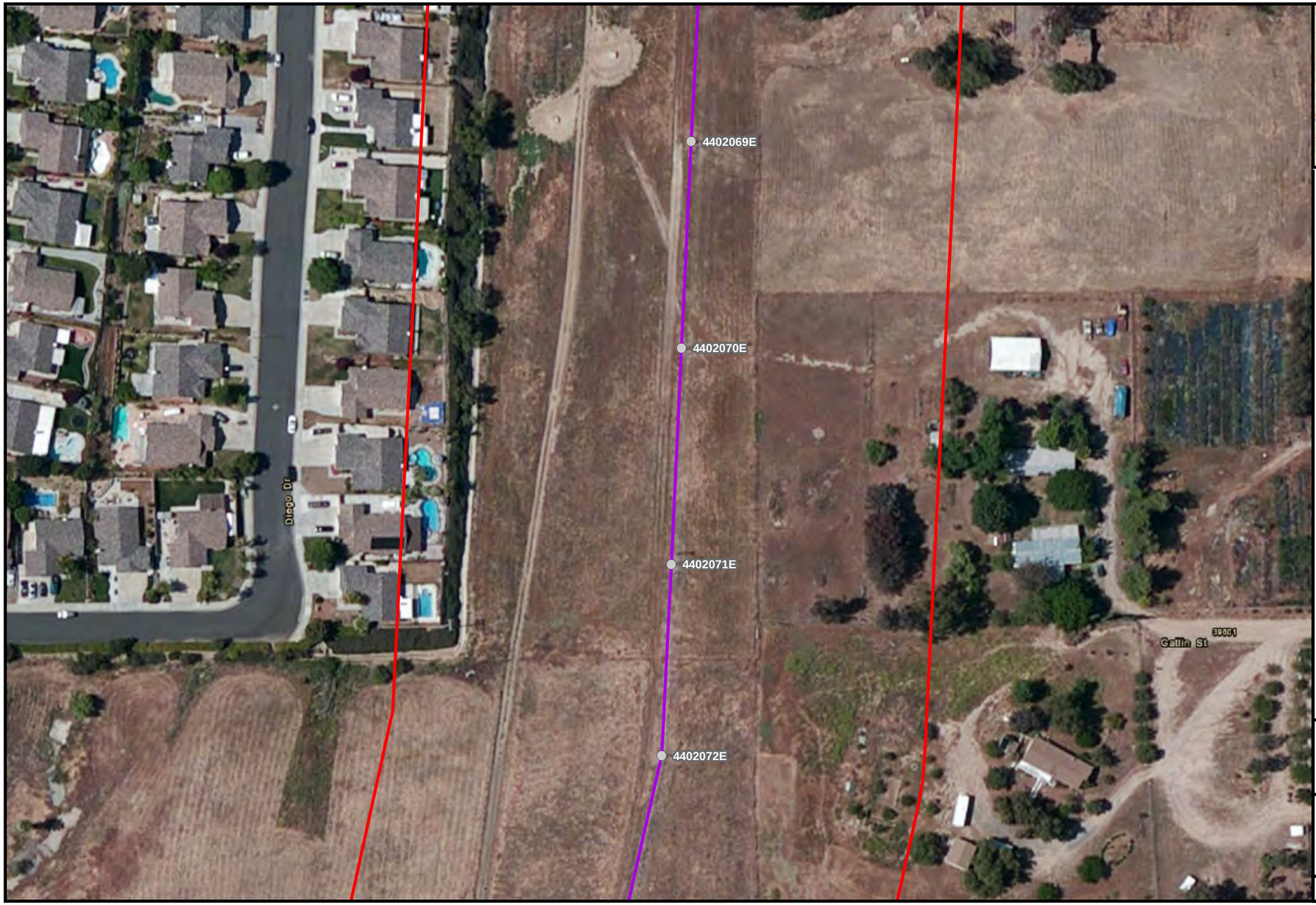
Vegetation Communities

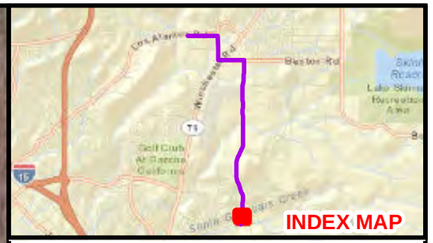
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- Existing
- Segment 2
- Survey Area

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

AECOM

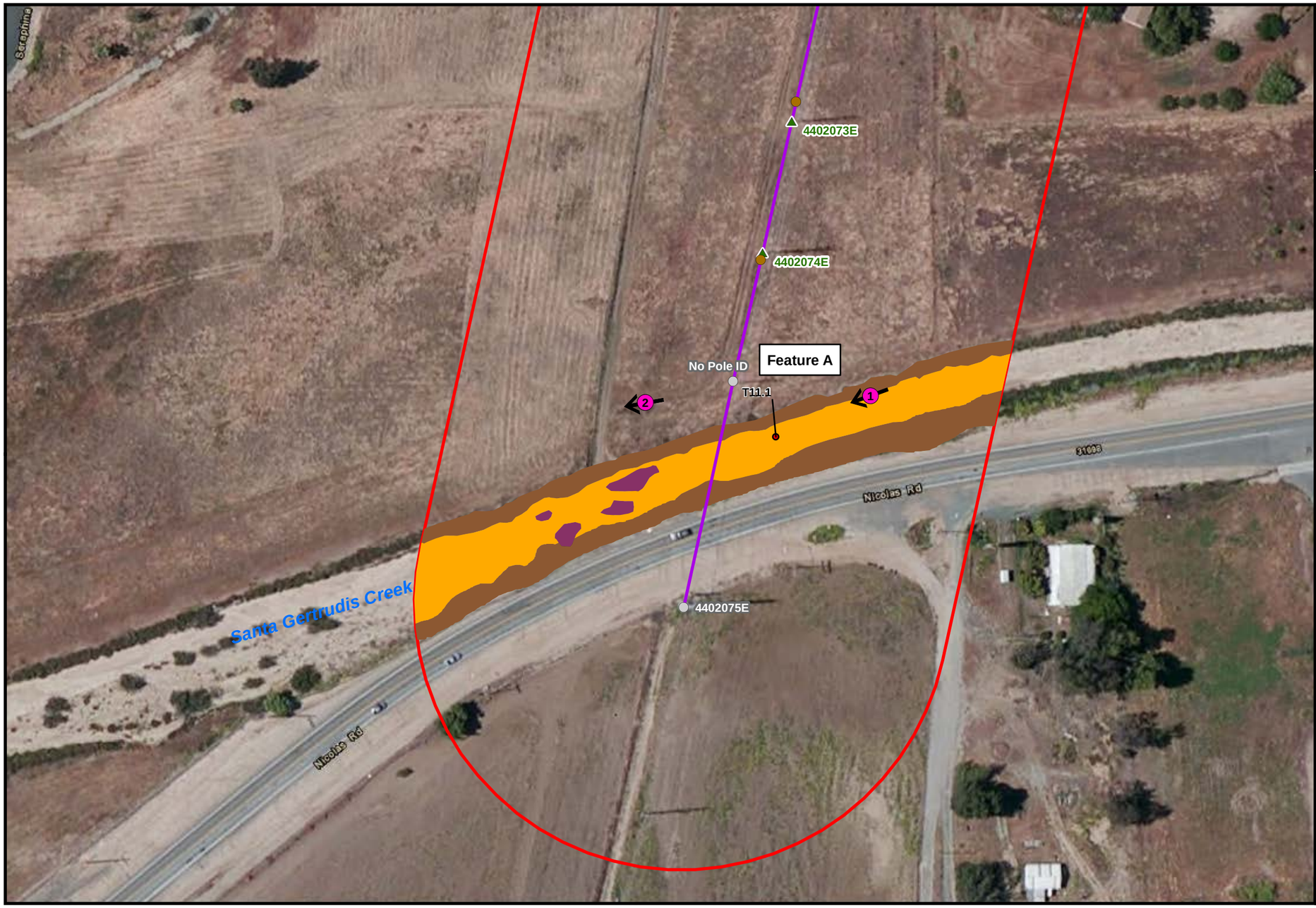
Figure 6- 30
Vegetation Communities

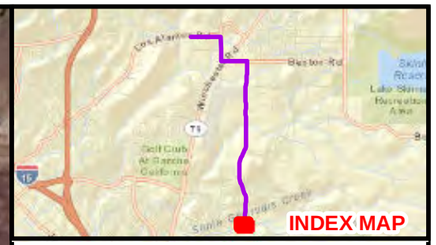
Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)

Valley South 115 kV Subtransmission Project Jurisdictional Delineation Report

Filename: VSSP_11x17_JD_Fig6_20140520.mxd Date: 5/20/2014





Legend

- New Wood
- Existing
- Remove
- Segment 2
- Survey Area
- Photo Point Location
- Sample Point

Vegetation Community

- Coastal Sage Scrub
- Mule Fat Scrub
- Unvegetated Channel

Features depicted herein are planning level accuracy, and intended for informational purposes only. Distances and locations may be distorted at this scale.

NORTH

1 inch = 100 feet

0 25 50 75 100 Feet

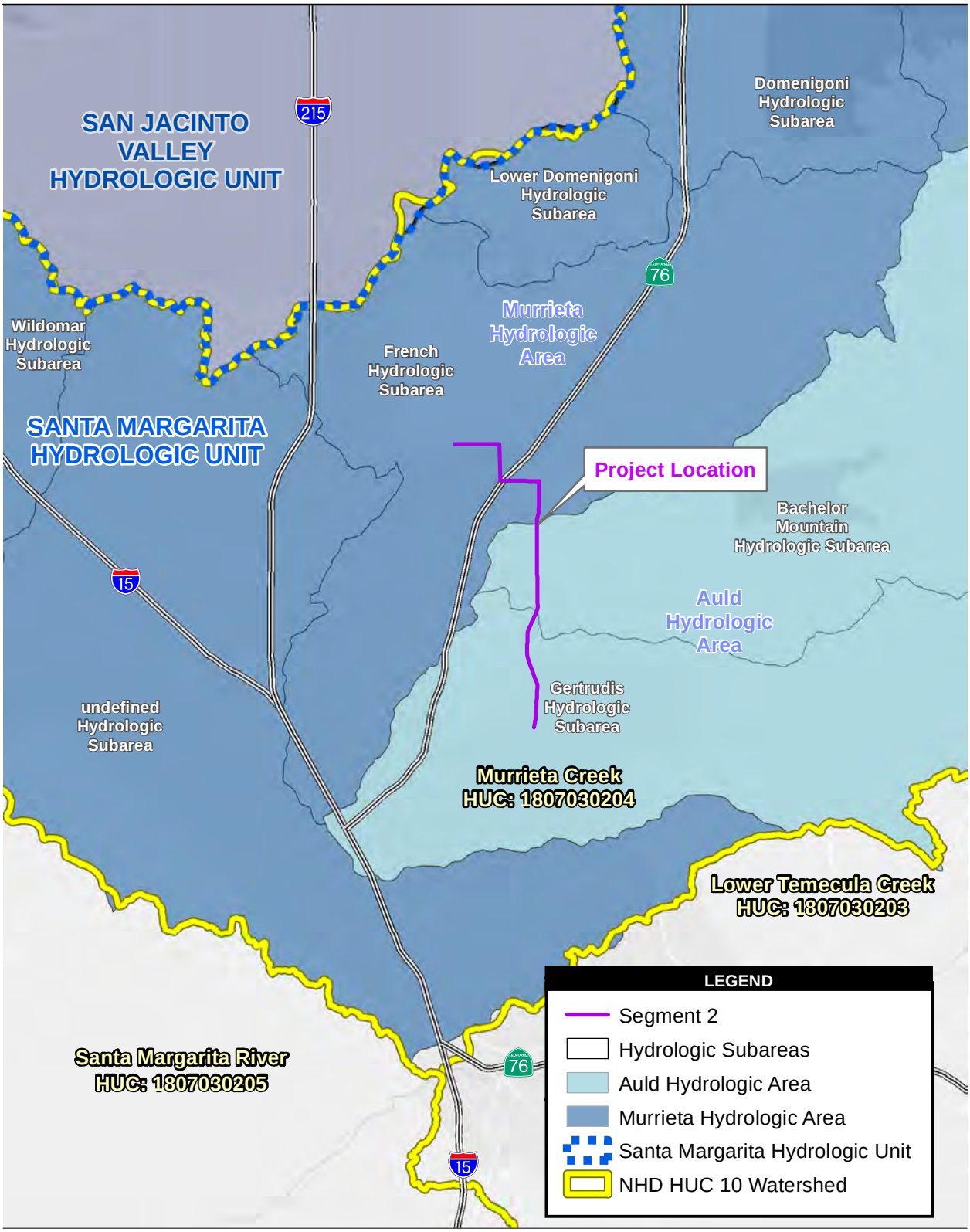
AECOM

Figure 6- 31

Vegetation Communities

Ver. 01	5/20/2014

Source: Esri, SSURGO (2013)



Source: CAL H2O 2013; ESRI 2014

NORTH

Scale: 1:126,720;1 inch = 2 miles

Miles

0 1 2

Figure 7
Watershed Map

Path: \\ussdg2fp001.na.aecomnet.com\data\Projects\2012\60247921\06GIS\6.3_Layout\Figure_Templates\Figure5_Watershed_Map_.mxd, 5/20/2014, SorensenJ

ATTACHMENT B

PHOTO SHEETS

Photograph 1: Feature A, west-facing view of the unvegetated channel supporting patches of mule fat scrub farther downstream.

Photograph 2: West-facing view of TPA 4, a non-jurisdictional basin. This is a representative photograph of the non-jurisdictional TPAs within the survey area.

Photo Sheet 1
Valley South Subtransmission Line Project Representative Photographs

Photograph 3: Feature B, southeast-facing view of the tamarisk scrub that surrounds sample points T10.1 and T10.2.

Photograph 4: Feature B, southeast-facing view of the MS4 drain within the southern riparian scrub.

Photo Sheet 2
Valley South Subtransmission Line Project Representative Photographs

Photograph 5: Feature C, north-facing view of the mule fat scrub and unvegetated channel along a dirt road.

Photograph 6: Feature D, east-facing view of the coastal and valley freshwater marsh and tamarisk scrub.

Photo Sheet 3
Valley South Subtransmission Line Project Representative Photographs

Photograph 7: Feature E, southwest-facing view of the unvegetated channel and southern willow scrub farther downstream.

Photograph 8: Feature G, northeast-facing view of the sample point T5.1 and the surrounding southern willow scrub.

Photo Sheet 4
Valley South Subtransmission Line Project Representative Photographs

Photograph 9: Feature H, southwest-facing view of sample point T4.1 within the outer floodplain of the channel, considered CDFW only riparian habitat.

Photograph 10: Feature H, east-facing view of the main channel upstream of sample point T4.2.

Photo Sheet 5
Valley South Subtransmission Line Project Representative Photographs

Photograph 11: Northeast-facing view of TPA 7, a non-jurisdictional basin that ponds due to road usage impacts to the unvegetated channel.

Photograph 12: Southwest-facing view of a non-jurisdictional swale/erosional feature that is representative of the non-jurisdictional features assessed.

Photo Sheet 6
Valley South Subtransmission Line Project Representative Photographs

Photograph 13: Feature I, north-facing (upstream) view of the swale. This feature lacked an OHWM and did not support wetland habitat.

Photograph 14: Feature I, south-facing (downstream) view of the swale as it abates in uplands.

Photo Sheet 7
Valley South Subtransmission Line Project Representative Photographs

Photograph 15: Feature J, west-facing view of sample point T3.2 within the channel and its associated mule fat scrub.

Photograph 16: West-facing view of TPA 1, a non-jurisdictional basin. This was a large ponded area that was dominated by nonnative grassland vegetation and supported small patches of hydrophytic vegetation.

Photo Sheet 8
Valley South Subtransmission Line Project Representative Photographs

Photograph 17: East-facing view of TPA 1, a non-jurisdictional basin dominated by nonnative grassland vegetation.

Photograph 18: Feature K, north-facing view of sample point T1.3 within the cismontane alkali marsh.

Photo Sheet 9
Valley South Subtransmission Line Project Representative Photographs

Photograph 19: Feature K, west-facing view of the coastal and valley freshwater marsh downstream of the culvert under Briggs Road.

Photograph 20: Feature M, southwest-facing view of sample point T2.1 looking downstream at the mule fat scrub.

Photo Sheet 10
Valley South Subtransmission Line Project Representative Photographs

ATTACHMENT C

WETLAND DETERMINATION DATA FORMS – ARID WEST REGION (VERSION 2.0)

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: TPA 1

Investigator(s): Lanika Cervantes, Lance Woolley | Section, Township, Range: San Bernardino S6, T7S, R2W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Slightly concave | Slope (%): 0.5

Subregion (LRR): C - Mediterranean California | Lat: 33.591961 | Long: -117.126087 | Datum: NAD 1983

Soil Map Unit Name: Bosanko Clay, 2 To 8% Slopes/Monserate Sandy Loam, 0 To 5% Slopes | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Large temporary ponded area supporting a mixture of wetland and upland vegetation. This area did not meet the definition of a three-parameter wetland.
Currently in drought conditions over the last 3-years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Vulpia myuros*	30	Yes	FACU
2. *Deinandra paniculata*	25	Yes	FACU
3. *Lythrum hyssopifolium*	20	No	OBL
4. *Bromus madritensis*	15	No	UPL
5. *Polypogon monspeliensis*	5	No	FACW
6. *Ambrosia psilostachya*	5	No	FACU
7. *Filago depressa*	5	No	Not Listed
8. *Phalaris aquatica*	5	No	FACU
Total Cover:	110 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum ____ % | % Cover of Biotic Crust ____ %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	65	x 4 =	260
UPL species	20	x 5 =	100
Column Totals:	110 (A)		390 (B)

Prevalence Index = B/A = 3.55

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Other herb species observed onsite with 5% or less cover included: Anagallis arvensis (FAC), Cynodon dactylon (FACU), Brassica nigra (NI), and Hordeum murinum (FACU). Only small patches of wetland vegetation were observed, upland grasses dominated this area.

SOIL

Sampling Point: TPA 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Bosanko Clay, 2 To 8% Slopes/Monserate Sandy Loam, 0 To 5% Slopes is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Surface soils cracks observed within small areas of the area of investigation. Depressional feature is likely too shallow and without impermeable layer to support and retain wetland hydrology for vernal pool development. As this area is very flat allowing for flooding/ponding throughout the open field.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: TPA 2

Investigator(s): Lanika Cervantes, Lance Woolley | Section, Township, Range: San Bernardino S6, T7S, R2W

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.591265 | Long: -117.120694 | Datum: NAD 1983

Soil Map Unit Name: Monserate Sandy Loam, 0 To 5% Slopes | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This area was a bowl-shaped swale feature under the jurisdiction of RWQCB and CDFW. No defined OHWM observed and this feature did not support a 3-parameter wetland. Currently in drought conditions for the past 3 years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hirschfeldia incana*	5	Yes	Not Listed
2. *Bromus hordeaceus*	1	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	6 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 95 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	1	x 4 =	4
UPL species	5	x 5 =	25
Column Totals:	6 (A)		29 (B)

Prevalence Index = B/A = 4.83

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This area was ponded with water from the recent rain event. Vegetation along the parameter of the swale consisted of upland vegetation.

SOIL

Sampling Point: TPA 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Monserate Sandy Loam, 0 To 5% Slopes is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):	5 inches
Water Table Present?	Yes ◉	No ○	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	surface

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

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: TPA 3

Investigator(s): Lanika Cervantes, Lance Woolley | Section, Township, Range: San Bernardino S19, T7S, R2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.545137 | Long: -117.118379 | Datum: NAD 1983

Soil Map Unit Name: Arlington And Greenfield Fine Sandy Loams, 2 To 8% Slopes , Eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: This feature is a tire track that ponds during rain events. Currently in drought conditions for the past 3 years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	20	Yes	FACU
2. *Erodium cicutarium*	20	Yes	Not Listed
3. *Plagiobothrys nothofulvus*	7	No	FAC
4. *Caalandrinia ciliata*	5	No	Not Listed
5. *Brassica nigra*	2	No	Not Listed
6. *Deinandra spp*	1	No	FACU
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	7	x 3 =	21
FACU species	21	x 4 =	84
UPL species	27	x 5 =	135
Column Totals:	55 (A)		240 (B)

Prevalence Index = B/A = 4.36

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Area is within nonnative grasslands.

SOIL

Sampling Point: TPA 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Arlington And Greenfield Fine Sandy Loams, 2 To 8% Slopes , Eroded is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: No hydrology indicators observed onsite.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: TPA 4

Investigator(s): Lanika Cervantes, Lance Woolley | Section, Township, Range: San Bernardino S19, T7S, R2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.542982 | Long: -117.119206 | Datum: NAD 1983

Soil Map Unit Name: Ramona Very Fine Sandy Loam, 0 To 8% Slopes, Eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Feature is a large road rut that ponds during rain events. Currently within drought conditions for the past 3 years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus hordeaceus*	20	Yes	FACU
2. *Hordeum murinum*	20	Yes	FACU
3. *Brassica nigra*	5	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	45 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 55 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals:	45 (A)		185 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: No hydrophytic vegetation observed.

SOIL

Sampling Point: TPA 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Ramona Very Fine Sandy Loam, 0 To 8% Slopes, Eroded is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Soil cracks observed within the center of the road rut.

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP City/County: Murrieta, Riverside Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison State: CA Sampling Point: TPA 5

Investigator(s): Lanika Cervantes, Lance Woolley Section, Township, Range: San Bernardino S6, T7S, R2W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 33.590654 Long: -117.120115 Datum: NAD 1983

Soil Map Unit Name: Auld Clay, 2 To 8 Percent Slopes NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Feature is a small road rut that ponds during rain events. Currently in drought conditions for the past 3 years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus sp.*	2	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 98 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	2 (A)		10 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Mostly unvegetated with a small patches of dead grass. The Bromus was not flowering and therefore the species could not be identified.

SOIL

Sampling Point: TPA 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Auld Clay, 2 To 8 Percent Slopes is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Soil cracks observed within the center of the feature.

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP City/County: Murrieta, Riverside Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison State: CA Sampling Point: TPA 6

Investigator(s): Lanika Cervantes, Lance Woolley Section, Township, Range: San Bernardino S6, T7S, R2W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 33.590584 Long: -117.120303 Datum: NAD 1983

Soil Map Unit Name: Auld Clay, 2 To 8 Percent Slopes NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Feature is a small road rut that ponds during rain events. Currently in drought conditions for the past 3 years.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus sp.*	2	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 98 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	2 (A)		10 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Mostly unvegetated with a small patches of dead grass. The Bromus was not flowering and therefore the species could not be identified.

SOIL

Sampling Point: TPA 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Auld Clay, 2 To 8 Percent Slopes is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Soil cracks observed within the center of the feature.

US Army Corps of Engineers

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP City/County: Murrieta, Riverside Sampling Date: 3/25/2014

Applicant/Owner: Southern California Edison State: CA Sampling Point: TPA 7

Investigator(s): Lanika Cervantes, Lance Woolley Section, Township, Range: San Bernardino S5, T7S, R2W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 33.586395 Long: -117.11803 Datum: NAD 1983

Soil Map Unit Name: Cieneba Rocky Sandy Loam, 8 To 15 Percent Slopes, Eroded NWI classification: R4SBW

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 ( )	No (•)	
Hydric Soil Present?	Yes ( )	No (•)	**Is the Sampled Area within a Wetland?** Yes ( ) No (•)
Wetland Hydrology Present?	Yes (•)	No ( )	

Remarks: This feature is both abutting and within a portion of the channel that was delineated. A road goes through the channel allowing for the entire road area to flood, which is where this depressional feature was identified.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 100 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	(A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- [ ] 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.

Hydrophytic Vegetation Present? Yes ( ) No (•)

Remarks: This feature was unvegetated. A few individuals of Eleocharis macrostachya (OBL) was observed along one edge of the feature, however this vegetation occurred within the area that has been delineated as southern willow scrub.

SOIL

Sampling Point: TPA 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
N/A								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Based on this feature presenting itself as a vernal pool no subsurface investigation was undertaken (e.g., no soil pits were dug). Cieneba Rocky Sandy Loam, 8 To 15 Percent Slopes, Eroded is not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):	2 inches
Water Table Present?	Yes ◉	No ○	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	surface

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Due to the road crossing through the channel, the channel now ponds within the road before entering into the wetland areas downstream.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/12/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T1.1

Investigator(s): Rey Pellos, Josh Zinn | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): flat | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: -117.127368 | Long: 33.596295 | Datum: NAD 1983

Soil Map Unit Name: Wyman loam, 2 to 8 percent slopes, eroded | NWI classification: R4SBW

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: This sample point was taken on a terrace above the channel. Surface water was present slowly flowing through dense freshwater marsh. This channel is a tributary of Warm Springs Creek. The culvert under the adjacent road and dense vegetation causes localized ponding, thereby increasing the width of the wetland band around the main channel. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hirschfeldia incana*	30	Yes	Not Listed
2. *Eriogonum fasciculatum*	20	Yes	Not Listed
3. *Ambrosia psilostachya*	15	Yes	FACU
4. *Malvella leprosa*	2	No	FACU
5. *Helianthus annuus*	1	No	FACU
6.			
7.			
8.			
Total Cover:	68 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	18	x 4 =	72
UPL species	50	x 5 =	250
Column Totals:	68 (A)		322 (B)

Prevalence Index = B/A = 4.74

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This vegetation community is disturbed habitat. Some Eriogonum californica is present adjacent to the sample point.

SOIL

Sampling Point: T1.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-15	10yr 3/1	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP SCE | City/County: Murrieta, Riverside | Sampling Date: 12/12/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T1.2

Investigator(s): Rey Pellos, Josh Zinn | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: -117.127364 | Long: 33.59618 | Datum: NAD 1983

Soil Map Unit Name: Wyman loam, 2 to 8 percent slopes, eroded | NWI classification: R4SBW

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This sample point was taken on the edge of the channel bottom. Surface water was present slowly flowing through dense freshwater marsh. This channel is a tributary of Warm Springs Creek. The culvert under the adjacent road and dense vegetation causes localized ponding, thereby increasing the width of the wetland band around the main channel. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Salix gooddingii*	10	Yes	FACW
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Typha sp.*	70	Yes	OBL
2. *Schoenoplectus sp.*	30	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	10	x 2 =	20
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	110 (A)		120 (B)

Prevalence Index = B/A = 1.09

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: The vegetation community is considered freshwater marsh. The Typha and Schoenoplectus is very dense slowing the flow of water and causing flooding in adjacent areas during larger rain events. Some areas adjacent to the freshwater marsh are considered cismontane akali marsh due to the species composition.

SOIL

Sampling Point: T1.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ◯

Remarks: The soil pit was dug in the channel and was innudated by water. As a result, a proper soil profile could not be extracted. The soil, mapped as Wyman loam, 2 to 8 percent slopes, eroded, was not included in the hydric soil list. No hydric soil field indicators observed. This area is potentially a recently developed wetland. There has not been sufficient time to develop hydric soil indicators. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 4+

Water Table Present? Yes ◯ No ◯ Depth (inches):

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: The sample point is in the channel bottom and inundated with water approximately 4 inches deep at the sample point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T1.3

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): flat | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: -117.127471 | Long: 33.595708 | Datum: NAD 1983

Soil Map Unit Name: Chino silt loam, drained, saline-alkali | NWI classification: R4SBW

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This sample point was taken on a terrace above the channel. The culvert under the adjacent road and dense vegetation causes localized ponding, thereby increasing the width of the wetland band around the main channel. This area has been influence by this repeated inundation. A small swale draining this area connects to the main channel downstream. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Anemopsis californica*	40	Yes	OBL
2. *Polypogon monspeliensis*	13	Yes	FACW
3. *Helianthus annuus*	7	No	FACU
4. *Melilotus albus*	1	No	Not Listed
5. *Cirsium vulgare*	1	No	FACU
6.			
7.			
8.			
Total Cover:	62 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	13	x 2 =	26
FAC species		x 3 =	0
FACU species	8	x 4 =	32
UPL species	1	x 5 =	5
Column Totals:	62 (A)		103 (B)

Prevalence Index = B/A = 1.66

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: The community is considered cismontane akali marsh due to species composition. The dense freshwater marsh in the main channel causes localized flooding. The regular influxes of stream flows defines the species composition of this sample point.

SOIL

Sampling Point: T1.3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-15	10yr 3/2	100					Sandy loam	A one inch layer of organic mat

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: The soil, mapped as Chino silt loam, drained, saline-alkali, was included in the hydric soil list. No hydric soil field indicators observed. This area is potentially a recently developed wetland. There has not been sufficient time to develop hydric soil indicators. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement Chapter 3, page 27 and states that 'a soil that meets the definition of a hydric soil is hydric whether or not it

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: This area is considered a cismontane alkali marsh due to the vegetation species present onsite. These species tend to inhabit soils somewhat salty. The evaporation of salty water has left salt crusts on the soil. Nearby the pit location is a swale that contributes to the main channel.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP SCE | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: | State: CA | Sampling Point: T1.4

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): flat | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: -117.127429 | Long: 33.595646 | Datum: NAD 1983

Soil Map Unit Name: Chino silt loam, drained, saline-alkali | NWI classification: R4SBW

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: This sample point was taken on a terrace above the channel just slightly higher in elevation from sample point T1.3. Surface water was present slowly flowing through dense freshwater marsh. This channel is a tributary of Warm Springs Creek. The culvert under the adjacent road and dense vegetation causes localized ponding, thereby increasing the width of the wetland band around the main channel. The region is currently under severe drought conditions according to the US Drought

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Cirsium vulgare*	40	Yes	FACU
2. *Melilotus albus*	20	Yes	Not Listed
3. *Urtica dioica*	10		FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	70 (A)		290 (B)

Prevalence Index = B/A = 4.14

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This sample point crossed the fairly distinct line into the upland vegetation. This is considered disturbed habitat.

SOIL

Sampling Point: T1.4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	10YR 3/3	100					Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T2.1

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 31, Township 6S, Range 2W

Landform (hillslope, terrace, etc.): channel slope | Local relief (concave, convex, none): concave | Slope (%): 4

Subregion (LRR): C - Mediterranean California | Lat: -117.128163 | Long: 33.59837 | Datum: NAD 1983

Soil Map Unit Name: Wyman loam, 2 to 8 percent slopes, eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: This sample point was taken on a terrace above channel in nonnative grassland. The channel is a small tributary flowing south to a larger tributary of Warm Springs Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Nicotiana glauca*	1	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	1 %		
Herb Stratum			
1. *Hirschfeldia incana*	45	Yes	Not Listed
2. *Centaurea melitensis*	3	No	Not Listed
3. *Artemisia dracunculus*	3	No	Not Listed
4. *Marrubium vulgare*	1	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	52 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species	51	x 5 =	255
Column Totals:	53 (A)		262 (B)

Prevalence Index = B/A = 4.94

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This is considered disturbed habitat.

SOIL

Sampling Point: T2.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	7.5YR 3/4	100					Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP SCE | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: | State: CA | Sampling Point: T2.2

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 31, Township 6S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: -117.128258 | Long: 33.598423 | Datum: NAD 1983

Soil Map Unit Name: Wyman loam, 2 to 8 percent slopes, eroded | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This sample point was taken on a small terrace just above the bottom of the channel. Surface water was present. The channel is a small tributary flowing south to a larger tributary of Warm Springs Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	5	Yes	FACW
2.			
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	50	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	50 %		
Herb Stratum			
1. *Artemisia dracunculus*	5	Yes	Not Listed
2. *Urtica dioica*	1	No	FAC
3. *Epilobium ciliatum*	1	No	FACW
4. *Marrubium vulgare*	1	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	8 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 37 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	6	x 2 =	12
FAC species	51	x 3 =	153
FACU species	1	x 4 =	4
UPL species	5	x 5 =	25
Column Totals:	63 (A)		194 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This is considered mulefat scrub since the willow is a minor component of the community. This species composition is marginally considered hydrophytic.

SOIL

Sampling Point: T2.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	10YR 4/3	100					sand	sand and gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 8

Hydric Soil Present? Yes ◉ No ○

Remarks: The soil, mapped as Wyman loam, 2 to 8 percent slopes, eroded, was not included in the hydric soil list. No hydric soil field indicators observed. Recently deposited fluvial sediments were observed. Fluvial sediments often do not exhibit hydric field indicators for this soil as outlined by the NTCHS Field Indicators of Hydric Soils in the United States. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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): 3+
Water Table Present?	Yes ○	No ◉	Depth (inches):
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: The sample point was just above the water level within the channel.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP SCE | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: | State: CA | Sampling Point: T3.1

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bank | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 117.126918 | Long: 33.591864 | Datum: NAD 1983

Soil Map Unit Name: Bosanko clay, 2 to 8 percent slopes | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: This site is unusual since the drainage patterns end abruptly upstream from this transect. Flow then would pass through a culvert under Briggs Road. This channel contributes to a tributary of Warm Springs Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus madritensis*	50	Yes	UPL
2. *Hirschfeldia incana*	2	No	Not Listed
3. *Brassica nigra*	2	No	Not Listed
4. *Erodium moschatum*	1	No	Not Listed
5.			
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	55	x 5 =	275
Column Totals:	55 (A)		275 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This is considered nonnative grassland.

SOIL

Sampling Point: T3.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	10YR 3/2	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP SCE | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: | State: CA | Sampling Point: T3.2

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: -117.12696158 | Long: 33.59184349 | Datum: NAD 1983

Soil Map Unit Name: Bosanko clay, 2 to 8 percent slopes | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This site is unusual since the drainage patterns end abruptly upstream from this transect. Flow then would pass through a culvert under Briggs Road. This channel contributes to a tributary of Warm Springs Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	50	Yes	FAC
2. *Tamarix chinensis*	20	Yes	FAC
3.			
4.			
5.			
Total Cover:	70 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	70	x 3 =	210
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	70 (A)		210 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This is considered mulefat scrub. Some Salix goodingii are in the vicinity. There are portions of vegetated and non-vegetated channel along this drainage within the survey area.

SOIL

Sampling Point: T3.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/2	100					loam	
6-18	10YR 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 8

Hydric Soil Present? Yes ◉ No ○

Remarks: Soil is considered hydric by definition in the Arid West since the two other parameters, vegetation and hydrology, are positive wetland indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Drainage patterns end just upstream of this location and two pools with water were present during the survey. Downstream the drainage patterns continue with varying degrees of erosive features.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T4.1

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 5, Township 7, Range 2

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): concave | Slope (%): 3

Subregion (LRR): C - Mediterranean California | Lat: -117.117554509152 | Long: 33.5859651837677 | Datum: NAD 1983

Soil Map Unit Name: Cieneba rocky sandy loam, 8 to 15 percent slopes, eroded | NWI classification: R4SBW

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 ◉	No ○	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: The region is currently under severe drought conditions according to the US Drought Monitor.This data point was taken along an unnamed tributary to Warm Springs Creek. The drainage is a natural feature that has been partially disturbed by development.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Rumex crispus*	7	Yes	FAC
2. *Polypogon monspeliensis*	2	No	FACW
3. *Vulpia myuros*	1	No	FACU
4. *Bromus madritensis*	1	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	11 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	2	x 2 =	4
FAC species	37	x 3 =	111
FACU species	1	x 4 =	4
UPL species	1	x 5 =	5
Column Totals:	41 (A)		124 (B)

Prevalence Index = B/A = 3.02

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This vegetation community has been lumped in with the cottonwood-willow riparian forest due to the presence of the cottonwood and willow canopy.

SOIL

Sampling Point: T4.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10YR 3/3	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 6

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: This sample point is on a terrace above the main channel. Due to the presence of drift deposits high flow events inundates this sample point. However, since two secondary indicators are required, its presence is not sufficient for positive wetland hydrology. This area appears to be within the outer floodplain of the stream.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T4.2

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 6, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: -117.117578694175 | Long: 33.585909677219 | Datum: NAD 1983

Soil Map Unit Name: Bosanko clay, 2 to 8 percent slopes | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This data point was taken along an unnamed tributary to Warm Springs Creek. The drainage is a natural feature that has been partially disturbed by development. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus freemontii*	25	Yes	FAC
2.			
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Eliocharis sp.*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	50 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	50	x 2 =	100
FAC species	25	x 3 =	75
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	75 (A)		175 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This is considered cottonwood willow riparian forest. The species of Eliocharis sp. could not be determined since all of the seed heads had fallen off and the plants were all dead. The dead stalks of the Eliocharis sp. dominated intermittently with areas of non vegetated channel. Baccharis salicifolia and Salix laevigata are dominant in other areas of the riparian corridor. Populus freemontii has an indicator status of FAC based on synonymy with Populus deltoides ssp. freemontii.

SOIL

Sampling Point: T4.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-7	10YR 3/1	70	5YR 3/4	10	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 7

Hydric Soil Present? Yes ◉ No ○

Remarks: Redox features is very prominent in this soil profile. The soil is mapped as Bosanko clay, 2 to 8 percent slopes, which is not listed as a hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Drainage patterns were observed up and downstream from this sample point. However, the dirt road (Leon Road) passes through and alters the historic flow path downstream of the sample point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/17/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T5.1

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): Channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: -117.118944819724 | Long: 33.5789810777219 | Datum: NAD 1983

Soil Map Unit Name: Buchenau silt loam, 2 to 8 percent slopes, eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: This sample point was taken in the channel to determine if a jurisdictional wetland is present. Since the there is only one positive parameter (hydrology), this feature does not qualify. However, there is an observed OHWM that is considered WOUS. The OHWM was measured and mapped onsite. This is a tributary of Tucalota Creek to the south. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	25	Yes	FACW
2.			
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Centaurea melitensis*	15	Yes	Not Listed
2. *Ambrosia psilostachya*	1	No	FACU
3. *Hirschfeldia incana*	1	No	Not Listed
4. *Bromus madritensis*	1	No	UPL
5.			
6.			
7.			
8.			
Total Cover:	18 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 45 % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	25	x 2 =	50
FAC species		x 3 =	0
FACU species	1	x 4 =	4
UPL species	17	x 5 =	85
Column Totals:	43 (A)		139 (B)

Prevalence Index = B/A = 3.23

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This is considered southern willow scrub. However, the wetland species were not sufficiently dominant to consider this species composition hydrophytic. All understory annual species are upland species.

SOIL

Sampling Point: T5.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	7.5YR 4/3	100					loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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 Soils:[4]

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

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Compacted earth

Depth (inches): 10

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features observed during subsurface sampling. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation a and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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 Plowed Soils (C6)
- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ 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):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: This sample point is in the main channel. As, such positive signs of wetland hydrology are present up and downstream of the sample point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP City/County: Murrieta, Riverside Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison State: CA Sampling Point: T6.1

Investigator(s): Rey Pellos, Lance Wooley Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): undulating Slope (%): 1

Subregion (LRR): C - Mediterranean California Lat: 33.57898108 Long: -117.11894482 Datum: NAD 1983

Soil Map Unit Name: Bosanka clay, 2 to 8 percent slopes NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is on the terrace above a channel that is a tributary of Tucalota Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus sp.*	60	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	60 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	60	x 5 =	300
Column Totals:	60 (A)		300 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This sample point is on the terrace above the channel but outside of the actively plowed land. The vegetation community is non-native grassland typical of disturbed areas.

SOIL

Sampling Point: T6.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compaction

Depth (inches): 18

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is mapped as Bosanka clay, 2 to 8 percent slopes which is not listed as hydric by the NRCS National List of Hydric Soils. No hydric soil field indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):	N/A
Water Table Present?	Yes ○	No ◉	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	N/A

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

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T6.2

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.57521133 | Long: -117.11889757 | Datum: NAD 1983

Soil Map Unit Name: Bosanko clay, 2 to 8 percent slopes | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the bottom of a channel that is a tributary of Tucalota Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	25	Yes	FACW
2.			
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	25	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	25 %		
Herb Stratum			
1. *Bromus madritensis ssp. rubens*	15	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	15 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	25	x 2 =	50
FAC species	25	x 3 =	75
FACU species		x 4 =	0
UPL species	15	x 5 =	75
Column Totals:	65 (A)		200 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This sample point is in the channel bottom of a southern willow scrub vegetation community.

SOIL

Sampling Point: T6.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 5/2	100					sand	
13-18	10YR 3/2	100					sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compaction

Depth (inches): 18

Hydric Soil Present? Yes ◉ No ○

Remarks: The soil is mapped as Bosanko Clay, which is not listed as hydric on the NRCS National List of Hydric Soils. No hydric soil field indicators observed. Recently deposited fluvial sediments were observed. Fluvial sediments often do not exhibit hydric field indicators for this soil as outlined by the NTCHS Field Indicators of Hydric Soils in the United States. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement Chapter 3, page 27 and states that 'a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators'. In addition, both hydrophytic vegetation and wetland hydrology are simultaneously present at the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A

Water Table Present? Yes ○ No ◉ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): N/A

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

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T7.1

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): undulating | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.57690372 | Long: -117.11896427 | Datum: NAD 1983

Soil Map Unit Name: Buren loam, deep, 2 to 8 percent slopes, eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is on the terrace above a channel that is a tributary to Tucalota Creek. Tucalota Creek discharges into Murrieta Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus madritensis ssp. rubens*	25	Yes	UPL
2. *Centaurea melitensis*	5	No	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	30 (A)		150 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This sample point is on the terrace above the channel but outside of the actively plowed land. The vegetation community is non-native grassland typical of disturbed areas.

SOIL

Sampling Point: T7.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compaction

Depth (inches): 9

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is mapped as Buren loam, deep, 2 to 8 percent slopes, eroded, which is not considered hydric by the NRCS National List of Hydric Soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T7.2

Investigator(s): Rey Pellos, Lance Wooley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.5768848 | Long: -117.11893695 | Datum: NAD 1983

Soil Map Unit Name: Buren loam, deep, 2 to 8 percent slopes, eroded | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the bottom of a channel that is a tributary to Tucalota Creek. Tucalota Creek discharges into Murrieta Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	35	Yes	FACW
2.			
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus madritensis ssp. rubens*	1	Yes	UPL
2. *Centaurea melitensis*	2	Yes	Not Listed
3. *Hirschfeldia incana*	1	Yes	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	4 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 60 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	4	x 5 =	20
Column Totals:	39 (A)		90 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

- ☐ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This sample point is in the channel bottom of a southern willow scrub vegetation community.

SOIL

Sampling Point: T7.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compaction

Depth (inches): 9

Hydric Soil Present? Yes ◉ No ○

Remarks: The soil, mapped as Buren loam, deep, 2 to 8 percent slopes, eroded, was not included in the hydric soil list. No hydric soil field indicators observed. Recently deposited fluvial sediments were observed. Fluvial sediments often do not exhibit hydric field indicators for this soil as outlined by the NTCHS Field Indicators of Hydric Soils in the United States. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement Chapter 3, page 27 and states that 'a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators'. In addition, both hydrophytic vegetation and wetland hydrology are simultaneously present at the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

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

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T8.1

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): flat | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 33.5723201 | Long: -117.11905183 | Datum: NAD 1983

Soil Map Unit Name: Las Posas loam, 8 to 15 percent slopes, eroded | NWI classification: PSSW

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 ◉	No ○	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is on the terrace above a channel of Tucalota Creek. The channel has been routed into a culvert under the access road. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	40	Yes	FACW
2.			
3.			
4.			
Total Cover:	40 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Bromus madritensis ssp. rubens*	2	No	UPL
2. *Bromus diandrus*	1	No	Not Listed
3. *Urtica dioica*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	13 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	40	x 2 =	80
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	3	x 5 =	15
Column Totals:	53 (A)		125 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This sample point is on the terrace above the channel and adjacent to a service road.

SOIL

Sampling Point: T8.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	5Y 4/1	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compaction, fill

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is mapped as Las Posas loam, 8 to 15 percent slopes, eroded, which is not considered hydric by the NRCS National List of Hydric Soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A

Water Table Present? Yes ○ No ◉ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: Some drift deposits are observed from historic high flow events that are not typical for this system. The prominant hydrology indicators are observed in the channel bottom.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T8.2

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.5722908 | Long: -117.11909375 | Datum: NAD 1983

Soil Map Unit Name: Las Posas loam, 8 to 15 percent slopes, eroded | NWI classification: PSSW

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the channel bottom of a channel that is a tributary of a larger riverine system outside of the survey boundaries. Southern California is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	45	Yes	FACW
2.			
3.			
4.			
Total Cover:	45 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Typha domingensis*	10	Yes	OBL
2. *Apium graveolens*	5	Yes	Not Listed
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	15 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	45	x 2 =	90
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	60 (A)		125 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:

☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This sample point is in the channel bottom of a southern willow scrub vegetation community.

SOIL

Sampling Point: T8.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Grouted rip-rap along bank until edge of running water. A soil pit could not be dug since the bank has been covered by grouted rip rap. However, as noted below, fluvial sediment and drift deposits were observed near the sample point. The soil, mapped as Las Posas loam, 8 to 15 percent slopes, eroded, was not included in the hydric soil list. Fluvial sediments often do not exhibit hydric field indicators for this soil as outlined by the NTCHS Field Indicators of Hydric Soils in the United States. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement Chapter 3, page 27 and states that 'a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators'. In addition, both hydrophytic vegetation and wetland hydrology are simultaneously present at the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):	6
Water Table Present?	Yes ○	No ◉	Depth (inches):	N/A
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:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T9.1

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): undulating | Slope (%): 2

Subregion (LRR): C - Mediterranean California | Lat: 33.57024711 | Long: -117.11844157 | Datum: NAD 1983

Soil Map Unit Name: Las Posas rocky loam, 15 to 50 percent slopes, severely eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is located in a Southern California Edison service road above a channel that is a tributary to Tucalota Creek. Tucalota Creek discharges into Murrieta Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	(A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This sample point is unvegetated since it is in the access road. If no disturbance occurred, coastal sage scrub species would be expected.

SOIL

Sampling Point: T9.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compacted

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks: Sampling point is in a service road and no soil pit was dug since vehicular access has cause compaction. Soils are not listed as hydric on the NRCS National List of Hydric Soils. In addition, the feature did not meet the hydrophytic vegetation and hydrology criteria, and therefore, the soil was not assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T9.2

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 7, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.57024856 | Long: -117.11839585 | Datum: NAD 1983

Soil Map Unit Name: Las Posas rocky loam, 15 to 50 percent slopes, severely eroded | NWI classification: N/A

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 ◉	No ○	
Hydric Soil Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the bottom of a channel that is a tributary to Tucalota Creek. Tucalota Creek discharges into Santa Gertrudis Creek. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	60	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	60	x 3 =	180
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	60 (A)		180 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ☒ 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.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: This sample point is in the channel bottom of a mule fat scrub vegetation community.

SOIL

Sampling Point: T9.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: rock

Depth (inches): 8

Hydric Soil Present? Yes ◉ No ○

Remarks: The soil, mapped as Las Posas rocky loam, 15 to 50 percent slopes, severely eroded, was not included in the hydric soil list. No hydric soil field indicators observed. Recently deposited fluvial sediments were observed. Fluvial sediments often do not exhibit hydric field indicators for this soil as outlined by the NTCHS Field Indicators of Hydric Soils in the United States. Guidance for soil lacking hydric indicators is found in the 2008 Arid West Region (Version 2.0) Supplement Chapter 3, page 27 and states that 'a soil that meets the definition of a hydric soil is hydric whether or not it exhibits indicators'. In addition, both hydrophytic vegetation and wetland hydrology are simultaneously present at the sample point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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):	4
Water Table Present?	Yes ○ No ◉	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	N/A

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Surface water was present during the time of the survey. Rains were relatively recent in the area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T10.1

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 18, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): undulating | Slope (%): 5

Subregion (LRR): C - Mediterranean California | Lat: 33.55408372 | Long: -117.11953815 | Datum: NAD 1983

Soil Map Unit Name: Las Posas rocky loam, 15 to 50 percent slopes, severely eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Sampling point is on a terrace above a channel that has been created from run-off from a water reservoir. The feature does not appear to connect to any drainage downstream and appears to dissipate into upland vegetation species. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix chinensis*	10	Yes	FAC
2.			
3.			
4.			
Total Cover:	10 %		
Sapling/Shrub Stratum			
1. *Eriogonum fasciculatum*	25	Yes	Not Listed
2. *Artemisia californica*	30	Yes	Not Listed
3.			
4.			
5.			
Total Cover:	55 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 35 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	55	x 5 =	275
Column Totals:	65 (A)		305 (B)

Prevalence Index = B/A = 4.69

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: This sample point is in a coastal sage scrub community above the erosional feature.

SOIL

Sampling Point: T10.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	100					Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compacted soil

Depth (inches): 16

Hydric Soil Present? Yes ○ No ◉

Remarks: Soil is mapped as Las Posas rocky loam, 15 to 50 percent slopes, severely eroded, which is not considered hydric by the NRCS National List of Hydric Soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A

Water Table Present? Yes ○ No ◉ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): N/A

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks: None observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP | City/County: Murrieta, Riverside | Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison | State: CA | Sampling Point: T10.2

Investigator(s): Rey Pellos, Lance Woolley | Section, Township, Range: Section 18, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 33.55406998 | Long: -117.11950725 | Datum: NAD 1983

Soil Map Unit Name: Las Posas rocky loam, 15 to 50 percent slopes, severely eroded | NWI classification: N/A

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the bottom of an erosional feature that has been created from run-off from a water reservoir. The feature passes under the dirt road via culvert and then enters a riser pipe to continue underground. OHWM defines the USACE jurisdiction. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix chinensis*	65	Yes	FAC
2.			
3.			
4.			
Total Cover:	65 %		
Sapling/Shrub Stratum			
1. *Artemisia californica*	5	Yes	Not Listed
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust 0 %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	65	x 3 =	195
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	70 (A)		220 (B)

Prevalence Index = B/A = 3.14

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Upstream of the sample point coastal sage scrub species dominate the area surrounding the erosional feature. A cottonwood tree is present on the other side of the culvert. This sample point is dominated by the tamarisk and California sagebrush.

SOIL

Sampling Point: T10.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5YR 4/4	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

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

Restrictive Layer (if present):

Type: compacted soil

Depth (inches): 14

Hydric Soil Present? Yes ○ No ◉

Remarks: Presence of recently deposited sand. Soil is mapped as Las Posas rocky loam, 15 to 50 percent slopes, severely eroded, which is not considered hydric by the NRCS National List of Hydric Soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: OHWM will define the USACE jurisdiction.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: VSSP City/County: Murrieta, Riverside Sampling Date: 12/20/13

Applicant/Owner: Southern California Edison State: CA Sampling Point: T11.1

Investigator(s): Rey Pellos, Lance Woolley Section, Township, Range: Section 19, Township 7S, Range 2W

Landform (hillslope, terrace, etc.): channel bottom Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C - Mediterranean California Lat: 33.54290654 Long: -117.118743120905 Datum: NAD 1983

Soil Map Unit Name: riverwash NWI classification: R4SBW

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 ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks: Sampling point is in the channel bottom of Santa Gertrudis Creek. The limits of WOUS are defined by OHWM at this site not the extent of wetlands. The OHWM is delineated by the field observation of defined bed and bank and the destruction of upland vegetation species. The region is currently under severe drought conditions according to the US Drought Monitor.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum ____ % % Cover of Biotic Crust ____ %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	(A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ◉ 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.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: Sampling point is in the bottom of a mostly nonvegetated channel of San Gertrudis Creek. There were some interspersed Baccharis salicifolia and sparse Artemisia dracunculus and Nicotiana glauca. The slopes are covered with coastal sage scrub species such as Artemisia californica and Eriogonum fasciculatum.

SOIL

Sampling Point: T11.1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
							Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

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

[3]Indicators 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: Presence of recently deposited sand, due to loose sand deposits soil pit continued to collapse within itself. Soil is mapped as riverwash which is listed as hydric on the NRCS National List of Hydric Soils. Limits of WOUS is defined by the OHWM.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Thin Muck Surface (C7)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ 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): N/A
Water Table Present?	Yes ○	No ◉	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches): N/A

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: Hydrology indicators observed in the channel bottom.

ATTACHMENT D

PRELIMINARY JD FORM

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: May 8, 2014

State: CA | City/County: Murrieta/Riverside

Nearest Waterbody: Murrieta Creek

Location: TRS, LatLong or UTM: Lat: 33.576931 Long:-117.118854 (NAD 83)

Name/ Address of Person Requesting PJD: Stephanie Fincher
Southern California Edson
1218 S. Fifth Avenue
Monrovia, California 91016

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 3,307 linear ft | 10 width | 0.75 acres | Stream Flow: Intermittent

Wetlands: 2.98 acre(s) | Cowardin Class: Palustrine, scrub-shrub

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☑ Field Determination: | Date of Field Trip: Dec. 2013, March 201

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: See JDL
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Bachelor Mountain 1978; Murrieta 1979
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Knecht 1971
- ☑ National wetlands inventory map(s). Cite name: http://www.fws.gov/wetlands/Data/Mapper.html
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: https://hazards.fema.gov/wps/portal/mapviewer
- ☑ 100-year Floodplain Elevation is: Within 100-year floodplain of Santa Gertrudis Cre
- ☑ Photographs: ☑ Aerial (Name & Date): Bing 2013; NAIP 2012
  ☑ Other (Name & Date): Photos in JDR (AECOM)
- ☐ Previous determination(s). File no. and date of response letter:
- ☑ Other information (please specify): See JDR

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	May 8, 2014
State	CA	City/County	Murrieta/Riverside	Person Requestinq PJD	Stephanie Fincher (SCE)

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource

Notes:

Please refer to the Jurisdictional Delineation Report for specific information on the aquatic resources delineated within the survey area. Also, see the attached Table 1 that contains the full list of jurisdictional waters features within the survey area.

Table 1

Aquatic Resources within the Survey Area

Feature ID	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resources in Review Area	Class of Aquatic Resource
Feature A	33.54270	-117.11945	Palustrine, scrub-shrub	0.0024	Non-Section 10 wetland
Feature A	33.54279	-117.11918	Palustrine, scrub-shrub	0.0141	Non-Section 10 wetland
Feature A	33.54272	-117.11922	Palustrine, scrub-shrub	0.0071	Non-Section 10 wetland
Feature A	33.54266	-117.11938	Palustrine, scrub-shrub	0.0085	Non-Section 10 wetland
Feature A	33.54271	-117.11940	Riverine	0.4943	Non-Section 10 non-wetland
Feature B	33.55425	-117.11944	Riverine	0.0082	Non-Section 10 non-wetland
Feature B	33.55398	-117.11961	Riverine	0.0021	Non-Section 10 non-wetland
Feature C	33.57050	-117.11828	Palustrine, scrub-shrub	0.0034	Non-Section 10 wetland
Feature C	33.57018	-117.11833	Palustrine, scrub-shrub	0.0089	Non-Section 10 wetland
Feature C	33.57101	-117.11763	Riverine	0.0637	Non-Section 10 non-wetland
Feature C	33.57089	-117.11763	Palustrine, scrub-shrub	0.0008	Non-Section 10 wetland
Feature C	33.57064	-117.11790	Palustrine, scrub-shrub	0.0011	Non-Section 10 wetland
Feature C	33.56986	-117.11796	Palustrine, scrub-shrub	0.0054	Non-Section 10 wetland
Feature C	33.56892	-117.11746	Riverine	0.0433	Non-Section 10 non-wetland
Feature C	33.57066	-117.11766	Riverine	0.0061	Non-Section 10 non-wetland
Feature C	33.57059	-117.11808	Riverine	0.0033	Non-Section 10 non-wetland
Feature C	33.57040	-117.11839	Riverine	0.0012	Non-Section 10 non-wetland
Feature C	33.57007	-117.11807	Riverine	0.0023	Non-Section 10 non-wetland
Feature D	33.57217	-117.11874	Palustrine, emergent	0.0684	Non-Section 10 wetland
Feature D	33.57217	-117.11772	Palustrine, emergent	0.1283	Non-Section 10 wetland
Feature E	33.57520	-117.11890	Palustrine, scrub-shrub	0.0255	Non-Section 10 wetland
Feature E	33.57536	-117.11859	Riverine	0.0024	Non-Section 10 non-wetland
Feature F	33.57691	-117.11887	Palustrine, scrub-shrub	0.0046	Non-Section 10 wetland

Feature F	33.57676	-117.11908	Palustrine, scrub-shrub	0.0019	Non-Section 10 wetland
Feature F	33.57735	-117.11859	Riverine	0.0100	Non-Section 10 non-wetland
Feature F	33.57683	-117.11901	Riverine	0.0010	Non-Section 10 non-wetland
Feature G	33.57898	-117.11895	Palustrine, scrub-shrub	0.0067	Non-Section 10 wetland
Feature G	33.57960	-117.11790	Riverine	0.0066	Non-Section 10 non-wetland
Feature G	33.57917	-117.11870	Riverine	0.0047	Non-Section 10 non-wetland
Feature H	33.58675	-117.11864	Palustrine, scrub-shrub	0.0100	Non-Section 10 wetland
Feature H	33.58606	-117.11773	Palustrine, forested	0.1661	Non-Section 10 wetland
Feature H	33.58653	-117.11808	Palustrine, scrub-shrub	0.0064	Non-Section 10 wetland
Feature H	33.58658	-117.11827	Riverine	0.0084	Non-Section 10 non-wetland
Feature H	33.58644	-117.11798	Riverine	0.0034	Non-Section 10 non-wetland
Feature J	33.59171	-117.12733	Palustrine, scrub-shrub	0.0015	Non-Section 10 wetland
Feature J	33.59186	-117.12691	Palustrine, scrub-shrub	0.0082	Non-Section 10 wetland
Feature J	33.59175	-117.12722	Riverine	0.0002	Non-Section 10 non-wetland
Feature J	33.59158	-117.12761	Riverine	0.0030	Non-Section 10 non-wetland
Feature K	33.59585	-117.12753	Palustrine, emergent	0.8697	Non-Section 10 wetland
Feature K	33.59599	-117.12652	Palustrine, emergent	0.5490	Non-Section 10 wetland
Feature K	33.59634	-117.12784	Palustrine, emergent	0.1243	Non-Section 10 wetland
Feature K	33.59599	-117.12690	Palustrine, emergent	0.0634	Non-Section 10 wetland
Feature K	33.59630	-117.12643	Palustrine, emergent	0.3383	Non-Section 10 wetland
Feature K	33.59615	-117.12744	Palustrine, emergent	0.1759	Non-Section 10 wetland
Feature K	33.59633	-117.12770	Palustrine, emergent	0.1729	Non-Section 10 wetland
Feature K	33.59633	-117.12680	Palustrine, scrub-shrub	0.0917	Non-Section 10 wetland
Feature K	33.59623	-117.12736	Palustrine, scrub-shrub	0.0331	Non-Section 10 wetland
Feature K	33.59606	-117.12775	Palustrine, scrub-shrub	0.0531	Non-Section 10 wetland
Feature L	33.59835	-117.12830	Palustrine, scrub-shrub	0.0308	Non-Section 10 wetland
Feature L	33.59753	-117.12818	Riverine	0.0814	Non-Section 10 non-wetland

Feature L	33.59793	-117.12830	Riverine	0.0025	Non-Section 10 non-wetland

APPENDIX C

SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR WITHIN THE BIOLOGICAL STUDY AREA

Appendix C
Special-Status Plant Species with Potential to Occur within BSA

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
chaparral sand-verbena	*Abronia villosa* var. *aurita*	CNPS RPR:1B.1	Chaparral, coastal scrub, sandy areas between 80–1,600 meters.	Annual herb Blooms January to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Yucaipa onion	*Allium marvinii*	MSHCP: NE	Chaparral. Prefers clay substrate and openings between 760–1,065 meters.	Perennial bulbiferous herb Blooms April to May	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Munz's onion	*Allium munzii*	FE ST MSHCP: NE CNPS RPR:1B.1	Chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands and openings within shrublands or woodland between 300–1,035 meters.	Perennial bulbiferous herb Blooms March to May	**High Potential to occur.** Highly suitable habitat for this species occurs within the project area, north of Murrieta Hot Springs Road. Historic locations for this species occur just east of the project at this location (Jepson Consortium of Herbaria). Species has not been detected during focused rare plant surveys conducted to date.
San Diego ambrosia	*Ambrosia pumila*	FE MSHCP: NE CNPS RPR:1B.1	Chaparral, coastal scrub, valley and foothill grassland, disturbed sites. Sandy loam or clay soil between 20–1,415 meters.	Perennial rhizomatous herb Blooms April to October	**Present.** San Diego ambrosia was observed in the southern portion of the Proposed Project area just north of Nicolas Road on clay soils within areas of nonnative grassland.
Johnston's rockcress	*Arabis johnstonii*	MSHCP: NE CNPS RPR:1B.2	Often on eroded clay. Chaparral and lower montane coniferous forest between 1,350–2,150 meters.	Perennial herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Rainbow manzanita	*Arctostaphylos rainbowensis*	CNPS RPR:1B.1	Chaparral. Usually found in gabbro chaparral in Riverside County and San Diego County between 270–790 meters.	Perennial evergreen shrub Blooms January to February	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Jaeger's milk-vetch	*Astragalus pachypus* var. *jaegeri*	CNPS RPR:1B.1	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland. Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral between 365–915 meters.	Perennial shrub Blooms December to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	FE MSHCP: CA CNPS RPR:1B.1	Playas, chenopod scrub, valley and foothill grassland, vernal pools. Dry, alkaline flats in the San Jacinto River Valley between 400–500 meters.	Annual herb Blooms April to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
South Coast saltscale	*Atriplex pacifica*	CNPS RPR:1B.2	Coastal scrub, coastal bluff scrub, playas, chenopod scrub. Alkali soils between 1–500 meters.	Annual herb Blooms March to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Parish's brittlescale	*Atriplex parishii*	MSHCP: CA CNPS RPR:1B.1	Alkali meadows, vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils between 4–140 meters.	Annual herb Blooms June to October	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	CNPS RPR:1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil between 3–250 meters.	Annual herb Blooms April to October	**Not expected to occur.** Species has not been detected during focused rare plant surveys conducted to date.
Nevin's barberry	*Berberis nevinii*	FE SE MSHCP: CA CNPS RPR:1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, north-facing slopes or in low grade sandy washes between 290–1,575 meters.	Perennial evergreen shrub Blooms March to June	**Low potential to occur.** Marginally suitable habitat occurs in Santa Gertrudis Creek in the southern end of the project. Species has not been detected during focused rare plant surveys conducted to date.
thread-leaved brodiaea	*Brodiaea filifolia*	FT SE MSHCP: CA CNPS RPR:1B.1	Cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Clay soils between 25–860 meters.	Perennial bulbiferous herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Orcutt's brodiaea	*Brodiaea orcuttii*	CNPS RPR:1B.1	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows. Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages between 30–1,615 meters.	Perennial herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
round-leaved filaree	*California macrophylla*	CNPS RPR:1B.1	Cismontane woodland, valley and foothill grassland. Clay soils between 15–1,200 meters.	Annual herb Blooms March to May	**High Potential to occur.** Suitable habitat for this species occurs within the clay soil areas in the project area. Historic locations for this species occur just east of the project, just south of Auld road (Jepson Consortium of Herbaria). Species has not been detected during focused rare plant surveys conducted to date.
Munz's mariposa lilly	*Calochortus palmeri* var. *munzii*	MSHCP: NE CNPS RPR: 1B.2	Chaparral, lower montane coniferous forest, meadows and seeps between 1,200–2,200 meters.	Perennial bulbiferous herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Plummer's mariposa-lily	*Calochortus plummerae*	CNPS RPR:1B.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material between 90–1,610 meters.	Perennial bulbiferous herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
intermediate mariposa-lily	*Calochortus weedii* var. *intermedius*	CNPS RPR:1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky open slopes and rock outcrops between 120–850 meters.	Perennial bulbiferous herb Blooms May to July	**Moderate potential to occur**. Suitable habitat for this species occurs along Briggs Road in the north part of project. Historic locations of this species occur approximately 1 mile northwest of the project.
Payson's jewel-flower	*Caulanthus simulans*	CNPS RPR:4.2	Chaparral, coastal scrub. Frequently in burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes. Between 90–2,200 meters.	Annual herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Lakeside ceanothus	*Ceanothus cyaneus*	CNPS RPR:1B.2	Closed-cone coniferous forest, chaparral between 100–1,515 meters.	Perennial evergreen shrub Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Vail Lake ceanothus	*Ceanothus ophiochilus*	FT SE MSHCP: CA CNPS RPR:1B.1	Chaparral. Gabbro seams on north-facing ridges on the eastern sides of mountains between 620–825 meters.	Perennial evergreen shrub Blooms February to March	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
smooth tarplant	*Centromadia pungens* ssp. *laevis*	MSHCP: CA CNPS RPR:1B.1	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub between 0–480 meters.	Annual herb Blooms April to September	**Moderate potential to occur.** Potentially suitable alkali habitat for this species occurs in the northern portion of the Proposed Project area along Briggs Road. This species tends to bloom later in the year and may not have been detectable during the surveys conducted to date.
Parish's chaenactis	*Chaenactis parishii*	CNPS RPR:1B.3	Chaparral. Rocky sites between 1,300–2,500 meters.	Perennial herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	CNPS RPR:1B.1	Coastal scrub, chaparral. Dry slopes and flats; dry, sandy soils between 40–1,705 meters.	Annual herb Blooms April to June	**Present.** Parry's spine flower was observed in the central portion of the Proposed Project area. Parry's spine flower was within openings of Diegan coastal sage scrub habitats and was associated with granitic soils and granite rock outcrops.
long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	CNPS RPR:1B.2	Chaparral, coastal scrub, meadows, valley and foothill grassland. Gabbroic clay between 30–1,450 meters.	Annual herb Blooms April to July	**Present.** Long-spined spine flower was observed in several small patches in the southern portion of the Proposed Project area in open areas of Diegan coastal sage scrub on clay soils. This species was also observed in one location within the Alternative ¤▯ ¤愀Ś摧 AĀ ¯a west of Briggs Road in an open area of Diegan coastal sage scrub with biotic crusts.
small-flowered morning-glory	*Convolvulus simulans*	CNPS RPR: 4.2	Openings in chaparral and coastal scrub, valley and foothill grassland between 30–700 meters.	Annual herb Blooms March to July	**Present.** Small-flowered morning-glory was observed scattered throughout the central and southern portions of the Proposed Project area on clay soils within areas of nonnative grassland and Diegan coastal sage scrub.
Mojave tarplant	*Deinandra mohavensis*	SE CNPS RPR:1B.3	Riparian scrub, chaparral. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas between 850–1,600 meters.	Annual herb Blooms June to January	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
paniculate tarplant	*Deinandra paniculata*	CNPS RPR 4.2	Coastal scrub, valley and foothill grassland, vernal pools. 25-940 meters.	Annual herb Blooms April to November	**Present.** Hundreds of plants are scattered throughout the project area.
slender-horned spineflower	*Dodecahema leptoceras*	FE SE CNPS RPR:1B.1	Chaparral, coastal scrub (alluvial fan sage scrub). Flood-deposited terraces and washes; associates include *Encelia*, *Dalea*, *Lepidospartum*. Between 200–760 meters.	Annual herb Blooms April to May (uncommonly in March)	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
many-stemmed dudleya	*Dudleya multicaulis*	MSHCP: NE CNPS RPR:1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes between 0–790 meters.	Perennial herb Blooms April to July	**Not expected to occur.** Species has not been detected during focused rare plant surveys conducted to date.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE SE CNPS RPR:1B.1	Vernal pools, coastal scrub, valley and foothill grassland between 15–620 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Jacinto Mountains bedstraw	*Galium angustifolium* ssp. *jacinticum*	MSHCP: NE CNPS RPR:1B.1	Lower montane coniferous forest between 1,350–2,100 meters.	Annual herb Blooms June to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Mission Canyon bluecup	*Githopsis diffusa* ssp. *filicaulis*	CNPS RPR:3.1	Chaparral. Probably in open, grassy places within chaparral between 450–700 meters.	Annual herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Palmer's grapplinghook	*Harpagonella palmeri*	CNPS RPR:4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. Between 15–830 meters.	Annual herb Blooms March to May	**Present.** Palmer's grappling hook was observed in the central portion of the Proposed Project area along Leon Road, north of McGowans Pass on clay soils within areas of nonnative grassland and openings of Diegan coastal sage scrub.
mesa horkelia	*Horkelia cuneata* ssp. *puberula*	CNPS RPR:1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites between 70–810 meters.	Perennial herb Blooms February to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Diego hulsea	*Hulsea californica*	CNPS RPR:1B.3	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Coarse to fine sandy loam in disturbed chaparral openings at high elevations between 1,000–2,915 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
Santa Lucia dwarf rush	*Juncus luciensis*	CNPS RPR:1B.2	Vernal pools, meadows, lower montane coniferous forest, chaparral, great basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides between 300–2,040 meters.	Annual herb Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	MSHCP: CA CNPS RPR:1B.1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands between 1–1,400 meters.	Annual herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
heart-leaved pitcher sage	*Leepichinia cardiophylla*	MSHCP: CA CNPS RPR:1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland between 520–1,370 meters.	Perennial shrub Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Robinson's pepper-grass	*Lepidium virginicum* var. *robinsonii*	CNPS RPR:1B.2	Chaparral, coastal scrub. Dry soils between 1–945 meters.	Annual herb Blooms January to July	**Moderate potential to occur**. Suitable habitat for this species occurs within the coastal scrub habitat throughout the project area.
Orcutt's linanthus	*Linanthus orcuttii*	CNPS RPR:1B.3	Chaparral, lower montane coniferous forest. Sometimes in disturbed areas; often in gravelly clearings between 1,060–2,000 meters.	Annual herb Blooms May to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Hall's monardella	*Monardella macrantha* ssp. *hallii*	CNPS RPR:1B.3	Broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland. Dry slopes and ridges in openings within the above communities between 695–2,195 meters.	Perennial rhizomatous herb Blooms June to October	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
little mousetail	*Myosurus minimus* ssp. *apus*	MSHCP: CA CNPS RPR:3.1	Vernal pools. Alkaline soils between 20–640 meters.	Annual herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
mud nama	*Nama stenocarpum*	MSHCP: CA CNPS RPR:2B.2	Marshes and swamps (lake margins, riverbanks). Between 5–500 meters.	Annual / Perennial herb Blooms January to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
spreading navarretia	*Navarretia fossalis*	FT MSHCP: NE CNPS RPR:1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas, vernal pools between 30–1,300 meters.	Annual herb Blooms March to May	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
prostrate vernal pool navarretia	*Navarretia prostrata*	MSHCP: CA CNPS RPR:1B.1	Coastal scrub, valley and foothill grassland, vernal pools. Mesic, alkaline sites between 15–700 meters.	Annual herb Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Peninsular nolina	*Nolina cismontana*	CNPS RPR:1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro between 140–1,275 meters.	Perennial evergreen shrub Blooms March to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
California Orcutt grass	*Orcuttia californica*	FE SE MSHCP: NE CNPS RPR:1B.1	Vernal pools between 15–660 meters.	Annual herb Blooms April to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Gander's ragwort	*Packera ganderi*	CNPS RPR:1B.2	Chaparral. Recently burned sites and gabbro outcrops between 400–1,200 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
California beardtongue	*Penstemon californicus*	CNPS RPR:1B.2	Chaparral, lower montane coniferous forest, pinyon-juniper woodland. Stony slopes and shrubby openings; sandy or granitic soils between 1,160–2,300 meters.	Perennial herb Blooms May to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Santiago Peak phacelia	*Phacelia keckii*	CNPS RPR:1B.3	Closed-cone coniferous forest, chaparral. Open areas, sometimes along creeks between 545–1,600 meters.	Annual herb Blooms May to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Brand's phacelia	*Phacelia stellaris*	FC MSHCP: NE CNPS RPR:1B.1	Coastal dunes and coastal scrub between 1–400 meters.	Annual herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
white rabbit-tobacco	*Pseudognaphalium leucocephalum*	CNPS RPR:2.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites between 0–2,100 meters.	Perennial herb Blooms July to December	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Miguel savory	*Satureja chandleri*	MSHCP: NE CNPS RPR:1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate between 120–1,005 meters.	Perennial shrub Blooms March to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
Hammitt's clay cress	*Sibaropsis hammittii*	MSHCP: NE CNPS RPR:1B.2	Prefers clay substrate. Chaparral (openings), valley and foothill grasslands between 720–1,065 meters.	Annual herb Blooms March to April	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
southern mountains skullcap	*Scutellaria bolanderi* ssp. *austromontana*	CNPS RPR:1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425–2,000 meters.	Perennial rhizomatous herb Blooms June to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Wright's trichocoronis	*Trichocoronis wrightii* var. *wrightii*	MSHCP: NE CNPS RPR:2B.1	Meadows and seeps, marshes and swamps, riparian forest and vernal pools. Prefers alkaline soils between 5–435 meters.	Annual herb Blooms May to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

[1] **Federal (U.S. Fish and Wildlife Service)**
FE – Federally endangered
FT – Federally threatened
FC – Federal candidate for listing
State (California Department of Fish and Wildlife)
SE – State endangered
ST – State threatened
Western Riverside County MSHCP (Multiple Species Habitat Conservation Plan)
CA – Criteria Area Plant
NE – Narrow Endemic Plant
CNPS (California Native Plant Society) RPR (Rare Plant Rank)
1A Presumed extinct in California
1B Rare, threatened, or endangered in California and elsewhere
2 Rare, threatened, or endangered in California, but more common elsewhere
3 Need More Information – A Review List
4 Limited Distribution – A Watch List
.1 Seriously threatened in California
.2 Fairly threatened in California
.3 Not very threatened in California

APPENDIX D

SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR WITHIN THE BIOLOGICAL STUDY AREA

Appendix D
Special-Status Wildlife Species with Potential to Occur within the Biological Study Area

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Invertebrates					
Riverside fairy shrimp	*Streptocephalus woottoni*	Federal: FE State: None MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP)	Deep, cool water vernal pools and other ephemeral wetlands within coastal sage scrub, valley and foothill grassland.	Requires at least 48 days of continuous inundation to mature.	**Low potential to occur**. Although there are California Natural Diversity Database (CNDDB) records of this species occurring within 3 miles, habitat within the biological study area (BSA) is marginal. Basins within the BSA appear too shallow to support depth requirements.
Vernal pool fairy shrimp	*Branchinecta lynchi*	Federal: FT State: None MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP)	Cool water vernal pools. Habitat is vernal pools, stock ponds, ephemeral ponds, or other human-modified depressions over willow soils.	Vernal pool inundation requirements of an average of 40 days to support cyst hatching.	**Low potential to occur.** Marginal habitat is present within the BSA; there are CNDDB records of this species occurring within 3 miles. However, basins on-site appear too shallow to support inundation requirements.
Santa Rosa Plateau Fairy Shrimp	*Linderiella santarosae*	Federal: None State: None MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP)	Cool water vernal pools on the Santa Rosa Plateau. Found in depressions over basaltic soils.	Vernal pool inundation requirements of an average of 40 days to support cyst hatching.	**Not expected to occur.** The BSA is not within or near the watershed for the Santa Rosa Plateau.
Delhi Sands flower-loving fly	*Rhaphiomidas terminatus abdominalis*	Federal: FE State: None MSHCP: Covered, surveys required as per MSHCP Exhibit 12	Delhi sands soil type and dunes with open coastal sage scrub and grassland.	Active during hot weather from mid-summer to early fall (July–September).	**Not expected to occur.** There is no potential for this species to occur due to lack of suitable sand dune habitat within the BSA.
Quino checkerspot butterfly	*Euphydryas editha quino*	Federal: FE State: None MSHCP: Adequately Conserved through MSHCP	Occurs in sunny openings within chaparral and coastal sage shrub, grasslands, and vernal pools, often along ridgelines and hilltops in parts of Riverside County and San Diego County. The primary host plants for	Adults emerge in earlyto mid-spring, mate and lay eggs. Eggs hatch in about 10 days and begin feeding on host plants	**High potential to occur.** Potential habitat and larval host plants are present. This species is known to occur immediately north of the BSA. There are CNDDB records of this species occurring within 3 miles

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
		Implementation	this species' larvae are *Plantago erecta*, *P. patagonica*, and *Castilleja exserta*.	and enter a period of summer diapauses and begin feeding again in winter to early spring as host plants appear again and then enter a short pupal phase.	of the BSA. Quino habitat described for conservation overlaps with BSA within Proposed Core 2, Existing Constrained Linkage E and Proposed Constrained Linkage 18 of the MSHCP.
Fish					
Arroyo Chub	*Gila orcuttii*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	In MSHCP area, occurs in the Santa Ana and Santa Margarita watersheds. Occurs in cool to warm (50–75 degrees Fahrenheit) streams that fluctuate between large winter storm flows and low summer flows, and the low dissolved oxygen and wide temperature fluctuations associated with this flow regime. They are most common in slow-flowing or backwater areas with sand or mud substrate, but may also inhabit areas with velocities in excess of 80 centimeters per second over coarse substrate.	Lifespan is approximately four years and reach a maximum size of 80-90 mm. Females can reproduce at age 1. Spawning takes place in pools and edge habitat from February to August with a peak in June and July. Several males may fertilize the eggs of one female. Fertilized eggs stick to plants or bottom substrate and hatch in about 4 days. Fry stay on the substrate for a few days, then rise to the surface and stay among plants or other cover for 3 – 4 months (University of California, 2014).	**Not expected to occur.** Due to small amount of marginal habitat within the BSA, there is low potential for this species to occur. Conservation of Proposed Constrained Linkages 11, 12 and 13, Existing Core G, and Proposed Core 7 are described in the MSHCP as areas to provide habitat for this species. These areas are not within or near the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Amphibians / Reptiles					
Coast range newt	*Taricha torosa torosa*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Occurs along coastline and in the Sierra Nevada. Prefers less humid climates, rock crevices and logs. When breeding, slow-moving pools in coastal streams are occupied.	Terrestrial and diurnal. Summers in moist habitats under woody debris Reproduce in water and adults reach reproductive maturity in their third year.The breeding season lasts 6 - 12 weeks from late December to February. Females lay 7 to 47 eggs and incubatation last 14 to 52 days.	**Low potential to occur.** There is a lack of extensive, persistent pools and mesic woodland vegetation within the BSA.
Arroyo toad	*Anaxyrus californicus*	Federal: FE State: SSC MSHCP: Adequately conserved when Section 6.3.2 of the MSHCP Additional Survey Needs and Procedures completed (Figure 6-3)	Openly to sparsely vegetated gravelly or sandy washes, intermittent streams, and major rivers on both sides of the desert divide mountains. Requires seasonal flows in open floodplains with persistent pools for breeding.	Nocturnal. Active from first rains (January through March) through August or September. Reproduce in water from March to July. Eggs are laid in long strings containing an average of 4,700 eggs. Tadpoles hatch after 4 -6 days. Larvae reach metamorphosis in 72 - 80 days.	**Low potential to occur.** There is a small amount of marginal habitat within the BSA, but the BSA is outside of the required MSHCP survey area for arroyo toad, so surveys were not conducted for this species.
Western spadefoot toad	*Spea hammondii*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Requires seasonal surface water such as vernal pools for breeding in grassland and open scrub habitats, but can be found in valley-foothill hardwood woodlands.	Western spadefoots have subterranean dormancy of 8 to 9 months per year. Breeding occurs from January to May in temporary pools and drainages. Oviposition may occur between late	**High potential to occur.** High potential to occur due to TRC observations in Segment 1 and the presence of suitable habitat within BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
				Februar and late May. Eggs hatch in 0.6 o 6 days. Larval development is completed in 3 to 11 weeks but must be completed before pools dry. Average time from hatching to metamorphosis is 58 days. Juveniles emerge from water in seek refuge in vicinity of natal ponds and then disperse.	
Mountain yellow-legged frog	*Rana mucosa*	Federal: FE State: SSC, SP MHSCP: Adequately conserved when Section 6.3.2 of the MSHCP Additional Survey Needs and Procedures completed (Figure 6-3)	Perennial or persistent mountain streams with rocky banks and sunny openings in surrounding vegetation (Lemm, 2006). Within the MSHCP area, the mountain yellow-legged frog is found in streams, creeks, and small pools in the San Jacinto Mountains (Dudek, 2003).	Diurnal. Reproduce in water. Mating and egg-laying occurs after high creek waters have subsided, from March through May.	**Not expected to occur. .** The BSA is not within the San Jacinto Mountains.
Silvery legless lizard	*Anniella pulchra pulchra*	Federal: None State: SSC MSHCP: None	Lives in burrows in loose, sandy soils. Often found in leaf litter and loose soil. Insectivorous. Moisture is essential. Found in beach dunes, pine-oak woodlands, chaparral, deser scrub, washes, stream terraces. .	Breeding is thought to occur between the spring and July with young being born n September and November. Males mature at two years and females at three years of age. Females are oviviparous and give live birth to litters of one to four young.	**Moderate potential to occur**. Within the BSA, areas with sandy or loamy loose soils with leaf litter were observed and where limited human disturbance.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
San Diego banded gecko	*Coleonyx variegatus abbottii*	Federal: None State: SA MSHCP: Covered	Occurs in arid areas including creosote flats, sagebrush desert, pinion-juniper woods, and chaparral. Prefers rocky areas but may occur in rock-free areas such as sand dunes.	Nocturnal species. Active April through October, with a peak in May and juveniles may be active November through March. Mating occurs from April to May, with eggs laid May through September and hatchlings appearing July through November. Clutch size is two eggs. Males and females reach maturity in one year.	**Moderate potential to occur.** Extensive boulder outcrops are present within the BSA.
Coast horned lizard	*Phrynosoma blainvilli*	Federal: None State: SSC MSHCP: None	Coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils.	Diurnal, with activity in middle of day in spring/fall and morning and late afternoon in mid-summer. Fall and winter are typically inactive periods. Egg laying is from late May to June with average clutch size of 13 eggs. Hatching occurs after two months.	**High potential to occur.** TRC observed this species in Segment 1 and suitable habitat is present within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Orange-throated whiptail	*Aspidoscelis hyperythra*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Openly vegetated areas with sandy or loose soil within coastal sage scrub, chaparral, and valley-foothill hardwood habitats. Requires termite colonies for food.	Diurnal. Lay eggs in June and July and hatch in two months.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	Federal: None State: SA MSHCP: Covered	Occurs in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Diurnal. Lay eggs in from April through August.	**Present**. This species was documented during AECOM surveys in spring 2014.
San Bernardino mountain kingsnake	*Lampropeltis zonata parvirubra*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation (including MOU with Forest Service)	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Found in southern California in the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel Mountains, and the Verdugo Hills.	Spend most of their time underground. Lay eggs in June and July and hatch after 50 -65 days.	**Not expected to occur.** Within the BSA, there are generally low elevations and a lack of continuity with montane topography and wooded habitats.]
Two-striped garter snake	*Thamnophis hammondii*	Federal: None State: SSC MSHCP: None	Coastal California up to 2,135 meters elevation, in or near permanent or persistent fresh water. Prefers streams with rocky beds and riparian growth.	Diurnal and aquatic. Breeds in late March through early April with live young born in late July and August.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable habitat within the BSA (TRC 2013).
Red diamond rattlesnake	*Crotalus ruber*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Primarily coastal sage scrub and chaparral, but also open woodland, grassland, and desert fringe areas on both sides of dividing ranges. Prefers rocky areas with rodent burrows, rock fissures, or other surface cover objects.	Nocturnal and crepuscular, and diurnal during moderate temperatures. Breeding occurs in the spring. Live young are born in July through September.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Western pond turtle	*Emys marmorata*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater.	Diurnal and aquatic. Active from February to November and estivates during summer months. Breeds in April and May and lays between two and eleven eggs.	**Low potential to occur.** There is a lack of suitable perennial wetland habitat within the BSA. There are CNDDB records of this species occurring within 3 miles of the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Birds					
Great blue heron	*Ardea herodias*	Federal: None State: SA (nesting sites) MSHCP: Adequately Conserved through MSHCP Implementation	Occurs near large bodies of salt or fresh water and wetland habitats, such as rivers, lake edges, marshes, and seacoasts. Nests colonially in trees or large shrub groves near water.	Non-migratory in Southern California. Colonial nesters with breeding occurring between December and May. Feed on fish and a wide variety of other small vertabrates including reptiles, amphibians, birds, and small mammals.	**High potential to occur.** TRC observed this species during 2013 surveys in Segment 1 (TRC 2013). Suitable foraging habitat occurs within the BSA, and this species has moderate potential to nest within the BSA.
American bittern	*Botaurus lentiginosus*	Federal: None State: SA MSHCP: Adequately Conserved through MSHCP Implementation	Dense marsh.	Partially migratory, but found year-round in Southern California. Solitary nesters in late spring. Feed on insects, fish and other small vertebrates.	**Low potential to occur.** This species has low potential to nest and/or forageoccur within the marshes of the BSA.
Black-crowned night-heron	*Nycticorax nycticorax*	Federal: None State: SA MSHCP: Adequately Conserved through MSHCP Implementation	Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats and, rarely, on kelp beds in marine subtidal habitats. Nests and roosts in dense-foliaged trees and dense emergent wetlands.	Non-migratory in Southern California. Breed in mixed species colonies as early as December, and disperse after breeding. Feed on a wide variety of invertebrates and small vertebrates.	**Present.** Observed in flight. This species has moderate potential to nest and/or forage within the BSA.
White-faced ibis	*Pegadis chihi*	Federal: None State: WL, SA MSHCP: Adequately Conserved through MSHCP Implementation	Freshwater marsh, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense freshwater marsh.	Present year-round in Southern California. Nest colonially between April and June. Feed largely on aquatic invertebrates, but also take some small vertebrates.	**Present.** Observed in flight. This species has high potential to forage within the BSA and low potential to nest within the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Turkey vulture	*Cathartes aura*	Federal: None State: None MSHCP: Covered (breeding) Raptor	Forages aerially above virtually any vegetation type or terrain, except dense human development. Secluded cliff ledge or rock fissure in remote, rugged terrain required for nesting. Native or non-native tree groves in lowlands often used as winter roosts.	Species is a long distance migrant, but present in Southern California year-round. Nests from late Feb through April. Feed on a wide variety of carrion.	**Present.** Observed foraging throughout the BSA. This species has low potential to nest within the BSA.
Osprey	*Pandion haliaetus*	Federal: None State: WL, SA MSHCP: Adequately Conserved through MSHCP Implementation	Associated with large, fish-bearing waters. Occurs in riparian forests, primarily in ponderosa pine though mixed conifer habitats.	Migratory, but present year-round in Southern California. Large stick nests are placed in tall riparian trees or on high man-made platforms or light standards. Feed almost exclusively on live fish caught by plunge diving.	**Low potential to occur.** There is low potential of occasional foraging for this species at the artificial reservoir in northern part of Segment 1. There is no suitable foraging habitat within the BSA. There is low potential to nest in the BSA due to the distance to suitable foraging habitat outside of the BSA.
White-tailed kite	*Elanus leucurus*	Federal: None State: FP (nesting) MSHCP: Adequately Conserved through MSHCP Implementation	Lowland terrestrial habitats, in particular, riparian woodlands, and oak or sycamore groves near grasslands.	Nomadic, but present year-round in Southern California. Moves in response to varying prey abundance. Builds stick nests in trees beteween from late-Feb through May. Feeds almost exclusively on California Voles (*Microtus californicus*)	**High potential to occur.** TRC observed this species in Segment 1 and suitable nesting and foraging habitat is present within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Bald eagle	*Haliaeetus leucocephalus*	Federal: BCC State: Endangered MSHCP: Adequately Conserved through MSHCP Implementation	Requires large bodies of water or free flowing rivers with abundant fish. Perches high in large stoutly limbed trees, or snags or broken-topped trees or on rocks near water.	Primarily a winter visitor, but widely scattered pairs breed in Southern California. Massive stick nests are placed in large trees near water and reused from	**Low potential to occur.** This species has low probability for foraging within the BSA. There is no nesting habitat within the BSA. There are CNDDB records of this species occurring within 3 miles of the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
				year to year. Feed primarily on fish and carrion, but also a wide variety of vertebrate prey.	
Northern harrier	*Circus cyaneus*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Extensive grassland and marsh edges. Occasionally open coastal sage scrub. Nests in grassland.	Primarily a winter visitor, but scattered pairs breed in suitable marsh or grassland habitat from April through May. Feed on small mammals, reptiles, amphibians, and birds	**High potential to occur.** TRC observed this species in Segment 1 and suitable nesting and foraging habitat is present within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Cooper's hawk	*Accipiter cooperii*	Federal: None State: WL, SA MSHCP: Adequately Conserved through MSHCP Implementation	Inhabits broken woodlands, woodland edges and streamside groves. Nests in open woodlands or in deciduous trees in riparian areas.	Migratory, but present year-round in Southern California. Breeding takes place from March through June with stick nests placed in dense trees. Feeds primarily on medium sized birds, though some mammalian prey is also taken.	**Present**. This species was documented during AECOM surveys in Spring 2014 and there is suitable nesting and foraging habitat present within the BSA.
Red-shouldered hawk	*Buteo lineatus*	Federal: None State: None MSHCP: None Raptor	Occurs mainly in swamp and forest habitats. They use the same nesting site from year to year.	Year-round resident in Southern California. Breeding takes place from Feb through July with stick nests placed large trees and often reused from year to year. Feeds primarily on small mammals, lizards, snakes, and amphibians.	**High potential to occur.** TRC observed this species in Segment 1 and there is suitable nesting and foraging habitat present within the BSA (TRC 2013).

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Swainson's hawk	*Buteo swainsoni*	Federal: BCC State: ST MSHCP: Adequately Conserved through MSHCP Implementation	Large expanses of wildland or rural areas consisting of native or nonnative tree stands for nesting and nearby open fields for foraging.	A long distance migrant that occurs in Southern California primarily on migration. Formerly a common breeder in riparian woodland bordered by grassland, but now extirpated as a breeder.Feeds on primarily on mammals when breeding and insects during migration and winter.	**Moderate potential to occur.** Suitable foraging habitat for this migrant species is present within the BSA, but the BSA is outside of its current known breeding range of this species.
Red-tailed hawk	*Buteo jamaicensis*	Federal: None State: None MSHCP: None Raptor	Widespread across many elevations and habitat types, but requires presence of a nesting tree or cliff in proximity to open foraging areas. Tolerant of human land uses. Nest sites considered sensitive.	Migratory, but a year-round resident in Southern California. Breeds from January into July building stick nests in large trees or man-made structures such as transmission towers. Takes a wide variety of prey including mammals, reptiles, amphibian, and birds.	**Present.** Two nests were documented in the BSA, and this species was observed foraging throughout the BSA.
Ferruginous hawk	*Buteo regalis*	Federal: BCC State: WL MSHCP: Adequately Conserved through MSHCP Implementation	Requires large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting.	Winter resident occurring from late September through early April. Feeds primarily on rabbits and ground squirrels.	**High potential to occur.** Suitable foraging habitat is present in the BSA for this winter resident. There are CNDDB records of this species occurring within 3 miles of the BSA. The BSA is outside of the known breeding range of this species.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Golden eagle	*Aquila chrysaetos*	Federal: BCC State: FP, WL MSHCP: Adequately Conserved through MSHCP Implementation	Inhabits rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons, rocky outcrops, and large trees provide nesting habitat.	Migratory, but present year-round in Southern California. Breeds from Feb through June, building large stick nests on cliff ledges or large trees that are reused from year to year. Feeds primarily on small to medium-sized mammals.	**Moderate potential to occur.** Suitable foraging habitat is present within the BSA. Potential suitable nesting habitat within the BSA is of low quality due to the extent of urban development in and around the BSA.
American kestrel	*Falco sparverius*	Federal: None State: None MSHCP: None Raptor	Expanses of any of various types of open vegetation, including anthropogenic conversions (e.g., farmland). Requires suitable tree or other cavities for nesting.	Migratory, but present year-round in Southern California. Breeds from March through June using tree cavities, crevices in dead palm fronds, and a variety of man-made cavities. Feeds on a wide variety of prey including large invertebrates, small mammals, birds, and reptiles.	**Present.** This species was observed foraging throughout the BSA. This species has a high potential to nest in the BSA and was suspected to be nesting in the transmission poles within the BSA..
Merlin	*Falco columbarius*	Federal: None State: WL (wintering) MSHCP: Adequately Conserved through MSHCP Implementation	Wide-ranging species wintering in many open habitats such as grassland, farmland, coastal sage scrub, marshes, and developed areas.	Winter resident occurring from October through March. Feeds mainly on birds.	**Moderate potential to occur.** Suitable foraging habitat is present in the BSA for this winter resident. The BSA is outside of the known breeding range of this species.
Prairie falcon	*Falco mexicanus*	Federal: BCC State: WL (nesting) MSHCP: Adequately Conserved through MSHCP Implementation	Large, wild expanses of grassland, desert, and other open terrain. Suitable secluded cliffs required for nesting.	Nomadic, but present year-round in Southern California, and moves based on prey availability. Breeds from March through June on rocky cliff and cave ledges.	**High potential to occur.** TRC observed this species in Segment 1 and there is suitable foraging habitat within the BSA (TRC 2013). There is no suitable breeding habitat in the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
				Feeds ground squirrels and other small mammals, as well as birds, lizards, and insects.	
American peregrine falcon	*Falco peregrinus anatum*	Federal: BCC State: FP MHSCP: Adequately Conserved through MSHCP Implementation	Widespread throughout California, prefers open habitat, coastlines, lake edges and mountain chains. Nests on cliff sides or utilized abandoned nests made by large birds but does not build its own nest.	Migratory, but present year-round in Southern California. Breeds from March through May on cliff ledges, buildings, and bridges. Feeds primarily on small birds.	**Low potential to occur.** This species has low potential to occur in the BSA. There are no large bodies of water or large concentration of prey species for foraging and no suitable breeding habitat within the BSA.
Mountain plover	*Charadrius montanus*	Federal: FC, BCC State: SSC (wintering) MSCP: Adequately Conserved through MSHCP Implementation	Large expanses of short grassland, rangeland, and plowed fields.	Winter resident in southern California from October through March. Insectivorous.	**Moderate potential to occur.** There is suitable foraging habitat in the BSA. The BSA is outside the known breeding range of this species.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Federal: FC, BCC State: SE MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP	Mature and extensive willow-cottonwood riparian forests along the broad lower floodplains of larger river systems.	Summer breeding resident in southern California from June into September. Builds a loose stick nest talls shrubs and trees. Insectivorous, primarily feeding on caterpillers, cicadas, grasshoppers, and crickets, but will also feed on lizards.	**Not expected to occur.**. Habitat for foraging and breeding not present. Mature riparian forests, which are required for this species, are not present within BSA. .
Great horned owl	*Bubo virginianus*	Federal: None State: None MSHCP: None Raptor	Occurs in a diverse variety of habitats as long as nest sites, prey source, and roosting sites are available. Prefers tall trees for nesting and roosting that border open habitats for hunting.	Year-round resident in southern California. Breeds from January through July. Nests in stick nests, usually old nests taken over from	**Present.** This species was documented during AECOM surveys in Spring 2014 and there is suitable nesting and foraging habitat present within the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
				other birds, in tall trees. Feeds primarily on small mammals.	
Western burrowing owl	*Athene cunicularia*	Federal: BCC State: SSC MSHCP: Adequately conserved when Section 6.3.2 of the MSHCP Additional Survey Needs and Procedures completed (Figure 6-4)	Arid and semi-arid environments with gentle terrain and open, low vegetation supporting burrowing mammals. Typically inhabits grasslands, pasturelands, open scrublands, and agricultural margins.	Migratory but present year-round in southern California. Breeds from April through July. Nests in burrows. Feeds on insects, amphibians, reptiles, small mammals, and birds.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA. There is suitable foraging and breeding habitat in the BSA. Not observed during surveys.
Costa's hummingbird	*Calypte costae*	Federal: None State: SA MSHCP: None	Desert, desert scrub, chaparral, coastal sage scrub, and riparian areas.	Migratory but present year-round in southern California. Breeds from February through July and winters in the desert. Builds a small cup nest in the forks or horizontal limbs of tree branches. Feeds on nectar.	**Present.** This species was documented during AECOM surveys in spring 2014 and there is suitable foraging and breeding habitat present in the BSA.
Southwestern willow flycatcher	*Empidonax traillii extimus*	Federal: FE State: SE MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP	Mature, extensive cottonwood-willow riparian forest.	Summer breeding resident in southern California from May through August. Builds a cup nest in the forks of tree and shrub branches. Insectivorous.	**Low potential to occur**. Willow flycatchers of undetermined subspecies were documented during AECOM surveys in spring 2014. Suitable foraging habitat is present in the BSA, but breeding habitat is of marginal quality.
Loggerhead shrike	*Lanius ludovicianus*	Federal: BCC State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Large tracts of grassland, agricultural fields, or other open terrain. Intolerant of high human density. Small, often isolated trees or dense shrubs required for nesting. Frequently uses fences and thorny shrubs for hunting perches and for impaling prey.	Year-round resident in southern California. Breeds from March through July. Builds a cup nest, usually placed in thorny shrubs. A predatory songbird	**High potential to occur.** TRC observed this species in Segment 1 and there is suitable breeding and foraging habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
				that feeds on insects, amphibians, reptiles, small mammals and other birds.	
Least Bell's vireo	*Vireo bellii pusillus*	Federal: FE State: SE MSHCP: Protected via Riparian/Riverine Areas and Vernal Pools policy (Section 6.1.2 of the MSHCP	Forages and nests in lowland riparian vegetation with dense cover in lower layers. Occurs below 610 meters elevation.	Summer resident in southern California from March through September. Breeds from April through August. Builds a cup nest in the forks of tree and shrub branches. Insectivorous.	**Present**. This species was documented foraging and breeding in the BSA during AECOM surveys in spring 2014.
Coastal Cactus wren	*Campylorhynchus brunneicapillus*	Federal: BCC State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Foraging and breeding habitat is coastal sage scrub with patches of tall prickly pear and coastal cholla (*Opuntia littoralis* and *O. oricola*). Nests almost exclusively in prickly pear and coastal cholla.	Year-round resident in southern California. Breeds from February through July. Builds a conspicuous domed nest of grasses, usually placed in cactus.Feeds primarily on insects.	**Low potential to occur.** There is low potential of occurrence due to the lack of adequate cactus stands within the BSA.
Coastal California gnatcatcher	*Polioptila californica*	Federal: Threatened State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Coastal sage scrub vegetation, generally below 2,000 feet elevation.	Year-round resident in southern California. Breeds from February through July. Builds a cup nest shrubs. Feeds primarily on insects.	**Present**. This species was documented foraging during AECOM surveys in spring 2014. There is suitable breeding habitat in the BSA.
California horned lark	*Eremophila alpestris actia*	Federal: None State: WL; SA MSHCP: Adequately Conserved through MSHCP Implementation	Coastal regions, short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	Year-round resident in southern California. Breeds from March through July. Builds a cup nest in depressions in the ground. Feeds primarily on insects and invertebrates.	**Present**. This species was documented during AECOM surveys in spring 2014. There is suitable breeding and foraging habitat in the BSA.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Grasshopper sparrow	*Ammodramus savannarum*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation and requirements in Table 9-3 of the MSHCP	Inhabits grassland, upland meadow, pasture, hayfield, and old field habitats. Nests on ground.	Migratory but present year-round in southern California. Breeds from March through July. Builds a cup nest on the ground. Feeds on insects.	**Moderate potential to occur.** There is a moderate potential for this species to occur within the BSA due to presence of of suitable breeding and foraging habitat.
Bell's sage sparrow	*Amphispiza belli belli*	Federal: BCC State: WL; SA MSHCP: Adequately Conserved through MSHCP Implementation	Chaparral consisting of relatively dense stands of chamise.	Year-round resident in southern California. Breeds from March through July. Builds a cup nest in shrubs. Feeds on insects, fruits, and seeds.	**High potential to occur.** TRC observed this species in Segment 1 and there is suitable breeding and foraging habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	Federal: None State: WL; SA MSHCP: Adequately Conserved through MSHCP Implementation	Coastal sage scrub and sparse mixed chaparral, often on rocky hillsides with patches of grass and herbaceous vegetation.	Year-round resident in southern California. Breeds from March through July. Builds a cup nest on the ground at the base of grasses and shrubs. Feeds on insects and seeds.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable breeding and foraging habitat within the BSA (TRC 2013). There are CNDDB records of this species occurring within 3 miles of the BSA.
Yellow warbler	*Setophaga petechia*	Federal: BCC State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Mature riparian forest consisting of willow, cottonwood, aspen, sycamore, or alders for nesting and foraging, but will also nest in montane shrubbery in open conifer forests.	Summer resident in southern California from March through October. Breeds from May through July. Builds a cup nest in the forks of tree and shrub branches. Insectivorous.	**Present**. This species was documented foraging during AECOM surveys in spring 2014. The breeding habitat is fragmented and of marginal quality.
Yellow-breasted chat	*Icteria virens*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP	Inhabits riparian thickets of willow and other brushy tangles near watercourses. Nesting occurs in low, dense riparian areas.	Summer resident in southern California. Breeds from May through August. Builds a cup nest in	**High potential to occur.** TRC observed this species in Segment 1 and there is suitable nesting and foraging habitat within the BSA (TRC 2013).

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
		Implementation		dense vegetation. Insectivorous.	
Tricolored blackbird	*Agelaius tricolor*	Federal: BCC State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats.	Year-round resident in southern California. Breeds from March through July. Nests in large colonies. Attaches a cup nest to wetland vegetation. Feeds on invertibrates and seeds.	**Present**. This species was documented during AECOM surveys in spring 2014. This species has moderate potential to nest within the BSA
Lawrence's goldfinch	*Spinua lawrencei*	Federal: BCC State: SA MSHCP: None	Typical habitats include valley foothill hardwood, valley foothill hardwood-conifer, and, in southern California, desert riparian, palm oasis, pinyon-juniper, and lower montane habitats.	Breeds in northern, central, and inland southern California and winters in coastal lowlands and deserts. Breeds in early spring and summer. Builds a loos cup nest placed in trees. Feeds primarily on seeds.	**Present.** This species was documented during AECOM surveys in spring 2014. There is suitable foraging habitat within the BSA, but this species has low potential to nest within the BSA due to marginal quality of breeding habitat.
Mammals					
Western mastiff bat	*Eumops perotis californicus*	Federal: None State: SSC MSHCP: None	Forages in areas of chaparral or live oaks and in more arid, rocky regions. Favors rugged, rocky areas where suitable crevices are available for day-roosts. Inhabits crevices in cliff faces, high buildings, trees, and tunnels.	Mating occurs in the spring. One to two pups are born between May and September. Insectivorous.	**Low potential for roosting, moderate potential for foraging.** There is moderate potential for this species to forage in the BSA due to large open areas but tha lack of cliffs/crevices makes roosting unlikely.
Stephens' kangaroo rat	*Dipodomys stephensi*	Federal: FE State: ST MSHCP: Adequately Conserved through MSHCP Implementation and SKR HCP	Inhabits annual and perennial grassland habitats, but may occur in coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas.	Young are born in late spring or early summer. Life span is less than a few years. Granivorous.	**Present**. This species was documented during AECOM surveys in spring 2014.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: Adequately conserved when Section 6.3.2 of the MSHCP Additional Survey Needs and Procedures completed (Figure 6-5)	Inhabits alluvial scrub/coastal sage scrub habitats on gravelly and sandy soils adjoining river and stream terraces, and on alluvial fans. Rarely dense vegetation or rocky washes.	Active year round, breeding from February through October. Granivorous.	**Not expected to occur.** This species is not expected to occur due to the extirpation of populations in the BSA, which is part of the historic range of this subspecies.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Inhabits arid coastal and desert border areas with sandy herbaceous areas, usually in association with rocks or coarse gravel.	Breeds in spring and has a litter of two to four pups. Granivorous.	**Present**. This species was documented during AECOM surveys in spring 2014.
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: Adequately conserved when Section 6.3.2 of the MSHCP Additional Survey Needs and Procedures completed (Figure 6-5)	Lower elevation grasslands and coastal sage communities in the Los Angeles basin. Prefers open ground with fine, sandy soils.	Breeds in spring and has a litter of two to four pups. Granivorous.	**Moderate to low potential to occur, not detected during trapping.** TRC observed this species in Segment 1 (TRC 2013) and there are CNDDB records of this species occurring within 3 miles of the BSA. Not within the MSHCP Survey Area for LAPM (Figure 6-5 of the MSHCP). This species was not detected during small mammal trapping most likely due to habitat degradation in the area.
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	Federal: None State: SSC MSHCP: None	Generally occurs in coastal sage scrub, chaparral, woodlands and grasslands, often at the scrub-grassland interface.	Breeds in spring and has a litter of two to four pups. Granivorous.	**Moderate potential to occur.** There is suitable grassland and coastal sage scrub habitat for this species. This species was not observed during small mammal trapping.
Jacumba pocket mouse	*Perognathus longimembris internationalis*	Federal: None State: SSC MSHCP: None, not expected to occur in Plan area	Occurs in arid coastal sage and chaparral habitats.	Breeds in spring and has a litter of two to four pups. Granivorous.	**Not expected to occur.** There is suitable coastal sage scrub habitat for this species, but the BSA it is outside the range of this species and is within the range of *P.longimembris brevinasus*, the more northern subspecies.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Life History	Potential for Occurrence
Southern grasshopper mouse	*Onychomys torridus ramona*	Federal: None State: SSC MSHCP: None	Inhabits flat, sandy, valley floor habitats.	Nocturnal. Breeds from May to July. Insectivorous.	**High potential to occur.** TRC observed this species in Segment 1 and there is a presence of suitable habitat within the BSA (TRC 2013). This species was not observed during small mammal trapping.
San Diego desert woodrat	*Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: Adequately Conserved through MSHCP Implementation	Inhabits a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders , cacti, or areas of dense undergrowth	Nocturnal. Breeds in late winter and spring. Herbivorous.	**Present**. This species was documented during AECOM surveys in spring 2014.

[1]Status

Federal (U.S. Fish and Wildlife Service)

FE Federally listed, endangered: species in danger of extinction throughout a significant portion of its range

FT Federally listed, threatened: species likely to become endangered within the foreseeable future

FPE Federally proposed, endangered

FPT Federally proposed, threatened

FPD Federally proposed, delisting

BCC Birds of Conservation Concern: migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities and draw attention to species in need of conservation action

Federal (Bureau of Land Management)

BLMS Bureau of Land Management Sensitive: species not designated on federal or state lists as endangered, threatened, candidate, or proposed, but given special management consideration

State (California Department of Fish and Wildlife)

SA Special animal: species that CDFW is interested in tracking, regardless of its legal or protection status, and is considered to be of greatest conservation need in the State of California

SE State listed, endangered: species in danger of extinction throughout a significant portion of its range

ST State listed, threatened: species likely to become endangered within the foreseeable future

SCE State candidate, endangered

SCT State candidate, threatened

SCD State candidate, delisting

FP Fully protected: additional protection to those animals that are rare or possibly facing extinction

SSC Species of Special Concern: administrative designation for vertebrate species that appears vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats

WL Watch List

Western Riverside County MSHCP[1] (Multiple Species Habitat Conservation Plan)
CA Criteria Area Plant
NE Narrow Endemic Plant
CS Covered Species

sp. Singular abbreviation for species; never italicized
spp. Plural abbreviation for species; never italicized
ssp. Singular abbreviation for subspecies; never italicized
sspp. Plural abbreviation for subspecies; never italicized
var. Abbreviation for variety, a category within a subspecies; never italicized

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APPENDIX C

SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR WITHIN THE BIOLOGICAL STUDY AREA

Appendix C
Special-Status Plant Species with Potential to Occur within BSA

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
chaparral sand-verbena	*Abronia villosa* var. *aurita*	CNPS RPR:1B.1	Chaparral, coastal scrub, sandy areas between 80–1,600 meters.	Annual herb Blooms January to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Yucaipa onion	*Allium marvinii*	MSHCP: NE	Chaparral. Prefers clay substrate and openings between 760–1,065 meters.	Perennial bulbiferous herb Blooms April to May	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Munz's onion	*Allium munzii*	FE ST MSHCP: NE CNPS RPR:1B.1	Chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands and openings within shrublands or woodland between 300–1,035 meters.	Perennial bulbiferous herb Blooms March to May	**High Potential to occur.** Highly suitable habitat for this species occurs within the project area, north of Murrieta Hot Springs Road. Historic locations for this species occur just east of the project at this location (Jepson Consortium of Herbaria). Species has not been detected during focused rare plant surveys conducted to date.
San Diego ambrosia	*Ambrosia pumila*	FE MSHCP: NE CNPS RPR:1B.1	Chaparral, coastal scrub, valley and foothill grassland, disturbed sites. Sandy loam or clay soil between 20–1,415 meters.	Perennial rhizomatous herb Blooms April to October	**Present.** San Diego ambrosia was observed in the southern portion of the Proposed Project area just north of Nicolas Road on clay soils within areas of nonnative grassland.
Johnston's rockcress	*Arabis johnstonii*	MSHCP: NE CNPS RPR:1B.2	Often on eroded clay. Chaparral and lower montane coniferous forest between 1,350–2,150 meters.	Perennial herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Rainbow manzanita	*Arctostaphylos rainbowensis*	CNPS RPR:1B.1	Chaparral. Usually found in gabbro chaparral in Riverside County and San Diego County between 270–790 meters.	Perennial evergreen shrub Blooms January to February	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Jaeger's milk-vetch	*Astragalus pachypus* var. *jaegeri*	CNPS RPR:1B.1	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland. Dry ridges and valleys and open sandy slopes; often in grassland and oak-chaparral between 365–915 meters.	Perennial shrub Blooms December to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	FE MSHCP: CA CNPS RPR:1B.1	Playas, chenopod scrub, valley and foothill grassland, vernal pools. Dry, alkaline flats in the San Jacinto River Valley between 400–500 meters.	Annual herb Blooms April to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
South Coast saltscale	*Atriplex pacifica*	CNPS RPR:1B.2	Coastal scrub, coastal bluff scrub, playas, chenopod scrub. Alkali soils between 1–500 meters.	Annual herb Blooms March to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Parish's brittlescale	*Atriplex parishii*	MSHCP: CA CNPS RPR:1B.1	Alkali meadows, vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils between 4–140 meters.	Annual herb Blooms June to October	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	CNPS RPR:1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil between 3–250 meters.	Annual herb Blooms April to October	**Not expected to occur.** Species has not been detected during focused rare plant surveys conducted to date.
Nevin's barberry	*Berberis nevinii*	FE SE MSHCP: CA CNPS RPR:1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub. On steep, north-facing slopes or in low grade sandy washes between 290–1,575 meters.	Perennial evergreen shrub Blooms March to June	**Low potential to occur.** Marginally suitable habitat occurs in Santa Gertrudis Creek in the southern end of the project. Species has not been detected during focused rare plant surveys conducted to date.
thread-leaved brodiaea	*Brodiaea filifolia*	FT SE MSHCP: CA CNPS RPR:1B.1	Cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Usually associated with annual grassland and vernal pools; often surrounded by shrubland habitats. Clay soils between 25–860 meters.	Perennial bulbiferous herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Orcutt's brodiaea	*Brodiaea orcuttii*	CNPS RPR:1B.1	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows. Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages between 30–1,615 meters.	Perennial herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
round-leaved filaree	*California macrophylla*	CNPS RPR:1B.1	Cismontane woodland, valley and foothill grassland. Clay soils between 15–1,200 meters.	Annual herb Blooms March to May	**High Potential to occur.** Suitable habitat for this species occurs within the clay soil areas in the project area. Historic locations for this species occur just east of the project, just south of Auld road (Jepson Consortium of Herbaria). Species has not been detected during focused rare plant surveys conducted to date.
Munz's mariposa lilly	*Calochortus palmeri* var. *munzii*	MSHCP: NE CNPS RPR: 1B.2	Chaparral, lower montane coniferous forest, meadows and seeps between 1,200–2,200 meters.	Perennial bulbiferous herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Plummer's mariposa-lily	*Calochortus plummerae*	CNPS RPR:1B.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material between 90–1,610 meters.	Perennial bulbiferous herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
intermediate mariposa-lily	*Calochortus weedii* var. *intermedius*	CNPS RPR:1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky open slopes and rock outcrops between 120–850 meters.	Perennial bulbiferous herb Blooms May to July	**Moderate potential to occur**. Suitable habitat for this species occurs along Briggs Road in the north part of project. Historic locations of this species occur approximately 1 mile northwest of the project.
Payson's jewel-flower	*Caulanthus simulans*	CNPS RPR:4.2	Chaparral, coastal scrub. Frequently in burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes. Between 90–2,200 meters.	Annual herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Lakeside ceanothus	*Ceanothus cyaneus*	CNPS RPR:1B.2	Closed-cone coniferous forest, chaparral between 100–1,515 meters.	Perennial evergreen shrub Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Vail Lake ceanothus	*Ceanothus ophiochilus*	FT SE MSHCP: CA CNPS RPR:1B.1	Chaparral. Gabbro seams on north-facing ridges on the eastern sides of mountains between 620–825 meters.	Perennial evergreen shrub Blooms February to March	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
smooth tarplant	*Centromadia pungens* ssp. *laevis*	MSHCP: CA CNPS RPR:1B.1	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub between 0–480 meters.	Annual herb Blooms April to September	**Moderate potential to occur.** Potentially suitable alkali habitat for this species occurs in the northern portion of the Proposed Project area along Briggs Road. This species tends to bloom later in the year and may not have been detectable during the surveys conducted to date.
Parish's chaenactis	*Chaenactis parishii*	CNPS RPR:1B.3	Chaparral. Rocky sites between 1,300–2,500 meters.	Perennial herb Blooms May to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	CNPS RPR:1B.1	Coastal scrub, chaparral. Dry slopes and flats; dry, sandy soils between 40–1,705 meters.	Annual herb Blooms April to June	**Present.** Parry's spine flower was observed in the central portion of the Proposed Project area. Parry's spine flower was within openings of Diegan coastal sage scrub habitats and was associated with granitic soils and granite rock outcrops.
long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	CNPS RPR:1B.2	Chaparral, coastal scrub, meadows, valley and foothill grassland. Gabbroic clay between 30–1,450 meters.	Annual herb Blooms April to July	**Present.** Long-spined spine flower was observed in several small patches in the southern portion of the Proposed Project area in open areas of Diegan coastal sage scrub on clay soils. This species was also observed in one location within the Alternative Project area west of Briggs Road in an open area of Diegan coastal sage scrub with biotic crusts.
small-flowered morning-glory	*Convolvulus simulans*	CNPS RPR: 4.2	Openings in chaparral and coastal scrub, valley and foothill grassland between 30–700 meters.	Annual herb Blooms March to July	**Present.** Small-flowered morning-glory was observed scattered throughout the central and southern portions of the Proposed Project area on clay soils within areas of nonnative grassland and Diegan coastal sage scrub.
Mojave tarplant	*Deinandra mohavensis*	SE CNPS RPR:1B.3	Riparian scrub, chaparral. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas between 850–1,600 meters.	Annual herb Blooms June to January	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
paniculate tarplant	*Deinandra paniculata*	CNPS RPR 4.2	Coastal scrub, valley and foothill grassland, vernal pools. 25-940 meters.	Annual herb Blooms April to November	**Present.** Hundreds of plants are scattered throughout the project area.
slender-horned spineflower	*Dodecahema leptoceras*	FE SE CNPS RPR:1B.1	Chaparral, coastal scrub (alluvial fan sage scrub). Flood-deposited terraces and washes; associates include *Encelia*, *Dalea*, *Lepidospartum*. Between 200–760 meters.	Annual herb Blooms April to May (uncommonly in March)	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
many-stemmed dudleya	*Dudleya multicaulis*	MSHCP: NE CNPS RPR:1B.2	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes between 0–790 meters.	Perennial herb Blooms April to July	**Not expected to occur.** Species has not been detected during focused rare plant surveys conducted to date.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE SE CNPS RPR:1B.1	Vernal pools, coastal scrub, valley and foothill grassland between 15–620 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Jacinto Mountains bedstraw	*Galium angustifolium* ssp. *jacinticum*	MSHCP: NE CNPS RPR:1B.1	Lower montane coniferous forest between 1,350–2,100 meters.	Annual herb Blooms June to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Mission Canyon bluecup	*Githopsis diffusa* ssp. *filicaulis*	CNPS RPR:3.1	Chaparral. Probably in open, grassy places within chaparral between 450–700 meters.	Annual herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Palmer's grapplinghook	*Harpagonella palmeri*	CNPS RPR:4.2	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. Between 15–830 meters.	Annual herb Blooms March to May	**Present.** Palmer's grappling hook was observed in the central portion of the Proposed Project area along Leon Road, north of McGowans Pass on clay soils within areas of nonnative grassland and openings of Diegan coastal sage scrub.
mesa horkelia	*Horkelia cuneata* ssp. *puberula*	CNPS RPR:1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites between 70–810 meters.	Perennial herb Blooms February to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Diego hulsea	*Hulsea californica*	CNPS RPR:1B.3	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Coarse to fine sandy loam in disturbed chaparral openings at high elevations between 1,000–2,915 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
Santa Lucia dwarf rush	*Juncus luciensis*	CNPS RPR:1B.2	Vernal pools, meadows, lower montane coniferous forest, chaparral, great basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides between 300–2,040 meters.	Annual herb Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	MSHCP: CA CNPS RPR:1B.1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands between 1–1,400 meters.	Annual herb Blooms February to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
heart-leaved pitcher sage	*Leepichinia cardiophylla*	MSHCP: CA CNPS RPR:1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland between 520–1,370 meters.	Perennial shrub Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Robinson's pepper-grass	*Lepidium virginicum* var. *robinsonii*	CNPS RPR:1B.2	Chaparral, coastal scrub. Dry soils between 1–945 meters.	Annual herb Blooms January to July	**Moderate potential to occur**. Suitable habitat for this species occurs within the coastal scrub habitat throughout the project area.
Orcutt's linanthus	*Linanthus orcuttii*	CNPS RPR:1B.3	Chaparral, lower montane coniferous forest. Sometimes in disturbed areas; often in gravelly clearings between 1,060–2,000 meters.	Annual herb Blooms May to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Hall's monardella	*Monardella macrantha* ssp. *hallii*	CNPS RPR:1B.3	Broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland. Dry slopes and ridges in openings within the above communities between 695–2,195 meters.	Perennial rhizomatous herb Blooms June to October	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
little mousetail	*Myosurus minimus* ssp. *apus*	MSHCP: CA CNPS RPR:3.1	Vernal pools. Alkaline soils between 20–640 meters.	Annual herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
mud nama	*Nama stenocarpum*	MSHCP: CA CNPS RPR:2B.2	Marshes and swamps (lake margins, riverbanks). Between 5–500 meters.	Annual / Perennial herb Blooms January to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
spreading navarretia	*Navarretia fossalis*	FT MSHCP: NE CNPS RPR:1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas, vernal pools between 30–1,300 meters.	Annual herb Blooms March to May	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
prostrate vernal pool navarretia	*Navarretia prostrata*	MSHCP: CA CNPS RPR:1B.1	Coastal scrub, valley and foothill grassland, vernal pools. Mesic, alkaline sites between 15–700 meters.	Annual herb Blooms April to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Peninsular nolina	*Nolina cismontana*	CNPS RPR:1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro between 140–1,275 meters.	Perennial evergreen shrub Blooms March to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
California Orcutt grass	*Orcuttia californica*	FE SE MSHCP: NE CNPS RPR:1B.1	Vernal pools between 15–660 meters.	Annual herb Blooms April to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Gander's ragwort	*Packera ganderi*	CNPS RPR:1B.2	Chaparral. Recently burned sites and gabbro outcrops between 400–1,200 meters.	Perennial herb Blooms April to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
California beardtongue	*Penstemon californicus*	CNPS RPR:1B.2	Chaparral, lower montane coniferous forest, pinyon-juniper woodland. Stony slopes and shrubby openings; sandy or granitic soils between 1,160–2,300 meters.	Perennial herb Blooms May to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Santiago Peak phacelia	*Phacelia keckii*	CNPS RPR:1B.3	Closed-cone coniferous forest, chaparral. Open areas, sometimes along creeks between 545–1,600 meters.	Annual herb Blooms May to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Brand's phacelia	*Phacelia stellaris*	FC MSHCP: NE CNPS RPR:1B.1	Coastal dunes and coastal scrub between 1–400 meters.	Annual herb Blooms March to June	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
white rabbit-tobacco	*Pseudognaphalium leucocephalum*	CNPS RPR:2.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites between 0–2,100 meters.	Perennial herb Blooms July to December	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
San Miguel savory	*Satureja chandleri*	MSHCP: NE CNPS RPR:1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate between 120–1,005 meters.	Perennial shrub Blooms March to July	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

Common Name	Scientific Name	Status[1]	Habitat Requirements	Growth Form/Phenology	Potential for Occurrence
Hammitt's clay cress	*Sibaropsis hammittii*	MSHCP: NE CNPS RPR:1B.2	Prefers clay substrate. Chaparral (openings), valley and foothill grasslands between 720–1,065 meters.	Annual herb Blooms March to April	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
southern mountains skullcap	*Scutellaria bolanderi* ssp. *austromontana*	CNPS RPR:1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland between 425–2,000 meters.	Perennial rhizomatous herb Blooms June to August	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.
Wright's trichocoronis	*Trichocoronis wrightii* var. *wrightii*	MSHCP: NE CNPS RPR:2B.1	Meadows and seeps, marshes and swamps, riparian forest and vernal pools. Prefers alkaline soils between 5–435 meters.	Annual herb Blooms May to September	**Not expected to occur due to lack of suitable habitat.** Species has not been detected during focused rare plant surveys conducted to date.

[1] **Federal (U.S. Fish and Wildlife Service)**
FE – Federally endangered
FT – Federally threatened
FC – Federal candidate for listing
State (California Department of Fish and Wildlife)
SE – State endangered
ST – State threatened
Western Riverside County MSHCP (Multiple Species Habitat Conservation Plan)
CA – Criteria Area Plant
NE – Narrow Endemic Plant
CNPS (California Native Plant Society) RPR (Rare Plant Rank)
1A Presumed extinct in California
1B Rare, threatened, or endangered in California and elsewhere
2 Rare, threatened, or endangered in California, but more common elsewhere
3 Need More Information – A Review List
4 Limited Distribution – A Watch List
.1 Seriously threatened in California
.2 Fairly threatened in California
.3 Not very threatened in California