FINAL AMENDED
MSHCP BIOLOGICAL RESOURCES TECHNICAL REPORT
FOR VALLEY-IVYGLEN SUBTRANSMISSION LINE PROJECT, PHASE 1
RIVERSIDE COUNTY, CALIFORNIA

(PSE Application 11-08-24-01)

Submitted to:
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Corporate Environmental Health and Safety
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AMEC Project No. 1255400498

EXECUTIVE SUMMARY

The Southern California Edison (SCE) Valley-Ivyglen 115 kilovolt (kV) Subtransmission Line (VIG) Project would improve reliability and meet projected electrical load requirements in the western Riverside County area. Accordingly, SCE proposes to construct, operate, and maintain a new 115 kV subtransmission line, approximately 25 miles long, connecting the existing SCE Valley Substation (near Perris, California) to the existing Ivyglen Substation (north of Lake Elsinore, California). The VIG Project has been divided, and will be constructed in two phases: Phase 1 (approximately 11.5 miles) and Phase 2 (approximately 13 miles).

A Draft Environmental Impact Report (DEIR) was prepared for the VIG Project by the California Public Utilities Commission (CPUC) in compliance with the California Environmental Quality Act (CEQA) in June 2009 (CPUC 2009). The Final Environmental Impact Report (FEIR) was certified 12 August 2010 and included responses to comments received during the DEIR public comment period (15 June through 31 July 2009) and any text changes resulting from the comments submitted (CPUC 2010). Since the time of Project approval, additional design changes resulted in the need for SCE to prepare a Project Modification Report (PMR) to support a Petition for Modification (PFM). Although the changes to Phase 1 are considered minor in relation to biological or regulated waters impacts, the CPUC originally prepared one EIR for both Phases, and it is anticipated that a Supplemental EIR will be prepared and will also include both Phases.

On behalf of SCE, AMEC Environment & Infrastructure, Inc (AMEC) conducted biological resources assessments and focused species surveys for the proposed Project between 2006 and 2013. Additional staging yards were surveyed for fairy shrimp during the 2013/2014 wet season. The purpose of this report is to summarize the results of biological studies that have been conducted to date within the Project area, and to demonstrate Project consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). This report supports SCE's application to become a Participating Special Entity (PSE) in the MSHCP specifically for this proposed Project.

This Biological Resources Technical Report provides information necessary for inclusion as a PSE in the MSHCP as implemented by the Regional Conservation Authority (RCA). At this time, SCE is applying for coverage only for Phase 1 of the VIG Project (herein referred to as the "Project"). Phase 2 of the VIG Project is being permitted separately. SCE previously applied for PSE status and had received MSHCP consistency findings from the RCA as well as concurrence from U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) in November 2011. Due to the minor project changes and the need for a PMR as well as the uncertainty at the time regarding additional CEQA processing by the CPUC, SCE chose not finalize the MSHCP Certificate of Inclusion requiring signature and payment of MSHCP fees to complete the PSE process.

The Project area passes through disjunct Criteria Areas/Cells in two MSHCP area plans: Mead Valley and Elsinore. Further, the proposed Project is located within the MSHCP Burrowing Owl Survey Area, Criteria Area Species Survey Area (CASSA), and Narrow Endemic Plant Species

Survey Area (NEPSSA). Based on biological resource assessments, the Riverside County Integrated Project Conservation Report Generator, and maps of MSHCP survey areas, it was determined that the following studies would be required for the proposed Project's consistency with the MSHCP:

- Focused plant surveys including MSHCP Narrow Endemic Plant Species (NEPS) and MSHCP Criteria Area Plant Species (CAPS) in their respective survey areas;
- Focused surveys for Riverside fairy shrimp (*Streptocephalus woottoni*) and vernal pool fairy shrimp (*Branchinecta lynchi*);
- Focused surveys for the burrowing owl (*Athene cunicularia*);
- Focused surveys for the least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*);
- A delineation of jurisdictional waters/wetlands including MSHCP *Riparian/Riverine* and *Vernal Pool* habitats.

It should be noted that per the MSHCP Implementing Agreement, SCE understands that "take" for Stephens' Kangaroo Rat (*Dipodomys stephensi*; SKR) is not available through the MSHCP as the proposed Project also lies within the SKR Habitat Conservation Plan (HCP) boundaries. As such, for the 146 species covered by the MSHCP, SCE understands that the MSHCP will only be granting PSE status for this proposed Project for 145 of the covered species. As of October 15, 2012, SCE finalized an SKR HCP Implementation Agreement with the Riverside County Habitat Conservation Agency. This Agreement provides a process through which SCE may obtain take authorization of SKR through the SKR HCP.

The vegetation communities within the Project area are primarily nonnative grasslands, Riversidean sage scrub, and developed disturbed land (ruderal habitat). Previous and current agriculture, grazing, fire suppression, and invasion of nonnative plant species have contributed to the disturbed condition of many vegetation communities within the Project vicinity. Riversidean sage scrub is the only upland vegetation community considered sensitive within the Project area. Upon SCE being granted PSE status, impacts to Riversidean sage scrub would be permitted by the MSHCP; however clearing or grubbing of this community type must be conducted outside of the Coastal California gnatcatcher breeding season (15 February-15 August).

No oak trees are known to occur on the Project alignment, and no tree removal of any species is expected. However, some trimming of trees is anticipated, primarily to allow for required line clearance in riparian areas at stream crossings, but will be minimal and done only outside of the nesting season, or after a nesting bird survey has determined that there is no nesting activity in area of tree trimming. If any tree removal is determined necessary, it will be done in accordance with any applicable tree protection ordinances with implementation of required mitigation.

Sensitive riparian and wetland vegetation communities within the Project study area are those generally related to the San Jacinto River and its tributaries. These communities include cismontane alkali marsh, vernal pools, mulefat scrub, riparian scrub, southern

cottonwood/willow riparian forest, and southern willow scrub habitats. Although most of these habitats within the Project area will be avoided, any unavoidable impacts would be minimized and mitigated in accordance with the provisions set forth by the US Army Corps of Engineers, (USACE), Regional Water Quality Control Board (RWQCB), and CDFW. In addition, per *Section 6.1.2* of the MSHCP, a Determination of Biological Equivalent or Superior Preservation (DBESP) analysis will be prepared to propose mitigation to offset any impacts relating to potentially lost functions and values of habitats that support Covered Species.

The Project alignment crosses through and/or spans several drainages that meet the definition of *Riparian/Riverine* areas and *Vernal Pools* as presented in *Section 6.1.2* of the MSHCP. The proposed Project was designed to avoid *Riparian/Riverine* areas to the greatest extent possible; however, some temporary and permanent impacts will result from dirt road improvements (e.g. grading existing and new roads) and pole siting at several locations. Temporary work areas needed during construction will be established to avoid/minimize impacts to sensitive resources, to the extent possible, and reconfigured in the field during construction as needed to avoid sensitive resources, based on guidance from biological monitors.

Temporary impacts to *Riparian/Riverine* areas will result from the use of temporary work areas and grading through ephemeral washes and existing wet crossings, and includes approximately 0.449 acre. Approximately 0.146 acre of permanent impacts to *Riparian/Riverine* areas will result from construction of gabions in ephemeral drainages, pole siting, and drainage improvements including culvert construction.

Temporarily impacted *Riparian/Riverine* areas will be restored to pre-construction conditions upon completion of the proposed Project. SCE will mitigate offsite for permanent impacts to 0.146 acre of *Riparian/Riverine* areas caused by new structures and fill activities, including pole placement and road construction by preparing a mitigation agreement with RCA to enhance approximately 1.20 acres of riparian habitat at the “Wolfskill/Gilman Springs” property within the San Jacinto Watershed.

Permanent impacts to approximately 0.162 acre of *Riparian* vegetation will result from tree trimming to ensure proper line clearance, according to CPUC and other safety standards, at the San Jacinto River crossing, the unnamed tributary to the San Jacinto River in the vicinity of Keystone Drive, and at Rosetta Canyon Drive and SR-74. Tree trimming calculations were based on 100% riparian tree canopy cover in trees over 20 feet tall, and were therefore “worst case” calculations in those areas. Actual tree canopy cover is substantially less than the 0.162-acre identified. The area of impact will be reduced during construction to the maximum extent practicable. Further, during coordination related to the 1602 Streambed Alteration Agreement process, the CDFW requested that SCE plant 50 willow cuttings near the area(s) disturbed by construction but outside of the area that would require future O&M tree trimming. As such, SCE proposes to plant 50 native willow cuttings (collected from the vicinity of the planting areas, and estimated to cover approximately 0.20 acre at full growth) within their easement along an approximately 2.13 acre area of the San Jacinto River floodplain and/or an approximately 0.47 acre area along the tributary that occurs near Keystone Drive. SCE will prepare a Habitat Mitigation and Monitoring Plan (HMMP) that will detail the planting locations. SCE will monitor the willow planting areas for duration of three years, in conjunction with monitoring of

revegetated areas. It was also understood by CDFW that SCE cannot place a conservation easement over the areas where the willows are planted within their facility easements.

Vernal Pools as defined by the MSHCP occur within the San Jacinto River floodplain. These vernal pools are primarily bare ground, but contain vernal pool endemic plant species including alkali weed (*Cressa truxillensis*) and annual hairgrass (*Deschampsia danthonioides*). Hydrology of the vernal pools adjacent to the San Jacinto River is related to overflow from the river during high flow events. The overflow is collected in adjacent depressions and retained for several weeks to months during the rainy season.

The proposed Project was designed to avoid *Vernal Pools,* and there will be no permanent or temporary impacts to vernal pool functions or values. Only temporary roadways will be constructed in the vicinity of vernal pools and pole placement within the San Jacinto River crossing area will not redirect or inhibit the floodplain hydrology at the San Jacinto River. The original MSHCP PSE findings made by the RCA determined the Project to be consistent with the MSCHP when the Project features adjacent to the San Jacinto River involved eight pole structures with spans ranging from 210 feet to 329 feet. The Water Quality Certification (Section 401 of the Clean Water Act [CWA]) and the Draft Streambed Alteration Agreement (Section 1602 of the California Fish and Game Code [CFGC]) were also issued using this same original project information. In addition, no issues regarding this area were raised during the Nationwide Permit (Section 404 of the CWA) process. Even after receiving permits/findings, the proposed Project was redesigned using only four taller poles that allow for three 700 foot spans.

Participation in the MSHCP, seasonal restrictions, compliance with local tree ordinances, implementation of mitigation measures, and compliance with local, state, and federal laws on waters and wetlands will allow the proposed Project to proceed as proposed without significant impacts to biological resources. Although impacts to jurisdictional areas would be permitted and mitigated through the USACE, CDFW, and RWQCB, impacts to *Riparian/Riverine* and/or *Vernal Pool* habitat would also be mitigated through implementation of a DBESP per the MSHCP. The DBESP proposes and analyzes mitigation measures to ensure that any affected functions and values are addressed and replaced as required by the MSHCP.

Five sensitive plant species were detected within the study area during botanical field studies occurring between 2006 and 2013 including: long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), Parry's spineflower (*Chorizanthe parryi* var. *parryi)*, small-flowered morning-glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), and small-flowered microseris (*Microseris douglasii* var. *platycarpha*).

Long-spined spineflower and small-flowered morning-glory are MSHCP Covered Species and Adequately Conserved. Incidental take of these species would be granted through participation in the MSHCP. Parry's spineflower and small-flowered microseris are also Covered Species yet not Adequately Conserved. Per Section 2.1.4 of the MSHCP, these species are two of the 28 Covered Species that will be considered to be Adequately Conserved when certain conservation requirements are met (by the RCA) as identified in the species-specific conservation objectives for those species (*Table 9-3* of the MSHCP). Paniculate tarplant, a

California Rare Plant Rank (CRPR) watch list species (CRPR 4.2), is not covered by the MSCHP. This species was identified widespread throughout the Project area.

Project impacts are expected to occur only to long-spined spineflower and paniculate tarplant. Once SCE is granted PSE status pursuant to the MSHCP, generally no additional mitigation is required for Adequately Covered species such as long-spined spineflower. For species not listed by the MSHCP (paniculate tarplant), proposed conservation and mitigation measures will be implemented to minimize Project-related impacts to this species.

The Project area supports a low-moderate diversity of wildlife species due to the high level of disturbance and development in the vicinity. Many of the wildlife species observed or detected in the Project area are commonly found in the urban interface or in disturbed habitat.

Suitable habitat for fairy shrimp occurs throughout the Project area in depressions that hold water for extended periods of time. Fairy shrimp surveys were conducted within suitable habitat for three wet seasons (2008/2009, 2009/2010, and 2011/2012) following USFWS protocol (1996). During the 2012/2013 and 2013/2014 wet season, fairy shrimp surveys were conducted only within new staging areas at three locations along the alignment: Valley Yard-South, Joe 74, and Joe Yard Extension that were included as a Project component since the 2011/2012 surveys. No federally of state listed fairy shrimp were identified within the Project area during surveys that have been conducted to date. However, western spadefoot toad (*Scaphiopus hammondii*), a state listed species of special concern and MSHCP Group 2 Covered Species, were documented during fairy shrimp sampling that occurred along the alignment in 2012. Although mitigation may be required to offset impacts to habitat suitable for western spadefoot toad, no mitigation specific to this species is required per the MSHCP.

Extensive habitat and burrows suitable for occupation by burrowing owl (BUOW) are present in the Project area. A general habitat assessment was conducted in 2006 and protocol-level focused surveys have been conducted in 2007, 2009, 2011, 2012 and 2013. A single owl was found on one occasion in 2009, just north of the Project area. Two burrows with fresh whitewash were identified along the alignment in 2011, however no owls were observed. In April 2012, two adult BUOW were observed near a known burrow complex location. During subsequent visits, no fresh sign or BUOWs were observed. An irrigation line was observed to be installed within the complex and remains of what appeared to be a BUOW (wings, legs and feathers) were observed just west of the burrow complex. A pre-construction survey of all suitable habitats will be conducted 30 days or less prior to the initiation of construction to ensure that no BUOW have occupied the Project area. If active burrows are detected, avoidance and minimization measures will be implemented including, but not limited to, establishing avoidance buffers and use of biological monitors during construction activities.

Surveys for sensitive riparian birds, including least Bell's vireo (LBV) and southwestern willow flycatcher (SWFL), were conducted in suitable habitat in 2007, 2009, 2011, 2012, and 2013. No SWFL were detected at any of the survey areas. LBV territories were present in the tributary to the San Jacinto River near Keystone Drive during 2007 and 2009 survey years. That area, and all areas where LBV were detected, were determined to be "occupied" and were removed from areas to be surveyed in subsequent years. The main body of the San Jacinto River traversed by

the project alignment has not been identified as a designated LBV breeding territory but is a known travel corridor for LBV (Aimar, pers. comm., 2011); therefore in coordination with the Wildlife Agencies, LBV presence is assumed. During the 2013 surveys, a new occurrence of LBV was identified near Rosetta Canyon Drive and SR-74. Impacts to LBV habitat will be avoided and/or minimized within the San Jacinto River, its tributary at Keystone Drive, and at the stream channel near Rosetta Canyon Drive and SR-74. However, construction activities including tree top trimming to allow for line clearance will be conducted in these areas. Riparian vegetation trimming will be limited to outside of the LBV breeding season (generally 1 March through 31 August).

Coastal California gnatcatcher (*Polioptila californica californica;* CAGN) has been detected within the Project area and its associated habitat (sage scrub). CAGN is a Covered Species in the MSHCP and is Adequately Conserved. Per MSHCP requirements, no suitable habitat for the CAGN will be removed during breeding season for this species, 1 March to 15 August. Additional birds protected by the federal Migratory Bird Treaty Act (MBTA) and related provisions in the CFGC could also occur along the Project alignment. Active nests subject to the MBTA and CFGC must not be directly or indirectly impacted such that nest abandonment resulting in loss of eggs or young occurs. If construction activities cannot be conducted outside of the nesting (varies per species, but generally January through September), a qualified biologist will conduct a nesting bird clearance survey prior to such activities to determine when it is safe to commence construction activities. SCE has prepared a Nesting Bird Management Strategy detailing the monitoring activities and establishment of appropriate buffers to ensure there will be no impacts to actively nesting birds. Additionally, SCE's new subtransmission lines are designed to minimize impacts to raptors.

Increases in noise, construction traffic, and human activities during construction activities may temporarily deter movement of wildlife within the Project vicinity. However, significant impacts to wildlife corridors or nursery sites are not expected from construction or operational activities of the proposed Project.

During construction, as with any project, there is the possibility that sensitive species, including those Adequately Conserved or those with additional mitigation requirements, could be encountered. In this event, SCE will coordinate directly with the RCA to determine any additional processing and mitigation as needed.

The proposed Project is consistent with the MSHCP Reserve Assembly goals and project relationship for Criteria Areas/Cells in the Mead Valley and Elsinore area plans. The proposed Project would not impede the functions and values nor the goals and objectives of the MSHCP. The proposed Project was found consistent with the MSHCP in November 2011 and it remains consistent with the MSHCP as currently proposed.

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ACRONYMS AND ABBREVIATIONS

AMEC	AMEC Environment & Infrastructure, Inc.
APMs	Applicant Proposed Measures
BMPs	best management practices
BUOW	burrowing owl
CAGN	coastal California gnatcatcher
CAPS	Criteria Area Plant Species
CASSA	Criteria Area Species Survey Area
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEHS	Corporate Environmental Health and Safety
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DBESP	Determination of Biologically Equivalent or Superior Preservation
DEIR	Draft Environmental Impact Report
ESA	Endangered Species Act
° F	degrees Fahrenheit
FEIR	Final Environmental Impact Report
ft^2	square feet
GIS	Geographic Information System
G.O.	General Order
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HMMP	Habitat Mitigation and Monitoring Plan
I-	Interstate
JD	Jurisdictional Determination
kV	Kilovolt
LBV	Least bell's vireo
LWSP	light-weight steel poles
MBTA	Migratory Bird Treaty Act

ACRONYMS AND ABBREVIATIONS (Cont.)

MM	Mitigation Measure
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NEPS	Narrow Endemic Plant Species
NEPSSA	Narrow Endemic Plant Species Survey Area
NWP	Nationwide Permit
O&M	Operation and maintenance
PFM	Petition for Modification
Plan	Western Riverside County Multiple Species Habitat Conservation Plan
PQP	Public/Quasi-Public
PMR	Project Modification Report
PSE	Participating Special Entity
PVC	polyvinyl chloride
RCA	Regional Conservation Authority
RCHCA	Riverside County Habitat Conservation Agency
RCIP	Riverside County Integrated Project
ROW	Right-of-Way
RSS	Riversidean sage scrub
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCE	Southern California Edison
SKR	Stephen's Kangaroo Rat
SR-	State Route
SWFL	Southern Willow Flycatcher
TSP	tubular steel pole
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWIG	Urban/Wildlands Interface Guidelines
VIG	Valley Ivyglen 115 kilovolt Subtransmission Line project
WRCC	Western Regional Climate Center
WSC	waters of the State of California
WUS	waters of the US
WYBC	Western Yellow Billed Cuckoo

1.0 INTRODUCTION

Southern California Edison (SCE) proposes to implement the Valley-Ivyglen Subtransmission Line (VIG) Project in order to provide supplementary electrical services to the City of Lake Elsinore and other local areas within western Riverside County, California (Figure 1). The VIG Project would primarily consist of the construction and operation of a new 25 mile 115 kilovolt (kV) subtransmission line to connect the existing Valley Substation with the existing Ivyglen Substation (Figure 1). The approved VIG Project also included construction of a new substation (Fogarty Substation) within the northern portion of the City of Lake Elsinore (Figure 1).

A Draft Environmental Impact Report (DEIR) was prepared for the VIG Project by the California Public Utilities Commission (CPUC) in compliance with the California Environmental Quality Act (CEQA) in June 2009 (CPUC 2009). The Final Environmental Impact Report (FEIR) was certified 12 August 2010 and included responses to comments received during the DEIR public comment period (15 June through 31July 2009) and any text changes resulting from the comments submitted (CPUC 2010).

The VIG Project has been divided and will be constructed in two phases: Phase 1 (approximately 11.5 miles) and Phase 2 (approximately 13 miles). Phase 1 is proposed for construction in early 2016 and Phase 2 is expected to begin construction in mid-2016. Phase 1 is not dependent upon build-out and operation of Phase 2, and therefore has independent utility. Further, although the proposed Fogarty Substation was also evaluated in the FEIR as a project component, no impacts were anticipated to occur to biological resources, thus no permits were necessary. As such, the proposed Fogarty Substation was processed separately and construction is complete with the exception of a waterline and distribution tie-in.

Since the time of Project approval in 2010, additional design changes resulted in the need for SCE to prepare a Project Modification Report (PMR) to support a Petition for Modification (PFM) with the CPUC. The Phase 1 design changes include a greater span over the San Jacinto River to avoid sensitive resources, a 300-foot underground stretch to cross under the existing 500 kV line, and an increase in width of access roads in some areas to comply with safety standards. Although the changes to Phase 1 are considered minor in relation to biological or regulated waters impacts, the CPUC originally prepared one EIR for both Phases, and a Supplemental EIR is currently being prepared that includes both Phases.

The proposed Project is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or Plan) area. At this time, SCE is applying for MSHCP coverage only for Phase 1 of the VIG Project. Phase 2 is being permitted separately. For the purpose of this report, the construction and operation of Phase 1 of the VIG Project are herein referred to as the “Project”. The MSHCP is a comprehensive, multi-jurisdictional plan focusing on the conservation of species and their associated habitats in western Riverside County. SCE will be acquiring Project coverage under the MSHCP as a Participating Special Entity (PSE) with the Western Riverside County Regional Conservation Authority (RCA). SCE previously applied for PSE status and had received MSHCP consistency findings from the RCA as well as concurrence from U.S. Fish and Wildlife Service (USFWS) and California Department of Fish

and Wildlife (CDFW; formerly California Department of Fish and Game [CDFG]) in November 2011. Due to the minor project changes and the need for a PMR as well as the uncertainty at the time regarding additional CEQA processing by the CPUC, SCE chose not finalize the MSHCP Certificate of Inclusion requiring signature and payment of MSHCP fees to complete the PSE process.

Accordingly, this report provides an analysis of the proposed Project pursuant to the MSHCP. It provides the results of habitat assessments and focused studies that were conducted by AMEC Environment & Infrastructure, Inc. (AMEC) between 2006 and 2013. Additional staging yards were surveyed for fairy shrimp in the 2013/2014 wet season. This report also includes an examination of proposed impacts to biological resources as a result of project implementation and presents avoidance, minimization, and mitigation measures that are proposed for resource protection and compensation.

The proposed Project was designed to avoid all *Vernal Pools* in the Project area and there will be no direct or indirect permanent or temporary impacts to their functions or values. The original MSHCP PSE findings made by the RCA determined the proposed Project to be consistent with the MSCHP when the project features adjacent to the San Jacinto River involved eight pole structures with spans ranging from 210 feet to 329 feet. The Water Quality Certification (Section 401 of the Clean Water Act [CWA]) and the Draft Streambed Alteration Agreement (Section 1602 of the California Fish and Game Code [CFGC]) were also issued using this same original project information. In addition, no issues regarding this area were raised during the Nationwide Permit (Section 404 of the CWA) process. Even after receiving permits/findings, the proposed Project was redesigned using only four taller poles that allow for three 700 foot spans.

Per the MSHCP, if avoidance of those species and habitats requiring additional mitigation is not possible, a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis will be submitted to the RCA in order to provide the necessary information required for a MSHCP consistency determination. The DBESP analysis is provided in order to ensure replacement of any affected functions and values necessary for the success of species and their habitats pursuant to MSHCP requirements.

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Valley-Ivyglen Subtransmission Line Project Overview
MSHCP Biological Resources Technical Report for the Valley-Ivyglen Subtransmission Line Project, Phase 1
Riverside County, California

1 inch = 1.5 miles
0 0.75 1.5 Miles

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FIGURE 1

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1.1 Project Location and Study Area

The proposed Project involves the construction of approximately 11.5 miles of new 115 kV subtransmission line between the Valley Substation and the intersection of Third Street and Collier Avenue in the City of Lake Elsinore (Figure 2). The proposed Project traverses unincorporated County of Riverside lands and the cities of Lake Elsinore, Perris, and Menifee, and is mapped on the Lake Elsinore and Romoland, California, U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangles. Table 1 presents the Assessor Parcel Numbers through which the proposed Project traverses.

Table 1.
Phase 1 Valley-Ivyglen Subtransmission
Assessor Parcel Numbers

APN	Owner
331-190-041	Croll
331-190-052	Croll
345-310-023	McBride Trust/Coudures Family, et al
345-310-002	McBride Trust/Coudures Family, et al
345-310-013	EVMWD
345-310-005	County Lands Riverside PIP IV
345-310-001	County Lands Riverside PIP IV
345-300-010	Lee
345-150-020	Ward
345-150-018	Ward (2nd easement pending outcome of rights study)
349-100-045	Gritton
349-090-007	State of CA
349-090-025	Marrelli
347-100-017	Fleck
347-130-033	White Rock Acquisition Co.
347-120-049	Rosetta Canyon Community Assoc.
377-372-033	74 Self Storage

The biological survey study area for the proposed Project ranged from a 100-foot to 500-foot width buffer area on either side of the proposed Right-of-Way (ROW) centerline, depending on the requirements for each focused survey (i.e. rare plant, burrowing owl, fairy shrimp survey, etc.). Figure 2 provides an overview of the Project area and Appendix A1 presents a detailed mapbook of the study area.

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Project Location
MSHCP Biological Resources Technical Report for the Valley Ivyglen Subtransmission Line Project, Phase 1
Riverside County, California

1 inch = 1 mile
0 0.5 1 Miles

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FIGURE 2

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1.2 Project Description

The Project alignment extends westerly from the Valley Substation through the City of Perris and unincorporated Riverside County lands, ending at the intersection of Collier Avenue and Third Street in the City of Lake Elsinore (Figure 2). It is estimated that Project construction would start in early 2016 and require approximately 18 months for completion.

The proposed Project will be installed in an existing SCE ROW where available, and in several new small areas where easements have been obtained from willing landowners in already developed areas. The proposed Project has been divided into Segments 1, 2 and 3. A description of the Project route and construction and operation activities related to the implementation of the proposed Project is presented below. Appendix A1 presents the Project route and related construction components, as currently designed.

1.2.1 Project Route

1.2.1.1 Segment 1

The Approved Project route for Segment 1 would exit Valley Substation, located in unincorporated Riverside County, from the south and run approximately 3.9 miles west along the north side of the existing Serrano-Valley 500 kV Transmission Line ROW, briefly spanning the City of Perris and Interstate (I-) 215, and continuing in unincorporated Riverside County until it reaches Goetz Road. From Goetz Road, the line continues west for approximately 2.3 miles within the City of Perris, then re-enters unincorporated Riverside County and continues west for approximately 1.2 miles until crossing State Route (SR-) 74.

1.2.1.2 Segment 2

For the Approved Project route for Segment 2, from the intersection of SR-74 and the 500 kV ROW, the line would continue parallel to the existing 500 kV ROW for approximately 0.1 mile, then turn south and span the ROW, and proceed east to the western edge of SR-74. From this point, the subtransmission line would proceed southwest along the west side of SR-74 to Conard Avenue.

1.2.1.3 Segment 3

For the Approved Project route for Segment 3, from the intersection of SR-74 and Conard Avenue, the subtransmission line would then proceed southeast along Conard Avenue from SR-74 to Third Street. It would then turn southwest and proceed along Third Street, cross over Dexter Avenue, and enter the City of Lake Elsinore. The line would continue along Third Street, span I-15, and extend to the intersection of Third Street and Collier Avenue.

1.2.2 Subtransmission Line Design

1.2.2.1 Poles

Approximately 318 poles would be installed, a majority of which (approximately 290 poles) would be light-weight steel poles (LWSPs) up to 75 feet in height. Approximately 20 LWSP guy poles would also be installed where LWSPs require additional support. At locations requiring higher clearance, approximately 28 of them, tubular steel poles (TSPs) will be used ranging between 80 and 115 feet in height above their footing, with one or two poles being approximately 135 feet in height.

Per SCE policy, SCE generally maintains a permanent clearance radius of approximately 25 feet around each TSP, and 10 feet around each LWSP. However, based on the sensitivity in some areas (e.g. San Jacinto River area), these permanent radii may be reduced to approximately 5-10 feet in coordination with Riverside County Fire Department and CPUC.

The LWSPs would be installed in holes bored approximately 24 to 36 inches in diameter and 10 to 14 feet deep into native soil. LWSPs would be placed in temporary laydown areas at each pole location. While on the ground, LWSPs may be configured (if not preconfigured) with the necessary crossarms, insulators, and wire-stringing hardware before being set in place using a line truck. Once the LWSPs are set in place, bore spoils (soil from holes drilled) would be used to back fill the hole. If the bore spoils are not suitable for backfill, imported clean fill material would be used. Excess bore spoils would be distributed at each pole site or used as backfill to fill holes left after removal of nearby wooden distribution poles. Where necessary, caissons would be used to protect LWSPs. Caisson construction would include the placement of a 36-inch corrugated steel pipe in the bored hole, placement of concrete slurry, the LWSP, gravel backfill, and a concrete slurry cap. LWSPs will require a permanent impact area with an approximately 10-foot radius (314 square feet [ft^2]), and a temporary work area surrounding each pole with an approximately 150-foot by 75-foot area (11,250 ft^2).

TSPs would be installed atop a 6-foot diameter by approximately 60 foot deep cylindrical concrete footing. The hole would be drilled using truck or track-mounted excavators. Following excavation of the foundation footings, steel-reinforced cages would be set and concrete would be poured. Foundations in soft or loose soil, or that extend below the groundwater level, may be stabilized with drilling mud slurry. In this instance, mud slurry would be placed in the hole after drilling to prevent the sidewalls from sloughing. Concrete would then be pumped to the bottom of the hole, displacing the mud slurry. Depending on site conditions, the mud slurry brought to the surface would typically be collected in a pit adjacent to the foundation or vacuumed into a truck, and then pumped out to be reused or discarded at an appropriate off-site disposal facility. The concrete foundation may extend up to 4 feet above the natural ground surface. Excess bore spoils would be distributed at each pole site or used as backfill to fill holes left after removal of nearby wooden distribution poles. TSPs will require a permanent impact area with an approximately 25-foot radius (1,964 ft^2), and a temporary work area surrounding each pole with an approximately 200-foot by 150-foot area (30,000 ft^2). As mentioned previously, these permanent radii may be reduced in biologically sensitive areas.

Pole anchors will be placed at several locations along the ROW but would require minimal disturbance to the site location. Anchor placement includes driving a steel screw into the ground to a depth of approximately 5 feet and attachment of a steel cable to the pole to allow for extra support.

Pole spacing (spanning) was determined per CPUC standards, by ground clearance, overhead clearance, wind loading, distance between angle points, and environmental constraints. In general, span lengths range from 80 to approximately 700 feet to minimize impacts to jurisdictional waters and future conservation land. Proposed spacing (spanning) and pole placement are illustrated in Appendix A1.

1.2.2.2 Cable Pulling and Stringing Setup

Cable pulling includes all activities associated with installing conductors onto the LWSPs and TSPs. Stringing locations are areas of surface disturbance for installing the line. The dimensions of the area needed for stringing set-ups varies depending upon the terrain. However, in order to provide a safe operating area for construction equipment, the length of the stringing setup areas would range from 200 feet to 500 feet and the width of these setup areas would range from 34 feet to 112 feet.

Stringing setup requires level areas to allow for maneuvering of the equipment, and when possible, these locations would be located on existing roads and level areas to minimize the need for grading and cleanup. If necessary, SCE would grade the stringing setup areas; however, SCE selected stringing setup areas that would need minimal grading, if any. The land would be restored to its previous condition following the completion of pulling and splicing activities. Stringing locations would be determined during construction and would be placed outside of sensitive areas. Generally, stringing locations would be in line with the overhead conductors, at a distance approximately three times the height of the pole.

1.2.2.3 Underground Subtransmission

An approximately 300-foot portion of Segment 1, located approximately 0.5 mile west of Valley Substation, would be installed in new underground duct banks. Two riser poles and two subtransmission vaults would be installed along this portion of Segment 1 (Map 3, Appendix A1). An approximately 20- to 24-inch-wide by 60-inch-deep trench would be required to place the 115 kV subtransmission line underground. This depth is required to meet the minimum 36 inches of cover above the duct bank. The trench for underground construction would be widened and shored where appropriate to meet California Occupation and Safety Health Administration requirements.

Duct Bank Installation

As trenching for the underground 115 kV subtransmission line is completed, SCE would begin to install the underground duct bank. Collectively, the duct bank is comprised of cable conduit, spacers, ground wire, and concrete encasement. The duct bank typically consists of six approximately 6-inch-diameter polyvinyl chloride (PVC) conduits fully encased with a minimum

of 3 inches of concrete all around. Typical 115 kV subtransmission duct bank installations would accommodate six cables. As currently designed, SCE would utilize three cable conduits and leave three spare cable conduits for any potential future circuit pursuant to SCE's current standards for 115 kV underground construction.

The majority of the duct banks would be installed in a vertically stacked configuration and each duct bank would be approximately 21 inches high by 20 inches wide. In areas where underground utilities are highly congested, or in areas where it is necessary to fan out the conduits to reach termination structures, a flat configuration duct bank may be required. However, it is not anticipated that a flat underground duct bank configuration would be required for this proposed Project.

Once the duct bank has been installed, the trench would be backfilled with a two-sack sand slurry mix. Excavated materials would be disposed of at an off-site disposal facility in accordance with all applicable laws.

Vault Installation

Vaults are below-grade concrete enclosures where the duct banks terminate. The vaults are constructed of prefabricated steel-reinforced concrete and designed to withstand heavy truck traffic loading. The inside dimensions of the underground vaults would be approximately 10 feet wide by 20 feet long with an inside height of 9.5 feet. The vaults would be placed along the underground portion of the subtransmission source line. Initially, the vaults would be used as pulling locations to pull cable through the conduits. After the cable is installed, the vaults would be utilized to splice the cables together. During operation, the vaults would provide access to the underground cables for maintenance, inspections, and repairs.

Once the vault is set, grade rings and the vault casting would be added and set to match the existing grade. The excavated area would be backfilled with a sand slurry mix to a point just below the top of the vault roof. Excavated materials, if suitable, would be used to backfill the remainder of the excavation, and any excess spoils would be disposed of at an off-site disposal facility in accordance with all applicable laws. The excavated area would be restored as necessary.

Riser Pole Construction

At each end of an underground segment, the cables would rise out of the ground at riser poles, which accommodate the transition from underground to overhead subtransmission lines. Riser poles would consist of engineered TSP structures. The riser pole would support cable terminations, lightning arresters, and dead-end hardware for overhead conductors.

Conductors

The proposed subtransmission line would require the installation of a 336.4 aluminum conductor steel reinforced fault return conductor. A clamp attachment would bond the fault return conductor directly to the LWSPs.

Underground Cable Pulling, Splicing and Termination

Following vault and duct bank installation, SCE would pull the electrical cables through the duct banks, splice the cable segments at each vault, and terminate cables at the riser poles where the subtransmission line would transition from underground to overhead. To pull the cables through the duct banks, a cable reel would be placed at one end of the conduit segment, and a pulling rig would be placed at the opposite end. The cable from the cable reel would be attached to a rope in the duct bank, and the rope linked to the pulling rig, which would pull the rope and the attached cable through the duct banks. A lubricant would be applied as the cable enters the ducts to decrease friction and facilitate travel through the PVC conduits. The electrical cables for the 115 kV subtransmission line circuit would be pulled through the individual conduits in the duct bank at a rate of two to three segments between vaults per day.

After cable pulling is completed, the electrical cables would be spliced together. A splice crew would conduct splicing operations at each vault location and continue until all splicing is completed.

1.2.2.5 Telecommunication System

Underground Installation

SCE is proposing to install fiber optic cable underground and attach the overhead portions of the fiber optic cable to the poles via a wood crossarm. Typical stringing setup areas would be approximately 60 feet by 20 feet. Stringing setup for the telecommunications system would require level areas to allow for maneuvering of the equipment, and when possible, these locations would be located on existing roads to minimize the need for grading and cleanup. If necessary, SCE would grade the stringing setup areas; however, SCE has selected areas that would need minimal grading, if any. The land would be restored to its previous condition following the completion of pulling and splicing activities. Proposed underground telecommunication facilities will be installed along Segments 1, 2, and 3 as follows; these areas are identified in Appendix A1:

Segment 1
Approximately 2,531 feet of fiber optic cable would be installed in an existing underground conduit within Valley Substation, and approximately 314 feet of fiber optic cable would be installed in a new underground conduit directly adjacent to Valley Substation. In addition, approximately 1,131 feet of fiber optic cable would be installed in a new underground conduit, approximately 2,200 feet west of Valley Substation.

Segment 2
In order to cross under the Serrano-Valley 500 kV Transmission Line, approximately 410 feet of fiber optic cable would be installed in a new underground conduit along SR-74 from Ethanac Road to Festus Circle.

Segment 3

In order to maintain diversity, approximately 338 feet of fiber optic cable would be installed in a new underground conduit along Third Street and across Collier Avenue.

Overhead Installation

SCE is proposing to install approximately 19.9 miles of fiber optic cable (both Phase 1 and Phase 2 Projects) on wood crossarms attached to the poles between Valley Substation and Ivyglen Substation. The wood crossarms would be approximately 5 or 10 feet by 5 inches by 4 inches and installed on the poles where the fiber optic cable is not installed underground. SCE would utilize 5 or 10-foot wood crossarms and high-strength engineered dielectric suspension support blocks to attach the fiber optic cable to the new LWSPs. The suspension support blocks would be oriented vertically and attached to the crossarm. The crossarm would be attached to the pole prior to attaching the cable.

As described previously, SCE is proposing to add stringing setup areas for the installation of the telecommunications system. Typical stringing setup areas would be approximately 60 feet by 20 feet, and when possible, these locations would be located on existing roads and level areas to minimize the need for grading and cleanup. If necessary, SCE would grade the stringing setup areas; and these areas would be restored to their previous condition following the completion of pulling and splicing activities.

1.2.2.6 Roads

Two types of roads, access and spur, would be required for construction and maintenance of the proposed subtransmission line. Access roads originating from the main transport route would run along a portion of the proposed subtransmission line route between pole sites. Where needed, spur roads would lead from access roads and dead-end at one or more pole sites. Each pole site would require an access or spur road for construction. Some access and spur roads will remain for operation and maintenance.

Road construction/improvements will involve grading dirt roadways to allow access to pole locations. Drainage structures would be installed to allow for construction traffic usage as well as to prevent road damage and erosion due to uncontrolled water flow. Drainage structures may include “wet crossings” (un-culverted drainages crossing existing roads) or pipe culverts, depending upon the size and shape of existing drainages. Seven locations require gabions to control erosion where existing or new access roads cross ephemeral drainages. Pipe culverts will be constructed at two of the larger drainage crossings.

In sensitive areas, such as within the San Jacinto River floodplain, roads will be temporary and constructed at the existing grade, with no berms, so as not to disrupt hydrology in these areas. These roads will be restored to pre-construction conditions upon Project completion.

1.2.2.7 Staging Areas

A staging area is a physical location where materials and equipment are temporarily stored during construction. Staging areas for the subtransmission line would be located at three locations along the alignment: Valley Yard-South, Joe 74, and Joe Yard Extension. Although the Valley Yard-North area was included in the PMR, the yard is not proposed for use, as currently designed. If the need for this yard occurs, biological survey results for this area will be provided by a separate consultant as a separate submittal.

The Valley Yard-South staging area is located south of Valley Substation in the northwest corner of the intersection of Case Road and Menifee Road. The Joe 74 staging area would be located southeast of the intersection of SR-74 and Ethanac Road. The Joe Yard Extension staging area is located immediately west of the Joe 74 staging area. These proposed staging yards are identified in Appendix A1.

Preparation of the staging areas would include temporary perimeter fencing and the application of gravel or crushed rock. Land that may be disturbed at the staging areas would be restored to pre-construction conditions or to the landowner's requirements following the completion of construction. Impacts to sensitive biological resources would be avoided to the extent possible by flagging or fencing off those resources and adjusting the temporary work areas around them.

1.2.2.8 Construction Equipment

Equipment needed for pole installation and related work includes one bull dozer, one motor grader, one dump truck, one concrete mixer truck, one compressor trailer, one auger drilling rig, two backhoes, one 30-ton crane, one conductor tensioner, one bull wheel puller, one sock line puller, one wire truck, two truck monitored cranes, water truck, two bucket trucks, two light trucks, one extendable flatbed pole truck, one fuel truck, and possible helicopter use. Road construction would require the use of D6 and D8 front loaders, one dozer truck, one motor grader, one water truck, one drum compactor, one excavator, and two to three crew vehicles.

1.2.2.9 Helicopter Use

Helicopters would be used to support construction activities in areas where access is limited (e.g., no suitable access road, limited construction area to facilitate on-site structure assembly, and/or environmental constraints to access the work areas with standard construction vehicles and equipment). Helicopter usage would be based on environmental, topographic, or schedule constraints. Helicopter activities could include transportation of construction workers, delivery of equipment and materials to structure sites, hardware installation, and conductor stringing operations. Helicopters could be used in other areas to facilitate construction, dependent upon recommendations by the installation contractor.

The helicopters' operation area would include the following:

- helicopter operation yards,
- staging areas, and
- ground locations in close proximity to stringing setup areas, including locations in previously disturbed areas near construction sites.

In addition, helicopters may need to land within SCE ROWs, which could include landing on access or spur roads. For safety and security reasons, it is also assumed that helicopters and their associated support vehicles and equipment may be based at a local airport or SCE facility at night or on off-days.

1.2.2.10 Blasting/Fracturing

During site preparation and excavation/foundation work activities, blasting or fracturing may be required in some locations where rock is present. Prior to blasting, distances to any receptors in the area would be assessed to ensure that the blast would be engineered to be safe and effective. Pre-blast coordination and/or notification would be made to residents, utilities, and others potentially affected by blasting operations. Once coordination and notifications are complete, holes would be drilled and the explosive charges loaded into the holes. Special protective measures (e.g., gravel or blast mats and straw wattles) would be installed to control rock debris from the blast site. The area would be secured to avoid inadvertent entry by the public or other personnel. After the area is secured, the appropriate pre-blast warning signals would be given and the blast detonated. After detonation, a post-blast safety inspection would be conducted to ensure that the blast completely discharged and personnel may safely enter to excavate the blasted material. All blasting would be in accordance with applicable laws and regulatory requirements.

1.2.2.11 Valley Substation Improvements

The construction of the proposed subtransmission line would require the installation of new 115 kV switching and protective equipment at the Valley Substation. Improvements to the Valley Substation would include installing the components listed below within the existing perimeter fencing:

- An A-frame type line dead-end structure 30 feet wide by 29 feet high at a vacant position in the 115 kV open switchrack area for terminating the proposed subtransmission line.
- Two 115 kV, 2000 Ampere (continuous), 40 kilo-Ampere (short circuit) rated circuit breakers on concrete foundations and four 115 kV, 2000 Ampere (continuous) rated horizontal mounted, center side break disconnecting switches on steel support structures, for circuit breaker isolation.
- Subtransmission line and substation equipment protection within the existing control and relay building.

1.2.3 Operation and Maintenance

The Operations and Maintenance (O&M) activities described herein are consistent with SCE's O&M Plan which describes required activities to operate and maintain safe and reliable electric and communication facilities throughout SCE's service territory. Furthermore, the subtransmission lines would be maintained in a manner consistent with CPUC General Order (G.O.) 95 and G.O. 128 as applicable. Operation of the lines would be controlled remotely through SCE control systems and manually in the field, as required. SCE inspects

subtransmission facilities in a manner consistent with CPUC G.O. 165. That frequency calls for inspection at a minimum of once per year via ground and/or aerial observation, but may occur more frequently based on system reliability. Maintenance would occur as needed and could include activities such as repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, replacing poles, tree trimming, brush and weed control, and access road maintenance. Most regular O&M activities for overhead facilities would be performed from existing dirt access roads with minimal surface disturbance. Repairs not conducted from access roads would typically occur in previously disturbed areas or undisturbed areas that have been surveyed and do not encompass sensitive biological resources. All attempts would be made to utilize previously disturbed areas.

1.2.3.1 Roads

Routine dirt access road maintenance is conducted on an annual and/or as-needed basis. Road maintenance includes maintaining a vegetation-free corridor (to facilitate access and for fire prevention) and blading to smooth over washouts, eroded areas, and washboard surfaces, as needed. Further, access road maintenance would typically include brush clearing (i.e., trimming or removal of shrubs) approximately 2-5 feet beyond the road's edge when necessary to keep vegetation from intruding into the roadway. However, future access road maintenance will occur within the footprint approved during the MSHCP PSE process, which includes a minimal drivable width to meet safety requirements. This would typically include width range of 14 feet (in areas with flat topography) to 22 feet in areas where a steeper grade requires wider roads, and an additional 2 feet of shoulder on each side. The location of roads in relation to their proximity to sensitive biological resources would also be considered during O&M planning. For example, where sensitive resources are present, roads may be maintained at a more narrow width if safety requirements can also be met. Further, roads through the San Jacinto River crossing would only be temporary and would not be maintained as part of future O&M activities. Road maintenance would also include cleaning ditches, moving and establishing berms (only where berms were approved as part of the approved project but not where the roads need to stay in a flattened profile), clearing drainages to allow for unobstructed flow to culverts, culvert repair, clearing and establishing water bars, and cleaning and repairing over-side drains. Access road maintenance may also include the repair, replacement and installation of storm water diversion devices on an as-needed basis.

1.2.3.2 Poles

Poles could require replacement if damaged. Pole replacement locations and/or lay down areas outside of previously disturbed areas would be surveyed to ensure that they do not encompass sensitive biological resources. Attempts would be made to utilize previously disturbed areas, to the greatest extent possible.

Insulators could require periodic washing with water to prevent the buildup of contaminants (dust, salts, bird droppings, smog, condensation, etc.) and reduce the possibility of electrical arcing, which can result in circuit outages and potential fire. Frequency of insulator washing is region-specific and based on local conditions and build-up of contaminants. Replacement of insulators, hardware, and other components is performed as needed to maintain circuit

reliability. This activity typically involves remaining on existing access roads, but may involve parking the maintenance vehicle(s) on the previously disturbed area directly adjacent to the pole.

Conductors could require repair or replacement if damaged. If conductor replacement is necessary stringing locations are generally in line with the existing overhead conductors at a distance approximately three times the height of the pole. This activity would stay within existing access roads to the extent possible, but due to the height of the poles and the need to be in line with the existing pole line, this activity may occur off of the access road. Conductor replacement work outside of previously disturbed areas would be surveyed to ensure that it does not impact sensitive biological resources. Other conductor repair would generally occur in previously disturbed areas.

Wood pole testing and treating is a necessary maintenance activity conducted to evaluate the condition of wood structures both above and below ground level. Inspections may require the temporary removal of soil around the base of the pole, usually to a depth of approximately 12 to 18 inches, to check for signs of deterioration. Existing roads and previously disturbed areas are utilized for access to poles. To minimize impacts, all soil removed for intrusive inspections would be replaced and compacted at completion of the testing.

1.2.3.3 Tree Pruning and Vegetation Removal

Regular tree pruning may be performed to ensure compliance with existing state and federal laws, rules, and regulations and is crucial for maintaining reliable service, especially during severe weather or natural disasters. Tree pruning standards for distances from overhead lines have been set by the CPUC (G.O. 95, Rule 35), California Public Resource Code 4293, California Code of Regulations Title 14, Article 4, and other government and regulatory agencies. SCE's standard approach to tree pruning is to remove at least the minimum required by law plus one years' growth (species dependent).

In addition to maintaining vegetation-free access roads and clearances around electrical lines, clearance of brush and weeds around the base of poles is necessary for fire protection. Where poles are located within sensitive habitat, brush and weeds may be hand cleared at pole locations. Large diameter brush and tree trimmings would be reduced using a mechanical chipper and scatters at site locations. Debris would not be placed on sensitive resources, such as sensitive plant populations or streams. Alternatively, large trimmings could be removed to a permitted disposal location. A 10-foot radial clearance around non-exempt poles (as defined by California Code of Regulations Title 14, Article 4) will be maintained in accordance with Public Resource Code 4292.

1.2.3.4 Emergency Repairs

In addition to regular O&M activities, SCE may conduct a wide variety of emergency repairs in response to emergency situations such as damage resulting from high winds, storms, fires, and other natural disasters and accidents. Such repairs could include replacement of downed poles or conductors. Emergency repairs could be needed at any time.

1.2.4 SCE's Environmental Screening Process for O&M

Prior to each ground and or vegetation disturbing O&M activity occurring, an environmental screening form is required to be submitted for review by SCE's Corporate Environmental Health and Safety (CEHS) department. CEHS reviews each activity for biological and cultural resource impacts, conducts surveys/sweeps/monitoring where necessary. In some cases, modifications to the O&M activity are requested to avoid or minimize impacts to sensitive resources. O&M activities are also reviewed for ongoing and past mitigation implementation related to capital project approval. SCE can provide multiple examples of successful implementation of capital project mitigation carried over to O&M activities.

In addition, certain activities, such as line clearing, are generally not permitted during bird nesting season unless pre-activity surveys determine the absence of nesting birds. If these activities must occur during nesting season, monitors are authorized to redirect O&M activities to areas of less nesting sensitivity.

In the case of emergency repairs (e.g. damaged, including downed, pole replacement), which may have to occur within the same day or over a weekend to resolve power outages, SCE CEHS is notified and consulted, but the formal environmental screening process may not be prudent in all situations. For example, if emergency repairs result in the need to alter an existing bed and bank or cause the discharge/fill of regulated waters, CEHS's water permitting group would submit "emergency repair" regulated waters notifications/permit applications after the work is done.

1.2.5 Future O&M Work not Covered under this PSE Approval

O&M activities that differ from the above description and/or are not approved as part of the MSHCP PSE process, or could potentially impact MSHCP covered resources or the Reserve would require additional consultation with RCA. RCA would determine if additional Wildlife Agency concurrence is needed. Additional consultation with RCA would be handled through the CEHS environmental screening process and tracked as part of the hand-off process from capital projects to O&M.

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2.0 REGIONAL LAND USE AND CONSERVATION PLANS

The proposed Project area occurs primarily within existing SCE ROW in undeveloped lands or along existing roadways within the cities of Lake Elsinore and Perris. It contains a combination of agricultural, municipal, private, and reserve land, most with previous disturbance.

The proposed Project is located within the boundaries of the MSHCP. The MSHCP allows for the Permittees within the Plan area to manage local land-use decisions and maintain a strong economic climate while addressing the requirements of the state and federal Endangered Species Acts (ESAs). Rather than address sensitive species on an individual basis, the MSHCP focuses on the conservation of 146 species, proposing a reserve system of approximately 5,000 acres and a mechanism to fund and implement the reserve system (County of Riverside 2003). Take of Stephen's kangaroo rat (*Dipodomys stephensi*; SKR) will be processed directly through the SKR Habitat Conservation Plan (HCP) leaving the MSHCP to cover incidental take, as needed, for 145 species potentially impacted by the proposed Project.

The importance of the Plan to the proposed Project and other projects within its boundaries is that it streamlines the environmental review and permitting processes for projects that affect biological resources. This is accomplished by having established survey and analysis requirements that directly support the identified conservation goals and objectives of the Plan. The goals and objectives of the Plan ultimately result in the development of a comprehensive biological resources reserve system providing long-term conservation of biological resources. The overall benefit to a project proponent is the use of existing state and federal take permits for listed species, with built-in mitigation measures, so that individual applicants need not seek their own permits from the USFWS and CDFW in accordance with the Federal ESA and California ESA take authorizations.

2.1 MSHCP Reserve Assembly Analysis

2.1.1 Area Plans, Subunits and Criteria Cells

The Project area passes through four MSHCP Area Plans: Harvest Valley/Winchester, Sun City/Menifee, Mead Valley, and Elsinore. The Area Plans are further divided into Subunits that contain Criteria Cells that are targeted for conservation. Appendix B illustrates the location of these areas relative to the Project site. Target conservation acreages have been established along with a description of the planning species, biological issues and considerations, and criteria for each Subunit within the MSHCP. In some areas, Cells that have a common habitat goal are combined forming a Cell Group. The design for conservation involves core areas of habitat, blocks of habitat, and linkages between the core and block areas. A description of each Area Plan, Subunit and Criteria Cells that occur within the Project area are provided below, as well as their associated reserve assembly goals.

2.1.1.1 Meade Valley Area Plan Subunit 4: San Jacinto River-Lower

The Project area traverses through the San Jacinto River-Lower Subunit (Subunit 4) of the Meade Valley Area Plan. The following specific target planning species and conservation goals are included within the biological considerations for this Subunit:

- *Planning Species:* loggerhead shrike, mountain plover, white-faced ibis, vernal pool fairy shrimp, Los Angeles pocket mouse. Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, spreading navarretia, thread-leaved brodiaea, vernal barley, and Wright's trichocoronis.
- Conserve Willow-Domino-Travers soils supporting sensitive plants such as Coulter's goldfields, Davidson's saltscale, San Jacinto Valley crownscale, spreading navarretia, vernal barley, and Wright's trichocoronis.
- Conserve existing vernal pool complexes associated with the San Jacinto River floodplain. Conservation should focus on vernal pool surface area and supporting watersheds.
- Provide for and maintain a continuous linkage along the San Jacinto River between the western and eastern boundaries of the Mead Valley Area Plan. It is recognized that roadway and railroad crossings are currently present, and new crossings may be constructed in the future.
- Maintain floodplain habitat for mountain plover.
- Determine presence of potential Core Area for Los Angeles pocket mouse along San Jacinto River east of I-215.

Specifically within this Subunit, the proposed Project traverses Criteria Cells 3656, 3659, and 3665 (refer to Appendix B). Goals for each Criteria Cell/Cell Group are provided in Table 2.

Table 2.
Meade Valley Area Plan - Subunit 4: San Jacinto River-Lower, Criteria Cells that Occur within the Project Area

Cell Group	Criteria Cell	Criteria
K	3656	Conservation within this Cell Group will contribute to assembly of Proposed Linkage 7. Conservation within this Cell Group will focus on assembly of coastal sage scrub, riparian scrub, woodland, forest, grassland and chaparral habitat associated with the San Jacinto River. Areas conserved within this Cell Group will be connected to coastal sage scrub, riparian scrub, woodland, forest, and chaparral habitat proposed for conservation along the San Jacinto River in Cell Group L to the east and to coastal sage scrub, riparian scrub, woodland, and forest habitat proposed for conservation in Cell #3851 in the Elsinore Area Plan to the southwest. Conservation within this Cell Group will range from 45%-55% of the Cell Group focusing in the southern portion of the Cell Group.
L	3659	Conservation within this Cell Group will contribute to assembly of Proposed Linkage 7 and of Proposed Constrained Linkage 19. Conservation within this Cell Group will focus on assembly of riparian scrub, woodland, forest, coastal sage scrub, chaparral and grassland habitat associated with the San Jacinto River. Areas conserved within this Cell Group will be connected to riparian scrub, woodland, forest and coastal sage scrub habitat proposed for conservation along the San Jacinto River in Cell Group K to the west, to riparian scrub, woodland, and forest habitat proposed for conservation along the San Jacinto River in Cell #3570 and #3665 to the northeast, and to chaparral habitat proposed for conservation in Cell #3760 to the east. Conservation within this Cell Group will range from 60%-70% of the Cell Group focusing in the southern and central portions of the Cell Group.
--	3665	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 19 and Proposed Linkage 7. Conservation within this Cell will focus on assembly of riparian scrub, woodland, forest and grassland habitat associated with the San Jacinto River, and also chaparral, coastal sage scrub and grassland habitat in the southern portion of the Cell. Areas conserved within this Cell will be connected to riparian scrub, woodland, forest and coastal sage scrub habitat proposed for conservation in Cell 3570 to the north, to riparian scrub, woodland, forest and grassland habitat proposed for conservation in Cell Group L to the west, and to chaparral, coastal sage scrub, and grassland habitat proposed for conservation in Cell 3760 to the south. Conservation within this Cell will be approximately 5% of the Cell focusing in the northwestern portion and in the southern portion of the Cell.

Source: County of Riverside 2003

2.1.1.2 Elsinore Area Plan - Subunit 5: Ramsgate

The Project area traverses through the Ramsgate (Subunit 5) of the Elsinore Area Plan. The following specific target planning species and conservation goals are included within the biological considerations for this Subunit:

- *Planning Species:* Bell's sage sparrow, California horned lark, coastal California gnatcatcher, Cooper's hawk, grasshopper sparrow, least Bell's vireo, loggerhead shrike, mountain quail, Southern California rufous-crowned sparrow, southwestern willow flycatcher, tree swallow, white-tailed kite, yellow warbler, Quino checkerspot butterfly, bobcat, Stephens' kangaroo rat, western pond turtle.

- Provide a northwest-southeast connection along the hills between Estelle Mountain and Sedco Hills, primarily for coastal California gnatcatchers, but also other sage scrub species.
- Conserve wetlands including Wasson Creek.
- Provide east-west upland Linkage connecting Ramsgate Core Area to Kabian Park.
- Conserve clay soils supporting Munz's onion.
- Conserve foraging habitat for raptors, including grasslands and a sage scrub-grassland ecotone.
- Maintain Core and Linkage habitat for bobcat.
- Maintain Core and Linkage habitat for Stephens' kangaroo rat.
- Maintain linkage area for western pond turtle.
- Maintain opportunities for linkage area for Quino checkerspot butterfly.

Along SR-74, traveling southwest, the Project traverses Cells 3974, 4076, and 4079 (Appendix B). A portion of Cell 4076 is in the City of Lake Elsinore; the remainder is within unincorporated lands. Also, Cell 3974 is disjunct from Cells 4079 and 4076. Goals for each Criteria Cell/Cell Group are provided in Table 3.

Table 3.
Elsinore Plan - Subunit 5: Ramsgate, Criteria Cells that Occur within the Project Area

Cell Group	Criteria Cell	Criteria
--	3974	Conservation within this Cell will contribute to assembly of Proposed Core 1. Conservation within this Cell will focus on coastal sage scrub and grassland habitat. Areas conserved within this Cell will be connected to coastal sage scrub and grassland habitat proposed for conservation in Cell 4078 to the south. Conservation within this Cell will be approximately 5% of the Cell focusing in the southern central portion of the Cell.
X	4076 and 4079	Conservation within this Cell Group will contribute to assembly of Proposed Core 1. Conservation within this Cell Group will focus on chaparral, coastal sage scrub, grassland, riparian scrub, woodland and forest habitat. Areas conserved within this Cell Group will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell Group M to the north and to coastal sage scrub, riparian scrub, woodland and forest habitat proposed for conservation in Cell Group Z to the south and in Cell 4178 to the east. Conservation within this Cell Group will range from 30%-40% of the Cell Group focusing in the northeastern portion of the Cell Group.

Source: County of Riverside 2003

2.1.1.3 Harvest Valley/Winchester Area Plan

The eastern portion of the Project alignment traverses the Harvest Valley/Winchester Area Plan. However, the proposed Project is not included in Subunits or Criteria Cells within this plan area (Appendix B) that are provided specific Planning Species, Biological Issues and Considerations and Criteria for each Subunit. The target conservation acreage for the Harvest

Valley/Winchester Area Plan is 6,320 - 6,495 acres; it is composed of approximately 5,890 acres of existing Public/Quasi-Public (PQP) Lands and 430 - 605 acres of Additional Reserve Lands.

2.1.1.4 Sun City/Menifee Area Plan

The eastern portion of the Project alignment traverses the Sun City/Menifee Area Plan. However, the proposed Project is not included in Subunits or Criteria Cells within this plan area (Appendix B) that are provided specific Planning Species, Biological Issues and Considerations and Criteria for each Subunit. The target conservation acreage range for the Sun City/Menifee Area Plan is 1,545 – 2,010 acres; it is composed of approximately 425 acres of existing PQP Lands and 1,120 – 1,585 acres of Additional Reserve Lands.

2.1.2 Cores and Linkages within Conservation Area

MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks (refer to Appendix B). These features are generally referenced as cores and linkages. A Core is a block of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species. Although a more typical definition is population-related and refers to a single species, in the MSHCP this term is habitat-related because of the multi-species nature of the MSHCP Plan. An MSHCP linkage is defined as a connection between Core Areas with adequate size, configuration and vegetation characteristics to generally provide for "live-in" habitat and/or provide for genetic flow for identified planning species. A constrained linkage is a constricted connection expected to provide for movement of identified planning species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use. Areas identified as linkages in MSHCP may provide movement habitat but not live-in habitat for some species, thereby functioning more as movement corridors.

No existing cores or linkages are located within the Project area; however, one proposed core (1), one proposed linkage (7), and one proposed constrained linkage (19) are located within the Project area (Appendix B). Table 4 provides details regarding the proposed linkages as well as the associated planning species for each within the Project area.

Table 4.
Proposed Cores and Linkages within the Project Area

Linkage	Description
Proposed Linkage 7	Proposed Linkage 7 consists of a patchwork of riparian habitat associated with the San Jacinto River and Canyon Lake and adjacent upland habitat occurring within Kabian Park, Canyon Lake, and Four Seasons Conservation Land. Similar to Proposed Linkage 8, this Linkage is a major component of one of the two main east-west connections within the MSHCP Plan Area. The Linkage provides for movement of species connecting to Sedco Hills, Alberhill and to areas upstream along the San Jacinto River. Planning Species for which habitat is provided for within the Linkage include Bell's sage sparrow, coastal California gnatcatcher, least Bell's vireo, and bobcat. The Linkage also contains the Traver-Willow-Domino soils series, which is capable of supporting several Narrow Endemic Plant Species such as San Jacinto Valley crownscale, vernal barley and spreading navarretia. Maintenance of large intact interconnected habitat blocks is important for these species, as well as maintenance of water quality and existing functions and values of wetland habitats associated with the San Jacinto River. Adjacent planned land uses and major Covered Activities traversing the Linkage may affect resources within the Linkage. Adjacent planned land uses generally consist of Community Development and City (Perris, Lake Elsinore and Canyon Lake). The areas within these Cities that are adjacent to the Linkage are generally characterized as urban and rural residential land uses. Land use activities within either the City or Community Development designation, may result in Edge Effects associated with fire suppression, fire, and dispersal of invasive species. Major Covered Activities may also contribute additional Edge Effects such as trash and runoff and result in habitat fragmentation. Construction of the proposed Hemet to Corona/Lake Elsinore CETAP Corridor Alternative 5A and 5E along SR-74 (Ethanac Road) may isolate the Linkage from Core Areas upstream along the San Jacinto River. Improvements to this facility will need to consider a terrestrial crossing for wildlife and maintenance of the hydrology of the San Jacinto River.
Proposed Constrained Linkage19	Proposed Constrained Linkage 19 (Lower San Jacinto River) is located approximately in the center of the Plan Area. This Constrained Linkage connects Proposed Linkage 7 in the southwest with Proposed Extension of Existing Core 4 (San Jacinto River Core) in the northeast. Existing agricultural use and a small amount of existing urban Development constrain the Linkage along much of its length. Surrounding planned land uses include only city of Perris. Although the river will be channelized for flood control in this area, the Linkage will nonetheless maintain connectivity along the river and provide for movement of common mammals such as bobcat. An adequate wildlife underpass or overpass may need to be implemented to insure movement of species in this area and to reduce the chance of mortality from vehicle collision. Treatment and management of edge conditions along this Linkage will be necessary to ensure that it provides Habitat and movement functions for species using the Linkage and that wetland functions and values are maintained for the benefit of Narrow Endemic Plant Species known to occur in the San Jacinto River.

Table 4.
Proposed Cores and Linkages within the Project Area

Linkage	Description
Proposed Core 1	Proposed Core 1 consists largely of private lands in the Alberhill area but also contains small pieces of Public/Quasi-Public Lands. The Core exists in two blocks, one east and one west of I-15. Connections are made from the Core to Proposed Linkage 1, Proposed Linkage 2 (Alberhill Creek), Proposed Linkage 3, and Existing Core C (Lake Mathews/Estelle Mountain). The Core provides Habitat for species and also provides for movement of species. Key populations of coastal California gnatcatcher, Munz's onion, many-stemmed dudleya, cactus wren, tricolored blackbird, and yellow warbler are supported in this Core Area. The Core likely provides for movement of common mammals such as bobcat. Since this Core is contiguous with Existing Core C (Lake Mathews/ Estelle Mountain) via an approximately 10,000-foot connection, the functional area of the Core is much greater than 7,470 acres. Because a portion of the Core is surrounded by city (Lake Elsinore) and community Development planned land uses, and since this Core may be affected by the proposed Hemet to Corona/Lake Elsinore CETAP Corridor, management of edge conditions in these areas will be needed to maintain high quality habitat.

Source: County of Riverside 2003

2.1.3 Public/Quasi Public Conserved Lands

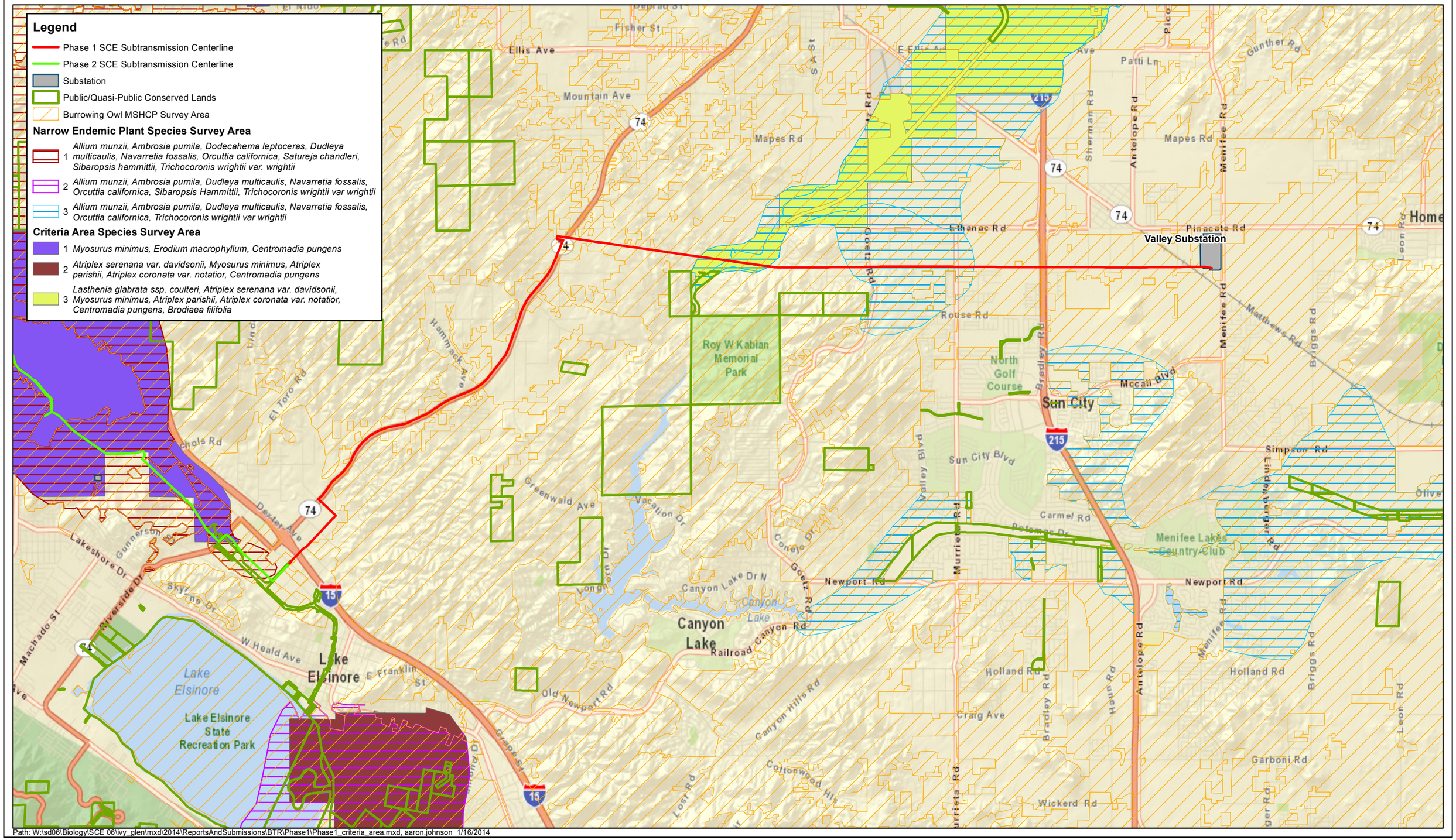
Approximately 50 feet of the subtransmission line traverses the Riverside County Flood Control District PQP at the west end of the 115 kV subtransmission line (Appendix B). This is a crossing only and thus would not impede the functions and values of the PQP land. As such, proposing mitigation in the form of replacement land is not required to offset this crossing of PQP land. Specific guidelines for facilities within the PQP Lands are presented in *Section 7.5* of the MSHCP.

2.2 MSHCP Survey Requirements

MSHCP survey areas for the proposed Project were identified by conducting an initial search of the Riverside County Integrated Project (RCIP) Conservation Summary Report Generator (County of Riverside 2013). As a result, the study area was identified to be located within the burrowing owl survey area, Criteria Area Species Survey Area (CASSA) and Narrow Endemic Species Survey Area (NEPSSA) (Figure 3). Table 5 summarizes the MSHCP Project Review Checklist to determine conservation measures and surveys necessary for MSHCP compliance.

Table 5.
MSHCP Project Review Checklist

Checklist	Yes	No
Is the project located in a Criteria Area or Public/Quasi-Public Land?	✓	
Is the project located in Criteria Area Plant Survey Area?	✓	
Is the project located in Criteria Area Amphibian Survey Area?		✓
Is the project located in Criteria Area Mammal Survey Area?		✓
Is the project located in Narrow Endemic Plant Species Survey Area?	✓	
Are riverine/riparian/wetland habitats or vernal pools present?	✓	
Is the project located in Burrowing Owl Survey Area?	✓	
Is the project located in a Special Linkage Area?		✓



Path: W:\sd06\Biology\SCE 06\ivy_glen\mxd\2014\ReportsAndSubmissions\BTR\Phase1\Phase1_criteria_area.mxd, aaron.johnson 1/16/2014

Narrow Endemic Plant Species Survey Area, Criteria Area Species Survey Area, and Burrowing Owl Survey Area
MSHCP Biological Resources Technical Report for the Valley-Ivyglen Subtransmission Line Project, Phase 1
Riverside County, California

1 inch = 1 mile
0 0.5 1 Miles

N

FIGURE 3

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2.2.1 MSHCP Section 6

Section 6 of the MSHCP provides provision for MSHCP implementation. Three particular subsections of this section are relevant to the proposed Project:

- *6.1.2 Protection of Species Associated with Riparian/Riverine areas and Vernal Pools*
- *6.1.3 Protection of Narrow Endemic Plant Species*
- *6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface*
- *6.3.2 Additional Survey Needs*

The MSHCP covers 146 species, 38 of which require additional surveys if the proposed Project occurs in the specific survey area for a species. For the purposes of this Project, SCE is not requesting take of SKR because SKR coverage is not permitted by the MSHCP when the site also lies within the SKR HCP boundaries. As noted above in Table 5 and illustrated in Figure 3, the proposed Project occurs within the NEPSSA, CAPSSA, and burrowing owl survey areas. The Project area also traverses *Riparian/Riverine* and *Vernal Pool* habitats as defined by the MSHCP. Based on biological resource assessments, the RCIP Conservation Report Generator, and maps of MSHCP survey areas, it was determined that surveys for *Riparian/Riverine* habitats, *Vernal Pools*, and associated species, Narrow Endemic Plant Species (NEPS), and Criteria Area Species (CAPS) are required pursuant to *Sections 6.1.2, 6.1.3, and 6.3.2* of the MSHCP.

Section 6.1.3 of the MSHCP describes the 14 NEPS and the procedures necessary for surveying, mapping and documenting these species. In addition to the NEPS listed in *Section 6.1.3*, additional surveys may be needed for certain species listed in *Section 6.3.2* in conjunction with Plan implementation in order to achieve coverage for these species. These species are referred to as “Criteria Area Species”. Associated survey areas have been identified for these species (Figure 3). Furthermore, per *Section 6.1.2* of the MSHCP, if potential *Riparian/Riverine*, and/or *Vernal Pool* habitat (as defined by the MSHCP) occurs within the Project area, additional surveys are necessary for specific species that have potential to occur within these habitats. Table 6 lists the species that are to be surveyed per *Section 6* of the MSHCP.

Table 6.
MSHCP Section 6 Species List

MSHCP Section	Species
Section 6.1.2 Riparian/ Riverine and Vernal Pools	***Plants:*** Brand's phacelia, California orcutt grass, California black walnut, coulter's Matilija poppy, Engelmann oak, fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, orcutt's brodiaea, parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana river woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, and vernal barley. ***Invertebrates:*** Riverside fairy shrimp and vernal pool fairy shrimp ***Fish:*** Santa Ana sucker ***Amphibians:*** arroyo toad, mountain yellow-legged frog, and California red-legged frog ***Birds:*** bald eagle, least Bell's vireo, peregrine falcon, southwestern willow flycatcher, western yellow-billed cuckoo
Section 6.1.3 Narrow Endemic Plant Species	Brand's phacelia, California Orcutt grass, Hammitt's clay-cress, Johnston's rockcress, many-stemmed dudleya, Munz's mariposa lily, Munz's onion, San Diego ambrosia, San Jacinto Mountains bedstraw, San Miguel savory (Santa Rosa Plateau, Steele Rock), slender-horned spine flower, spreading navarretia, Wright's trichocoronis, and Yucaipa onion.
Section 6.3.2 Additional Survey Needs and Procedures	***Plants:*** Coulter's goldfields, Davidson's saltscale, heart-leaved pitcher sage, little mud nama, Nevin's barberry, Parish's brittlescale, prostrate navarretia, round-leaved filaree, San Jacinto Valley crownscale, smooth tarplant, thread-leaved, and Vail Lake ceanothus. ***Amphibians*:**arroyo toad, mountain yellow-legged frog, and California red-legged frog ***Birds:*** burrowing owl ***Mammals*:*** Aguanga kangaroo rat, San Bernardino kangaroo rat, Los Angeles pocket mouse

*Note: Project does not occur within the amphibian and mammal species survey areas.

The MSHCP does not supersede existing federal and state regulations covering lakes, streams, vernal pools, and other wetland areas. Thus, projects must comply with existing regulations for these aquatic resources pursuant to the CWA and the CFGC. However, pursuant to the MSHCP, an assessment of the potentially significant effects of projects on *Riparian/Riverine* areas, and *Vernal Pools* as it relates to habitat functions and values for MSHCP-covered species is required. If an avoidance alternative is not feasible and a more practicable alternative is selected instead, a DBESP would be provided to ensure replacement of any lost functions and values of habitat as it relates to the needs of Covered Species that rely on that habitat.

Section 6.1.2 of the MSHCP defines *Riparian/Riverine* and *Vernal Pool* habitats as follows:

> *Riparian/Riverine Areas:* are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or unvegetated, ephemerals that transport water supporting downstream resources in the MSHCP Conservation Area.
>
> *Vernal Pools:* are seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season, but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate and facultative wetland plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season.

In addition to mapping *Vernal Pools*, the MSHCP requires mapping of stock ponds, ephemeral pools, and other features which may be suitable habitat for Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Brachinecta lynchi*), and Santa Rosa fairy shrimp (*Linderiella santarosae).*

The MSHCP describes a strategy of impact avoidance, minimization, and mitigation for these resources and further requires that long-term conservation of these areas is assured, and recommends that indirect impacts be reviewed to provide protection for these areas.

Section 6.1.4 of the MSHCP describes a process to ensure that projects located outside of, but adjacent to, the Conservation Area do not undermine conservation planning objectives of the MSHCP. This process is called the Urban/Wildlands Interface Guidelines (UWIG).

"Future Development in proximity to the MSHCP Conservation Area may result in Edge Effects that will adversely affect biological resources within the MSHCP Conservation Area. To minimize such Edge Effects, the following guidelines shall be implemented in conjunction with review of individual public and private Development projects in proximity to the MSHCP Conservation Area."

Specific elements to be considered in UWIG compliance include:

- Drainage
- Toxics
- Lighting
- Noise
- Invasives
- Barriers
- Grading and land development

As stated in the MSHCP:

"Existing local regulations are generally in place that address the issues presented in this section. Specifically, the County of Riverside and the 18 Cities within the MSHCP Plan Area have approved general plans, zoning ordinances and policies that include mechanisms to regulate the development of land. In addition, project review and impact mitigation that are currently provided through the CEQA process address these issues."

UWIG compliance, therefore, relies heavily on the application of Standard Best Management Practices (BMPs) during site development and project operation. These BMPs can be found in *Appendix C* of the MSHCP. Projects must accordingly demonstrate that they will not adversely affect any Conservation Area and must adequately consider the elements listed above per the UWIG.

2.2.2 MSHCP Table 9-3 Requirements To Be Met For 28 Species Prior To Including Those Species On The List Of Covered Species Adequately Conserved

Of the 146 Covered Species addressed in the MSHCP, 118 species are considered to be Adequately Conserved. The remaining 28 Covered Species will be considered to be adequately conserved when certain conservation requirements are met (by RCA) as identified in the species-specific conservation objectives for those species. For 16 of the 28 species, particular species-specific conservation objectives, which are identified in *Table 9-3* of the MSHCP, must be satisfied to shift those particular species to the list of Covered Species Adequately Conserved.

2.2.3 Requirements for Participating Special Entities

In addition to the survey and analysis requirements set forth in the MSHCP, PSEs shall also contribute to Plan implementation through payment of a mitigation fee. This fee is based upon a percentage of capital costs and temporary versus permanent impacts, and is applicable to all PSE activities in the Plan Area. For Regional Utility Projects, such as the proposed Project, PSEs shall pay a fee in the amount of five percent (5%) of total capital costs for permanent impacts as determined in coordination with the RCA. For portions and features of the proposed Project that result in temporary impacts and disturbance, PSEs shall pay a fee in the amount of three percent (3%) of total capital costs as determined in coordination with the RCA.

3.0 SURVEY METHODS

This section provides an overview of methods used to evaluate biological resources within the study area between 2006 and 2014.

3.1 Database and Literature Review

Prior to all field surveys and the preparation of reports, a review of available electronic databases, reports, and other sources were conducted. As part of the assessment, a comprehensive search was conducted to identify sensitive species data relevant to the study area and surrounding region. The following resources were used in background research and during field surveys:

- Topographic maps (USGS 7.5 minute quadrangles)
- Aerial photos
- California Natural Diversity Database (CDFG 2006-2013)
- USFWS sensitive species occurrence database (USFWS 2006-2013)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2006-2013)
- Western Riverside Area, California Soil Survey (U.S. Department of Agriculture [USDA] 1971)
- Volume 1, Parts I and II of the MSHCP (County of Riverside 2003)
- County of Riverside Conservation Summary Report Generator (County of Riverside 2013)
- Draft Biological Resources Report Valley-Ivyglen Transmission Line Project Riverside County, California (Entrix 2006)
- Biological Technical Report for the Valley-Ivyglen Transmission Project, Riverside County, California, Volumes I and II (AMEC 2006)
- Burrowing Owl Survey Report for the Valley-Ivyglen Transmission Line Project, Riverside County, California (AMEC 2007a)
- Focused Surveys for the Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-Billed Cuckoo for the Valley-Ivyglen Transmission Line Project (AMEC 2007b, 2009, 2011, 2012a, 2013a)
- Results of Focused Surveys for Listed Fairy Shrimp Species for the Proposed Valley-Ivyglen Transmission Line Project Riverside County, California (AMEC 2010a, 2010b, 2012b, 2013b)
- Preliminary Determination of Jurisdictional Waters of the United States and Waters of the State of California (AMEC 2013c)

- Draft MSHCP Narrow Endemic and Criteria Area Plant Species Surveys for the Valley-to-Ivyglen Transmission Line Project, Riverside County, California (AMEC 2008)
- Draft Environmental Impact Report for Southern California Edison's Application for the Valley-Ivyglen Subtransmission Line and Fogarty Substation Project (CPUC 2009)
- Final Environmental Impact Report for Southern California Edison's Application for the Valley-Ivyglen Subtransmission Line and Fogarty Substation Project (CPUC 2010)

Appendix C presents a list of special-status species that were determined to have potential to occur within the Project area based on literature and database review, as well as initial habitat assessments.

3.2 Field Survey Overview

The general biological study area along the proposed ROW of the proposed Project consists of a 200-foot wide ROW (100 feet on each side of the proposed transmission line) with some focused surveys out to 500 feet on either side of the proposed transmission line. A number of biological resources assessments and focused surveys have been performed within the Project area to date. General and focused biological surveys and habitat assessments were conducted in order to assess the following:

- General biological characteristics of the Project area;
- Presence or potential presence of any listed, special-status, or MSHCP species;
- Vegetation communities;
- Flora and fauna species inventories;
- Habitat suitability for MSHCP NEPSSAs;
- Habitat suitability for MSHCP CASSAs;
- Habitat suitability for burrowing owls (*Athene cunicularia*) within MSHCP survey areas;
- Presence or potential presence of species not covered by the MSHCP;
- Presence or potential presence of MSHCP defined fairy shrimp, *Vernal Pool*, and *Riparian/Riverine* habitats; and
- Presence or potential presence of waters and wetlands under U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and CDFW jurisdiction.

Data were collected in the field by numerous techniques including the use of field notes, hand-held Global Positioning System (GPS) device, standardized data forms, photographs, and field maps. Field maps with an aerial view of the Project area included CNDDB, USFWS, and MSHCP sensitive species data points. Potentially occurring habitats for special-status species were identified prior to field investigations through aerial photo-interpretation and consultations

with SCE staff biologists. Initial reconnaissance level wildlife and botanical surveys were conducted in conjunction with vegetation mapping. The Project area was traversed on foot and by vehicles as needed to gain 100 percent access of the survey area.

Focused surveys were scheduled based on the results of the initial assessments. Lists of all vertebrate wildlife species and all plant species encountered within the entire Project area are included in Appendix D1 and D2. Table 7 identifies all field work conducted within the Project area between 2006 and 2014.

Table 7.
Survey Locations, Personnel, Dates, and Purpose

Surveyor(s)	Date(s)	Purpose	Phase I Segment*	Survey Buffer on each side of Centerline (ft)
2006				
PM, NM, CM	25-27 April, 2-3 May	General Biological Survey (Plant and Wildlife Habitat Assessments)	*Preferred Route and Alternative Routes: E-2, C-2, C-5, C-7	100
2007				
CM, JG, SM	18 April; 3, 14, 24 May; 5, 22 June 3, 17 July	Focused Riparian Bird Surveys	*Suitable riparian habitat along Preferred Route (E-1 and C-1):	500
CM, DL, JG, MA[2], MW, NM, SM	3, 15 May; 11, 13-14 June 10-11, 13, 16, 30-31 July 1-2 August	Focused Burrowing Owl Surveys	*Preferred Route (E-1 and C-1)	500
NM	29 and 30 August	General Habitat Assessment	*Route updates along C-8 and C-9	500
2008				
JG, NM	16-17, 21-24 April; 23 June	Focused Rare Plant Surveys	Preferred Route (E-1 and C-1)	100
JG	5 June	MSHCP Habitat Assessment	C-9a, C-9b, C-9c, C-9d, C-9e	500
DK, JJ	4 August	Vegetation Mapping	C-9a, C-9b, C-9c, C-9d, C-9e	500
JG	9 October	Site Tour with SCE, Jurisdictional Issues	Preferred Route	500
JG, NR	7 November	Jurisdictional Waters Assessment at San Jacinto River	Preferred Route	500
JG	1 December	Fairy Shrimp Habitat Assessment	C-9a, C-9b, C-9c, C-9d, C-9e	500

Table 7.
Survey Locations, Personnel, Dates, and Purpose

Surveyor(s)	Date(s)	Purpose	Phase I Segment*	Survey Buffer on each side of Centerline (ft)
DK	9 December	Various Assessments, Vegetation Mapping	C-9a, C-9b, C-9c, C-9d, C-9e	500
2009				
JG, DK	6 January	Fairy Shrimp Habitat and Drainage Mapping	C-9a, C-9b, C-9c, C-9d, C-9e	500
JG, NS	9, 12, 27 January; 10, 23-25 February; 9-10, 23 March; 6, 22 April;4, 18 May	Focused Fairy Shrimp Surveys (2008/2009 Wet-season)	Preferred Route and Alternatives: C-2, C-4, C-6, C-8b, C-8c, C-8d, C-9a, C-9b,C-9c, C-9d, C-9e	500
JG, NS	6 April, 13 July	Focused Rare Plant Surveys	C-9a, C-9c, C-9d, C-9e	100
CM, JG, SM	28 April; 15, 26 May; 5, 16, 27 June; 7, 17, 28 July	Focused Riparian Bird Surveys	Within suitable riparian habitat located along Preferred Route	500
AR, CM, JG, JT, MT, NM, VM	31 July; 3, 6-7, 10, 12, 24, 18-21, 24-26 August	Focused Burrowing Owl Surveys	Preferred Route Alternatives C-2, C-4, C-6, C-8b, C-8c, C-8d, C-9a, C-9b, C-9c, C-9d, C-9e	500
NR	3-4 June	Jurisdictional Waters Delineation	Preferred Route and Alternatives: C-2, C-4, C-6, C-8b, C-8c, C-8d, C-9a, C-9b, C-9c, C-9d, C-9e	500
2010				
NR	3 March	Jurisdictional Waters Delineation at San Jacinto River	Preferred Route	500
NS, JG, MA[1]	4, 14, 28, 29 December (2009), 11,25 January (2010); 8, 9, 11, 23, 24 February; 9, 10, 23 March; 4, 18, 21 April; 1, 16 May	Focused Fairy Shrimp Surveys (2009/2010 wet-season)	Segments 1-3	500

Table 7.
Survey Locations, Personnel, Dates, and Purpose

Surveyor(s)	Date(s)	Purpose	Phase I Segment*	Survey Buffer on each side of Centerline (ft)
2011				
NR	7 January	Jurisdictional Waters Delineation	Various riparian/wetland locations along Segments 1-3	500
CM, SM, JG	12-14 December 1,3,4,9,11,15,16,18,23 March	Focused SKR/ Burrow Surveys and Habitat Assessment	Segments 1-3	500
CM, SM, MV, NM, JG	31 March,1,4,6,22,26-28 April,	Focused Burrowing Owl Surveys	Segments 1-3	500
AS, TS	22, 23, 28-30 March; 29 April, 15-18 July	Focused Rare Plant Surveys	Segments 1-3	100
CM, JG, SM	13 April; 6, 17, 24 May; 6, 17, 28 June; 14, 20 July	Focused Riparian Bird Surveys	Within suitable riparian habitat located along Segments 1-3	500
2012				
AS, JG	21, 22, 26 March, 27 April, 1 27 May, 1, 25 June	Focused Rare Plant Surveys	Segments 1-3	100
DE,CV, LL, RA, JK, JP, LP, JR, LB	9,10,19,20,23, 24 April; 1,5,11,12,15 May; 1,4,5,8,22,25,28,29 June; 2,12, 20, 23 July	Focused Burrowing Owl Surveys	Segments 1-3	500
NS, JG, MA[1]	25 January; 8, 22 February; 8, 21 March; 3-4, 17 April, 2, 16, 27 May	Focused Fairy Shrimp Surveys (2011/2012 wet-season)	Segments 1-3	500
CM, JG, SM	10, 20 April, 3, 15 May; 4, 14, 28 June; 9 July	Focused Riparian Bird Surveys	Within suitable riparian habitat located along Segments 1-3	500
PV	20-31 May	Focused Stephens' Kangaroo Rat Surveys	Segments 1-3	500

Table 7.
Survey Locations, Personnel, Dates, and Purpose

Surveyor(s)	Date(s)	Purpose	Phase I Segment*	Survey Buffer on each side of Centerline (ft)
2013				
NR	9 March; 23 May	Jurisdictional Waters Delineation	Segments 1-3	500
AS, TC	27-29 March, 4, 16, 17 April	Focused Rare Plant Surveys	Segments 1-3	100
NS,DP	12-15, 18, 28 March; 2,3,21,22 May	Focused Burrowing Owls Surveys	Segments 1-3	500
JG, TC	27 December (2012), 9, 23, 29, January (2013); 12, 26 February; 12, 26 March, 9 April	Focused Fairy Shrimp Surveys (2012/2013 wet-season)	New Staging Yards along Segments 1-3	500
JG, SM	16, 22, April, 3, 15, 20 May	Focused Riparian Bird Surveys	Within suitable riparian habitat located along Segments 1-3	500
2014				
JG, TC, NS	6 , 20 December (2013), 3, 17 January (2014); 7, 21 February; 3, 11, 25, 27 March, 3, 11 April	Focused Fairy Shrimp Surveys (2013/2014 wet-season)	New Staging Yards along Segments 1-3	500

Notes:
*Phase 1 Proposed (current) Project approved in FEIR:
Segment 1 = E-1
Segment 2 = C-1
Segment 3 = C-9a and C-9c
(Historical preferred route included C-2, C-3, C-4 and C-6)

AR	Aaron Roarick, AMEC Biologist
AS	Andrew Sanders, UCR Botanist
CM	Chet McGaugh, AMEC Biologist
CV	Corey Vane, Chambers Group Wildlife Biologist
DE	Damien Edwards, Chambers Group Wildlife Biologist
DK	David King, AMEC Biologist
DL	David Lee, AMEC Biologist
DP	Daniel Palmert, Pangea Biologist
JG	John Green, AMEC Biologist
JJ	Julie Janssen, AMEC Biologist
JP	John Parent, Chambers Group Wildlife Biologist
JK	John Kanlund, Chambers Group Wildlife Biologist
JR	Jennifer Russell, Chambers Group Wildlife Biologist
JT	Jennifer Tobin, AMEC Biologist
LB	Lorena Bernal, Chambers Group Wildlife Biologist
LL	Linette Lina, Chambers Group Wildlife Biologist
LP	Lisa Perez, Chambers Group Wildlife Biologist
MA[1]	Morgan Aagesen, AMEC GIS Coordinator
MA[2]	Matt Amalong, AMEC Biologist
MW	Michael Wilcox, AMEC Biologist
MT	Michelle Tobin, AMEC Biologist
NM	Nathan Moorhatch, AMEC Biologist
NR	Nick Ricono, AMEC Biologist
NS	Nicole Kimball, AMEC and KMEA Biologist
PM	Patrick McConnell, AMEC Botanist
PV	Phillipe Vergne, Contracted Wildlife Biologist
RA	Rebecca Alvidrez, Chambers Group Wildlife Biologist
SM	Stephen Myers, AMEC Biologist
TC	Tim Chumley, AMEC Botanist
TM	Tsegaye Mengistu, AMEC Biologist
VM	Vesta Myers, AMEC Biologist

3.2.1 Sensitive Plant Species Survey Methods

Botanical surveys of the Project alignment were conducted in 2006, 2008, and 2009 following the *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (CDFG 2006) and the CNPS *Botanical Survey Guidelines* (CNPS 2001). Botanical surveys in 2011, 2012, and 2013 were conducted per the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009).

Surveys were conducted by systematically walking transects spaced approximately 5 meters apart within suitable habitat in order to maximize the likelihood of locating special-status plant species and to ensure thorough coverage of the survey area. Surveys were floristic in nature (e.g. every plant taxon that occurred on site was identified to the taxonomic level necessary to determine rarity and listing status) and conducted at the time of year when most species were both evident and identifiable. Species that could not be identified immediately were brought into the laboratory for further investigation. Scientific and common names of plants followed *The Jepson Manual: Higher Plants of California* (Hickman 1993) or more recent published taxonomical revisions of genera. A comprehensive list of plant species that were observed within the survey area is presented in Appendix D1.

A handheld GPS device utilizing ESRI's ArcPad, a scaled-down mobile Geographic Information System (GIS) program, was used for data collection. Data layers uploaded onto the GPS included recent aerial photography, topographic contours, vegetation layers, and historical localities of special status species from CNDDB occurrences. Special status plant species encountered were mapped and added to the Project's GIS database.

The Project area is located within the MSHCP NEPSSA and CASSA. *Sections 6.13 and 6.3.2* of the MSHCP outline specific NEPS and CAPS that are required to be surveyed within these areas (refer to Table 6). In addition to these species, focused surveys were conducted for other sensitive species that are covered and not addressed by the MSHCP (refer to Appendix C for species list).

3.2.2 Sensitive Wildlife Species Survey Methods

3.2.2.1 General Wildlife Species Surveys

Reconnaissance-level surveys were conducted to characterize wildlife habitat types and to evaluate the potential for occurrence of special-status wildlife species in the Project study area (refer to Appendix C for species list). The study area was traversed by foot and vehicle to survey each vegetation community for evidence of wildlife presence. All wildlife and wildlife sign, including tracks, fecal material, nests, and vocalizations within the study area were noted (Appendix D2). All sensitive wildlife species encountered were mapped and added to the Project's GIS database.

3.2.2.2 Focused Wildlife Species Surveys

Focused surveys for listed fairy shrimp species, burrowing owl (BUOW), and federally listed riparian birds: least Bell's vireo (*Vireo belli pusillus;* LBV), southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis;* WYBC) were conducted within suitable habitat of the Project area for presence, use, and potential use in compliance with the MSHCP. Details regarding each survey method are presented below and focused reporting for riparian birds and fairy shrimp is provided in Appendix E1 and E2, respectively.

Burrowing Owl

Burrowing owl habitat assessment surveys and focused surveys were conducted in 2007, 2009, 2011, 2012 and 2013 (refer to Table 7 for dates) according to the *Burrowing Owl Consortium Guidelines* (CDFG 1993), the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (County of Riverside 2006), and the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

AMEC biologists knowledgeable in BUOW habitat, ecology, and field identification of the species conducted surveys on the dates shown in Table 7. The weather conditions during these surveys were conducive to observing BUOW outside their burrows and detecting BUOW sign. Data were collected by numerous techniques including the use of a hand-held GPS device, standardized data forms, photographs, and aerial field maps. Per the guidelines, surveys must include a habitat assessment, focused burrow survey, and focused BUOW survey. A minimum of four (4) surveys must be conducted: 1) at least one between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June (CDFG 2012). Details regarding each survey method are provided below:

Habitat Assessment
Habitat within the Project area was assessed for BUOW presence, use, and potential use. Areas with potential BUOW habitat, including grasslands, sage scrub, and other areas with sparse, low growing vegetation, were surveyed by AMEC for potential burrows and BUOW. These surveys included ground squirrel and ground squirrel burrow surveys. Biologists walked areas of potential habitat while searching for BUOW, potential and active burrows, and owl sign, such as feathers, pellets, and prey items. The survey area included a 150-meter (500-foot) buffer zone on either side of the centerline.

Focused Burrow Surveys
AMEC conducted focused burrow surveys including natural burrows or suitable man-made structures. A systematic survey for burrows, including owl sign, was conducted by walking through suitable habitat over the entire survey area (the proposed route and the 150-meter [500-foot] buffer zone). Pedestrian survey transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 20 meters (66 feet) and was reduced when necessary to account for differences in terrain,

vegetation density, and ground surface visibility. The locations of all potential owl burrows, observed owl sign, and observed BUOW were recorded and mapped with a GPS device.

Focused Owl Surveys

Focused BUOW surveys, conducted in areas where suitable burrows were found during the focused burrow surveys, consisted of eight site visits covering all Project areas four times. Surveys were conducted in the morning 1 hour before sunrise to 2 hours after sunrise. Upon arrival at the survey area and prior to initiating the walking surveys, surveyors used binoculars and/or spotting scopes to scan all suitable habitats, location of mapped burrows, owl sign, and owls, including perch locations to ascertain owl presence. A survey for owls and owl sign was then conducted by walking through suitable habitat over the entire Project site and within the adjacent 150-meter (500-foot) buffer zone on either side of the centerline. These pedestrian surveys followed transects spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines were no more than 20 meters (66 feet) and were reduced to account for differences in terrain, vegetation density, and ground surface visibility. In areas where access was not obtained, the area adjacent to the Project site was surveyed using binoculars and/or spotting scopes to determine if owls are present in areas adjacent to the Project site.

Special-status Riparian Birds

Focused surveys for LBV, SWFL, and WYBC were conducted in 2007 (AMEC 2007b), 2009 (AMEC 2009), 2011 (AMEC 2011), 2012 (AMEC 2012a), and 2013 (AMEC 2013a) in accordance with the currently accepted survey protocols by USFWS permitted ornithologists (refer to Table 7 for dates). Several riparian areas were identified with suitable habitat for these species within the Project area. These habitats generally occur along or near the San Jacinto River and its larger tributaries. Detailed maps of these areas are presented in Appendix E1 which provides the focused riparian bird survey reports that were submitted to the USFWS per Recovery Permit guidelines.

The SWFL protocol requires five surveys, and that the first survey be performed between 15 May and 31 May, the second between 1 June and 21 June, and that three visits be conducted between 22 June and 17 July (Sogge *et al.* 1997). The LBV protocol requires at least eight surveys between 10 April and 31 July (USFWS 2001).

Although survey protocol for the WYBC has not been finalized, the survey methodology as presented in draft guidelines (Laymon 1998) requires a minimum of four visits at each site, with the surveys at least 12 days apart. The methodology specifies that one visit be conducted during each of these four periods: 10 to 30 June, 1 to 21 July, 22 July to 11 August, and 12 August to 2 September (Laymon 1998).

The surveys consisted of slowly moving through the habitat while listening for the songs and calls of the three target species (LBV, SWFL, WYBC). During the surveys performed for the SWFL, taped recordings of their vocalizations were broadcast, a method consistent with the protocol, and likewise for the WYBC. During the SWFL surveys, recordings of their vocalizations were broadcast every 20-30 meters, as required by protocol. During WYBC surveys, territorial

calls (“Kowlp” calls) were broadcast every 100 meters, with the calls being repeated five times at one minute intervals. All bird species detected during these surveys were recorded in field notes and are presented in the focused reporting provided in Appendix E1.

Federally Listed Fairy Shrimp

Protocol-level fairy shrimp surveys were conducted by AMEC biologists Nicole Kimball and John Green under USFWS recovery permits TE-053598-2, and TE-054011-5, respectively. Surveys were conducted within suitable habitat for three wet seasons: 2008/2009 (AMEC 2010a), 2009/2010 (AMEC 2010b), and 2011/2012 (AMEC 2012b) following USFWS protocol (1996). During the 2012/2013 wet season, fairy shrimp surveys were conducted only within new staging areas at three locations along the alignment: Valley Yard-South, Joe 74, and Joe Yard Extension that were included as a Project component since the 2011/2012 surveys. Additional fairy shrimp surveys were conducted during the 2013/2014 wet season within the Valley Yard-South, Joe 74, and Joe Yard Extension. The survey report is being prepared at the time of this submittal. Two federally listed fairy shrimp species known from the region: Riverside fairy shrimp and vernal pool fairy shrimp were the focus of these surveys.

Per the USFWS protocol (1996), once the pools were inundated with at least 1.2 inches (3 centimeters) of water following a storm event, pools were sampled once every two weeks until the pools were no longer inundated (or until they experienced 120 days of continuous inundation). In cases where the pools dried and then refilled in the same wet season, the pool sampling was reinitiated every time they reached the 1.2 inches (3 centimeters) of standing water criterion, and sampling was started within 8 days of reaching the criterion, with continual sampling every 2 weeks. Pools were sampled using a dip net with mesh size smaller than 3.2 millimeters. Appendix E2 provides survey reporting that was submitted to the USFWS per permit guidelines, it presents detailed maps of sampled locations as well as tables summarizing pool sampling information for the two consecutive survey seasons.

3.2.3 Jurisdictional Waters and Wetlands

The USACE regulates deposition of fill material into waters of the U.S. (WUS) under Section 404 of the CWA. The RWQCB regulates impacts to WUS under Section 401 of the CWA and to waters of the State (WSC) under the Porter Cologne Water Quality Control Act. CDFW regulates impacts to their jurisdiction, which includes lakes and streambeds to the outer extent of the riparian canopy, under Section 1600 of the CFGC.

Delineations of WUS and WSC that occur within the Project area was initially conducted by AMEC biologist Nick Ricono in 2008 and 2009, then updated in 2010, 2011 and 2013 (refer to Table 7). All drainages that were observed during field investigations within 500 feet of the proposed subtransmission line were mapped based on federal and state guidelines. The delineation of WUS including wetlands was conducted using methods described in the USACE *Wetland Delineation Manual* (1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), and *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008b). A field visit of the route was conducted with Nick Ricono, Jim Mace (USACE), and SCE staff on 13 January 2011 for confirmation of the preliminary delineation assessment.

Boundaries of WUS were identified based the presence of an ordinary high water mark and adjacent wetlands (where present) (USACE 1987, 2008a and 2008b). RWQCB jurisdiction under the CWA is the same as the USACE, but they also regulate “isolated” waters as WSC. Boundaries of CDFW jurisdiction were identified based on the presence of a defined bed and bank or the outer extent of the riparian canopy (where present). Data on delineated boundaries of jurisdictional waters were collected using a Trimble Geo XT GPS with sub-meter accuracy, exported to GIS format and overlaid onto ortho-rectified aerial photographs. Wetlands, including vernal pools, were identified based on federal and MSHCP standards including presence of hydrology, wetland vegetation, and wetland soils. All waters were determined (preliminarily) to have a connection to traditionally navigable water including Canyon Lake and Lake Elsinore, and were therefore defined as WUS under federal jurisdiction. Preliminary Jurisdictional Determination (JD) data forms are provided in Appendix F.

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4.0 EXISTING CONDITIONS

This section provides the existing conditions of the study area, including the climate, topography, hydrological resources, soil types, and vegetation communities.

4.1 Climate

The study area is located within a Mediterranean climate region consisting of warm, dry summers and mild, wet winters. In summer, temperatures often reach 100 degrees Fahrenheit (º F) and winter temperatures fall into the 30s, with an occasional freeze. Average annual temperature ranges are fairly moderate for the area, ranging from 49.3º F to 79.5º F.

The Elsinore, California Station (No. 042805) is the closest weather station to the Project site with reliable monthly rainfall totals for the duration of the proposed Project (i.e., no missing days during this period). Rain season (September through May) precipitation data for the duration of biological studies are provided in Table 8. Average total precipitation for the area is approximately 12.01 inches per year (Western Regional Climate Center [WRCC] 2014). As indicated in Table 8, the 2009/2010 and 2010/2011 rainy seasons experience the greatest total precipitation levels during the survey period (WRCC 2014).

Table 8.
Monthly Precipitation (Inches)

Rain Season	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Total
2005/2006	1.65	0.22	0	-	0	3.03	2.42	2.86	0	10.18
2006/2007	0	0	0	0.07	0.01	0.02	0.02	0.32	0	0.44
2007/2008	0.04	0	0	0	-	0	0	0	0.88	0.92
2008/2009	0	0	0.34	4.05	0.18	3.97	0.13	0.05	0	8.72
2009/2010	0	0.22	0.07	3.76	8.88	1.81	0.44	1.23	0.13	16.54
2010/2011	0	1.61	1.06	11.67	0.7	3.07	2.96	0.46	0.78	22.31
2011/2012	0.03	0.44	1.37	0.74	0.55	0.67	1.51	1.18	0	6.49
2012/2013	0.24	0.36	0.30	1.78	0.91	0.46	0.46	0	0	4.51
2013/2014	0	0.16	0.53	0.70	0.13	1.28	1.27	0.50	0	4.57

4.2 Topography

The study area is located on predominantly flat areas used for grazing, agriculture, and rural residential development. The proposed ROW traverses the relatively flat Perris Valley in the east, before crossing the San Jacinto River west across a series of low, gently rolling hills and/or rocky areas, continuing down SR-74 to the I-15. Much of the proposed alignment is adjacent to existing paved and dirt roads, transmission line ROWs, and access roads.

4.3 Hydrology

Western Riverside County is dominated by ephemeral washes that flow south and west out of the hills toward the San Jacinto River and Lake Elsinore. The Project area traverses multiple drainages within the San Jacinto Watershed (USGS Hydrologic Unit Code 18070202). This watershed includes the Perris Valley-San Jacinto River, Railroad Canyon Reservoir-San Jacinto River, and Arroyo Del Toro-Temescal Wash sub-watersheds.

The majority of waterways in the Project area are minor ephemeral drainages containing water for short periods of time during large storm events. Larger waterways, including the San Jacinto River and an unnamed tributary west of the San Jacinto River near Keystone Drive, may be identified as seasonal waterways, containing water for longer periods on a seasonal basis, but not perennially throughout their entire reaches.

4.4 Soils

Soils in the Project area are primarily composed the Monserate-Arlington-Exeter, Friant-Lodo-Escondido, Hanford-Tujunga-Greenfield, Cajalco-Temescal-Las Posas, and Traver-Domino-Willows associations. These soils are characterized as level to moderately steep soils that have a surface layer of sandy loam often with a hardpan and can vary from very shallow to relatively deep (USDA 1971). The soils in the area do not generally have a high clay component. However, there are “lenses” of clay soils in the study area. The Monserate-Arlington-Exeter associations occupy old alluvial fans and terraces. The soils of the Traver-Domino-Willows association are in basins and valley fills and on floodplains (USDA 1971).

The Traver-Domino-Willows association is considered an MSHCP sensitive soil type and includes saline-alkali soils largely located along floodplain areas of the San Jacinto River. Sensitive plants which may be supported by the Traver-Domino-Willows soil association include two federally-listed species: San Jacinto Valley crownscale (*Atriplex coronata var. notatior*) and spreading navarretia (*Navarretia fossalis*). Other sensitive plant species found in this association include Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana var. davidsonii*), and vernal barley (*Hordeum intercedens*) (County of Riverside 2003).

Clay lenses within the study area may also support federally listed threatened or endangered species including Munz's onion (*Allium munzii*), thread-leaved brodiaea (*Brodiaea filifolia*) and San Diego button celery (*Eryngium aristulatum var. parishii*). Other sensitive plant species occurring on clay soils include, Orcutt's brodiaea (*Brodiaea orcuttii*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), small-flowered morning glory (*Convolvulus simulans*), many-stemmed dudleya (*Dudleya multicaulis*), Palmer's grapplinghook (*Harpagonella palmeri*), graceful tarplant (*Holocarpha virgata* ssp*. elongata*), and small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*) (County of Riverside 2003).

Soil series that occur within the study area are summarized in Appendix G1. Specific mapping units of each series within the study area are also illustrated in Appendix G2.

4.5 Flora and Vegetation Communities

Appendix D1 lists all floral species observed within the entire Project area during the 8 years of field surveys (2006-2013). The vegetation communities within the study area are primarily grasslands, Riversidean sage scrub, and developed disturbed land (ruderal habitat). Previous and current agriculture, grazing, fire suppression, and invasion of nonnative plant species have contributed to the disturbed condition of many vegetation communities within the study area.

Vegetation communities were mapped in general accordance with the nomenclature and definitions in the MSHCP which is based on the vegetation communities presented in the *Preliminary Descriptions of Terrestrial Natural Communities of California* (Holland 1986). Vegetation communities were also compared to the MSHCP GIS vegetation community layers to the extent that a comparison could be made as they are considerably broader than the detailed mapping that was conducted for this proposed Project.

Vegetation communities which were identified within the study area (500 feet on either side of the centerline) are illustrated in Appendix A1 and example photographs of each community are presented in Appendix H. Table 9 presents the acreage of each vegetation community present within the study area and a description of each community is provided below.

Table 9.
Existing Vegetation Communities Present within the Study Area

Vegetation Community	Code	Acres
Upland Communities		
Disturbed/Developed	DDL	752.31
Agriculture – Field/Croplands	AGFC	94.25
Nonnative Grassland	NNG	334.41
Disturbed Nonnative Grassland	DNNG	122.67
Riversidean Sage Scrub	RSS	31.98
Disturbed Riversidean Sage Scrub	DRSS	256.34
Riparian/Riverine		
Cismontane Alkali Marsh	CAM	1.07
Mulefat Scrub	MFS	0.37
Riparian Scrub	RS	2.23
Southern Cottonwood/Willow Riparian Forest	SCWR	2.09
Southern Willow Scrub	SWS	11.69
	TOTAL ACRES	**1609.42**

4.5.1 Developed/Disturbed (Residential/Urban/Exotic)

This includes homes, businesses, parks, cemeteries, and similar developed lands, including their associated landscaping plantings. It may also include roads and lands that have been highly disturbed by past or current human activity. Some overlap with Field/Croplands (described below), where long fallow agricultural lands become indistinguishable from lands disturbed by some other past activity.

This community is the dominant habitat type within the study area (752.31 acres). Representative photographs of the study area that occupied by this habitat type are presented in Photos 1, 20, 42, 47, 49, and 51 through 58 (Appendix H).

4.5.2 Field/Croplands

Fields and croplands are either planted in crops and highly disturbed by discing and cultivating or are fallow with ruderal weedy plant species. Examples of fallow fields with ruderal growth can be seen in Photo 8 (Appendix H). Active crops included production of wheat and alfalfa (Photo 16, Appendix H). Approximately 94.25 acres of Field/Cropland occurs within the study area (Table 9).

4.5.3 Nonnative Grassland

Nonnative grassland is composed of introduced annual grass species with variable presence of other nonnative and native herbaceous species. These grasslands within the study area vary in quality, and often intergrade into other communities. Some are annually disced while others are relatively undisturbed and intermixed with native annuals. Nonnative grasses found within the study area included slender oat (*Avena barbata*), wild oat (*Avena fatua)*, red brome (*Bromus madritensis* ssp*. rubens*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), foxtail barley (*Hordeum murinum*), and English ryegrass (*Lolium perenne*). Herbaceous annual forbs present included nonnatives such as red-stem filaree (*Erodium cicutarium*), long-beak filaree (*E. botrys*), mustards (*Brassica* spp.), short-pod Mustard (*Hirschfeldia incana*), and common catchfly (*Silene gallica*)*;* and disturbance tolerant native species such as doveweed (*Eremocarpus setigerus*)*,* vinegar weed (*Trichostemma lanceolatum*), and tarweeds (*Hemizonia* spp).

Nonnative grassland is the second dominant community within the study area comprising over 457.08 acres (disturbed and undisturbed) (Table 9). An example of this community can be seen in Photo 17 (Appendix H).

4.5.4 Riversidean Sage Scrub

Riversidean sage scrub is dominated by low-stature shrubs. Characteristic species along the alignment included California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*).

A disturbed qualifier was placed on coastal sage scrub (or any other native habitat) based on mechanical disturbance (e.g., brushing or clearing, off-road vehicle activity). The community was mapped as disturbed Riversidean sage scrub only when there was evidence of disturbance such as soil compaction, firebreak clearing, repeated burns, or other activities that have left a sparse, scattered cover of shrubs, or introduced a cover of nonnative species that have become established as part of the community.

Riversidean Sage Scrub is the third dominant species within the study area comprising approximately 288.32 acres (disturbed and undisturbed; Table 9). Study area photographs of this community can be seen on Photos 18, 23-25, 32-40, and 48-54 (Appendix H).

Under California regulations and policies, coastal sage scrub is considered a sensitive habitat. Coastal sage scrub is listed in the CNDDB a global ranking of G3 (21 to 80 Element Occurrences [EOs] or 3,000 to 10,000 individuals or 10,000-50,000 acres) and a State Ranking of S3.2 (threatened). Several sensitive wildlife species are dependent upon coastal sage scrub including coastal California gnatcatcher (*Polioptila californica californica*; CAGN), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), coast horned lizard (*Phrynosoma blainvillei*), orange-throated whiptail (*Aspidoscelis hyperythra*), as well as many sensitive plant species.

Should SCE be grated PSE status, Project impacts to this community type would be covered under the MSHCP. However, per the MSHCP, any clearing or grubbing of this community type must be completed outside of the breeding season for the CAGN and other sensitive sage scrub nesting species (1 March to 15 August).

4.5.5 Cismontane Alkali Marsh

Typical cismontane alkali marsh species include yerba mansa (*Anemopsis californica*), saltgrass (*Distichlis spicata*), alkali-heath (*Frankenia salina*), cattails (*Typha* spp.), common pickleweed (*Salicornia virginica*), rushes (*Juncus* spp.), marsh flea-bane (*Pluchea odorata*) and sedges (*Carex* spp.) (Holland 1986). Approximately 1.07 acre of cismontane alkali marsh habitat occurs within the Project study area (Table 9). Study area photographs of this community can be seen on Photos 35 and 36 (Appendix H).

4.5.6 Mulefat Scrub

Mulefat scrub is dominated by mulefat (*Baccharis salicifolia*), but also may include willows (Salix spp.), sedges (*Carex* spp.) and stinging nettle (*Urtica dioica*) (Holland 1986; Sawyer and Keeler-Wolf 1995). Approximately 0.37 acre of this habitat occurs within the Project study area (Table 9).

4.5.7 Riparian Scrub

Areas mapped as riparian scrub are dominated by willows (*Salix lasiolepis*, *S. laevigata*, *S. gooddingii, S. exigua*), blue elderberry (*Sambucus mexicana*), and mulefat, all at a younger successional stage than mature riparian forest.

Approximately 2.23 acres of this community occur within the study area (Table 9). This community can be seen on Photo 36 (Appendix H).

4.5.8 Southern Cottonwood/Willow Riparian Forest

Areas mapped as southern cottonwood/willow riparian forest along the alignment are dominated by large willows (*Salix* spp.) and Fremont cottonwood (*Populus fremontii*) with an understory of species such as Douglas' mugwort (*Artemisia douglasiana*) and stinging nettle (*Urtica dioica*).

Approximately 2.09 acres of this community occur within the study area (Table 9). An example of this community can be seen in Photos 35 and 36 (Appendix H).

4.5.9 Southern Willow Scrub

Southern willow scrub is dominated by shrub structure rather than a mature tree canopy. The willows (*Salix* sp.) in this community are young in age (roughly 1 to 10 years old) and create middle layer within the riparian drainages that is difficult to walk through and are highly diverse in structure.

Approximately 11.69 acres of this community occur within the study area (Table 9). Examples of areas mapped as this community can be seen in Photos 22, 26-30, and 56 (Appendix H).

5.0 SURVEY RESULTS

This section presents the result of habitat assessments and focused surveys that were conducted within the study area. Regarding how the survey results relate to potential impacts to sensitive biological resources and MSHCP consistency, refer to Section 6 and Section 7, respectively, of this report.

5.1 Sensitive Vegetation Communities

Riversidean sage scrub is the only upland vegetation community considered sensitive within the Project study area. Upon SCE being granted PSE status, impacts to Riversidean sage scrub would be permitted by the MSHCP; however clearing or grubbing of this community type must be conducted outside of the CAGN breeding season (1 March to 15 August).

Sensitive wetland vegetation communities within the Project study area are those generally related to the San Jacinto River and its major tributaries. These communities include cismontane alkali marsh, vernal pools, mulefat scrub, riparian scrub, southern cottonwood/willow riparian forest, and southern willow scrub habitats (Appendix A1). Although most of these habitats within the Project area will be avoided, any unavoidable impacts would be mitigated in accordance with the provisions set forth by the USACE, CDFW, RWQCB, and MSHCP. In addition, per *Section 6.1.2* of the MSHCP, a DBESP analysis will be prepared to propose mitigation to offset any impacts relating to potentially lost functions and values of habitat that supports Covered Species. A description of *Riparian/Riverine* and *Vernal Pool* communities, as defined by the MSHCP, are presented below in Section 5.2.

5.2 MSHCP Riparian/Riverine and Vernal Pool Habitats

5.2.1 Riparian/Riverine

The delineation of jurisdictional waters identified several drainages within the Project area that meet the definition of *Riparian/Riverine* per Section *6.1.2* of the MSHCP. Figures in Appendix A1 and A2 illustrate these drainages within the Project area, occurring within the Perris Valley-San Jacinto River, Railroad Canyon Reservoir-San Jacinto River, and Arroyo Del Toro-Temescal Wash subwatersheds. MSHCP *Riparian* communities in the Project area include cismontane alkali marsh, mulefat scrub, riparian scrub, southern cottonwood/willow riparian forest and southern willow scrub habitats primarily associated with the San Jacinto River and its tributaries.

MSHCP *Riverine* areas, for this report, are defined as stream channels with fresh water flow during all or portions of the year. The majority of waterways in the Project area are small ephemeral drainages containing water for short periods of time during large storm events and are largely unvegetated. Larger waterways, including the San Jacinto River and the unnamed tributary west of the San Jacinto River near Keystone Drive may be identified as seasonal waterways, containing water for longer periods of time on a seasonal basis, but not perennially.

The proposed Project was designed to avoid *Riparian/Riverine* areas to the greatest extent possible; however, some temporary and permanent impacts will result from road improvements and pole siting at several locations.

The proposed Project will require a Streambed Alteration Agreement (SAA) from the CDFW under Section 1602 of the CFGC. A 401 Water Quality Certification will be obtained from the RWQCB to fulfill requirements of Section 401 of the CWA. SCE proposes to construct the proposed Project under USACE Nationwide Permit (NWP) 12 for utility line activities under Section 404 of the CWA. Based on consultation with Jim Mace of the USACE, SCE previously requested that USACE grant NWP 12 authorization based on a preliminary JD, rather than an approved JD. A completed preliminary JD form is included in Appendix F. Permit applications were previously submitted to each of these agencies and both the 401 Certification and SAA were issued (September 9, 2011 and May 7, 2012, respectively) with the 404 scheduled for issuance within a few weeks following the others. However, due to minor changes in Project design, these permits were put on hold or withdrawn. Applications are being revised to include the updated Project description, and will be re-submitted parallel to or following submittal of the MSHCP PSE application.

5.2.2 Vernal Pools and Fairy Shrimp

The delineation of jurisdictional waters identified several highly disturbed depressions along the Project alignment in existing roadways, fallow fields, and periodically disked areas that may provide habitat for fairy shrimp, but are largely unvegetated and do not meet the definition of *Vernal Pool* per Section *6.1.2* of the MSHCP. High quality *Vernal Pools* occur within the San Jacinto River floodplain that meet the definition per Section *6.1.2* of the MSHCP. These vernal pools are primarily bare ground but contain vernal pool endemic plant species, including alkali weed (*Cressa truxillensis*) and annual hairgrass (*Deschampsia danthonioides*).

Hydrology of the *Vernal Pools* adjacent to the San Jacinto River is related to overflow from the river during high flow events. The overflow is collected in adjacent depressions and retained for several weeks to months during the rainy season. The proposed Project was designed to avoid these *Vernal Pool*s, and there will be no permanent or temporary impacts to their functions or values as proposed impacts will not redirect or inhibit *Vernal Pool* hydrology.

Fairy shrimp surveys were conducted in 2008/2009, 2009/2010, and 2011/2012 within 500-feet of the centerline of the entire Project ROW. The 2012/2013 and 2013/2014 wet season fairy shrimp surveys were conducted only within new staging areas at three locations along the alignment: Valley Yard-South, Joe 74, and Joe Yard Extension that were included as a Project component since the 2011/2012 surveys. Per USFWS wet-season guidelines (1996), all depressions that held water and had potential to support vernal pool endemic species were mapped during these surveys (refer to Appendix E2). Although the majority of inundated areas were not considered to meet the definition of a *Vernal Pool*, they do provide fairy shrimp habitat and were therefore surveyed. No protected fairy shrimp species were detected during surveys; however, the common versatile fairy shrimp (*Branchinecta lindahli*) was present in many pools and depressions. No sensitive vernal pool plants were identified during focused surveys of inundated areas. Detailed results of the wet-season surveys, including maps of the pooled

areas that were the focus of surveys, are presented in Appendix E2 (AMEC 2010a, 2010b, 2012b, and 2013b).

5.3 Flora

The study area supports a high diversity of plant species due to the diversity of soils and disturbed and native vegetation communities present within the Project area. Appendix D1 presents a list of plant species identified within the study area during field investigation conducted between 2006 and 2013 (refer to Table 7 for dates).

5.3.1 Sensitive Plants

Five sensitive plant species were detected within the study area during botanical field studies including: long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), Parry's spineflower (*Chorizanthe parryi* var. *parryi)*, small-flowered morning-glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), and small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*). Two additional species have been documented (CNDDB) within the Project vicinity (outside of the study area): Munz's onion (*Allium munzii*) and thread-leaved brodiaea (*Brodiaea filifolia*); however, these species were not identified during field studies conducted for the proposed Project. A description of each identified species is provided below.

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) is a California Rare Plant Rank (CRPR) 1B.2 (rare, threatened, or endangered in California; fairly endangered in California) and MSHCP Covered Species (Group 2) annual herb in the knotweed family (Polygonaceae). For MSHCP Group 2 species, take coverage is warranted based on regional or landscape level considerations with the addition of site-specific conservation and management requirements that are clearly identified in the MSHCP for species that are generally well-distributed, but that have core habitats that require conservation. Long-spine spineflower is Adequately Covered under the MSHCP (County of Riverside 2003); thus incidental take of this species would be permitted for the proposed Project should PSE status be granted for the proposed Project.

Potential habitat for long-spined spineflower is considered to be southern needlegrass grassland, and openings in coastal sage scrub and chaparral that occur on clay or rocky clay soils of the following series: Altamont, Auld, Bosanko, Claypit, and Porterville (County of Riverside 2003) at elevations ranging from 30 to 1530 meters. Long-spined spineflower blooms from April to July (CNPS 2013). A population of long-spined spineflower was identified east of SR-74, near Theda Street (Map 11 in Appendix A1 and Photo 41 of Appendix H).

Parry's spineflower (*Chorizanthe parryi* var. *parryi)* is a CRPR 1B.1 and MSHCP Group 2 annual herb in the knotweed family. This species is an MSHCP Covered Species; however, is not Adequately Conserved, Parry's spineflower (*Chorizanthe parryi* var. *parryi*. As described in *Section 2.1.4* of the MSHCP, Parry's spineflower is one of the 28 Covered Species that will be considered to be Adequately Conserved when certain conservation requirements are met (by RCA) as identified in the species-specific conservation objectives for those species. Particular species-specific conservation objectives, which are identified in *Table 9-3* of the

MSHCP, must be satisfied for Parry's spineflower to become an Adequately Conserved Covered Species.

Parry's spineflower is known to occur within chaparral, cismontane woodland, coastal scrub and grassland habitats at elevations ranging from 275 to 1220 meters. Parry's spineflower blooms from April to June (CNPS 2013). Parry's spineflower was identified east of Wheat Street; north of McLaughlin Road and east of SR-74, near Theda Street (Map 11, Appendix A1). A population has also been recorded within the CNDDB, south of Corsica Lane within the study area (Map 6, Appendix A1).

Small-flowered morning-glory (*Convolvulus simulans*) is a CRPR list 4.2 (limited distribution; fairly threatened in California) and MSHCP Group 2 annual herb in the morning glory family (Convolvulaceae). It is Adequately Conserved under the MSHCP (County of Riverside 2003); thus incidental take of this species would be permitted for the proposed Project should PSE status be granted.

Small-flowered morning-glory is known to occur within clay or serpentine soils of chaparral, coastal scrub, or grassland habitats at elevations ranging from 30 to 700 meters. Small-flowered morning glory blooms from March to July (CNPS 2013). This species is an Adequately Conserved species by the MSHCP and is as a CRPR 4.2 species. A population of small-flowered morning glory was identified between Byers Street and Murrieta Road and east of Goetz Road (Map 6 and 7, Appendix A1).

Paniculate tarplant (*Deinandra paniculata*) is a CRPR list 4.2 annual herb in the sunflower family. It is known to occur within coastal scrub, grasslands, and vernal pools at elevations ranging from 25 to 940 meters. Paniculate tarplant blooms from April to November. Paniculate tarplant is locally common within the study area; (Map 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, Appendix A1). This species is widespread throughout the Project area and as such, is not a Covered Species under the MSHCP.

Small-flowered microseris (*Microseris douglasii* spp. *platycarpha*) is a CNPS list 4.2 and MSHCP Group 2 annual herb in the sunflower family (Asteraceae). It is associated with clay and cobbly clay soils in chaparral, coastal sage scrub and grasslands at elevations below 955 meters (CNPS 2013). As described in *Section 2.1.4* of the MSHCP, small-flowered microseris is one of the 28 Covered Species that will be considered to be Adequately Conserved when certain conservation requirements are met as identified in the species-specific conservation objectives for those species. Particular species-specific conservation objectives, which are identified in *Table 9-3* of the MSHCP, must be satisfied (by RCA) for this species to become an Adequately Conserved Covered Species. Small-flowered microseris was identified east of Goetz Road within an area mapped as "disturbed and developed" and underlain by clay soils (Map 7, Appendix A1).

5.3.2 Oak Trees

There are no oak trees on or adjacent to the Project alignment.

5.4 Fauna

The Project study area supports a low-moderate diversity of wildlife species due to the high level of disturbance and development in the vicinity. Many of the wildlife species observed or detected in the Project study area are commonly found in the urban interface or on disturbed habitat (Appendix D2).

Characteristic avian species detected include mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), and horned lark (*Eremophila alpestris actia*). Mammal species detected during the general biological survey include California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), and bobcat (*Lynx rufus*).

5.4.1 Sensitive Wildlife

5.4.1.1 MSHCP Wildlife Species

Twenty sensitive wildlife species were detected within the Project study area during wildlife field studies. Table 10 provides the listing status of each species and identifies the map page(s) (from Appendix A1) where each occurs within the Project area.

Table 10.
MSHCP Adequately Conserved Wildlife Species

Species	Listing Status	Appendix A1 Map Page
Mammals		
San Diego black tailed jackrabbit (*Lepus californicus*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	3, 8, 9, 10, 11
Stephens' kangaroo rats (*Dipodomys stephensi*)	Federal: Endangered State: Threatened MSHCP: Not Covered if within SKR HCP	2 through 12
Herpetofauna		
Western spadefoot toad (*Scaphiopus hammondii*)	Federal: None State: Species of Special Concern MSHCP: Covered Species	2
Coastal western whiptail (*Aspidoscelis tigris stejnegeri*),	Federal: None State: None MSHCP: Covered Species	10
Belding's orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	12, 16
Birds		
Golden Eagle (*Aquila chrysaetos*)	Federal: Bird of Conservation Concern State: Fully Protected, Species of Special Concern MSHCP: Covered Species	2
Cooper's hawk (*Accipiter cooperii*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	2, 7, 8, 10, 12, 15, 18, 19

Table 10.
MSHCP Adequately Conserved Wildlife Species (Cont.)

Species	Listing Status	Appendix A1 Map Page
White-tailed kite (*Elanus leucurus*),	Federal: None State: Fully Protected MSHCP: Covered Species	9, 10, 18
Northern harrier (*Circus cyaneus*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	5
Swainson's hawk (*Buteo swainsoni*),	Federal: None State: Threatened MSHCP: Covered Species	2
Burrowing owl (*Athene cunicularia)*	Federal: None State: Species of Special Concern MSHCP: Covered Species	5, 11
Willow flycatcher (*Empidonax traillii)*	Federal: None State: Species of Special Concern MSHCP: Federal and State Endangered Southern Subspecies (*E. traillii extimus*) Covered (Section 6.1.2)	8
Least Bell's vireo (*Vireo bellii pusillus*)	Federal: Endangered State: Endangered MSHCP: Covered Species (Section 6.1.2)	10, 18
Coastal California gnatcatcher (*Polioptila californica* ssp. *californica*	Federal: Threatened State: Species of Special Concern MSHCP: Covered Species-	9, 11
Loggerhead shrike (*Lanius ludovicianus*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	2
California horned lark (*Eremophila alpestris actia*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	2, 3, 6, 7, 9, 11, 12, 14, 16, 18, 19
Yellow warbler (*Dendroica petechia*),	Federal: None State: Species of Special Concern MSHCP: Covered Species	9, 15, 18
Rufous-crowned sparrow (*Aimophila reficeps conescens*)	Federal: None State: Species of Special Concern MSHCP: Covered Species	8, 9, 10, 11, 14, 16
Bell's sage sparrow (*Artemisiospiza belli*).	Federal: None State: Species of Special Concern MSHCP: Covered Species	13
Lawrence's goldfinch (*Carduelis lawrencei*)	Federal: Bird of Conservation Concern State: Species of Special Concern MSHCP: None	12, 19

MSHCP Adequately Conserved Species

Wildlife species that are Covered and Adequately Conserved by the MSHCP include CAGN, coastal western whiptail, Belding's orange-throated whiptail, San Diego black tailed jackrabbit, golden eagle, California horned lark, Cooper's hawk, white-tailed kite, northern harrier, yellow warbler, rufous-crowned sparrow, Swainson's hawk, and Bell's sage sparrow. As Adequately Covered species, participation in the MSHCP would provide "take" for these species and no additional mitigation would be required. Although these species are Adequately Conserved, the intent of the proposed Project is to avoid and/or minimize impacts to all biological resources that occur within its boundaries.

MSHCP Section 6.1.2 Species

Two species that were observed within or near the study area that relate to consistency with *Sections 6.1.2* of the MSHCP include the LBV and willow flycatcher. These species and their presence within the Project area are further described below. In addition to these species, Adequately Conserved species identified within the Project area (listed above) that are associated within *Riparian/Riverine* habitats include western spadefoot toad, Cooper's hawk, osprey, white-tailed hawk, and yellow warbler.

Least Bell's vireo (*Vireo bellii pusillus*) is a federally listed endangered, state endangered and MSHCP Group 2 migratory member of the vireo family (Vireonidae). It is the western-most subspecies, breeding entirely within California and northern Baja California. LBV primarily occupy riparian habitats that typically feature dense cover within 1-2 meters of the ground and a dense, stratified canopy. It inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically it is associated with southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, wild blackberry, or mesquite in desert localities. Generally LBV arrive from the Mexican wintering areas by end of March to early April, and depart by end of September (County of Riverside 2003).

Focused surveys for LBV and other listed riparian birds were conducted within suitable habitats that occur within 500-feet of the ROW in 2007, 2009, 2011, 2012 and 2013 (refer to Appendix E1 for focused survey reports). LBV territories were present in the tributary to the San Jacinto River near Keystone Drive during 2007 and 2009 survey years (Map 10, Appendix A1). That area, and all areas where LBV were detected, were determined to be "occupied" and were removed from areas to be surveyed in subsequent years. The main body of the San Jacinto River traversed by the project alignment has not been identified as a designated LBV breeding territory but is a known travel corridor for LBV (Aimar, pers. comm., 2011); therefore in coordination with the Wildlife Agencies, LBV presence is assumed. During the 2013 surveys, a new occurrence of LBV was identified near Rosetta Canyon Drive and SR-74 (Map 17, Appendix A1).

Willow flycatcher (*Empidonax traillii)* is a California species of special concern. The subspecies SWFL (*E. traillii extimus*) is a federal and state listed endangered and MSHCP Group 2 subspecies of the willow flycatcher. The willow flycatcher breeds in dense riparian habitats near surface water or saturated soil. Plant composition and structure of occupied sites varies greatly depending on the site, but willows often make up much of the understory. Dense

patches of understory vegetation are a critical component of occupied habitat (Sogge *et al.* 2010).

No SWFL were detected at any of the survey areas; however, a vocal willow flycatcher was observed within the Project study area on 14 May 2007 in the San Jacinto River area (no GPS point was taken because it was outside of the SWFL survey protocol window) and on 26 May 2009 in a small drainage east of the river (Map 8, Appendix A1). These dates are within the normal period of spring migration of the species in southern California, and the bird was not found during subsequent SWFL surveys. Therefore, per SWFL survey protocol, AMEC ornithologists concluded that these birds were migrants of a more northerly subspecies, and not SWFL. The USFWS requires that "*Willow Flycatcher Survey and Detection Forms*" be completed; these forms are included in focused survey reporting (Appendix E1).

MSHCP Section 6.2.3 Criteria Area Species

Burrowing owl (*Athene cunicularia*) is a federal and state species of special concern and MSHCP Group 3 species that is found in open, dry grasslands, agricultural and range lands, as well as desert habitats with low-growing vegetation. The BUOW resides in burrows primarily created, then abandoned, by species such as California ground squirrels (*Spermophilus beecheyi*) and coyotes (*Canis latrans*).

Although several potential burrows were mapped within the Project area during habitat assessments for this species, focused surveys did not identify BUOW or active nests during 2006, 2009 or 2011 surveys within the study area. One BUOW was observed outside of the survey study area during a single visit in 2009, (Map 5, Appendix A1 and Photo 15, Appendix H). However, the BUOW was not present during any previous or subsequent visits. No active burrow could be confirmed for this bird, which was perched on dumped tires in the road over 500 feet north of the alignment. Even if resident in the area, this BUOW appeared to use a burrow outside of the protocol 500 foot buffer.

Additionally, two burrows were identified with fairly recent whitewash within the study area in 2011 (Map 8, Appendix A1). However, during subsequent focused surveys, no BUOWs or owl activity were located at or near these burrows. No BUOW sign was observed in any other areas of the proposed Project during the same 2011 survey year.

In April 2012, two adult BUOWs were observed near a known burrow complex location which was located approximately 300 feet west-northwest from the intersection of Evans Road and McLaughlin Road in Romoland (Map 5, Appendix A1). During a subsequent visit in June, no fresh sign or BUOWs were observed. An irrigation line had been recently installed nearby and spray could reach the burrows based on splatter on the ground around and within the complex. The remains of what appeared to be a BUOW (wings, legs and feathers) were observed just west of the burrow complex under a lattice tower. During the subsequent six (6) surveys of this area, no BUOWs were observed and the burrow complex was observed to be disturbed by agricultural activities.

Although several potential suitable burrows were identified in the study area during 2013 surveys, no BUOWs were documented. One potential burrow was observed with owl sign (pellets) near the edge of the study area, adjacent to Sherman Road (Map 4, Appendix A1).

Non-MSHCP Covered Wildlife Species

Two additional sensitive species were detected within the study area that are *not* covered by the MSHCP. These two species are described below:

Stephens' kangaroo rat (*Dipodomys stephensi*) is a federally endangered and state threatened species. SKR and associated burrows were identified within the Project area (Maps 2, 3, 6, 7, 9, 11, 12, 14, 16, 18, 19, Appendix A1). The VIG Project is located within both the MSHCP area and the SKR HCP area. As discussed above, the MSHCP does not cover SKR when a project also lies within the SKR HCP. Instead, take authorization for this federally endangered and state threatened species, SKR is obtained through the SKR HCP (federal and state permit approvals issued May 1996).

As of October 15, 2012, SCE finalized the SKR HCP Implementation Agreement with the Riverside County Habitat Conservation Agency (RCHCA). This Agreement provides a process through which SCE may obtain take authorization of SKR through the SKR HCP for SCE's VIG Project. The USFWS and the CDFW provided a joint letter of support stating the RCHCA has the authority under the SKR HCP to enter into this Agreement and provide SKR take authorization to SCE. This take authorization is in accordance with the terms and conditions in the USFWS Management Authorization [or USFWS' Federal Permit], the SKR HCP, and the SKR HCP Implementation Agreement. To complete the SKR take authorization process prior to the start of construction, SCE will obtain a Certificate of Inclusion from the RCHCA specific to the VIG Project.

Lawrence's goldfinch (*Carduelis lawrencei*) was also observed within the Project area within scrub and riparian habitats (Maps 12 and 19, Appendix A1). This species is a USFWS Bird of Conservation Concern as well as a CDFW "Special Animal" with a CNDDB Conservation Rank of S3 (Vulnerable in the jurisdiction due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors making it vulnerable to extirpation) (CDFG 2011). Lawrence's goldfinch breeds across a small range in the woodlands of California and Baja California. The typical nesting habitat is dry and open woods that are near both brushy areas and fields of tall annual weeds, usually within half a mile (0.8 km) of a small body of water. It may nest in other habitats, including rural residential areas, but not in deserts or dense forests. Outside the nesting season it occurs in many open habitats including deserts, suburbs, and city parks (Davis 2001).

Lawrence's goldfinch was documented in two areas: within developed habitat south of Ethanac Road, east of SR-74 (Map 11, Appendix A1). Although impacts to this species are unlikely, minimization measures pertaining to nesting and/or migratory birds is provided below in Section 6.2.4.5.

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6.0 IMPACT ANALYSIS AND MITIGATION MEASURES

This section provides an analysis of impacts to biological resources expected to occur from the construction of the proposed Project. An analysis of Project impacts is included in the FEIR (CPUC 2010) and *Valley-Ivyglen 115 kV Subtransmission Line Project Modification Report* (Insignia 2013). Both direct and indirect impacts are anticipated as a result of construction activities. Impacts are defined as activities that destroy, damage, alter, or otherwise affect biological resources in a project area. Impacts are characterized as five types and are described below.

1. Direct impacts occur when biological resources are altered, disturbed, destroyed, or removed during the course of project implementation. Examples of direct impacts are loss of habitat as a result of grading or filling or “take” of a sensitive species.
2. Indirect impacts occur when project-related activities affect biological resources in a manner other than direct. Examples of indirect impacts include fragmentation, pollination interruption, increased environmental toxins, increased invasion and competition by nonnative animals and plants, increased noise, human activity, or light levels.
3. Permanent impacts result in the irreversible loss of biological resources. Examples include the permanent removal of vegetation or habitat through placement of a concrete foundation or a paved road.
4. Temporary impacts are reversible with the implementation of mitigation measures. Examples include short-term noise events associated with project operations or the revegetation of an area cleared during temporary construction activities.
5. Cumulative impacts are the sum of all impacts from this and other local projects on the biological resources of a region.

6.1 Thresholds for Determining Potential Significance

Guidelines under CEQA provide guidance and interpretation for implementing CEQA statutes. CEQA significance entails any impact to plant and wildlife species listed by federal or state agencies as threatened or endangered, or of regional or local significance. A significant impact to listed or sensitive species could be direct or indirect, with impacts to rare or sensitive habitats also considered significant.

In general, the proposed Project could result in a potentially significant impact to the environment if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW, USACE, RWQCB, or USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.
- Introduce land use within an area immediately adjacent to the MSHCP Conservation Area that would result in substantial edge effects; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Mitigation and conservation recommendations to address each impact to biological resources are identified below. Participation in the MSHCP and implementation of conservation and additional mitigation measures would compensate for impacts that would occur as a result of Project implementation. It should be noted that FEIR mitigation measures proposed for revisions in the PMR as well as Applicant Proposed Measures (APMs), proposed as either new or revised in the PMR, are identified as such in the tables for each of the impacts discussed below.

6.2 Direct Impacts

Direct impacts would result from construction activities, including pole installation, access road maintenance and creation, creation of temporary work areas, and underground cable installation. Proposed subtransmission lines and poles will be placed in an existing SCE ROW where available, and in several new small areas where easements have been obtained from willing landowners in already developed areas. The proposed Project was designed to avoid sensitive resources to the greatest extent possible. During the last few years, the proposed Project has gone through multiple re-design iterations resulting in the movement of poles and roads and/or reduction in the number of the smaller new easements within already developed areas. As such, some temporary and permanent impacts will result from Project construction activities.

6.2.1 Construction Related Land Disturbance

For a detailed description of construction activities, refer to Section 1.2 of this report. Approximate land disturbance calculations that would result from construction activities (i.e. pole installation, dirt access roads, drainage features, staging areas, etc.) are provided in Table 11 below.

Table 11.
Phase 1 Estimated Land Disturbance Calculations

Subtransmission Project Feature[1, 2]	Quantity	Temporary Disturbance Area[3]	Permanent Disturbance Area[3]	Acres Disturbed During Construction	Acres to be returned to existing condition	Acres Permanently Disturbed[4]
Guard Structures[5]	70	50' x 75'	0	6.0	6.0	0
Down Guy	20	50' x 50'	0	1.2	1.2	0
New Tubular Steel Pole	28	200' x 150'	25' radius	24.1	22.7	1.4
New Light Weight Steel Pole	290	150' x 75'	10' radius	74.9	72.0	2.9
Subtransmission Work Areas	19	Varies	0	21.3	21.3	0
Telecom Work Areas	33	Varies	0	0.9	0.9	0
Drainage Control Features	23	28'x50' (average)	18'x40' (average)	0.7	0.4	0.3
New Access Roads (Dirt)	N/A	N/A	N/A	27.2	11.3	15.9
Total Estimated	**–**	**–**	**–**	**156.3**	**135.8**	**20.5**
Phase 1 Yards[6]				**Acres Disturbed During Construction[4]**	**Acres to be returned to existing condition**	**Acres Permanently Disturbed**
Valley Yard North[7]				7.5	7.5	0
Valley Yard South				5.4	5.4	0
Joe 74 Yard				3.5	3.5	0
Joe 74 Yard Extension				2.8	2.8	0
74 Central Yards				1.6	1.6	0
Total of Preferred Yards				**20.8**	**20.8**	**0**

Notes/Assumptions:

1. Wood poles will be removed throughout the alignment where needed. Pole removal locations will be determined prior to construction. The area needed for each wood pole removal is approximately 75'X150'. These disturbance areas would mostly fall within other areas of planned disturbance (e.g., TSP/LWSP installation).
2. Additional puller and tensioner sites may be necessary based on field determinations prior to construction.
3. The calculations are estimates based upon SCE's preferred area of use for the described project feature, the width of the existing right-of-way, or the width of the proposed right-of-way and, they are subject to change based upon additional field review, avoidance/minimization of biological resources present within the project area, final engineering and review of the project by SCE's Construction Manager and/or Contractor awarded project. All work areas will be under the oversight of qualified biological monitor in order to ensure that sensitive biological resources are not impacted within the project area.
4. Disturbance areas for various project features described in Table 11 overlap with the disturbance for other features resulting in an overestimation of disturbance areas as compared to those described in Table 12 below.
5. Guard structures estimates provided above are maximum estimates; some areas will not be necessary as paved roads will be utilized where available.
6. Extensions to proposed yards would occur if additional space is required and if the property is available.
7. Although included in the PMR, at this time the Valley Yard-North is not anticipated for use.

6.2.2 Vegetation Communities

Permanent impacts to vegetation communities that occur within the Project footprint would result from disturbance associated with permanent roads and structures (e.g. poles). Temporary impacts to vegetation communities would occur due to clearing of areas required for access roads, stringing sites, pole removal and installation areas, and other temporary work and staging areas.

Clearing and grading associated with construction of roads and grading areas may result in the alteration of soil conditions, including the loss of native seed bank and changes to the

topography and drainage of a site such that the capability of the habitat to support native vegetation is impaired. Grading may also remove rocks, large shrubs, and other objects from the soil surface. Table 12 identifies proposed estimated impacts to vegetation communities.

Table 12.
Vegetation Communities and Impacts within the Project Area

Vegetation Community	Code	Existing Acreage	Permanent Impact (Acres)	Temporary Impact (Acres)
Upland Habitats				
Disturbed/Developed	DDL	752.31	3.53	55.74
Agriculture – Field/Croplands	AGFC	94.25	2.35	5.96
Nonnative Grassland	NNG	334.41	6.82	27.85
Disturbed Nonnative Grassland	DNNG	122.67	1.57	11.90
Riversidean Sage Scrub	RSS	31.98	1.35	2.52
Disturbed Riversidean Sage Scrub	DRSS	256.34	3.04	13.42
Riparian/Riverine Habitats				
Cismontane Alkali Marsh	CAM	1.07	--	--
Mulefat Scrub	MFS	0.37	0.01	--
Riparian Scrub	RS	2.23	--	0.02
Southern Cottonwood/Willow Riparian Forest	SCWR	2.09	0.02	--
Southern Willow Scrub	SWS	11.69	0.15	0.02
TOTAL ACRES		**1609.42**	**18.84**	**117.43**

Notes/Assumptions:
These estimates are subject to change based upon additional field review, avoidance/minimization of biological resources present within the project area, final engineering and review of the project by SCE's Construction Manager and/or Contractor awarded project. All work areas will be under the oversight of qualified biological monitor in order to ensure that sensitive biological resources are not impacted within the project area.

6.2.2.1 Sensitive Upland Vegetation Communities

Riversidean sage scrub (RSS) habitat is the only upland vegetation community considered to be a sensitive habitat due to the sensitive species, including the CAGN, which rely on this community. Approximately 4.50 acres of RSS (disturbed and undisturbed) could potentially be permanently impacted by the proposed Project and approximately 15.85 acres of this habitat could potentially be temporarily impacted by construction activities. Upon SCE being granted PSE status, impacts to RSS would be permitted by the MSHCP. However, clearing of these community types must be conducted outside of the CAGN breeding season (1 March to 15 August).

All sensitive upland vegetation communities that are temporarily impacted will be allowed to return to pre-construction conditions. Where appropriate, re-contouring to pre-construction

conditions may be necessary as well as revegetation with native species that were present prior to construction. Avoidance and minimization measures that will be implemented in order to avoid and/or minimize impacts to sensitive upland vegetation communities are described in the tables presented in Section 8.0 of this document. As summarized, these measures include the use of a qualified biologist to train Project personnel on environmental restrictions (BIO-APM 1); minimize disturbance footprint (BIO-APM 3); avoid placement of equipment and material in waterways (BIO-APM 4); avoid breeding and other sensitive seasons in wildlife habitat if species are found to be present (BIO-APM 5); designate areas for equipment storage, staging, and fueling (BIO-APM 6); avoid placement of erodible materials in water courses (BIO-APM 7); use of a qualified biologists to monitor during clearing and grubbing, grading, excavation, and soil movement activities (BIO-APM 8); avoid and/or minimize removal of native vegetation to the maximum extent practicable and return temporary impacts to preexisting contours and revegetate with appropriate native species (BIO-APM 9); limit construction activities to the Project footprint, designated staging areas and routes of travel (BIO-APM 10); limit impacts in sensitive habitats and restore those to pre-existing conditions upon Project completion (MM BIO 1-a [revised]); avoid special status plant species to the maximum extent practicable (MM BIO 1-b [revised]); and avoid clearing Riversidean sage scrub habitat during CAGN breeding season (1 March to 15 August) (MSHCP CAGN-1).

6.2.2.2 Riparian/Riverine and Vernal Pool Resources

The proposed Project was designed to avoid *Riparian/Riverine* areas by spanning those resources to the greatest extent possible; however, some temporary and permanent impacts would still result from land disturbance activities associated with Project construction activities. In addition to land disturbance associated with pole installation (refer to Table 11), permanent and temporary impacts from drainage structures are anticipated. Drainage structures most often include gabion structures placed within wet crossings, but may also include pipe culverts, and energy dissipaters depending upon the size and shape of existing drainages. Table 13 provides the location and type of impact anticipated from installation of drainage structures.

Table 13.
Permanent and Temporary Impacts to *Riverine* areas from Drainage Structures

Pole Number	Impact Type	Structure Type	Dimensions (feet)
8	Permanent	Gabion	18x55
9-10	Permanent	Gabion	18x55
92	Permanent	Gabion	18x30
97-98	Permanent	Gabion	18x30
111	Permanent	Gabion	18x30
118-119	Permanent	Gabion	18x30
126-127	Permanent	Gabion	18x30
142-143	Permanent	Culvert + 2 ED	~12x60
145-146	Permanent	Culvert + 2 ED	~12x100

Note: The size and number of gabions is subject to change based on final engineering, additional field review, and ongoing efforts to avoid/minimize sensitive biological resources.
ED – Energy Dissipater

Permanent and temporary impacts to *Riparian/Riverine* resources resulting from grading operations, construction of drainage structures, pole siting, riparian tree trimming, etc. are described in Table 14 with impact numbers referenced in figures provided in Appendix A1 and close-up views of *Riparian/Riverine* impact areas provided in Appendix A2.

Table 14.
Summary of Impacts to Waters

Impact Number	Description of Activity	Habitat Type (MSHCP Designation)	Location (Lat/Long in Decimal Degrees)	Permanent (acres/linear feet)	Temporary (acres/linear feet)
VIG1-1	New road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73655 -117.16181	0.010/50	0.004/20
VIG1-2	New road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73653 -117.16264	0.010/70	0.003/20
VIG1-3	Existing road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73678 -117.22390	0.012/30	0.008/10
VIG1-4	Existing road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73593 -117.22810	0.003/10	0.001/10
		Southern Willow Scrub wetland (Riparian)	33.73593 -117.22810	0.003/20	0.004/10
VIG1-5	Existing road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73627 -117.23830	0.004/30	0.001/10
VIG1-6	Existing road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73659 -117.24366	0.003/30	0.002/20
VIG1-7	New road and pole construction	Southern Willow Scrub (Riparian)	33.73667 -117.24398	0.005/40	0.012/20
VIG1-8	Riparian vegetation trimming for line clearance	Southern Willow Scrub riparian (Riparian)	33.73673 -117.24453	0.123/350	0
VIG1-9	Vegetation clearing for pole construction	Non-native Grassland (Riverine)	33.73689 -117.24617	0.021/30	0
VIG1-10	Vegetation clearing for pole and temporary road construction	Non-native Grassland (Riverine)	33.73711 -117.24867	0.045/30	0.397/200
VIG1-11	Existing road crossing ephemeral wash with gabion	Unvegetated Channel (Riverine)	33.73743 -117.25353	0.004/30	0.001/10
VIG1-12	Riparian vegetation trimming for line clearance	Southern Cottonwood/Willow Riparian Forest (Riparian)	33.73855 -117.26041	0.022/60	0
VIG1-13	Road crossing ephemeral wash with new culvert	Unvegetated Channel (Riverine)	33.73895 -117.26548	0.012/80	0.004/40
VIG1-14	Temporary road grading across ephemeral wash	Unvegetated Channel (Riverine)	33.73909 -117.26736	0	0.007/30
VIG1-15	Road crossing ephemeral wash with new culvert	Unvegetated Channel (Riverine)	33.73945 -117.27129	0.014/110	0.005/50
VIG1-16	Riparian vegetation trimming for line clearance	Southern Willow Scrub (Riparian)	33.70319 -117.32572	0.017/60	0

Impact Number	Description of Activity	Habitat Type (MSHCP Designation)	Location (Lat/Long in Decimal Degrees)	Permanent (acres/linear feet)	Temporary (acres/linear feet)
	Total Impacts			0.308/1030	0.449/450

Note:
Impacts VIG1-9 and VIG1-10 are within the floodplain of the San Jacinto River and include portions of vernal pool watershed, but will not impact vernal pools directly or indirectly.
VIG1-8, VIG1-12, and VIG1-16 include a total area of approximately 0.162 acre within which trimming of riparian vegetation will be trimmed every 1-2 years to allow for line clearance according to CPUC and other safety standards. Actual tree canopy cover is less than the 0.162-acre shown in this table. This area of impact will be reduced during construction to the maximum extent practical.

A summary of proposed permanent and temporary impacts to *Riparian/Riverine* communities are described in Table 15 along with proposed mitigation for those impacts.

Table 15.
MSHCP Riparian/Riverine Estimated Impacts and Proposed Mitigation

Impact Type	Permanent Impacts (acres)	Proposed Mitigation	Temporary Impacts (acres)	Proposed Mitigation
Riparian/Riverine for construction of poles, roads, and drainage structures	0.146	Enhancement of 1.20 acres Riparian/Riverine habitat at Wolfskill/Gilman Springs Property	0.449	0.449 acre restored post-construction
Riparian trimming for line clearance	0.162[1]	Placement of 50 willow cuttings along approximate 2.60 acre area of San Jacinto River and Keystone tributary	0	NA
Total	**0.308**	**3.80 acre**	**0.449**	**0.449 acre**

Note:
[1] - 0.162 acre total (as shown in VIG1-8, VIG1-12, and VIG1-16 in Table 14 above) includes a total area encompassing scattered riparian vegetation. Where needed, this vegetation will be trimmed every 1-2 years to allow for line clearance according to CPUC and other safety standards. Actual tree canopy cover is less than the 0.162-acre shown in this table. This area of impact will be reduced during construction to the maximum extent practical.

Temporary impacts to *Riparian/Riverine* areas will result from the use of temporary work areas and grading through ephemeral washes and existing wet crossings, and includes approximately 0.449 acre. Approximately 0.146 acre of permanent impacts to *Riparian/Riverine* areas will result from construction of gabions in ephemeral drainages, pole siting, and drainage improvements including culvert construction.

Temporarily impacted *Riparian/Riverine* areas (0.449 acre) will be restored to pre-construction conditions upon completion of the proposed Project. Restoration may involve hydroseeding with native seed mixture similar to what is in place in adjacent areas, establishing temporary erosion controls, and monitoring of those revegetated areas for three (3) years post-construction, or until

successful revegetation by native species is confirmed by a qualified biologist in cooperation with the regulated waters permitting agencies.

SCE will mitigate offsite for permanent impacts to 0.146 acres to *Riparian/Riverine* areas caused by new structures and fill activities, including pole placement and road construction by preparing a mitigation agreement with RCA to enhance approximately 1.20 acres of riparian habitat at the "Wolfskill/Gilman Springs" property within the San Jacinto Watershed. The enhancement activities will include nonnative plant removal, native plant installation, monitoring, maintenance, and reporting of the restoration site for a minimum of five (5) years. This mitigation is expected to also serve as mitigation for impacts to MSHCP *Riparian/Riverine* resources; however mitigation for these impacts is presented as a DBESP (Appendix J).

The Wolfskill/Gilman Springs property mitigation site lies within the San Jacinto River Watershed at approximately 33.86867° North, 117.02102° West near Hemet, California. The site currently supports primarily nonnative tamarisk (*Tamarix* sp.) with small amounts of tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola kali*), and mustard (*Brassica* spp.). Native plant species that are present onsite and would be preserved and enhanced include big saltbush (*Atriplex lentiformis*), mule-fat (*Baccharis salicifolia*), cottonwood (*Populus fremontii*), and California buckwheat (*Eriogonum fasciculatum*). Native willow (*Salix* sp.) would be added to the habitat to match riparian communities occurring upstream of the proposed mitigation site.

A HMMP would be prepared that includes detailed descriptions and methods of nonnative plant control, planting of native plants, irrigation, maintenance, monitoring, and reporting requirements. The HMMP will include descriptions of herbivory control, including rodent populations, to insure survival of established plants. Monitoring, maintenance, and reporting would occur for a minimum of five (5) years to insure proper establishment of the native riparian community. SCE will be responsible for implementing the HMMP to successful completion. The property is part of the RCA preserve system and is under conservation in perpetuity.

Permanent impacts to approximately 0.162 acre of *Riparian* vegetation will result from tree trimming to ensure proper line clearance at the San Jacinto River crossing (VIG1-8 shown on Map 9, Appendix A1), the unnamed tributary to the San Jacinto River in the vicinity of Keystone Drive (VIG1-12 shown on Map 10, Appendix A1), and at Rosetta Canyon Drive and SR-74 (VIG1-16 shown on Map 18, Appendix A1). These areas may be annually or bi-annually maintained and trimmed by hand, under future O&M activities according to CPUC and other safety standards, and are therefore determined to be permanent impacts. However, tree trimming calculations are shown as a "worst-case" based on 100% riparian tree canopy cover of trees assessed to be over 20 feet in height. Actual tree canopy cover is less than the 0.162-acre identified in Table 14 and Table 15. This area of impact will be reduced during construction to the maximum extent practical. Trimming of tree tops, particularly when being done outside of LBV breeding season, and because LBV typically inhabit the understory of riparian areas, will not result in permanent or temporary loss of habitat functions and values to LBV. Further, during coordination related to the 1602 Streambed Alteration Agreement process, the CDFW requested that SCE plant 50 willow cuttings near the area(s) disturbed by construction but outside of the area that would require future O&M tree trimming. As such, SCE proposes to plant 50 native willow cuttings (collected from the vicinity of the planting areas, and estimated to

cover approximately 0.20 acre at full growth) within their easement along an approximately 2.13 acre area of the San Jacinto River floodplain and/or an approximately 0.47 acre area along the tributary that occurs near Keystone Drive. Refer to Maps 9 and 10 in Appendix A1 for potential locations of proposed planting of willow cuttings. The exact location of willow cutting planting (within the SCE easement) will be determined in the field and placed in areas determined to be most effective and that will not be impacted by O&M activities, thus protected in perpetuity. SCE will prepare a Habitat Mitigation and Monitoring Plan (HMMP) that will detail the planting locations. SCE will monitor the willow planting areas for duration of three years, in conjunction with monitoring of revegetated areas. It was also understood by CDFW that SCE cannot place a conservation easement over the areas where the willows are planted within their facility easements.

The proposed Project was designed to avoid all *Vernal Pools* in the Project area (Map 9, Appendix A1) and there will be no direct or indirect permanent or temporary impacts to their functions or values. The original MSHCP PSE findings made by the RCA determined the proposed Project to be consistent with the MSCHP when the project features adjacent to the San Jacinto River involved eight pole structures with spans ranging from 210 feet to 329 feet. The 401 Water Quality Certification and the Draft 1602 SAA were also issued using this same original project information. In addition, no issues regarding this area were raised during the 404 Nationwide Permit process. Regardless of receiving permits/findings, the Project has since been redesigned using only four taller TSPs that allow for three 700 foot spans.

The pole locations and new temporary roadways near the San Jacinto River will not redirect or inhibit the floodplain hydrology at the San Jacinto River. Poles will not impede the flow of water through the area and temporary spur roads will be graded flat, level with existing elevations and contours, and no berms will be created that could affect water flow. The temporary spur roads (Map 9, Appendix A1) will be restored to pre-construction contours and may be revegetated after construction. *Vernal Pool* hydrology along the San Jacinto River is related to seasonal stormwater flows overtopping the river banks and filling depressions adjacent to the River. Proposed pole locations and temporary dirt roads graded at existing elevation and contours will not affect this overflow pattern and, thus, there will be no effect to *Vernal Pool* hydrology. Refer to Appendix I for engineering documentation supporting no impacts to vernal pool hydrology.

Although functions and values of *Riparian/Riverine* areas are not being significantly affected by the proposed Project, mitigation for permanent impacts is being proposed for impacts to *Riparian/Riverine* areas pursuant to MSHCP and regulated waters requirements (see below). *Vernal Pools* will not be impacted by the proposed Project, but there will be impacts to regulated waters in the vicinity of the vernal pools within the San Jacinto River floodplain area. As such, mitigation for this floodplain area will be included with the other overall mitigation for permanent impacts to regulated waters as previously approved by CDFW in the draft 1602 SAA issued on May 7, 2012. CDFW required that off-site mitigation be implemented within the San Jacinto Basin area.

Regulated Waters Permitting

SCE previously requested authorization from USACE for use of NWP 12 for utility line activities under Section 404 of the CWA, a permit from the RWQCB to fulfill requirements of Section 401 of the CWA, and a SAA from the CDFW under Section 1602 of the CFGC. Permit applications were previously submitted to each of these agencies, and the 401 Water Quality Certification and the Draft 1602 SAA were issued (September 9, 2011 and May 7, 2012, respectively) with the 404 scheduled for issuance within a few weeks following the others. However, due to minor changes in Project design these permits were put on hold or withdrawn.

Further, SCE is in the process of requesting amended permit authorizations from: 1) USACE for use of NWP 12 for utility line activities under Section 404 of the CWA, 2) RWQCB to fulfill requirements of Section 401 of the CWA, and 3) CDFW for a SAA under Section 1602 of the CFGC. Measures intended to avoid or reduce impacts to jurisdictional waters and other sensitive biological resources are included in the permit applications and additional measures may be included as permit conditions by the regulatory agencies.

Measures that will be implemented in order to avoid and/or minimize impacts to *Riparian/Riverine* resources are described in the tables presented in Section 8.0 of this document, including BIO-APM 1, BIO-APM 3, BIO-APM 4, BIO-APM 6, BIO-APM 7, BIO-APM 8, BIO-APM 9, BIO-APM 10, HYDRO-APM 1 [revised], HYDRO-APM 3, HYDRO-APM 4, MM BIO 1-a [Item c], MM BIO 1-c, MM BIO 2a [revised], MM BIO 2b, MM HYD-5a [revised], MM HYD-7a, MSHCP BMP-4, and MSHCP BMP-7. These measures include the use of qualified biologist for training, minimizing disturbance footprints, and monitoring construction activities to avoid impacts to sensitive species and habitats; implementation of a SWPPP and hazardous material handling procedures; and use of proper BMPs when diverting streams or dewatering.

Based on the described construction activities and implementation of mitigation measures as identified, impacts to *Riparian/Riverine* and *Vernal Pool* resources as a result of Project implementation would not be significant.

6.2.3 Sensitive Plant Species

Five (5) sensitive plant species were detected within the study area during botanical field studies that have been conducted to date (refer to Table 7 for survey dates): long-spined spineflower, Parry's spineflower, small-flowered morning-glory, paniculate tarplant, and small-flowered microseris (refer to Section 5.3.1 for a description of each). The proposed Project has been designed to avoid/minimize impacts to all plant species to the greatest extent possible. However, based on current design and avoidance/minimization may not be possible with respect to two (2) sensitive plant populations within the Project footprint (Table 16).

Table 16.
Potentially Unavoidable Sensitive Plant Impacts

Species	Potential Impact (Approximate number of individuals)	MSHCP Status	Project Feature Causing Impact
Adequately Conserved			
Long-spined Spineflower	100	No additional mitigation required	work areas and access roads
Not Covered			
Paniculate Tarplant	1729	Not Covered; CRPR 4.2; Requires minimization	work areas and access roads

Note:
CRPR – California Rare Plant Rank
These impacts are estimates only and are subject to change based upon final engineering, additional field reviews, and ongoing efforts to avoid/minimize impacts to sensitive biological resources during construction.

6.2.3.1 Adequately Conserved Species

As an adequately conserved species, no additional mitigation is necessary for anticipated impacts to long-spined spineflower pursuant to the MSHCP.

6.2.3.2 Plant Species Not Covered by the MHSCP

Paniculate tarplant is a CRPR 4.2 species that is not covered by the MSHCP. As currently designed, approximately 1729 individuals of paniculate tarplant could potentially be impacted as a result of Project construction. SCE will offset impacts to these species by implementing measures presented in Section 8.0 which include topsoil salvage and replacement of seedbank. Mitigation efforts associated with direct and indirect impacts to this species not covered by the MSHCP will be developed, if needed, in consultation with and approved by the CDFW.

The following measures will be implemented in order to avoid and/or minimize potential impacts to sensitive plant species as described in Section 8.0 including BIO-APM 1, BIO-APM 3, BIO-APM 6, BIO-APM 8, BIO-APM 9, BIO-APM 10, MM BIO 1-a (revised), MM BIO 1-b (revised), MM BIO 1-c, MSHCP BMP-12, MSHCP CONST-12, and MSHCP CONST-17. These measures include the use of qualified biologist for training, minimizing disturbance footprints, and monitoring construction activities to avoid impacts to sensitive species and habitats.

Based on the described construction activities and implementation of mitigation measures as identified, impacts to sensitive plant species would not be significant.

6.2.3.3 Oak Trees

No oak trees occur on the Project alignment. Some trimming of willow trees is anticipated, but will be minimal and done only after a nesting bird survey has determined that there is no nesting

activity in area of tree trimming. If any oak tree removal or trimming is determined necessary, it will be done in accordance with any applicable tree protection ordinances, including implementation of required mitigation.

6.2.4 Common and Sensitive Wildlife Species

Although the intent of the proposed Project is to protect biological resources to the maximum extent possible, construction and implementation of the proposed Project could potentially impact common wildlife species, species Covered by the MSHCP and SKR HCP, and associated habitats for these species as identified within the study area. The following avoidance and minimization measures will be incorporated during Project implementation for the protection of these species.

6.2.4.1 Common and MSHCP Adequately Conserved Species

Wildlife species, that are Covered Species and Adequately Conserved by the MSHCP, detected within the study area during habitat assessment and focused surveys include CAGN, coastal western whiptail, Belding's orange-throated whiptail, black tailed jackrabbit, California horned lark, Cooper's hawk, white-tailed kite, northern harrier, yellow warbler, rufous-crowned sparrow, Swainson's hawk, golden eagle, and Bell's sage sparrow.

As Adequately Conserved species, participation in the MSHCP would provide take coverage for these species. However, the intent of the proposed Project is to avoid and/or minimize impacts to all sensitive biological resources that occur within its boundaries. The following measures will be implemented in order to avoid and/or minimize potential impacts to common and Adequately Conserved MSHCP wildlife species resources as described in Section 8.0, including BIO-APM 1, BIO-APM 3, BIO-APM 5, BIO-APM 8, BIO-APM 10, BIO-APM 15 (new), BIO-APM 17 (new), BIO-APM 18, MM BIO 1-e, MM BIO-1f, MM BIO-1h (revised), MM BIO-1i, MM NOISE-1a (revised), MSHCP CAGN-1, MSHCP BMP-12, and MSHCP BMP-13. These measures include the use of qualified biologist for training, minimizing disturbance footprints, and monitoring construction activities to avoid impacts to sensitive species and habitats. Qualified biologists will conduct pre-construction surveys and relocate sensitive reptiles; implement measures to avoid impacts to active nests (with eggs or young) of any protected bird; flag and establish construction buffers around BUOW sites; and ensure that construction noise does not exceed the nest disturbance or noise level threshold established in the Nesting Bird Management Strategy during the general nesting period. The proposed Project will avoid clearing Riversidean sage scrub habitat during CAGN breeding season (1 March to 15 August).

Based on the described construction activities and implementation of mitigation measures as identified, impacts to common and Adequately Conserved MSHCP wildlife species would not be significant.

6.2.4.2 Sensitive Species related to Section 6.1.2 of the MSHCP

Least Bell's Vireo - Occupied breeding LBV territories have been identified within the Project area at an unnamed tributary to the San Jacinto River near Keystone Drive (Map 10, Appendix

A1) and at Rosetta Canyon Drive and SR- 74 (Map 18, Appendix A1). The main body of the San Jacinto River traversed by the Project alignment has not been identified as a designated LBV nesting territory but is a known travel corridor for LBV (Aimar pers. comm., 2011). Through coordination with the Wildlife Agencies and during the previous MSHCP and regulated waters permitting, it was agreed that the San Jacinto River area would be avoided using a 500 foot exclusion buffer during LBV breeding season.

The proposed Project has been designed to avoid impacts to riparian and wetland habitats within the Project area to the greatest extent possible; however, potential direct impacts to LBV may results from clearing of suitable habitats, tree trimming and/or pole placement. However, these impacts would not be considered significant with the implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, BIO-APM 3, BIO-APM 5, BIO-APM 7, BIO-APM 8, BIO-APM 9, BIO-APM 10, NOISE- APM 1 (revised), MM BIO 1-e, MM BIO-1g, MM BIO-1h (revised), and MM NOISE-1a (revised). These measures include the implementation of construction avoidance buffers during nesting season (March 1 through August 31) and the implementation of biological monitors during clearing and grubbing, tree trimming, grading, excavation, and soil movement activities. Adhering to policies and procedures for *Section 6.1.2* of the MSHCP, a DBESP is to be prepared for impacts associated with *Riparian/Riverine* habitats wherein this species occurs.

In addition to LBV, wildlife species detected within the Project area that are Adequately Conserved, and are associated with *Riparian/Riverine* and *Vernal Pool* habitats include the western spadefoot toad, Cooper's hawk, osprey, white-tailed kite, downy woodpecker, yellow-breasted chat, golden eagle, and yellow warbler. The conservation measures provided for wildlife species and these habitats, as described above will provide protection for these species.

6.2.4.3 MSHCP Section 6.2.3 Criteria Area Species

Burrowing Owl-Focused surveys for BUOW were completed in accordance with the applicable survey protocol as discussed above in Section 3.0 Survey Methods. This species has been determined absent from the Project study area at this time. No impacts to this species are expected.

Although no impacts to this species are anticipated as a result of construction activities, implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, BIO-APM 3, BIO-APM 5, BIO-APM 8, BIO-APM 10, MM BIO 1-e (revised), MM BIO-1f. In addition, MSHCP-BUOW would be implemented to minimize potential for impact to the species should BUOW come into the Project area. Measures include qualified biologists conducting pre-construction burrowing owl surveys and establishing avoidance buffers if active burrows are identified, as well as the use of biological monitors during construction activities. It should be noted that, per the MSHCP, if protocol-level BUOW surveys are conducted within a Project study area, as was done for this proposed Project, and BUOWs are not found, the MSHCP does not require any additional focused surveys specific to BUOW with the exception of conducting a standard pre-construction surveys. SCE would implement avoidance/minimization measures if BUOW are encountered in the Project area prior to

construction. Therefore, based on the described construction activities and implementation of mitigation measures as identified, impacts to BUOW would not be significant.

6.2.4.4 Non-MSHCP Covered Wildlife Species

Two additional special-status species were detected within the study area that are not covered by the MSHCP include SKR and Lawrence's goldfinch. These species are described below:

Stephens' kangaroo rat - SKR and associated burrows were identified within the project footprint. Project-related impacts to SKR and associated burrows will be authorized through the SKR HCP. As of 15 October 2012, SCE finalized the SKR HCP Implementation Agreement with the RCHCA. This Agreement provides a process through which SCE may obtain take authorization of SKR. The USFWS and the CDFW provided a joint letter of support stating the RCHCA has the authority under the SKR HCP to enter into this Agreement and provide SKR take authorization to SCE. This take authorization is in accordance with the terms and conditions in the USFWS Management Authorization [or USFWS' Federal Permit], the SKR HCP, and the SKR HCP Implementation Agreement. To complete the SKR take authorization process prior to the start of construction, SCE will obtain a Certificate of Inclusion from the RCHCA specific to the VIG Project. Impacts to SKR are fully covered under this process and no additional mitigation is required.

Lawrence's goldfinch was documented within the Project footprint within scrub and riparian habitats. Lawrence's goldfinch is not covered by the MSHCP. However, impacts to Lawrence's goldfinch would not be considered significant with the implementation of minimization and avoidance measures proposed below in conjunction with other nesting and/or migratory bird species.

6.2.4.5 Migratory Bird Species

Project construction may temporarily effect the movement of migratory bird species and their breeding success. Their active nests could be directly or indirectly impacted such that nest abandonment resulting in death of eggs or young occurs. Disturbance from construction activities, such as noise, human presence, and habitat alteration due to the trimming of trees and clearing of native vegetation, could affect the nesting habits of the special-status and migratory bird species. However, these impacts would not be considered significant with the implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, BIO-APM 3, BIO-APM 5, BIO-APM 7, BIO-APM 8, BIO-APM 9, BIO-APM 10, NOISE-APM 1 (revised), MM BIO 1-e (revised), MM BIO-1h (revised), and MM NOISE-1a (revised).

Potential impacts from both blasting and helicopter use could occur during the nesting season, which is generally February through August. Proposed APMs and MMs allow for construction to either be limited to outside of the nesting seasons for special-status and migratory birds, or require that exclusion zones be established by a qualified ornithologist around occupied nests during the nesting season.

SCE will conduct Project-wide raptor nest surveys to identify the locations of active nesting behavior prior to construction. This will reduce the potential for significant impacts on nesting special-status birds, and identify locations where inactive nests may need to be removed during the non-breeding season. The locations identified and mapped during the surveys will be considered in scheduling construction work times and locations.

If active nests are found, a biological monitor with expertise in bird behavior would establish a species-specific buffer around the nest and no activities would be allowed within the buffer until the young have fledged from the nest or the nest fails. A Project-specific Nesting Bird Management Strategy has been prepared to establish buffers based on, but not limited to, the following: the bird species (some species are more tolerant of disturbance while other are less tolerant), location of nest building and active nests, threshold for nesting disturbance taking into account bird behavior, including signs of agitation, continuous focused nest monitoring by qualified biologists, background noise, type of construction activity, and dust emissions and noise levels from construction. Buffers would be adjusted based on no exceedance of an established threshold of behavioral agitation and other signs indicating disruption of nesting behavior. Buffers may be increased or decreased based on the opinion of the biologist with expertise in bird behavior to ensure that impacts to nesting birds would not occur. The Nesting Bird Management Strategy establishes a communication and reporting protocol involving SCE, biological monitors, and the CPUC, CDFW, and USFWS. The Nesting Bird Management Strategy was prepared by the Project's Lead Biologist and was subject to the approval of the CDFW (pursuant to the CFGC) and USFWS (pursuant to the Migratory Bird Treaty Act [MBTA]).

Implementation of the avoidance and minimization measures as described would ensure that impacts to migratory bird species would not be significant.

6.2.4.6 Wildlife Movement

Increases in noise, construction traffic, and human activities during construction activities may temporarily deter movement of wildlife within the Project vicinity. Impacts to wildlife species are considered significant if they interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Indirect, adverse, substantial effects on movement of wildlife or impediments to the use of wildlife corridors or nursery sites are not expected from construction or operational activities of the proposed Project. However, implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, BIO-APM 3, BIO-APM 5, BIO-APM 8, BIO-APM 10, BIO-APM 17 (new), NOISE-APM 1 (revised), and MM NOISE-1a (revised), would ensure that wildlife movement would not be significantly impacted by the proposed Project.

6.2.5 Indirect Impacts

It is anticipated that there will be some indirect impacts resulting from the proposed Project based on its proximity to sensitive habitat and sensitive species. Potential indirect impacts include increased noise, human activity, and light levels as described below. For each of the

indirect impacts described below, an action(s) or measure(s) is described to ensure that these potential indirect impacts can be maintained at less than significant levels.

6.2.5.1 Runoff, Erosion, and Siltation

Siltation and erosion resulting from the proposed activities are potentially significant indirect impacts associated with this proposed Project because of the proximity of the proposed work area to water features and other sensitive habitats. Surface water quality could be diminished as a result of: 1) excavation due to installation of poles and guard structures; 2) scraping and grading, and material laydown at stringing sites/laydown areas; 3) constructing culverts in ephemeral creeks; and 4) grading to construct new access roads. As such, erosion from these activities can remove topsoil necessary for plant growth both in the graded areas and in lower areas affected by increased runoff. The eroded soil can be deposited as silt and alluvium in the drainages. Siltation from these activities can damage wetlands and aquatic habitats and bury vegetation or topsoil. Implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 2, BIO-APM 6, BIO-APM 7, BIO-APM 8, BIO-APM 10, BIO-APM 17 (new), NOISE-APM-1 (revised), HYDRO-APM 1 (revised), HYDRO-APM 3, HYDRO-APM 4, MM BIO1a [Item c], MM BIO-2a (revised), MM Bio-2b, MM BIO-4, MM GEO-2a, MM HYD-5a (revised), MM HYD 7a, MSHCP BMP-7, MSHCP CONST-1, MSHCP CONST-2, MSHCP CONST-3, MSHCP CONST-4, MSHCP CONST-5, MSHCP CONST-6, and MSHCP CONST-7. These measures include the use of qualified biologists for monitoring construction activities, minimizing Project footprints, and implementation of an effective SWPPP that employs appropriate BMPs to avoid or limit runoff, erosion, and siltation. With these measures, Project related runoff, erosion, and siltation would not result in significant impacts to any water features or sensitive habitats.

6.2.5.2 Nonnative Weed Establishment

The loss of topsoil from grading or as a result of overland flow may increase the likelihood of exotic plant establishment in native communities. Nonnatives may out-compete native species, suppress native recruitment, alter community structure, degrade or eliminate habitat for native wildlife, and provide food and cover for undesirable nonnative wildlife. The introduction of nonnative plant species into a community as a result of soil disturbance and erosion can increase the competition for resources such as water, minerals, and nutrients between native and nonnative species as well as alter the hydrology and sedimentation rates. In addition, if the nonnative plants form a continuous ground cover, an increase in the natural fire regime may occur, further eliminating any remaining native vegetation, and causing a type conversion to a disturbed/nonnative habitat type. The establishment of nonnative weeds could affect endangered species associated with the surrounding habitat and could therefore be considered potentially significant if not mitigated. Implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, MM BIO-1c, and MSHCP BMP-12, will reduce potential impacts from Project related impacts due to nonnative species.

6.2.5.3 Noise and Human Presence

Indirect and temporary impacts to wildlife movement due to construction noise, including presence of humans, would be expected during construction of the proposed Project. Noise can adversely affect wildlife by frightening or repelling individuals, masking communication, and impairing foraging success and predator detection. These effects are significant when they adversely affect the lifecycle of sensitive species, or constrain wildlife movement through a wildlife corridor; however, these impacts would not be considered significant if the activities were temporary in nature and of short duration.

Construction noise has the potential to impact the lifecycle of sensitive wildlife species known to occur within the Project vicinity, or that have a high potential to occur onsite, including sage scrub nesters such as the CAGN, Bell's sage sparrow, and southern California rufous crowned sparrow or riparian-nesting birds such as the yellow warbler, LBV and SWFL. The current threshold for significant noise impacts to these species is generally accepted to be 60 dBA during the breeding season although some species, including LBV, are known to be tolerant of much louder noise levels and intense bursts of noise from traffic and trains. If construction were to occur outside of the breeding season for these species, noise impacts would not be considered significant. Indirect noise impacts to other nesting migratory birds, including raptors, if present, could be adverse, but not necessarily significant because of the lower sensitivity status of these species. The proposed Project is not expected to have a substantial indirect effect on special-status biological resources from increased noise and human presence; however implementation of avoidance and minimization measures described in Section 8.0, including BIO-APM 1, BIO-APM 8, BIO-APM 14, NOISE-APM 1 (revised), NOISE-APM 2, and MM NOISE 1a (revised), will reduce potential impacts from excess levels of noise and human presence. With these practices in places, noise and human presence from construction activities would not be an adverse significant impact.

Further, helicopter use and blasting activities could temporarily impact special-status wildlife. Helicopters would generally be used to transport materials and crew members, conductor stringing operations, and to transport and install poles in areas where the terrain would require extensive grading to allow access by conventional equipment. In areas where conventional construction equipment cannot excavate due to the presence of rock, SCE would use blasting or fracturing to facilitate excavation. Blasting may occur during the construction of new access roads, site preparation, and excavation/foundation work activities. Holes would be drilled into rock and the explosive charges would be loaded into the holes. If blasting occurs in the proximity of nesting birds, increased noise levels could affect nesting behavior. SCE anticipates that blasting would only be necessary in a limited area but this is subject to change and is partially dependent on results of the geotechnical investigation.

6.2.5.4 Lighting

If used, nighttime lighting entering adjacent wildlife habitat from construction could temporarily impact sensitive wildlife species and wildlife movement of nocturnal species. These temporary impacts would likely be considered adverse, but not significant. These impacts could be avoided if nighttime work did not occur during construction of the proposed Project near sensitive areas

or where nocturnal species could be affected. However, if such nighttime work is required in or adjacent to these areas, prior survey results, pre-construction surveys and daily biological sweeps would provide additional information to determine if any wildlife species are present that could be affected by nighttime work. Further, should nighttime work be necessary, lighting would be temporary, shielded, and directed away from the areas as needed.

6.2.5.5 Toxic Substances

Toxic substances can kill wildlife and plants or prevent new growth where soils or water are contaminated. Toxic substances can be released into the environment through several scenarios including planned or accidental releases, leaching from stored materials, pesticide or herbicide use, or fires, among others. No intentional releases of toxic substances are planned as part of the proposed Project. Accidental releases could occur from several sources such as leaking equipment, or fuel spills during the course of the construction. The implementation of BMPs during construction will reduce the risk of leaks and fuel spills below a level of significance. A spill contingency plan, written by the construction contractor and approved prior to construction will be in effect during all phases of construction activities.

6.2.5.6 Fugitive Dust

Trenching, grading, and vehicle operations associated with the construction of the proposed Project may produce fugitive dust. Excessive dust can damage or degrade vegetation by blocking leaf exposure to sunlight. Implementation of dust control measures, as part of BMPs during construction, will reduce fugitive dust emissions to below a level of significance. Dust control measures can include spraying work or driving areas with water and careful operation of equipment.

6.2.6 Cumulative Impacts

Cumulative impacts were analyzed in the Project's FEIR (CPUC 2010). An overview of cumulative impacts from the FEIR is provided below:

- Riverside County is expected to experience a dramatic increase in residential and commercial development over the next twenty years. Such development will involve many large scale construction projects which may encroach on biological resources, potentially impacting sensitive communities, special status species, and biological diversity.
- For the purpose of this analysis, the geographic scope will comprise the habitat areas directly and indirectly affected by the construction and operation of the Project. The proposed Project passes through various sensitive habitats, impacting both wildlife and vegetation. Urbanization and development in the area impact the ability of certain plant and animal species to forage, breed, and develop in their natural habitat. A cumulative impact would occur if the proposed Project substantially contributed to the cumulative degradation of biological resources caused by recent, current, and planned development.

- The proposed Project is located within the coverage area of the MSHCP. This conservation planning effort with the overall goal of maintaining biological diversity in rapidly urbanizing areas provides a Conservation Area for 146 special status species, requiring incidental take permits for projects impacting these species. The proposed Project would contribute to significant cumulative impacts to biological resources if it violated a conservation plan such as the MSHCP. MM BIO-5a of the FEIR (refer to Section 8.0) requires that the proposed Project comply with all MSHCP regulations, including but not limited to the payment of relevant fees, compliance with acquisition processes, and compliance with policies protecting various plants and animals. In following all the regulations set forth by the MSHCP, the proposed Project would not substantially contribute to cumulative impacts to biological resources in violation of conservation plans.
- Construction and operation of the proposed Project can potentially result in the permanent loss of or temporary disturbance to sensitive plant and wildlife communities through grading, drilling, clearing brush, or other construction and maintenance activities. To protect sensitive biological resources, MM BIO-1a (refer to Section 8.0) requires that a botanist precede construction crews and mark sensitive areas so that they might be avoided by construction crews and protected from construction activities. The same measures will be taken to protect special status plant species, special status terrestrial species, and the BUOW as required by MM BIO-1e, -1f, and -1b, respectively (refer to Section 8.0). Monitoring of these areas will continue for a year following the completion of the proposed Project; should any significant impacts occur, the MMs include provisions for relocation of disturbed species and reintroduction of impacted species. Construction activities may also impact avian species by disturbing active nests trimming trees or removing vegetation. MM BIO-1d mandates that either construction activities be limited to non-breeding season or a certified wildlife botanist conduct a pre-construction focused nesting survey. Additionally, construction noise may impact both migratory and nesting birds; MM BIO-1c regulates ambient noise levels to minimize the impact to birds nesting within or passing through construction areas. With the implementation of MMs BIO-1a through 1f, construction of the proposed Project would not substantially contribute, either directly or through habitat modification, to adverse cumulative effects on candidate, sensitive, or special status species (refer to Section 8.0).
- Construction of the proposed Project will result in permanent and temporary disturbance to riparian grassland community along the San Jacinto River through grading and clearing vegetation, exposing topsoil to weathering, impacting drainage, and impeding plant growth. In a rapidly developing area, these impacts would contribute to the cumulative degradation of these habitats. MM BIO-2a minimizes the impact of construction and operation of the proposed Project on wetlands by avoiding sensitive areas and requiring the restoration of temporarily disturbed areas. Additional conditions and minimization measures may be applied to the proposed Project during permit acquisition from the USACE, RWQCB, and CDFW. The Applicant will minimize the effects of erosion and the hydrologic impacts through such measures as the installation of sediment control structures and the use of water bars, silt fences, stalked straw bales,

and mulching in disturbed areas. By avoiding wetlands and riparian habitats where possible and employing prevention and preservation measures when necessary, the proposed Project will not substantially contribute to the cumulative damage to these habitats.

- The proposed Project falls under the jurisdiction of local policies and ordinances regarding trees. In order to install poles, the proposed Project requires the construction of access roads and the removal of vegetation at construction sites, permanently and directly damaging trees. The DEIR requires the Applicant to adopt MM BIO-4a and obtain a permit for removal prior to construction. By complying with the permit process, the proposed Project will not significantly contribute to the cumulative impact on local tree populations.
- Composite development has the potential to interfere with the movement of migratory animals by physically interfering with the migratory corridor. New roadways, construction activities, and introduced structures can act as barriers to migration. The proposed Project would require the installation of roadways for maintenance purposed. These roadways would be infrequently used and therefore would not interfere significantly in migration patterns. Construction activities could potentially impact migration patterns but are considered temporary. Given the distribution of the structures and the low volume of traffic required to maintain the proposed Project, the Project would not significantly contribute to cumulative obstacles to migratory wildlife.

7.0 MSHCP CONSISTENCY DETERMINATION

This section evaluates the consistency of the proposed Project with the MSHCP. The proposed Project must comply with the following MSHCP requirements:

- Project Consistency with MSHCP Reserve Assembly (MSHCP *Section 3.2.3* and *Section 3.3*)
- Guidelines for facilities within the PQP Lands (MSHCP *Section 7.5*)
- Species Associated with Riparian/Riverine Areas and Vernal Pool guidelines (MSHCP *Section 6.1.2*)
- Narrow Endemic Plant Species guidelines (MSHCP *Section 6.1.3*)
- Additional Survey Needs and Procedures (MSHCP *Section 6.3.2*)
- Urban Wildlands Interface Guidelines (MSHCP *Section 6.1.4*)
- Requirements To Be Met For 28 Species Prior To Including Those Species On The List Of Covered Species Adequately Conserved (MSHCP *Table 9-3*)

7.1 Project Consistency with MSHCP Area Plans

The Project area passes through disjunct Criteria Areas/Cells in two area plans: Mead Valley and Elsinore (Appendix B). Reserve assembly goals and Project relationship for each of these areas are presented in Section 2.1.1 of this report.

The project alignment is located within Rough Step 3, 7, and 8. Based on the 2010 Annual Report, Rough Step Unit 3 is “in step” for all vegetation categories. Rough Step Unit 7 is out of rough step for Alluvial Fan Sage Scrub and Rough Step Unit 8 is out of rough step for grasslands. Although Alluvial Fan Sage Scrub and grasslands are being impacted by the proposed alignment, most of the alignment is outside of Criteria Cells and not subject to rough step and the disturbance impacts will be minimal and limited to access roads and subtransmission line base.

The transmission lines would be overhead so as to not interfere with connections between Cells and Cell groups or the lands that are contemplated for conservation in the Project area. Therefore, the project does not affect the Reserve Assembly goals of the MSHCP.

7.1.1 Mead Valley Area Plan Subunit 4: San Jacinto River-Lower

The Project area traverses through the San Jacinto River-Lower Subunit (Subunit 4) of the Meade Valley Area Plan. The specific target planning species (refer to Section 2.1.1.1) within this Subunit, were not identified during biological surveys conducted for the proposed Project. In addition, the proposed Project will not impede the conservation goals and biological considerations that have been developed for this Subunit. Further, the proposed Project is located in an existing power corridor with existing overhead lines and associated access roads. While this proposed Project will incrementally add to that existing disturbance, it will not block

the proposed linkages, which are both associated with the San Jacinto River in this area. The proposed alignment will span the San Jacinto River for a short distance at two locations due to its orientation (Map 9, Appendix A1). Similarly, the proposed Project will not interfere with connections between Cells and Cell groups. At most, it will remove minimal amounts of habitat for pole footprints that might have otherwise been conserved.

7.1.2 Elsinore Area Plan - Subunit 5: Ramsgate

The Project area traverses through the Ramsgate (Subunit 5) of the Elsinore Area Plan. The specific target planning species (refer to Section 2.1.1.2) within this Subunit, were not identified during biological surveys conducted for the proposed Project. In addition, the proposed Project will not impede the conservation goals and biological considerations that have been developed for this Subunit.

Within this Subunit, the proposed Project is adjacent to busy SR-74. The highway and the development along it are the major obstacles to reserve assembly in this area. Overhead power lines and associated poles will not impede cores and linkages proposed for this Subunit. The affect of Project implementation here will be negligible, at worst removing minimal amounts of roadside habitat for pole footprints and access. In addition, impacts to Wasson Creek will be avoided.

7.1.3 Harvest Valley/Winchester Area Plan

The eastern portion of the Project alignment traverses the Harvest Valley/Winchester Area Plan. However, the proposed Project is not included in Subunits or Criteria Cells within this plan area (Appendix B) that provide specific Planning Species, Biological Issues and Considerations, and Criteria for each Subunit. Based on the nature of the proposed Project being overhead there will be no impact to this Area Plan.

7.1.4 Sun City/Menifee Area Plan

The eastern portion of the Project alignment traverses the Sun City/Menifee Area Plan. However, the proposed Project is not included in Subunits or Criteria Cells within this plan area (Appendix B) that provide specific Planning Species, Biological Issues and Considerations, and Criteria for each Subunit. Based on the nature of the proposed Project being overhead there will be no impact to this Area Plan.

7.2 Project Consistency with Cores and Linkages within the Conservation Area

The MSHCP Conservation Area is comprised of a variety of existing and proposed cores, extensions of existing cores, linkages, constrained linkages and non-contiguous habitat blocks. These features are generally referenced as cores and linkages. No existing cores and linkages are located within the Project area; however, one proposed Core (1), one proposed linkage (7), and one proposed constrained linkage (19) are located within the Project area (Appendix B). Based on the nature of the proposed Project being overhead there will be no impact to the proposed Cores and Linkages within the Project area as identified in Table 4 of this report.

7.3 Public/Quasi-Public Lands

A small portion of the proposed Project crosses PQP. Approximately 50 feet of the subtransmission line traverses the Riverside County Flood Control District PQP at the west end of the 115kV subtransmission line (Appendix B). This is a crossing only and thus would not impede the functions and values of PQP land. Specific guidelines for facilities within the PQP Lands are presented in *Section 7.5* of the MSHCP. The proposed Project will be implemented in accordance with these guidelines. In addition, Construction Guidelines as presented in *Section 7.5.3* of the MSHCP will be implemented during construction activities.

7.4 MSHCP Section 6.1.2 – Protection of Species Associated with Riparian/ Riverine and Vernal Pool Resources

As currently proposed (refer to Table 15), temporary impacts to *Riparian/Riverine* areas will result from the use of temporary work areas and grading through existing wet crossings (where drainages cross existing roads) and includes approximately 0.449 acre of temporary impacts. Approximately 0.146 acre of permanent impacts to *Riparian/Riverine* areas will result from new wet crossings (new roads constructed through ephemeral drainages), pole siting, and drainage improvements (including culvert construction). Permanent impacts due to construction of drainage structures and non-culverted crossings in *Riparian/Riverine* areas will not impact the existing functions of the drainage or the conveyance of flow (passing freshwater during storm events). Although the water quality may potentially be impacted during construction activities, several avoidance/minimization measures and standard BMPs will be implemented in order to avoid these impacts, as presented in Section 8.0 of this report.

Per *Section 6.1.2* of the MSHCP, if an avoidance alternative is not feasible and a practicable alternative is instead selected, a DBESP will be prepared and implemented by the Permittee to ensure replacement of any lost functions and values of habitat as it relates to Covered Species. Consequently, a DBESP has been prepared for impacts to *Riparian/Riverine* habitat located within the San Jacinto River area of the proposed Project (Appendix J). As such, the proposed Project is consistent with MSHCP *Section 6.1.2*.

Surveys were conducted within all suitable *Riparian/Riverine* and *Vernal Pool* habitat areas of the proposed Project for species presented in *Section 6.1.2* of the MSHCP (refer to Table 6 for list of species) that have potential to occur within the Project area. As such focused surveys were conducted for the following species

- least Bell's vireo
- southwestern willow flycatcher
- western yellow-billed cuckoo
- Riverside fairy shrimp
- Santa Rosa Plateau fairy shrimp
- vernal pool fairy shrimp

Only one species listed above, LBV, was identified within the Project area. Occupied breeding LBV territories occur within the Project area in the vicinity of Keystone Drive (Map 10, Appendix A1) and near the intersection of SR-74 and Rosetta Canyon Drive (Map 18, Appendix A1). Although 0.162 acre (worst-case) of tree trimming is anticipated in both LBV occupied riparian areas, and at the San Jacinto River Crossing (Map 9, Appendix A1), to allow for overhead line clearance, trimming will be done outside of LBV breeding season, and will not result in permanent or temporary loss of habitat functions and values. Although these impacts are minimal, SCE proposes to plant 50 native willow cuttings (collected from the vicinity of the planting areas) within their easement located within a 2.13 acre area of the San Jacinto River floodplain and within a 0.47 acre area adjacent to the tributary that occurs near Keystone Drive (wherein LBV have been documented). Refer to Maps 9 and 10 in Appendix A1 for potential locations of proposed planting of willow cuttings.

Potential indirect impacts could occur as described in Section 6.1.2 of this report; however, these impacts would not be considered significant with the implementation of minimization and avoidance measures presented in Section 8.0 of this document.

The proposed Project will have no impact on LBV. As such, the proposed Project is consistent with MSHCP *Section 6.1.2*.

Although the majority of inundated areas wherein protocol-level fairy shrimp surveys were conducted were not considered to meet the definition of a *Vernal Pool*, they do provide fairy shrimp habitat. No protected fairy shrimp species were detected during any of the surveys; however, the common versatile fairy shrimp (*Branchinecta lindahli*) was present in many pools and depressions. No sensitive vernal pool plants were identified during focused surveys of inundated areas. The proposed Project will have no impact on Riverside fairy shrimp, Santa Rosa Plateau fairy shrimp, and vernal pool fairy shrimp. As such, the proposed Project is consistent with MSHCP *Section 6.1.2*.

7.5 MSHCP Section 6.1.3 – Protection of Narrow Endemic Plant Species

Portions of the Project alignment fall into Areas 1 and 3 of the NEPSSA (see Appendix B). The species for which surveys are required in Areas 1 and 3 are: San Diego ambrosia (*Ambrosia pumila*), Munz's onion (*Allium munzii*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California orcutt grass (*Orcuttia californica*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Area 1 also includes slender-horned spine flower (*Dodecahema leptoceras*), San Miguel savory (*Satureja chandleri*), and Hammitt's clay-cress (*Sibaropsis hammittii*). Focused surveys were conducted for rare plant species in 2006, 2008, 2009, 2011, 2012 and 2013 (refer to Table 7 for list of survey dates). No NEPS were found during surveys that have been conducted to date. The proposed Project will have no impact on these resources. As such, the proposed Project is consistent with MSHCP *Section 6.1.3*.

7.6 MSHCP Section 6.3.2 – Additional Survey Needs and Procedures

7.6.1 Criteria Area Plant Surveys

Portions of the Project alignment fall into Areas 1 and 3 of the CASSA (see Appendix B). The species required to be surveyed for in both Areas 1 and 3 include Coulter's goldfields (*Lasthenia glabrata* ssp*. coulteri*), Davidson's saltscale (*Atriplex serenana* var*. davidsonii*), little mousetail (*Myosurus minimus*), Parish's brittlescale (*Atriplex parishii*), round-leaved filaree (*California* [*Erodium*] *macrophyllum*), thread-leaved brodiaea (*Brodiaea filifolia*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), mud nama (*Nama stenocarpum*) and smooth tarplant (*Centromadia pungens* ssp. *laevis*). No CAPS have been identified within the Project area to date. As such, the proposed Project will have no impact on the CAPS and is consistent with MSHCP *Section 6.3.2*.

7.6.1.1 Burrowing Owl

The proposed Project is located within the BUOW survey area of the MSHCP (see Appendix B). Focused surveys for BUOWs were completed in accordance with the applicable survey protocol (refer to Table 7 for list of survey dates). Although minimal BUOW sign and no live individuals were detected in the Project study area, BUOW was detected adjacent to the Project area. As BUOW is a species that is known for its ability to move into and out of areas across seasons and years, avoidance and minimization measures presented in Section 6.2.4.1 above will be implemented for the protection of this species if BUOW is encountered. The proposed Project will have no impact on the BUOW. As such, the proposed Project is consistent with MSHCP *Section 6.3.2*.

7.7 MSHCP *Table 9-3* Requirements To Be Met For 28 Species Prior To Including Those Species On The List Of Covered Species Adequately Conserved

Table 9-3 of the MSHCP lists goals for 28 species that must be met before they are considered to be Adequately Conserved. AMEC identified two of these species during focused plant surveys: Parry's spineflower (Map 10, Appendix A1) and small-flowered microseris (Map 7, Appendix A1).

There are no designated survey areas or Project requirements for these species in the MSHCP. However, species-specific conservation objectives are presented for each species in *Table 9-3* of the MSHCP to be met (by RCA) in order to become Adequately Conserved species.

Species specific objectives for Parry's spineflower and small-flowered microseris are identical per *Table 9-3* of the MSHCP which states: *"In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than one quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining*)."

As currently designed, no Project impacts are expected to occur to these species and it is SCE's intent to avoid all sensitive plants to greatest extent possible. However, should it be determined that avoidance is not possible, notification would be made to RCA and additional mitigation may be required. In addition, minimization and avoidance measures as presented in Section 8.0 will be implemented for the protection of these species.

7.8 MSHCP *Section 6.1.4* – Urban Wildlands Interface Guidelines

The guidelines presented in *Section 6.1.4* of the MSHCP are intended to address indirect effects associated with development in proximity to the MSHCP Conservation Area (i.e., the portions of the Criteria Cells which will be, or have been, conserved). While portions of the proposed Project will occur along the urban/wildlands interface, this linear Project will be installed on or near existing access roads in most cases, within or adjacent to existing ROWs. Thus, there will be relatively few new impacts to any existing or future portions of the Conservation Area, and such impacts will be minor. Nevertheless, below is a summary of the UWIG and their relationship to the proposed Project:

Drainage- It is not anticipated that there will be any Project related runoff, or that the proposed Project will adversely impact existing runoff conditions. Where any such impacts could occur, establishment of BMPs, as described in Section 8.0, will ensure that the quantity and quality of runoff will be comparable to existing conditions.

Toxics- It is not anticipated that this proposed Project will use chemicals or generate bi-products that are potentially toxic or may adversely affect wildlife species, habitat or water quality. If a toxic substance is identified during construction, measures such as those employed to address drainage issues, as presented in Section 8.0, will be implemented to avoid potential for adverse impacts.

Lighting- No nighttime work is anticipated. However, if such work is required in or adjacent to the Conservation Area, lighting would be temporary, shielded, and directed away from the Conservation Area to the extent possible. No permanent lighting will be installed in or near the Conservation Area.

Noise- Although some noise will be generated by Project activities in or adjacent to the Conservation Area, it will be of short duration in any given location as the proposed Project moves from pole to pole, and will be kept as low as possible. Wildlife within the Conservation Area should not be subject to noise that would exceed residential noise standards. The implementation of avoidance and minimization measures as presented in Section 8.0 will be implemented in order to minimize impact to species.

Invasives- There will be no Project related landscaping within or adjacent to the Conservation Area, so there will be no use of the invasive nonnative plant species listed in *Table 6-2* of *Section 6.1.4* of the MSHCP. However, minimization and avoidance measures as presented in Section 8.0 of this report will be implemented in order to avoid the spread of invasive species within the Project area.

Barriers- No new barriers are planned, as this proposed Project does not involve a major change of land use, only the building of a new subtransmission line in an existing corridor. Access is currently restricted in some areas, and would be expected to remain that way.

Grading/Land Development- There will be no manufactured slopes created for this proposed Project.

7.9 Riversidean Sage Scrub Removal

The USFWS permit (2004) for the MSHCP requires that sage scrub habitat occupied by the CAGN not be cleared during CAGN breeding season in MSHCP Criteria Areas or in PQP lands.

Because no focused surveys have been conducted for CAGN within the Project area, any sage scrub within the Criteria Area, if determined suitable by a qualified biological monitor, will be assumed occupied by the CAGN and vegetation clearing will be limited to the non-breeding season only. The breeding season for CAGN is defined by the USFWS MSHCP permit as 1 March to 15 August. Limiting removal of suitable CAGN habitat to outside this species breeding season ensures the proposed Project is consistent with the MSHCP.

7.10 Migratory Bird Treaty Act Compliance

Pursuant to MSHCP *Section 14.13*, the Section 10(a) Permit issued for the MSHCP constitutes a Special Purpose Permit under 50 Code of Federal Regulations Section 21.27, for the Take of Covered Species Adequately Conserved listed under Federal ESA and which are also listed under the MBTA of 1918, as amended (16 U.S.C. §§ 703-712), in the amount and/or number specified in the MSHCP, subject to the terms and conditions specified in the Section 10(a) Permit. Any such Take will not be in violation of the MBTA. The MBTA Special Purpose Permit will extend to Covered Species Adequately Conserved listed under Federal ESA and also under the MBTA, valid for a period of three (3) years from its Effective Date, provided the Section 10(a) Permit remains in effect for such period. The Special Purpose Permit shall be renewed pursuant to the requirements of the MBTA if needed valid for a period of three (3) additional years.

As noted above, if outside the Criteria Areas and outside PQP lands, occupied CAGN habitat can be cleared at any time of the year. It cannot be cleared, however, if other birds protected by the MBTA, but not covered by *Section 14.13* of the MSHCP, are nesting there at the time. Further, there are multiple bird species that nest in the Project alignment that are covered by *Section 14.13*. Impacts to these species are not permitted in any part of the MSHCP area during the breeding season. The period from approximately 1 February to 31 August covers the breeding season for most birds in the Project area, but unseasonal active nests must also be avoided if encountered.

Although minimal direct impacts are anticipated in habitats for nesting birds, nesting in lightly traveled areas may suffer indirect impacts from Project activity, such as disturbance related nest abandonment. In these areas, work should be conducted in the non-breeding season when possible. If Project activity must be conducted during the breeding season, a qualified biologist should check for nesting birds prior to such activity. Implementation of a Nesting Bird Management Strategy and other avoidance/minimization measures presented in Section 8.0 would ensure that migratory and/or nesting bird species would not be impacted by the proposed Project. As it relates to nesting birds covered under MSHCP *Section 14.13*, the proposed Project is consistent with the MSHCP.

8.0 SUMMARY OF APPLICANT PROPOSED MEASURES, FEIR MITIGATION MEASURES, AND MSHCP MITIGATION MEASURES AND BMPS

This section provided a comprehensive list of avoidance, minimization and compensation measures as proposed by the Applicant. Implementation of these measures, as proposed, ensures compliance and consistency with the MSHCP and FEIR (CPUC 2010).

8.1 Applicant Proposed Measures

APMs are conservation measures that have been designed by SCE to reduce impacts of the proposed Project on biological resources. These APMs are incorporated into the Project description and considered part of the proposed Project. APMs are separate from mitigation measures (MMs), which are proposed in addition to the Project description for the purpose of mitigating significant impacts. Table 17 presents a list of the APMs related to biological resources for the proposed Project.

Table 17.
Applicant Proposed Measures

Note: Any revisions to the APMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Measure
BIO-APM 1	A qualified biologist will conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of applicable environmental regulations, the need to adhere to the provisions of the regulations, the penalties associated with violating the provisions of the regulations, the general measures that are being implemented to conserve the species of concern as they relate to the Project, and the access routes to and project site boundaries within which the Project activities must be accomplished.
BIO-APM 2	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
BIO-APM 3	The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
BIO-APM 4	Projects should be designed to avoid the placement of equipment and personnel within stream channels or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
BIO-APM 5	Projects that cannot be conducted without placing equipment or personnel in wildlife habitats would be timed to avoid breeding and other sensitive seasons if these species are found to be present.
BIO-APM 6	Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
BIO-APM 7	Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris shall not be stockpiled within the stream channel or on its banks.
BIO-APM 8	A qualified biologist shall monitor clearing and grubbing, grading, excavation, and soil movement activities for the Project to ensure that all practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the Project footprint.
BIO-APM 9	The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to preexisting contours and revegetated with appropriate native species.

Table 17.
Applicant Proposed Measures (Cont.)

Note: Any revisions to the APMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Measure
BIO-APM 10	Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the Project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
BIO-APM 11	The Permitter shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.
BIO-APM12	All subtransmission poles would be designed to be raptor-safe in accordance with the Suggested Practices for Raptors on Power Lines: State of the Art in 1996 (Avian Power Line Interaction Committee 1996).
BIO-APM13	Prior to installation of the poles, a survey would be conducted to locate any raptor or raven nests occurring on the existing poles. If nests are found on poles planned for replacement or modification, the Applicant would suspend work until the nests are inactive.
BIO-APM 14	Construction work plans/schedules will be designed to minimize construction related noise in sensitive areas when feasible. In addition, all construction equipment will maintain functional exhaust/muffler systems and idling of motors shall be limited, except as necessary (e.g., concrete mixing trucks).
BIO-APM 15 (new)	Mitigation will be implemented through payment of fees pursuant to the Riverside County Habitat Conservation Agency (RCHCA) Stephens' Kangaroo Rat Habitat Conservation Plan Agreement approved by the RCHCA on September 20, 2012 and with concurrence by USFWS and CDFW. Prior to start of construction, SCE will obtain a Certificate of Inclusion from the RCHCA for the project.
BIO-APM 16 (new) – Does not apply to Phase 1	Temporary impacts to MSHCP ARLs will be restored to greatest extent practicable using species present prior to disturbance. Should any permanent impacts to ARL result during construction, the Applicant will dedicate biologically equivalent or superior land to the MSHCP. The Applicant will prepare an ARL equivalency analysis to be included as part of the MSHCP PSE submittal. This equivalency analysis will compare the potential effects on the ARL to the benefits of proposed replacement land, including compensation for potentially lost conservation functions and values. The analysis will consider specific project design features, siting and design, and MSHCP BMPs, as well as address effects on covered species and habitats, core areas, linkages, constrained linkages, MSHCP Conservation Area configuration and management, and ecotones. The replacement land ratio is anticipated to be not less than 2:1 within MSHCP Core 1 but will ultimately be determined through MSHCP consistency findings made by RCA, CDFW and USFWS concurrence as part of the MSHCP PSE process.
BIO-APM 17 (new) – Does not apply to Phase 1	In the event that retaining walls or some other method of slope stabilization would be needed, walls will be sited, designed, and oriented to minimize impacts to movement of native resident wildlife species and established wildlife corridors, in coordination with the RCA, USFWS, and CDFW.
BIO-APM 18	Conduct Pre-Construction Surveys and Relocate Sensitive Reptiles. SCE shall retain a qualified -approved biologist to conduct pre-construction surveys for sensitive reptiles. The qualified biologist must have an appropriate scientific collecting permit to handle sensitive species likely to occur in the Project area. The authorized biologist will be present during all ground disturbance and construction activities immediately adjacent to or within aquatic or terrestrial habitats that support populations of sensitive reptiles. If sensitive species are detected in the work area during the surveys, the authorized biologist will capture and relocated individuals to suitable undisturbed habitat out of harm's way. All wildlife moved during project activities will be documented by SCE and documentation shall be provided to the CPUC. Any sensitive reptiles killed during construction activities shall be salvaged and deposited in the Santa Barbara Museum of Natural History, Vertebrate Zoology Division collections (contact: Paul Collins, Curator, [805] 682-4711, x-154).

Table 17.
Applicant Proposed Measures (Cont.)

Note: Any revisions to the APMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Measure
HYDRO-APM 1 (revised)	The SWPPP would be submitted to Riverside County along with grading permit applications. Implementation of the SWPPP would help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be adhered to during construction activities. Erosion-minimizing efforts such as ~~straw~~ wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing, ~~and~~ grading, and blasting began. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. During construction activities, measures would be in place to ensure that contaminants are not discharged from construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be in-place, where rolling equipment would be parked, ~~;~~ where helicopters would be landed, fueled and serviced, ~~;~~ and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in-place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff.
HYDRO-APM 3	The SWPPP would include procedures for quick and safe cleanup of accidental spills during construction. This plan would be submitted to Riverside County with the grading permit application. The SWPPP would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.
HYDRO-APM 4	Dewatering operations would be performed if groundwater is encountered while excavating or constructing the proposed subtransmission line, telecommunications line, or Fogarty Substation. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with BMP NS-2 (Dewatering Operations) from the California Storm water Quality Association's (CASQA) California Storm water BMP Handbook.
NOISE-APM 1 (revised)	All construction and general maintenance activities, except in an emergency, shall be limited to the hours of 7:00 a.m. to 7:00 p.m. and prohibited on Sundays and all legally proclaimed holidays. If the CAISO and/or Caltrans require that conductor stringing over freeways or highways occur at after 7:00 p.m. or on a Sunday, SCE would obtain variances from the applicable jurisdictional agencies.
NOISE-APM 2	Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

8.2 FEIR Mitigation Measures

MMs have been developed for the proposed Project in the FEIR (2010). If the proposed Project is approved, these measures, in addition to the APMs identified above would be monitored for proper implementation by the biological monitors during Project construction. Table 18 provides FEIR MMs (and those as revised in the PMR) as well as any other actions that will be implemented by SCE.

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
BIO-1a Environmentally Sensitive Areas (revised)	The Applicant shall reduce impacts to the habitat of the special status species listed in Tables D.4-2[1] and D.4-3[2] by engineering the Project so that it minimizes impacts to special status species. This can be accomplished by siting permanent project elements (i.e., roads and poles) away from known locations of special status species and communities. Environmentally sensitive areas such as rare plant populations or specific breeding habitat will be identified in the field to minimize the possibility of inadvertent encroachment using the following avoidance methods: a. A qualified botanist (i.e., a person with at least an undergraduate degree in biology, ecology, or a related field, with botany training and a minimum of 3 years' professional field experience within the region or working under the direct supervision of a professional botanist with at least 6 years of field experience in the region) will flag or otherwise mark special status plant species. Construction crews will avoid direct or indirect impacts to these flagged areas and be instructed to avoid intrusion beyond these marked areas. b. A qualified botanist will monitor the known locations of special status plant populations that might be found prior to or during the construction period. Monitoring will occur during construction and for one year following construction to assess the effectiveness of protection measures. c. The Applicant will limit removal of native vegetation communities~~,~~ including intact coastal sage scrub, riparian vegetation, wetland habitat, and mature trees. An onsite qualified biologist (i.e., a person with at least an undergraduate degree in biology, ecology, or a related field, with a minimum of 3 years' professional field experience within the region or working under the direct supervision of a professional biologist with at least 6 years of field experience in the region) with local knowledge of the area will be consulted for identification, flagging of individuals or boundaries of vegetation communities (see MM BIO-2a and 2b for flagging of wetland boundaries), and assessment of sensitive vegetation habitats	• SCE has designed and redesigned the project to avoid known biological resources to the extent practicable. Biological monitors will flag and avoid known biological resources as well as continually assess all areas during construction for additional biological resources to ensure there are no impacts. • SCE will submit biologists' resumes as needed. • Preconstruction surveys will be conducted and SCE will arrange for monitoring during construction in all areas of disturbance. Biological monitoring will occur full-time during construction as well as after for one year to assess the effectiveness of protection measures. Areas subject to long-term (one year) monitoring will include only areas that have been restored pursuant to jurisdictional waters permitting (404, 401, 1602) and MSHCP mitigation requirements (e.g. San Jacinto River area). • Vegetation removal will be limited only to the extent approved during the MSHCP PSE review process and allowable pursuant to the jurisdictional waters permits. The biological monitors will have knowledge of what is required pursuant the MSHCP and allowable pursuant to the permits.

[1] Refers to Table D.4-2: Special Status Wildlife Species Known to Occur or with the Potential to Occur within the Project Area in the Final EIR
[2] Refers to Table D.4-3: Special Status Plant Species Known to Occur or with the Potential to Occur within the Project Area in the Final EIR

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	within the construction footprint. The biologist will provide oversight to ensure compliance of this measure. d. Temporary impacts to Riversidean Alluvial Fan Sage Scrub (RAFS) shall be restored to pre-construction conditions using species similar to those present prior to disturbance. Permanent impacts to RAFS will be mitigated pursuant to the MSHCP as determined by the MSHCP Participating Special Entity (PSE) process. This may include purchase of replacement land at a 1:1 ratio and/or restoration at a 2:1 ratio in an off-site location to be determined. All mitigation is subject to review and approval by the RCA with United States (U.S.) Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) concurrence. In the unlikely event that SCE does not to participate in the MSHCP, the project's overall restoration monitoring and reporting plan will include RAFS restoration, subject to review and approval by USFWS and CDFW. The restoration plan will include, but is not limited to, identification of responsible parties, restoration details and schedule, monitoring and maintenance, and success criteria.	
BIO-1b **Special Status Plant Species** **(revised)**	Pre-construction surveys will be conducted ~~during the appropriate blooming and precipitation period~~ by a qualified botanist for all special status plant species as defined by Table D.4-3.[3] ~~On the ground mapping of sensitive soils that are in direct association with these populations will be conducted during the pre-construction surveys.~~ The limits of populations of special status plant species shall be flagged or otherwise marked by a qualified botanist to ensure construction crews will avoid direct impacts to these populations. A minimum buffer of ~~100~~25 feet around these flagged plant populations shall be maintained to protect any special status plant seedbank that may be dormant in the	• The biologists/botanists conducted focused rare plant surveys along the entire route in 2008, 2009, 2011, 2012, and 2013. If needed, buffers will be established pursuant to the MSHCP. The biologist will install exclusion fencing and conduct monitoring to ensure that sensitive plants are avoided throughout construction. • SCE will report the geo-referenced special location of sensitive plants during the MSHCP PSE review process. USFWS and CDFW are part of this review process. • Pre-construction clearance surveys shall be conducted not more than 14 days prior to construction. Survey results shall be

[3] Refers to Table D.4-3: Special Status Plant Species Known to Occur or with the Potential to Occur within the Project Area in the Final EIR

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	sensitive soils. However, should the Applicant participate in the MSHCP as intended, avoidance, minimization, and mitigation would be handled for each plant species pursuant to the MSHCP. Some species do not require an avoidance buffer while others would be subject to mitigation in the form of a Determination of Biological or Superior Preservation (DBESP). The Applicant will also report geo-referenced special status plant locations to the ~~CDFG~~CDFW and USFWS. The Applicant will implement avoidance measures including, but not limited to, the following: • No construction work (e.g., vegetation clearing, ground disturbance) will be authorized to begin until pre-construction surveys have been completed and results submitted to the ~~CDFG~~CDFW and USFWS. • The Applicant will avoid the flagged areas and will not drive vehicles, go by foot, or place equipment or materials in any area with special status plants. • The Applicant will maintain a minimum distance of 25 feet from the flagged boundary of special status plants for equipment staging and fueling and fill stockpile areas from special status plant populations. • Overhead installation of telecommunication lines will be accomplished by crews on foot as necessary to negotiate around flagged sensitive resources. This will also occur in areas where there is no established access road within the ROW and sensitive resources have been flagged during pre-construction surveys. • Trenching to install telecommunications will be conducted a minimum of 25 feet from the flagged boundary of special status plant populations. • If special status plants are present in an area where trenching to install telecommunications or other equipment would be required to connect to an existing subtransmission structure, the Applicant will identify and connect to an alternate structure where disturbance of special status plants can be avoided. This may require the Applicant to extend the length of the trench to reach the alternate structure or to avoid underground trenching in certain areas.	submitted to the CPUC's bio consultant not more than 5 days prior to construction to obtain the proper field validation of the results. • Monitoring and avoidance of sensitive bio resources will be ongoing during construction. • Pursuant to the MSHCP, consultation with USFWS and CDFW would only be required up until the Certificate of Inclusion is issued by the RCA. From that point forward, unless otherwise required (e.g. MBTA), all consultation and subsequent review and requests would be handled by the RCA with notification to the CPUC. • Impacts during construction of VIG Phase 1 are not expected to occur to any of the sensitive plants not fully covered by the MSHCP (i.e., NEPS and CAPS). Regardless, should it be determined that impacts to these plant species could occur, the Applicant will comply with the MSHCP.

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	• TSP and line positioning and installation activities will avoid and span all flagged resources. If the Applicant cannot avoid direct and/or indirect impacts to special status plants, then as a PSE under the MSHCP, the Applicant will consult with the ~~CDFG~~CDFW, USFWS, and RCA, and follow the provisions set forth in the MSHCP, including but not limited to: 1. Submittal to the RCA of required documentation, including quantitative evaluations for the ~~Determination of Biologically Equivalent or Superior Preservation (~~DBESP~~)~~, as needed. 2. Adhering to policies and procedures in MSHCP Section 6.1.2 (Riparian/Riverine/Vernal Pool Policy), Section 6.1.3 (Narrow Endemic Plant Species Policy), and Section 6.3.2 (Additional Survey Needs and Procedures for Criteria Area Species). 3. Proposing and implementing mitigation measures developed in consultation with and approved by the ~~CDFG~~CDFW, USFWS, and RCA. As specifically applies to plants covered under MSHCP policies 6.1.3 and 6.3.2, the Applicant shall implement avoidance and mitigation measures to reduce impacts on special status plant species to a less than significant level as consistent with provisions set forth in the MSHCP. Mitigation shall include a tiered approach as summarized below and any other measures determined in consultation with the ~~CDFG~~CDFW, USFWS, and RCA: 1. Avoid 90% of the plant populations with long-term conservation value found within suitable habitat within the project area. If 90% conservation cannot be maintained, then a DBESP will be prepared according to MSHCP provisions. 2. The known locations of special status plant populations within the project footprint found prior to or during the construction period will be monitored during ground disturbing construction activities by a qualified botanist. The Applicant will submit a post-construction report/technical memo to the CPUC within 60 days post-	

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	construction reporting on the effectiveness of protection measures. 3. Mitigation for impacted special status plants shall include restoration, conservation, and compensation measures, and may be on site and/or off site. As some special status plants such as Munz's onion and San Diego Ambrosia cannot be successfully salvaged and restored, mitigation shall include purchase of credits in an established mitigation bank as approved by the Resource Agencies. Expected mitigation ratios shall be a minimum of 1:1 for plant populations that are restored or conserved on site, and 2:1 for plant populations that are preserved or conserved off site. The Applicant will prepare a Habitat Mitigation and Monitoring Plan that will be submitted to and approved by the RCA and the ~~CDFG~~CDFW and USFWS prior to initiating ground disturbance activities in areas where special status plants will be impacted. The plan will outline restoration and conservation activities, locations, monitoring requirements, and criteria to measure mitigation success. 4. Conservation measures shall include preservation of portions of the impacted on-site plant populations, where possible. The Applicant will establish conservation easements within one year of construction implementation on any on-site (where possible) and off-site mitigation site(s) to protect the populations in perpetuity. In the event that SCE does not participate in the MSHCP, or if the project may impact a particular special-status plant species that is not covered by the MSHCP, SCE would implement a similar level of mitigation as would have been required by the MSHCP (i.e., as otherwise required by MM BIO-1b) to ensure that impacts to special-status plants are reduced to less-than-significant levels. Such mitigation may include, but not be limited to, restoration, conservation, and compensation measures, and may be onsite and/or offsite. It is expected that all special-status plant species and seedbank (in the topsoil) can be successfully salvaged and restored directly back into the area of disturbance after construction is completed. In the unlikely event that plants and seedbank (in topsoil) cannot be directly restored in the same area as the disturbance, mitigation shall	

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	include purchase of credits in an established mitigation bank or implementation of other mitigation strategies subject to the approval of the USFWS and CDFW. Expected mitigation ratios shall be a minimum of 1:1 for plant populations that are restored or conserved on-site, and 2:1 for plant populations that are preserved or conserved off-site. The Applicant would prepare a Habitat Mitigation and Monitoring Plan (for those special-status plants that cannot be salvaged and directly restored) that would be submitted to and approved by the USFWS and CDFW, as appropriate, prior to initiating ground disturbance activities in areas where special-status plants would be impacted. The plan would outline restoration and conservation activities, locations, monitoring requirements, and criteria to measure mitigation success.	
BIO-1c (Invasive Plant Species)	The Applicant will use standard BMPS to avoid the introduction and/or spread of controllable invasive plant species such as tamarisk (*Tamarix sp.*) and giant reed (*Arundo donax*). Proper handling during construction shall include the following: ▪ All vehicles and equipment will be cleaned prior to arrival at the work site. Vehicle washing will concentrate on tracks or tires, on the undercarriage, and on the front bumper/brush guard assemblies. ▪ Crews, with construction inspector oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots or rhizomes before the vehicles and equipment are allowed use of access roads. Straw or hay bales used for sediment barrier installations or mulch distribution will be obtained from state-cleared sources that are free of invasive weeds.	The WEAP training will include information regarding a requirement that all personal vehicles shall be washed prior to entering the construction site, concentrating on tracks or tires, on the undercarriage, and on the front bumper/brush guard assemblies. This would also apply to construction equipment that enters and exits the site throughout the construction phase. For construction equipment remaining on the site throughout construction, it will be washed prior to entering the site for the first time. All vehicles and construction equipment will be inspected by the construction site representative, biological monitors or miscellaneous monitor prior to entering the site to ensure that they are free of all soil and debris capable of transporting noxious weeds. SCE will ensure that straw or hay bales used for sediment barrier installations or mulch distribution will be obtained from state-cleared sources that are free of invasive weeds. This is included as part of the SWPPP BMPs.
BIO-1d (Special Status Wildlife Species)	Preconstruction surveys will be conducted by a qualified wildlife biologist for all special status species as defined by Table D.4-2 (of the FEIR) prior to commencement of construction activities. The locations of any special status species and their habitats	The biologists surveyed the entire route starting in 2006 and continued through 2013. Preconstruction surveys will be conducted as described in MM BIO-1-b with a focus on special status species presented in the

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

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Number	Mitigation Measure	Comments
	shall be marked and avoided during final project design and construction. A qualified wildlife biologist will be onsite to conduct biological monitoring for special status wildlife species including, but not limited to, those found in Table D.4-2 (of the FEIR) during construction in areas where special status wildlife and occupied habitat have been identified.	EIR and pursuant to the MSHCP. If needed, buffers will be established pursuant to the MSHCP. The biologist will mark and conduct monitoring to ensure that special status wildlife and occupied habitat are avoided throughout construction.
BIO-1e **Pre-Con Nesting Bird Surveys** **(revised)**	To avoid the impacts to active nests (with eggs or young) of any protected bird, the Applicant shall implement one of the following: a. Conduct all construction activity (including vegetation pruning or removal) during the non-breeding season (generally between August 31 and February 1) for most special status and non-special status migratory birds. b. If construction activities are scheduled to occur during the breeding season (February through August), a qualified biologist with knowledge of local wildlife resources will conduct pre-construction focused nesting surveys no more than 30 days prior to any ground disturbing activity or vegetation trimming or removal activities. These surveys shall be conducted up to a distance of 500 feet from the centerline of the subtransmission line and 500 feet from existing and new (i.e., Fogarty) substations. <u>If active nests are found, a biological monitor with expertise in bird behavior would establish a species-specific buffer around the nest and no activities would be allowed within the buffer until the young have fledged from the nest or the nest fails. A project-specific Nesting Bird Management Strategy has been prepared to establish buffers based on, but not limited to, the following: the bird species (some species are more tolerant of disturbance while other are less tolerant), location of nest building and active nests, threshold for nesting disturbance taking into account bird behavior, including signs of agitation, continuous focused nest monitoring by qualified biologists, background noise, type of construction activity, and dust emissions and noise levels from construction. Buffers would be adjusted based on no exceedance of an established threshold of behavioral agitation and other signs indicating disruption of nesting behavior. Buffers may be increased or decreased based on the opinion of the biologist with expertise in bird behavior to ensure that impacts to nesting birds would not occur. The Nesting Bird Management Strategy establishes a communication and</u>	It is anticipated that construction will occur within one or more nesting seasons. Pursuant to the MSHCP, removal of sage scrub is not permitted during coastal California gnatcatcher breeding season (generally March 1 to July 1). Further, SCE intends to avoid any riparian vegetation removal or work in these areas potentially suitable for least Bell's vireo during its breeding season. Removal of other vegetation types during nesting season will only be done to the extent allowable under the MSHCP. Preconstruction surveys will include an appropriate search for nesting behavior and active nests. Depending on the location of construction activities, biological monitoring will be full-time during nesting season. The qualified biologist will continuously monitor the entire site and surrounding area as appropriate for nesting behavior and active nests. Should an active nest be identified, a species-specific buffer will be implemented that is protective of the species, and is also reasonable to allow for construction to continue if possible without the likelihood of "take." A biological monitor with expertise in ornithology and bird behavior will monitor nesting birds for signs of nest disruption. A "nest buffer modification plan" (plan) has been established in coordination with CPUC and CDFW. The plan provides guidance for appropriate buffers for each species group dependent upon the type of work being performed as well as includes a communication and reporting protocol involving SCE, CPUC, and CDFW. While impacts to nesting birds pursuant to the MBTA are unlikely, USFWS will be notified in the

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

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Number	Mitigation Measure	Comments
	reporting protocol involving SCE, biological monitors, and the CPUC, CDFW, and USFWS. The Nesting Bird Management Strategy was prepared by the Project's Lead Biologist and was subject to the approval of the CDFW (pursuant to the California Fish and Game Code) and USFWS (pursuant to the Migratory Bird Treaty Act). ~~If nesting birds are located, the Applicant will maintain appropriate buffers as follows from occupied nests with all construction, operations, and maintenance activities:~~ • ~~500 feet from nesting raptors~~ • ~~250 feet from all other nesting birds~~ During active construction, the qualified biologist will monitor and assess any nesting birds within the specified buffer ranges to determine whether disturbance is impacting the birds. The qualified biologist will have the authority to halt construction in the area of disturbance impacting the birds, and will immediately contact the Applicant's Lead Biologist., ~~until t~~ The Applicant's Lead ~~b~~iologist will ~~can~~ notify the CPUC, USFWS and ~~CDFG~~CDFW and consult on an appropriate course of action.	event of "take" of a nest under this federal regulation**.** The "buffer modification plan" is subject to change at any time based on the opinion of CPUC and CDFW, and will ensure that impacts to nesting birds do not occur. The "Nest Monitoring and Management Strategy" Is currently in preparation,
BIO-1f **Burrowing Owl**	If burrowing owls are found during the pre-construction surveys, occupied burrows will be flagged and construction buffers will be established to avoid direct and indirect impacts to active nests, as follows: ▪ 160 feet from occupied burrows during non-nesting season ▪ 500 feet from occupied burrows during the nesting season (February 1 through August 31). Should this buffer not be able to be maintained, the closest distance allowable will be 300 feet, and the qualified biologist shall monitor the owls for signs of stress and/or other behavioral changes to determine if construction should be halted and discussions initiated with CPUC, USFWS and CDFW on an appropriate course of action. For lands under the MSHCP, as a PSE, the Applicant will follow procedures in MSHCP policy 6.3.2, and as outlined in the Applicant prepared DBESP. For lands not under the MSHCP, if the appropriate buffers cannot be maintained and	A general habitat assessment was conducted in 2006 and protocol-level focused surveys were conducted in 2007, 2009, 2011, 2012 and 2013. Extensive habitat and burrows suitable for occupation by burrowing owl are present in the Project area. A single owl was found on one occasion in 2009, just north of the Project area. Two burrows with fresh whitewash were identified along the alignment in 2011, however no owls were observed. In April 2012, two adult owls were observed near a known burrow complex location. During subsequent visits, no fresh sign or owls were observed. At this point, no impacts are expected to burrowing owl and no DBESP is required. However, if needed, buffers and/or other

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	impacts on the burrowing owl and/or their habitat (i.e., occupied burrows) are unavoidable, the Applicant will develop and implement a Burrowing Owl Compensation Plan, as approved by the CDFG that is consistent with mitigation guidelines as outlined in the *California Burrowing Owl Consortium Protocol*. The plan will describe the compensatory measures that will be undertaken to address the loss of burrowing owl burrows within the project area. This will include preservation of 6.5 acres of onsite foraging habitat contiguous with occupied burrow sites per breeding pair or single bird, unless otherwise determined in consultation with the CDFG. If avoidance of burrows cannot be maintained, onsite passive relocation of owls will be preferred over active relocation. To compensate for loss of burrows, the Applicant will provide one alternate natural (enlarged or cleared of debris) or artificial burrow in nearby contiguous foraging habitat for each occupied collapsed burrow within the project area. Prior to collapsing burrows vacated through passive relocation, the Applicant's biological monitor will conduct daily monitoring for up to a one-week period to confirm that the alternate burrows provided are being used by the owls. The Applicant will not conduct active relocation unless the attempt at passive relocation has failed after one week. The Applicant will obtain approval from the CDFG before initiating any activities that have the potential to adversely impact burrowing owls.	mitigation will be established pursuant to the MSHCP, and in cooperation with the RCA and CPUC. It is SCE's intent to avoid any disturbance to burrows suitable for burrowing owls, regardless of known occupancy.

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
BIO-1g **LBV / SWFL**	The Applicant will avoid construction activities during the nesting season (March 1 through August 31) in areas that provide suitable habitat for the least Bell's vireo and southwestern willow flycatcher, as determined by a qualified biologist and including those areas already identified from the Project surveys. The Applicant will avoid construction activities within riparian habitat occupied by these two species, as determined from Project surveys. If avoidance of these occupied areas is not possible for MSHCP-covered lands, mitigation will be performed in accordance with MSHCP policy 6.1.2.	Surveys for sensitive riparian birds were conducted in suitable habitat in 2007, 2009, 2011, 2012, and 2013. No SWFL were detected at any of the survey areas. One LBV territory was present in the tributary to the San Jacinto River near Keystone Drive during 2007 and 2009 survey years. That area, and all areas where LBV were detected, were determined to be "occupied" and were removed from subsequent survey areas. The main body of the San Jacinto River traversed by the project alignment has not been identified as a designated LBV breeding territory but is a known travel corridor for LBV (Aimar, pers. comm., 2011); therefore in coordination with the Wildlife Agencies, LBV presence is assumed. During the 2013 surveys, a new occurrence of LBV was identified near Rosetta Canyon Drive and SR-74. Impacts to LBV habitat will be avoided and/or minimized within the San Jacinto River, its tributary at Keystone Drive, and at the stream channel near Rosetta Canyon Drive and SR-74. However, construction activities including tree top trimming to allow for line clearance will be conducted in these areas. Riparian vegetation trimming will be limited to outside of the LBV breeding season (generally 1 March through 31 August).
BIO-1h **Noise Control** **(revised)**	The Applicant will avoid impacts to migratory and special status bird species protected under federal or state regulations by ensuring that construction or operational noise does not exceed ~~ambient levels~~ the nest disturbance threshold and/or the noise level threshold established in the Nesting Bird Management Strategy during the general nesting period. This will be accomplished through 1) work scheduling (i.e., scheduling construction to avoid segments where occupied nests are found) and 2) having properly functioning mufflers on construction vehicles. No vehicles, chain saws, or heavy equipment will be operated within the ~~minimum exclusion zone of 250 feet~~ exclusion zones established within the Nesting Bird Management Strategy until the nesting season	The on-site biological monitor will determine ambient noise levels and note any exceedance of those levels. As it relates to exclusion zones, please see above response to BIO-1e regarding buffers from active nests. Should there be any "take" of active nests under the MBTA or California Fish and Game Code, the Wildlife Agencies will be notified.

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	is over or until a qualified wildlife biologist has determined that nesting is finished and the young have fledged. If a qualified wildlife biologist determines that any particular construction, operation, or maintenance activities pose a high risk of disturbing an active nest, the biologist will halt work in the particular area of impact and/or recommend additional, feasible measures to minimize the risk of nest disturbance. If work activities are found to result in harm to nesting birds, destruction of an active nest, or nest abandonment prior to fledging, the biologist will report this to the ~~CDFG~~CDFW and USFWS.	
BIO-1i **Wildlife Entrapment**	At the end of each workday during construction, the Applicant will cover all small holes, open trenches or excavations, or provide escape ramps, to prevent the entrapment of wildlife (e.g., reptiles and small mammals). The Applicant will maintain fencing around the covered excavations at night. The Applicant's qualified biologist will clear open trenches for wildlife at the end of each day and again prior to resuming work on the trench.	The biological monitor will implement as directed, including conducting a "biological sweep" prior to construction each day as well as clearing all holes/trenches at the end of the day before they are covered.
BIO-2a **Wetlands Avoidance and Restoration**	Before construction work will start on Project, the Applicant's qualified wetland biologist will flag the boundaries of wetland resources based on prior surveys (AMEC 2013c, Entrix 2006). The wetland biologist shall be a person with at least an undergraduate degree in biology, ecology, or a related field, with U.S. Army Corps of Engineers (USACE) training and a minimum of 3 years professional field experience within the region or working under the direct supervision of a professional wetland biologist with USACE training and at least 6 years of field experience in the region. For vernal pool wetlands, habitat will be flagged based on the vernal pool watershed (i.e., the internal drainage into the wetland system from the surrounding watershed based on hydrographic breaks) not the wet basin. The Applicant's construction crews will not cross non-culverted drainages with vehicles, nor conduct construction activities or placement of equipment or supplies within the bed, bank, or riparian zone of any drainage, wetland, or water body. Many of the larger creeks flow through culverts beneath existing roads and will not be directly impacted. However, smaller creeks and resources may flow across the ROW and would be	VIG Phase 1 has been designed and redesigned to avoid impacts to jurisdictional waters, including vernal pools, to the extent feasible. Pursuant to the MSHCP, a DBESP will be prepared identifying impacts to and mitigation for riparian/riverine habitat, including vernal pool watershed areas. The MSHCP biotech report and DBESP will demonstrate that pole and access road placement in the vernal pool watershed will not directly or indirectly impact the vernal pool wet basin. Crews will not conduct construction activities nor place equipment within any jurisdictional water body. Further, crews will not cross non-culverted drainages that are not already part of an existing access road currently used by area residents or are designated access roads currently used by SCE O&M.

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
	affected. Project infrastructure will be designed to avoid all sensitive aquatic resources, including spanning drainages and vernal pools with transmission lines. If construction activities require placement of fill, crews, or equipment in sensitive aquatic resources, or require disturbance to a riparian area or vernal pool watershed, then the Applicant will do the following: • Where avoidance of riparian and wetland areas is not feasible and work is required within jurisdictional wetlands, drainages, and other wetland habitats, or where non-culverted drainages must be crossed to access work sites, the Applicant will obtain and comply with all necessary USACE and ~~CDFG~~CDFW permits under the Clean Water Act and ~~CDFG~~CDFW 1600 regulations. A wetland delineation report will be prepared and submitted to the USACE and ~~CDFG~~CDFW for verification as part of this permit process. • Restore temporarily impacted wetlands, riparian zones, and other aquatic resources to pre-construction conditions, and monitor during and after disturbance. Include aquatic resource restoration efforts in the Habitat Mitigation and Monitoring Plan (MM BIO-1b) that will be developed as part of the regulated waters permitting and/or the DBESP that will be prepared as part of MSHCP PSE compliance for riparian/riverine impacts. ~~This~~ Any mitigation/restoration plans shall also be submitted to and approved by the RCA, USACE, USFWS, ~~CDFG~~CDFW, and the CPUC prior to initiating any mitigation activities. The plan will outline restoration and conservation activities, locations, monitoring requirements, and criteria to measure mitigation success. • Mitigate for permanent impacts on wetlands and riparian areas caused by new structures and fill activities, prior to impact activities. At a minimum, mitigation ratios will be a 1:1 ratio for wetlands and riparian areas. High quality riparian zones, as determined by a qualified wetland biologist in consultation with the CPUC and the RCA, USACE, ~~CDFG~~CDFW, and USFWS will be mitigated at a minimum of 2:1 ratio. Mitigation may include compensation and conservation of in-kind, offsite areas at a minimum ratio of 1:1.	

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
BIO-2b BMPs	BMPs to be prescribed by the Stormwater Pollution Prevention Plan (SWPPP) (APM-BIO 2, Hydro-SCE-1) will include but are not limited to the following: ▪ The Applicant will not stockpile brush, loose soils, excavation spoils, or other similar debris material within sensitive habitats. ▪ The Applicant will maintain minimum distance of 100 feet for equipment staging, fueling, hazardous material storage/use, and fill stockpile areas from the flagged boundaries of riparian areas and wetlands. ▪ If visible dust is present during construction activities, standard dust suppression techniques (e.g., water spraying) will be used in all ground disturbance areas. The BMPs included in the SWPPP will be implemented during construction to minimize indirect impacts associated with erosion and dust generation. The SWPPP will be reviewed and approved by the Santa Ana RWQCB prior to construction commencement (MM HYD-1a).	SCE will comply with all SWPPP provisions and SCAQMD requirements.
BIO-4 Tree Removal	Obtain a Tree Removal Permit from the County of Riverside. The County of Riverside, Roadside Tree Ordinance 12.08 requires permits for tree removal within county highway ROWs (County of Riverside 2004). In addition, the County of Riverside requires that any future development in an identified sensitive vegetation area (including oak woodlands) must be evaluated individually and cumulatively for potential impact on vegetation (County of Riverside 1993). Mitigation will be coordinated, as required, with the appropriate public and resource agencies once tree removal permits or approvals for lost significant trees are obtained. Mitigation for lost trees may not be implemented within the ROW due to fire safety concerns and instead may be implemented in an alternative agency approved location.	No trees will be removed protected under any County or City ordinance.
MM HYD-5a (revised)	~~The environmental training and monitoring program identified in HYDRO-SCE-2 shall be reviewed and approved by the Santa Ana RWQCB for compliance with the Santa Ana Water Quality Control Plan prior to initiation of construction.~~ SCE will obtain Construction General Permit coverage through the State Water Resources Control Board. Verification of approval shall be provided to the CPUC at least 60 days before construction.	

Table 18.
VIG Project – Biological Mitigation Measures as Presented in the FEIR (CPUC 2010) and as Revised in the PMR (Insignia 2013) (Cont.)

Note: Any revisions to the MMs below are part of the ongoing PMR and additional CEQA processing by the CPUC.

Number	Mitigation Measure	Comments
MM HYD-7a	Aboveground project features such as the TSPs, poles, underground conduit, and substation shall be placed outside the flow path of watercourses unless an engineering analysis, reviewed by the CPUC, demonstrates that watercourse avoidance is not practicable, and that appropriate flood avoidance measures, such as raising foundations, have been taken to identify and prevent potential flooding and erosion hazards. The Applicant shall provide documentation to the CPUC at least 30 days before the start of the construction regarding which structures would be in flow paths and what protective measures, such as design specifications, are proposed.	
MM Noise 1a (revised)	The Applicant shall stop all construction work within 300 feet of sensitive receptors within Riverside County at 6:00 pm unless the California Independent System Operator (CAISO) and/or California Department of Transportation (Caltrans) require that conductor stringing over freeways or highways occur after 6:00 p.m. SCE would obtain an exception from the Riverside County Director of Building and Safety.	
MM GEO-2a	An erosion and sedimentation control plan shall be incorporated into the SWPPP for Project construction activities to minimize onsite soil erosion and off-site sedimentation. The plan shall include site maps, identification of construction activities, and measures for providing erosion and sediment control. Compliance with this measure shall be documented to the CPUC at least 60 days before construction.	

8.3 MSHCP BMPs and Mitigation Measures

Table 19 presents MSCHP BMPs (*Appendix C* of the MSHCP), Construction Guidelines (*Section 7.5.*3 of the MSHCP), and species specific MMs that have been incorporated in the MSHCP and will be implemented as part of the Project as a PSE of the MSHCP.

Table 19.
MSHCP BMPs and Species Specific MMs

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP BMP-1	A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
MSHCP BMP-2	Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.
MSHCP BMP-3	The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
MSHCP BMP-4	The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.
MSHCP BMP-5	Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
MSHCP BMP-6	Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7.
MSHCP BMP-7	When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal in-stream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.
MSHCP BMP-8	Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
MSHCP BMP-9	Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
MSHCP BMP-10	The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.

Table 19.
MSHCP BMPs and Species Specific MMs (Cont.)

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP BMP-11	The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
MSHCP BMP-12	Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
MSHCP BMP-13	To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
MSHCP BMP-14	Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
MSHCP BMP-15	The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.
MSHCP Construction Guidelines (MSHCP Section 7.5.3)	
MSHCP CONST-1	Plans for water pollution and erosion control will be prepared for all Discretionary Projects involving the movement of earth in excess of 50 cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and approved by the County of Riverside and participating jurisdiction prior to construction.
MSHCP CONST-2	Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
MSHCP CONST-3	Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
MSHCP CONST-4	Short-term stream diversions will be accomplished by use of sand bags or other methods that will result in minimal in-stream impacts. Short-term diversions will consider effects on wildlife.
MSHCP CONST-5	Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
MSHCP CONST-6	Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
MSHCP CONST-7	No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
MSHCP CONST-8	The footprint of disturbance will be minimized to the maximum extent Feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
MSHCP CONST-9	Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.

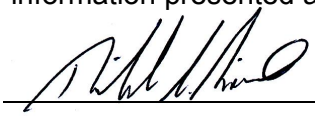
Table 19.
MSHCP BMPs and Species Specific MMs (Cont.)

MSHCP BMPs (MSHCP Vol. I, Appendix C)	
MSHCP CONST-10	The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
MSHCP CONST-11	During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
MSHCP CONST-12	Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
MSHCP CONST-13	Training of construction personnel will be provided.
MSHCP CONST-14	Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
MSHCP CONST-15	When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
MSHCP CONST-16	Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
MSHCP CONST-17	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off.
MSHCP CONST-17	Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.
MSHCP Species/Habitat Specific Measures	
MSHCP-CAGN-1	Riversidean sage scrub habitat will not be cleared during the CAGN breeding season 1 March to 15 August. Clearing must be limited to the non-breeding season.
MSHCP-BUOW	If burrowing owls are detected on the project site then the action(s) taken will be as follows: If the site is within the Criteria Area, then at least 90 percent of the area with long-term conservation value will be included in the MSHCP Conservation Area. Otherwise: If the site contains, or is part of an area supporting less than 35 acres of suitable habitat or the survey reveals that the site and the surrounding area supports fewer than 3 pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols. If the site (including adjacent areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation value and burrowing owl pairs will be conserved onsite.
MSHCP-Riparian (for tree trimming impacts)	SCE shall plant 50 willow native willow cuttings (collected from the vicinity of the planting areas) within their easement located within the San Jacinto River floodplain and/or tributary that occurs near Keystone Drive (wherein LBV have been documented). Refer to Maps 9 and 10 of Appendix A1 for potential locations of proposed willow planting activities. The exact location of willow cutting planting (within the SCE easement) shall be determined in the field and placed in areas determined to be most effective and that will not be impacted by O&M activities, thus protected in perpetuity. SCE shall prepare a Habitat Mitigation and Monitoring Plan (refer to MM-BIO2a), which shall detail the planting locations. SCE shall monitor the willow planting areas for duration of three (3) years.

Note: For mitigation measures related to LBV, refer to MM-BIO-1g above.

9.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



30 October 2014

Nicholas Ricono

Senior Biologist/Project Manager

Date

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APPENDIX A

DETAILED MAPS OF THE STUDY AREA

A1 – Biological Resources
A2 – Proposed Impacts to Riverine/Riparian Areas

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APPENDIX B

MSHCP CRITERIA AREAS AND CELLS

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APPENDIX C

SENSITIVE SPECIES THAT HAVE POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

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APPENDIX D

SPECIES OBSERVED WITHIN THE PROJECT AREA

D1 – Plants
D2 – Wildlife

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APPENDIX E

FOCUSED SPECIES SURVEY REPORTS

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APPENDIX F

PRELIMINARY JD FORMS

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APPENDIX G

STUDY AREA SOILS

G1 Soil Descriptions
G2 Soil Maps

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Appendix G1
Project Area Soils

Series	Description
Altamont Series	Well-drained soils on uplands. Slopes range from 5 to 50 percent. These soils are underlain by soft, fine-grained sandstone and calcareous siltstone. The vegetation is chiefly annual grasses and scrub oaks but include some coast live oaks (USDA 1971).
Arbuckle Series	Well-drained and have slope of 2 to 25 percent. They occur on alluvial fans and developed in alluvium from metasedimentary rocks. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Arlington Series	Well-drained soils on alluvial fans and terraces. Slopes range from 0 to 35 percent, but most slopes are less than 15 percent. These soils are developed in alluvium, dominantly from granitic rocks. The vegetation is chiefly annual grasses, forbs and chamise (USDA 1971).
Auld Series	Well-drained soils that developed on decomposing gabbro. These soils are on upland and have slopes of 2 to 50 percent. Vegetation is chiefly annual grasses forbs, and black sage (USDA 1971).
Bosanko Series	Well-drained soils that have slopes of 2 to 15 percent. These upland sols developed in light-colored, acid igneous rocks. Vegetation is chiefly annual grasses and chamise (USDA 1971).
Buchenau Series	Moderately well drained soils on alluvial fans. Slopes range from 0 to 8 percent. These soils developed in mixed alluvial and are underlain by a platy, calcareous hardpan. Vegetation is chiefly annual grasses, saltgrass and forbs (USDA 1971).
Cajalco Series	Well-drained soils developed in decomposing gabbro and toher basic igneous rocks. Rock outcrops occur in some areas. These soils are on uplands and have slopes of 2 to 50 percent. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Cieneba	Somewhat excessively drained soils on uplands. Slopes range from 5 to 50 percent. These soils formed in coarse-grained igneous rock. The vegetation is chiefly annual grasses, chamise, and flat-topped buckwheat (USDA 1971).
Cortina	Somewhat excessively drained and excessively drained soils on alluvial fans and in valley fills. Slope are 0 to 12 percent. These soils formed in alluvium from metasedimentary rocks. The vegetation is chiefly annual grasses, flat-topped buckwheat, sumac, and chamise (USDA 1971).
Escondido	Well-drained soils on uplands. Slopes range from 2 to 50 percent. These soils developed in metamorphosed fine-grained sandstone and schist. The vegetation is chiefly annual grasses, forbs, salvia, and chaparral (USDA 1971).
Exeter	Slopes of 0 to 8 percent that lie in basins and on alluvial fans. These well-drained soils developed in alluvium from moderately coarse granitic material. The vegetation is chiefly annual grasses and forbs (USDA 1971).
Fallbrook	Well-drained soils that lie on uplands and have slopes of 2 to 50 percent. These soils developed on granodiorite and tonalite. The vegetation is chiefly annual grasses, oaks, flat-topped buckwheat, and chaparral species (USDA 1971).
Garretson	Well-drained soils on alluvial fans. Slope range from 0 to 15 percent. These soils developed in alluvium made up of chiefly of metasedimentary materials. The vegetation is chiefly annual grasses, forbs, chamise, and sumac (USDA 1971).
Gorgonio	Excessively drained soils on alluvial fans. These soils developed in alluvium consisting mainly of granitic materials. Slopes are 0 to 15 percent. The vegetation is chiefly annual grasses, forbs, a nd shrubs (USDA 1971).

Appendix G1
Project Area Soils (Cont.)

Series	Description
Grangeville	Moderately well drained to poorly drained soils on alluvial fans and flood plains. These soils developed in alluvium from granitic materials. Slopes are 0 to 15 percent. The vegetation is chiefly annual grasses, saltgrass, and forbs but includes some cottonwoods (USDA 1971).
Greenfield	On alluvial fans and terraces. Slopes are 0 to 25 percent. These well-drained soils developed in alluvium consisting mainly of granitic materials. Vegetation is chiefly annual grasses, forbs, sumac, and chamise, but includes scattered oaks (USDA 1971).
Hanford	Well-drained and somewhat excessively drained oils on alluvial fans. Slopes are 0 to 15 percent. These soils developed in alluvium made up of granitic materials. Vegetation is chiefly annual grasses, forbs and chamise (USDA 1971).
Honcut	Well-drained soils on alluvial fans. These soils developed on alluvial fans and developed in alluvium from dominantly basic igneous rocks. Slopes range from 2 to 25 percent. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Las Posas	Soils of the Las Posas series are on uplands. Slopes range from 2 to 50 percent. These well-drained soils developed on gabbro and other intrusive basic igneous rocks. Vegetation is chiefly annual grasses, forbs, chamise, flat-topped buckwheat, and black sage (USDA 1971).
Lodo	Consists of somewhat excessively drained upland soils on slopes of 8 to 50 percent. These soils developed on metamorphosed fine-grained sandstone. Vegetation is chiefly annual grasses, forbs, and chaparral (USDA 1971).
Madera	Moderately well-drained soils on dissected terraces and old alluvial fans. Slopes are 0 to 15 percent. These soils are developed in alluvium consisting of mainly granitic materials (USDA 1971).
Monserate	Well-drained soils that developed in alluvium from predominately granitic materials. Slopes range from 0 to 25 percent. These soils are on terraces and old alluvial fans. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Pachappa	Well-drained soils that developed in predominantly granitic alluvium. Slopes are 0 to 8 percent. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Placentia	Moderately well-drained soils on alluvial fans and terraces. Slopes range from 0 to 25 percent. The soils developed in deep alluvium consisting mainly of granitic materials. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Porterville	Well-drained soils on alluvial fans. Slopes range from 0 to 15 percent. These soils are alluvial fans. Slopes range from 0 to 15 percent and are developed in alluvium consisting mainly of very fine basic igneous materials. Vegetation is chiefly annual grasses, forbs, salvia, and buckwheat (USDA 1971).
Ramona	Well-drained soils on alluvial fans and terraces. Slopes range from 0 to 25 percent. These soils developed in alluvium consisting of mainly of granitic materials. The vegetation consists of annual grasses, forbs, chamise, salvia, and flat-topped buckwheat (USDA 1971).
Rough broken land	Consists of alluvial materials that are remnant of old alluvial fans and terraces. These fans and terraces have been dissected by drainages to such an extent that areas of recognizable soils cannot be mapped. Slopes range from 30 to 50 percent. The materials in this land type are mainly from acid igneous rocks, such as granite, granodiorite, gneiss, ad mica-schist. The vegetation is annual grasses and forbs (USDA 1971).

Appendix G1
Project Area Soils (Cont.)

Series	Description
Temescal	Well –drained soils on uplands. Slopes range from 15 to 50 percent. These soils developed on predominantly latite-porphyry or gabbro. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).
Terrace escarpments	Consists of variable alluvium on terraces or barrancas. Slope range from 30 to 75 percent. Small areas of recently deposited alluvium may be near the bottom of the escarpments. Tis land type may have exposed “rim pan”, gravel, cobblestones, stones, or large boulders in variable quantities. This land is unaltered alluvial outwash derived from granite, gabbro, metamorphosed sandstone, sandstone, or mic-schist.
Traver	Moderately well-drained soils on valley plants and in basins. Slopes range from 0 to 5 percent. These slightly to strongly saline-alkali soils developed in alluvium predominantly from granitic materials. Vegetation is chiefly annual grasses, saltgrass, alkali weeds, and forbs (USDA 1971).
Vallecitos	Well-drained soils on uplands. Slopes range from 8 to 50 percent. These oils developed on fine-grained metamorphosed sandstone and shale. The vegetation is chiefly annual grasses forbs, chamise, and scrub oaks.
Vista	Well-drained soils of the uplands. Slopes range from 2 to 35 percent. These soils developed on weathered granite and granodiorite. Vegetation is chiefly annual grasses, forbs, and chaparral (USDA 1971).
Willows	Poorly drained, saline-alkali soils in basins and on edges of alluvial fans. Slopes range from These soils developed in alluvium from predominantly fine-textured mixed material. Vegetation is chiefly annual grasses, saltgrass, alkali-lettuce, and forbs (USDA 1971).
Wyman	Well-drained and lie on alluvial fans. Slopes range from 2 to 15 percent. These soils developed in alluvium from predominantly basic igneous materials.
Ysidora	Moderately well-drained soils on old alluvial fans, in valley fills, and on terraces. Slopes range from 2 to 15 percent. These soils developed in alluvium predominantly of metasedimentary origin. They are underlain by an iron-silica cemented pan. Vegetation is chiefly annual grasses, forbs, and chamise (USDA 1971).

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APPENDIX H

PHOTOGRAPHIC EXHIBITS

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APPENDIX I

ENGINEERING LETTER SUPPORTING NO IMPACTS TO VERNAL POOL HYDROLOGY

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APPENDIX J

DETERMINATION OF BIOLOGICALLY EQUIVALENT OR SUPERIOR PRESERVATION FOR RIPARIAN/RIVERINE RESOURCES

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