C.5 Biological Resources

Introduction

This section describes effects associated with Biological Resources that would be caused by implementation of the VSSP. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the VSSP, and recommends measures to reduce or avoid significant impacts anticipated from project construction, operation, and maintenance. In addition, existing laws and regulations relevant to Biological Resources are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the proposed Project.

Additional detail and background on biological resources are included in the following appendices to this EIR: Appendix 3-1: Wildlife Observed, and Appendix 3-2: Plants Observed. All the figures related to biological resources are provided at the end of this section.

Scoping Issues Addressed

During the scoping period for the EIR (May 5 through June 3, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following issues related to Biological Resources were raised during scoping and are addressed in this section.

- The EIR should address the Western Riverside County Multiple Species Habitat Conservation Plan.
- The EIR should provide analysis of impacts to potentially jurisdictional drainage features.
- An assessment of habitats within the project area should be provided in the EIR.
- An inventory of wildlife and rare plants present in the project areas should be provided.
- The EIR should provide a discussion of impacts from lighting, noise, and human activity.
- The EIR should provide adequate mitigation for impacts to wildlife and plants.

C.5.1 Environmental Setting

This section presents information on biological resources in the proposed Project region and describes baseline conditions within the proposed Project area. In addition, this section includes vegetation types within the proposed Project area to characterize the botanical resources and potential for wildlife to occur on the proposed Project site. Biotic habitats suitable for the occurrence of plant and wildlife species of special-status (State and Federally listed threatened and endangered species, Federal candidate species, California Native Plant Society List species, California Fully Protected, California Species of Special Concern, and Western Riverside County Multiple Species Habitat Conservation Plan [MSHCP] covered species) are also described.

C.5.1.1 Baseline Data Collection Methodology

Information used in preparing this section were derived from a number of sources including biological resources reports presented in the Proponent's Environmental Assessment (PEA) for the VSSP, review of existing literature, consultation with technical experts, and reconnaissance surveys of the proposed Project site. Biological resource data included, but were not limited to the following:

Literature Search and Review of Existing Data

Aspen has peer reviewed and where appropriate, field verified, all information and data presented in materials provided in the PEA for the VSSP. This peer review included but was not limited to technical reports and data, including special-status species locations and survey data presented in the PEA for the VSSP. Aspen conducted data collection through review of the following resources:

- Proponent's Environmental Assessment: Valley South 115 kV Subtransmission Project, Volumes 1-4 (SCE, 2014)
- Natural Diversity Database (CDFW, 2015a)
- State and federally listed endangered and threatened animals of California (CDFW, 2015b);
- Special Animals List (CDFW, 2015c);
- California Wildlife Habitat Relationships (CDFW, 2008);
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2010);
- Consortium of California Herbaria (CCH, 2015);
- Western Riverside Multiple Species Habitat Conservation Plan (Riverside County, 2003);
- County of Riverside General Plan (Riverside County, 2008); and
- Aerial photographs of the proposed Project site and surrounding areas (April 2014, November 2013, March 2013, January 2013, June 2012, March 2011, November 2009, June 2009, January 2007, September 2006, August 2006, January 2006, December 2005, October 2005, December 2003, March 2002, and September 1996).

Collection of Field Data

Aspen conducted reconnaissance level site visits of the proposed Project site in order to document the site conditions and to collect new biological resources related field data where applicable.

C.5.1.2 Regional Setting

The VSSP would be located within the cities of Menifee, Murrieta, Temecula, Perris, and portions of unincorporated southwestern Riverside County, as shown in Figure A-1 (Project Location and Vicinity). Proposed Project areas are generally dominated by rural, natural, and developed lands within the interior valleys, rolling hills, and rugged peaks between the Santa Ana and San Jacinto Mountain ranges of western Riverside County (TRC, 2013); more specifically the VSSP occurs in the Domenigoni, French, and Auld Valleys. Historically Riverside County was dominated by agricultural operations including dry grain and irrigated crops, as well as livestock grazing.

In general western Riverside County is located within a Mediterranean climate region characterized by warm, dry summers and mild, wet winters. Elevations within the proposed Project area range from 1,250 – 1,550 feet above mean seal level; elevations generally drop as you move from the northern to the southern extent of the VSSP. Several major drainages cross through the proposed Project area including Santa Gertrudis Creek, Warm Springs Creek, and Salt Creek. Two large drinking water reservoirs, Skinner Reservoir and Diamond Valley Lake, occur approximately 2.5 miles east of the VSSP; both reservoirs provide recreational opportunities.

C.5.1.3 Project Overview

The proposed Project includes:

- modification of SCE's existing Valley 500/115-kV Substation (City of Menifee) to equip an existing 115-kV line position and provide protection equipment as required;

- construction of a new approximately 12-mile 115-kV subtransmission line between the Valley Substation and a tubular steel pole (TSP) located at the intersection of Leon Road and Benton Road (Riverside County);
- replacement of approximately 3.4 miles of existing 115-kV conductor from the Leon/Benton Road TSP to an existing TSP (Terminal TSP) located just outside SCE's 115/12-kV Triton Substation (City of Temecula);
- relocation of existing distribution and telecommunication lines to support the installation of the new 115-kV subtransmission line; and
- installation of telecommunications facilities to connect the proposed subtransmission line to SCE's existing telecommunication system.

Although impacts from the proposed Project would largely occur within the general area of the existing and proposed Right-of-Way (ROW), in order to better characterize the biological resources that may occur in the general vicinity of the proposed Project, surveys were conducted within a much larger footprint than the ROW footprints. The surveyed area extends approximately 250 feet (500 foot total width) on either side of the centerline of the proposed transmission lines (Survey Area) (Figures C.5-1a-d, located at the end of this section).

C.5.1.4 Project Setting

The VSSP would occur along an approximately 15.4-mile-long route that traverses disturbed lands, natural lands, agriculture, and developed areas. Habitats within the Survey Area for the VSSP includes pockets of dense riparian vegetation, open non-native grasslands, upland scrub communities, wetlands/marsh, and agriculture. Riparian plant communities mapped in the Survey Area were dominated by stands of Fremont cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*) with an understory of mulefat (*Baccharis salicifolia*), flat sedge (*Cyperus* spp.), and stinging nettle (*Urtica dioica* ssp. *holosericea*). Just north of Highway 79 in the southern half of the Survey Area is a large freshwater marsh that occurs within an unnamed drainage. This freshwater marsh is dominated by bulrush (*Scirpus* spp.) and cattail (*Typha* spp.). Other species observed included spike rush (*Eleocharis* spp.), flat sedge, yerba mansa (*Anemopsis californica*), salt grass (*Distichlis spicata*), and rabbit foot grass (*Polypogon monspeliensis*).

Large pockets of coastal sage scrub habitats were present throughout the Survey Area within both natural lands and adjacent to developed areas. This community was generally dominated by buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*). Other species observed within this community included Brittle bush (*Encelia farinosa*), California cholla (*Cylindropuntia californica*) and prickly pear (*Opuntia littoralis*). Disturbed and/or ruderal habitats were the most dominant vegetation community mapped in the Survey Area. These areas, typically found on the edges of fields, road margins, fallowed agricultural fields, and other area of ground disturbance were dominated by herbaceous annuals and grasses such as mustards (*Brassica* sp.), wild radish (*Raphanus sativus*), wild oat (*Avena* spp.), telegraph weed (*Heterotheca grandiflora*), Russian thistle (*Salsola tragus*), and tree tobacco (*Nicotiana glauca*). Mapped in abundance throughout the Survey Area non-native grasslands were often observed in association with livestock grazing. These grasslands were generally dominated by a mixture of non-native species such as wild oats and various bromes (*Bromus diandrus, B. tectorum, and B. madritensis ssp. rubens*).

Non-native woodlands and ornamental vegetation were present throughout the Survey Area. Eucalyptus were commonly observed as planted windrows adjacent to roads and within agricultural operations. Intermixed among ornamental species, some intentionally planted native species were observed along the western side of the northern extent of Leon Road (adjacent to Eastern Municipal Water District's

[EMWD] Winchester Ponds). Native species observed included coast live oak (*Quercus agrifolia*), Engelmann oak (*Quercus engelmannii*), and Western sycamore (*Platanus racemosa*).

Adjacent land uses in the Survey Area are varied. Within the central and northern portions of the Survey Area, north of Scott Road, agriculture is the dominant land use. Immediately south of Scott Road adjacent land uses transition from rural residences into heavily urbanized areas as you head south to the terminus of the Survey Area. Pockets of agriculture and open space occur between the urbanized areas.

Vegetation and Cover Types

Vegetation and other cover types were mapped throughout the Survey Area. Field surveys were conducted by SCE from 2012 - 2014 and by Aspen in 2015. Vegetation community types were based on descriptions in Holland (1986), with modifications by Oberbauer et al. (2008). The Holland-Oberbauer vegetation types were also translated to the classification scheme by Sawyer et al. (2009) (refer to Table C.5-1 below). Ten plant communities, defined by Holland-Oberbauer were mapped within the Survey Area. An additional four non-vegetation cover types (land forms) were also mapped. Full descriptions of each of these vegetation communities, as described by Holland-Oberbauer, are described in detail below (refer to Figures C.5-1a-d, located at the end of this section). The vegetation descriptions are adapted from those presented in the various technical reports appended to the PEA (SCE, 2014).

Riparian and Wetland Vegetation Types

Much of the natural riparian vegetation in California has been lost or degraded due to a variety of factors, including land use conversions to agricultural, urban, and recreational uses; channelization for flood control; sand and gravel mining; ground water pumping; water impoundments; and various other alterations. Riparian habitats are biologically productive and diverse, and are the exclusive habitat for several special-status wildlife species. Many of these species are wholly dependent on riparian habitats throughout the entirety of their life cycles, while others may utilize these habitats during certain seasons or life history phases. For example, numerous amphibian species breed in aquatic habitats but spend most of their lives in upland areas.

In an otherwise arid landscape, primary productivity in riparian habitats is high due to year-round soil moisture. High plant productivity leads to increased habitat structural diversity and increased food availability for herbivorous animals, and in turn, predatory animals (reviewed by Faber et al., 1989). Insect productivity is also exhibited at relatively higher levels in riparian systems. During warmer months, large numbers of insects provide a prey base for a diverse breeding bird fauna. Structural diversity is also much more evident in riparian systems than those of most regional uplands. Riparian woodlands tend to have multiple-layered herb, shrub, and tree canopies, whereas most upland communities are relatively simple-structured. This diverse vertical habitat structure supports a greater diversity of nesting and foraging sites for birds. Similarly, riparian communities support a broader diversity of mammals due to higher biological productivity, denning site availability, thermal cover, and greater access to water.

Table C.5-1. Vegetation Community and Land Cover Acreages in the Survey Area		
Vegetation Communities		**Approximate Acres in the Survey Area**
Holland-Oberbauer	**Sawyer et al.**	
Diegan Coastal Sage Scrub (32500)*	*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance, *Artemisia californica-Salvia mellifera* Shrubland Alliance	71.27
Disturbed/Ruderal Habitat (11300)	*Brassica* and Other Mustards Semi-Natural Herbaceous Stands	248.80
Disturbed Wetland (11200)	No counterpart	4.12
Freshwater Marsh (52400)*	*Typha domingensis* Herbaceous Alliance	3.18
Mulefat Scrub (63310)*	*Baccharis salicifolia* Shrubland Alliance	3.52
Non-native Grassland (42200)	*Avena* Semi-Natural Herbaceous Stands, *Bromus-Brachypodium distachyon* Semi-Natural Herbaceous Stands	95.02
Nonnative Woodland/Ornamental (79000)	*Eucalyptus* Semi-Natural Woodland Stands, *Schinus* Semi-Natural Woodland Stands	44.49
Southern Cottonwood - Willow Riparian Forest (61330)*	*Populus fremontii* Forest Alliance	1.11
Southern Willow Scrub (63320)*	*Salix laevigata* Woodland Alliance	1.98
Tamarisk Scrub (63810)	*Tamarix* Semi-Natural Shrubland Stands	0.17
Land Cover Types		
Agriculture (18000)	No counterpart	260.96
Non-vegetated Channel (64200)	No counterpart	0.40
Open Water (64140)	No counterpart	3.92
Urban/Developed (12000)	No counterpart	213.45
	Total	**952.39**

* Sensitive vegetation community; discussed in detail below.

Riparian woodlands and shrublands in the region are typically dominated by shrubby or tree willow species, cottonwoods, mulefat and sometimes have an overstory canopy of taller trees including mature cottonwoods and sycamores. Woody riparian vegetation exists in mosaics of shrublands, developing into woodlands, and finally into a mature forest. These communities may be dominated by similar species, but their structures change over time, mainly as a function of destructive flooding (Holland and Keil, 1995).

In total six riparian vegetation types were mapped within the Study Area including valley freshwater marsh, disturbed wetland, southern cottonwood - willow riparian forest, mulefat scrub, tamarisk scrub, and southern willow scrub (Holland, 1986 and Oberbauer et al., 2008) and are discussed in detail below.

Valley Freshwater Marsh (Holland-Oberbauer Codes 52400 and 52410)

Valley freshwater marsh occurs at a single location in the Survey Area just north of the intersection of Highway 79 and Max Gillis Boulevard, within an unnamed drainage, in the French Valley area. This community was dominated by perennial, emergent monocots and occurred in an area of near perennial surface water. The dominant species observed within the valley freshwater marsh habitat in the Survey Area included bulrush and cattail. Other smaller native and non-native species such as spike rush (*Eleocharis* spp.), flat sedge, yerba mansa (*Anemopsis californica*), salt grass (*Distichlis spicata*), and rabbit foot grass (*Polypogon monspeliensis*) were also present.

Disturbed Wetland (Holland-Oberbauer code 11200)

Within the Survey Area disturbed wetlands only occur within Salt Creek in the northern portion of the Survey area. Salt Creek is a natural drainage that has been heavily impacted by flood control activities. The wetlands in Salt Creek support low, disturbed wetland vegetation that is subject to seasonal drying and livestock grazing. Vegetation observed in this portion of the Survey Area included brass buttons, various flat sedges, cattails, bulrush, salt grass, smooth tarplant (*Centromadia pungens* ssp. *laevis*), and alkali heliotrope (*Heliotropium curassavicum*).

Southern Cottonwood – Willow Riparian Forest (Holland-Oberbauer code 61330)

Southern cottonwood – willow riparian scrub occurs at only three locations within the Survey Area. The largest occurrence of this community was mapped within an unnamed drainage in the French Valley Area. All three locations support several willow-dominated stands with varying proportions of Fremont cottonwood. Willow species observed in this community included arroyo willow and red willow. Understory species observed included mulefat, stinging nettle and many of the same species listed above for Valley Freshwater Marsh.

Mulefat Scrub (Holland-Oberbauer code 63310)

Mulefat scrub is located at scattered locations throughout the Survey Area. This community was generally composed of moderate to tall (four meters or less) dense shrubs in disturbance-prone areas of washes and floodplains or along lower order drainages with less persistent water flow. It was often observed on the relatively dry peripheries of riparian forest stands. Within the Survey Area, these areas are generally dominated by mulefat with little to no understory species due to the dense nature of the stands.

Southern Willow Scrub (Holland-Oberbauer code 63320)

Southern willow scrub occurs at scattered locations throughout the Survey Area. This scrub community was observed to be generally less than six meters (20 feet) in average height and tended to be relatively open and composed of smaller individuals. It was often closely mixed with marsh growth and generally occurred on the relatively dry peripheries of riparian forest stands. This vegetation type was dominated by arroyo and red willow, as well as lower-growing co-dominant species such as mulefat, Mexican elderberry (*Sambucus mexicanus*), stinging nettle, sandbar willow (*Salix exigua*), black willow (*Salix goodingii*), and non-native salt cedar (*Tamarix* spp.). Some of the areas mapped as southern willow scrub include a high proportion of non-native herbaceous wetland plants.

Tamarisk Scrub (63810)

Only one occurrence of tamarisk scrub was mapped in the Survey Area. This lone occurrence was a small stand within Tucalota Creek in the southern portion of the Survey Area and was dominated solely by saltcedar (*Tamarix* spp.)

Upland Vegetation Types

Upland plant communities include vegetation dominated by plant species that do not require a permanent source of water, as opposed to plant species that are adapted to areas that are either seasonally flooded or have saturated soils for at least a portion of the growing season. Generally, upland plant communities consist of plant species that are adapted to drier conditions and typically require only seasonal precipitation to obtain adequate water resources for growth and reproduction. Although most of the project area is occupied by riparian habitats, several upland plant communities do occur, on the elevated terraces, primarily in the eastern portion of the Study Area.

In the Survey Area, four upland vegetation types including Diegan coastal sage scrub, disturbed/ruderal, non-native grassland, and non-native woodland/ornamental scrub were mapped (Holland, 1986 and Oberbauer et al., 2008). Each of these vegetation types are described below in detail.

Diegan Coastal Sage Scrub (Holland- Oberbauer code 32500)

As one of the more abundant vegetation communities, Diegan coastal sage scrub was mapped throughout the Survey Area. This community was generally low in stature and comprised of woody or semi-woody shrubs and subshrubs averaging less than two meters in height. Most of the Diegan coastal sage scrub within the Survey Area was dominated by buckwheat; California sagebrush was observed in varying proportions, but was much less common than buckwheat. Other species observed included Brittle bush, California cholla, and prickly pear.

Disturbed/Ruderal (Holland-Oberbauer code 11300)

Disturbed/Ruderal areas are by far the most dominant vegetation type mapped in the Survey Area. Ruderal vegetation is composed of herbaceous pioneering plant species that readily colonize open disturbed soil and thrive as a result of anthropogenic impacts. Within the Survey Area, this vegetation was most often found on the edges of fields, road margins, fallowed agricultural fields, and other areas previously mechanically disturbed (i.e., abandoned and graded construction pads). Typical species composition varied depending on the location and level of disturbance, but was dominated by herbaceous annuals and grasses. Species observed included mustards, wild radish, wild oat, ripgut grass (*Bromus diandrus*), red brome (*Bromus madritensis* ssp*. rubens*), Australian saltbush (*Atriplex semibaccata*), tocalote (*Centaurea melitensis*), telegraph weed, castor bean (*Ricinus communis*), pineapple-weed (*Chamomilla suaveloens*), sowthistle (*Sonchus oleraceus*), horseweed, Russian thistle, tree tobacco, tarweeds (*Deinandra* sp.), and goosefoot (*Chenopodium* spp.).

Non-Native Annual Grassland (Holland-Oberbauer code 42200)

As the second most dominant vegetation community, non-native annual grasslands were mapped throughout the Survey Area and was often observed in association with livestock grazing. The non-native annual grasslands in the Survey Area were dominated by a mixture of non-native species such as wild oats and various bromes (*Bromus diandrus, B. tectorum, and B. madritensis ssp. rubens*).

Non-Native Woodland/Ornamental (Holland-Oberbauer codes 79000 and 11100)

Non-native woodland/ornamental vegetation was mapped throughout the Survey Area. Most of the ornamental species within the Survey Area are non-native such as the frequently observed Eucalyptus (*Eucalyptus* spp.). Some areas however, such as the western side of the northern extent of Leon Road (adjacent to the water reservoirs), includes some intentionally planted native species. Some of the native species observed included coast live oak, Engelmann oak, and Western sycamore.

Other Land Cover Types

Other cover types present within the Study Area that do not fit into the vegetation descriptions are discussed below.

Agriculture (Holland-Oberbauer code 18000)

Agriculture represents the largest land use throughout the Survey Area. The predominant form of agriculture in lowland areas of western Riverside County is dry grain cultivation, particularly wheat (*Triticum aestivum*).

Urban/Developed (Holland-Oberbauer code 12000)

Urban/developed areas, occurring as the second most dominant land use, were mapped throughout the Survey Area. Within the Survey Area these areas included flood control facilities, commercial buildings, established roads/bridges, and residential buildings. This cover type also includes areas that are devoid of vegetation or support scattered ornamental species or low densities of weeds due to continual disturbance by vehicles, pedestrians, or other anthropogenic means.

Open Water (Holland-Oberbauer code 64140)

This land cover type was used to describe areas of ponded or impounded water that are primarily unvegetated. Two locations were mapped as open water: (1) a portion of the EMWD's Winchester Ponds adjacent to Leon Road in the northern portion of the Survey Area and (2) a residential pond in the southern section of the Survey Area.

Non-vegetated Channel (64200)

A portion of San Gertrudis Creek, flowing through the southern extent of the Survey Area, was mapped as non-vegetated channel. This section of the creek was comprised of sand and cobbles and was devoid of vegetation.

Jurisdictional and Other Waters

An assessment of jurisdictional wetlands, other "waters of the U.S.," waters of the State, and riparian habitat was conducted by SCE from 2012 – 2014 and by Aspen in 2015. This assessment was conducted to determine the extent of resources under the jurisdiction of the US Army Corps of Engineers (USACE), the San Diego and Santa Ana Regional Water Quality Control Boards (RWQCB), and the California Department of Fish and Wildlife (CDFW) that occur within the Survey Area. Table C.5-2 presents a summary of the approximate areas of jurisdictional waters, wetlands and CDFW jurisdictional habitat.

Portions of the Survey Area that support hydrophytic vegetation, show evidence of wetland hydrology, contained hydric soils, and met the criteria to be classified as "waters of the United States" were identified as USACE/RWQCB federally jurisdictional wetlands (13.61 acres). Wetland habitats exhibiting evidence of wetland hydrology, hydric soils and/or hydrophytic vegetation but that are not connected to known "waters of the United States" were identified as RWQCB state jurisdictional wetlands (1.42 acres). Areas not meeting the hydrophytic vegetation and/or hydric soils criteria for wetlands but where evidence of hydrology and/or with a discernible OHWM (ordinary high water mark) were mapped as USACE/RWQCB federally jurisdictional non-wetland "waters of the United States" (2.32 acres). Isolated waters that showed evidence of hydrology and/or a discernible OHWM, but that were not connected to or within the appropriate distance from known "waters of the United States" were mapped as RWQCB state jurisdictional waters (2.94 acres).

Using a combination of vegetation mapping and bed/bank delineation and field observations, 25.58 acres of CDFW jurisdictional habitat were identified within the Survey Area. Refer to Figures C.5-2a-g (located at the end of this section) for additional information on the location of jurisdictional features within the Survey Area.

Table C.5-2. Acreage of Federal and State Jurisdictional Waters, Wetlands, and CDFW Jurisdictional Habitat in the Survey Area

Jurisdictional Feature Type		Approximate Acres
USACE/RWQCB Waters and Wetlands (Federally Jurisdictional)	Non-wetland Waters of the U.S.	2.32
	Wetlands	13.61
RWQCB* Waters and Wetlands (State Jurisdictional)	Jurisdictional Waters	2.94
	Wetlands	1.42
CDFW Jurisdictional Habitat		25.58

* The VSSP occurs in jurisdictional areas for both the San Diego and Santa Ana Regional Water Quality Control Boards.

Common Wildlife

Invertebrates

Other than protocol surveys for the federally endangered Quino checkerspot (*Euphydryas editha quino*), focused insect surveys within the boundaries of the Survey Area have not been completed to date; however, a suite of common insects are known to occur in the area. Habitat conditions in the Survey Area provide a suite of microhabitat conditions for a wide variety of terrestrial and aquatic insects, crustaceans, and other invertebrates. This includes creeks and/or drainages with cobble and rocks, thick leaf litter, and pools of slow-moving or still water. Like in all ecological systems, invertebrates in the Survey Area play a crucial role in a number of biological processes. They serve as the primary or secondary food source for a variety of fish, bird, reptile, and mammal predators and provide important pollination vectors for numerous plant species.

Invertebrates also act as efficient components in controlling pest populations and support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. General surveys of the Survey Area detected a wide variety of common and nonnative invertebrates. Some of the orders identified in the Survey Area included Odonata (dragonflies, damselflies), Hemiptera (true bugs), Coleoptera (beetles), Diptera (flies), Pleocoptera (stone flies), Lepidoptera (moths and butterflies), Hymenoptera (wasps, bees and ants), and Trichoptera (caddis flies).

During protocol surveys for the federally endangered Quino checkerspot eighteen different species of butterflies were observed. Species detected include Anise swallowtail (*Papilio zelicaon*), Western green hairstreak (*Callophrys dumetorum*), Behr's metalmark (*Apodemia virgulti*), and Funereal duskywing (*Erynnis funerealis*). See below for additional information on the status of Quino checkerspot within the Survey Area.

Wet and dry season surveys for fairy shrimp within the Survey Area detected versatile (Lindahl) fairy shrimp (*Branchinecta lindahli*) within a number of the sampled vernal pool habitats. Six of the twelve locations that were found to contain fairy shrimp had estimated populations of more than 1,000 individuals during the 2013 west season surveys (Cardno TEC, 2013).

Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris.

Reptiles were commonly observed during surveys of the Survey Area, in both disturbed and natural areas. Western fence lizard (*Sceloporus occidentalis*) and sideblotch lizard (*Uta stansburiana*) were observed whenever weather conditions were favorable and were broadly distributed across the Survey Area. Several snakes were documented in the Survey Area including California kingsnake (*Lampropeltis getula californiae*), southern pacific rattlesnake (*Crotalus oreganus helleri*), and San Diego gopher snake (*Pituophis catenifer annectens*).

Most reptile species, even if present in an area, are difficult to detect because they are cryptic and their life history characteristics (i.e., foraging and thermoregulatory behavior) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases they are only observed when flushed from their refugia. Although not detected in the Survey Area, habitat conditions are suitable for a number of common reptiles, including western red-tailed skink (*Plestiodon gilbert rubricaudatus*), red racer (*Coluber flagellum piceus*), California striped racer (*Coluber lateralis lateralis*), southwestern threadsnake (*Rena humilis humilis*), and western black-headed snake (*Tantilla planiceps*).

Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. With the exception of an unnamed drainage in the French Valley area (north of Highway 79), perennial flows do not exist in the Survey Area. Flows within this unnamed drainage were observed to be no more than a trickle in the spring of 2015. There are a few small pool habitats located within the Survey Area that can persist year-round with average to above average rainfall; other pool and/or ponded habitats are also present adjacent to the Survey Area.

Surveys conducted in 2012 detected several amphibian species known to occur in the region. Western toads (*Anaxyrus boreas halophilus*) were observed within a ponded area in Salt Creek and within mesic habitats further south. A single pacific tree frog (*Pseudacris regilla*) was heard calling from upland habitat northeast of Case Road in the northern portion of the Survey Area; a drainage ditch runs along the opposite side of Case Road. Both the non-native and invasive bull frog (*Lithobates catesbeianus*) and red-eared slider (*Trachemys scripta elegans*) were observed within an area of ponded water just east of Leon Road in the central portion of the Survey Area.

Many amphibians are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris) provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Maser and Trappe, 1984; Aubry et al., 1988).

Birds

Surveys conducted within the Survey Area from 2012 – 2015 identified 117 species of common and sensitive birds (refer to Appendix 3-1 for a complete list of detected birds). It is possible that many other birds use the site either as wintering habitat, seasonal breeding, or as occasional migrants. Special-status species are further discussed below under special-status wildlife.

Birds were identified by sight and sound and were observed throughout the Survey Area. The diversity of birds at this location is a function of the large size of the site and the wide variation in plant communities

that provide habitat for a number of different groups of birds. For example, a large number of birds are closely associated or dependent on the riparian vegetation that occurs within and adjacent to drainages within the Survey Area. Riparian systems are frequently considered one of the most productive forms of wildlife habitat in North America. Many bird species are wholly, or at least partially, dependent on riparian plant communities for breeding and foraging (Warner et.al., 1984).

Shore birds and other more aquatic species were commonly detected in or adjacent to the Survey Area where ponded or impounded water sources were present. This included the water storage basins adjacent to Leon Road and areas of ponded water immediately north and south of Highway 79. Mallard duck (*Anas platyrhynchos*), great blue heron (*Ardea Herodias*), green heron (*Butoroides virescens*), great egret (*Ardea alba*), and snowy egret (*Egretta thula*) were commonly observed feeding in these areas during survey events.

Various common song birds were detected in the Survey Area and were closely associated or dependent on the riparian vegetation that occurs within and adjacent to the Survey Area. Riparian systems are frequently considered one of the most productive forms of wildlife habitat in North America. Some of the detected species included common yellow throat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), and lesser goldfinch (*Carduelis psaltria*). Spotted towhee (*Pipilo maculatus*), American goldfinch (*Spinus tristis*), and great-tailed grackle (*Quiscalus mexicanus*) were also commonly observed.

Several exotic species including the brown-headed cow bird (*Molothrus ater*), House sparrow (*Passer domesticus*) and feral pigeon or rock dove (*Columba livia*) were also observed.

Bird use of the upland habitats was moderate and included a variety of song birds, raptors, vultures, and game birds. Western king bird (*Tyrranus verticalis*), spotted towhee, bushtit (*Psaltriparus minimus*), mourning dove (*Zenaida macroura*), western meadowlark (*Sternella neglecta*), northern mockingbird (*Mimus polyglottos*) and California quail (*Callipepla californica*), were fairly common. Common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), and greater roadrunner (*Geococcyx californianus*) were also observed.

Red-tailed hawk (*Buteo jamicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*) were observed either soaring over the site (red-tailed hawks) or foraging for small birds in the Survey Area (red-shouldered hawk and American kestrel). Raptor nests were routinely observed within many of the eucalyptus trees that line the roadsides or occur within dense stands in the less developed portions of the Survey Area.

Although not detected during surveys within the Survey Area, a review of available online eBird (eBird, 2015) data reports observations of northern shoveler (*Anas clypeata*), horned grebe (*Podiceps auritus*), gadwall (*Anas strepera*), ferruginous hawk (*Buteo regalis*), tree swallow (*Tachycineta bicolor*), cinnamon teal (*Anas cyanoptera*), blue-gray gnatcatcher (*Polioptila caerulea*), black-throated gray warbler (*Setophaga nigrescens*), and belted kingfisher (*Megaceryle alcyon*) within the general vicinity of the Survey Area.

Mammals

The Survey Area is approximately 952 acres in size and varies from largely confined between developed and residential areas to open scrub habitats and natural lands. Generally the distribution of mammals in the Survey Area is associated with the presence of such factors as access to perennial water, topographical and structural components (i.e., rock piles, vegetation, and stream terraces) that provide for cover and support prey base, and the presence of suitable soils for fossorial mammals (i.e., sandy areas on the large stream terrace).

The detection of mammals in the Survey Area during surveys included direct observation and evidence of use, including tracks, scat, burrows, or other signs. Small mammal trapping was conducted within portions of the Survey Area that were determined to provide suitable habitat conditions for both common and sensitive species. Whether by direct observation, sign, or trapping small mammals were commonly observed within disturbed habitats, upland habitats, in natural lands adjacent to residential communities, and along or within constructed and natural drainage features. Species detected or observed included desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), western harvest mouse (*Reithrodontomys megalotus*), California ground squirrel (*Otospermophilus beecheyi*), dulzura kangaroo rat (*Dipodomys simulans*), Baja mouse (*Peromyscus fraterculus*), deer mouse (*Peromyscus maniculatus*), brush mouse (*Peromyscus boylii*), cactus mouse (*Peromyscus eremicus*), and Botta's pocket gopher (*Thomomys bottae*).

Mid-size mammals including raccoon (*Procyon lotor*) and coyote (*Canis latrans*) were detected or observed within the Survey Area. Raccoons were generally observed within close proximity to riparian habitats. Widely distributed throughout the Survey Area, coyote were observed in a variety of habitats including disturbed lands, agriculture, and natural lands. Mule deer (*Odocoileus hemionus*) were the only large mammals detected and were observed within riparian habitats in the southern half of the Survey Area.

Focused surveys for bats were not conducted within the Survey Area. Bats likely forage over large portions of the Survey Area where they prey species such as small insects, moths, and other invertebrates. Many bats tend to concentrate foraging activities in riparian and wetland habitats where insect abundance is high (CDFW, 2000). Common bats known to occur in the general region of the Survey Area include canyon bat (*Parastrellus hesperus*), greater bonneted bat (*Eumops perotis*), Mexican free-tailed bat (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*), California myotis (*Myotis californicus*), and big brown bat (*Eptesicus fuscus*).

Because of the close proximity to urban development the Survey Area is also frequented by domestic animals including house cat (*Felis catus*) and domestic dog (*Canis familiaris*). It is also likely that invasive or urban associated mammals such as house rats (*Rattus* sp.) and Virginia opossum (*Didelphis virginiana*) may frequent the Study Area. Common house mice (*Mus musculus*) were found to occur throughout the Survey Area and were frequently observed during small mammal trapping events.

Sensitive Vegetation Communities

Sensitive vegetation communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The literature review and vegetation mapping determined that six sensitive vegetation communities including Diegan coastal sage scrub, freshwater marsh, mulefat scrub, non-native annual grassland, southern cottonwood – willow riparian forest, and southern willow scrub occur within or in the vicinity of the Survey Area. Each of these communities generally meet the classification requirements of communities considered sensitive by the CDFW. Table C.5-3 below lists each of these communities and its sensitive equivalent based on CDFW nomenclature.

Designated Critical Habitat

Literature review conducted prior to conducting field surveys determined that designated and/or mapped critical habitat for a federally endangered plant, the San Diego ambrosia (*Ambrosia pumila*), is located within the Survey Area. A population of approximately 16,400 individuals of San Diego ambrosia were identified in nonnative grassland just north of Nicolas Road. This population is within the USFWS-proposed San Diego ambrosia critical habitat, Unit: 3 Santa Gertrudis Creek watershed (USFWS, 2009).

Mapped critical habitat for quino checkerspot butterfly and coastal California gnatcatcher (*Polioptila californica californica*) occur approximately three miles to the east of the Survey Area.

Table C.5-3. Sensitive Vegetation Communities in the Survey Area

Vegetation Communities		
Holland-Oberbauer	**CDFW Sensitive Community**	**State Rank**
Diegan Coastal Sage Scrub (32500)	Diegan Coastal Sage Scrub	S3.1
Freshwater Marsh (52400)	Coastal and Valley Freshwater Marsh	S2.1
Mulefat Scrub (63310)	Southern Riparian Scrub	S3.2
Southern Cottonwood – Willow Riparian Forest (61330))	Southern Cottonwood Willow Riparian Forest	S3.2
Southern Willow Scrub (63320)	Southern Willow Scrub	S2.1

S1 – Less than 6 existing occurrences OR less than 100 individuals
S2 – Between 6-20 existing occurrences OR between 1000-3000 individuals
S3 – Between 21-100 existing occurrences OR between 3000-10,000 individuals
.1 – Very threatened
.2 – Threatened
.3 – No current threats known
(Rank may be expressed as a range of values; hence S2S3 means the rank is somewhere between the two; adding ? to the rank, such as in S2?, represents more certainty than S2S3, but less than S2)

Special-Status Species

Special-status taxa include plant and wildlife species listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for listing, Species of Special Concern, plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California and beyond, and other taxa which have been identified by the United States Fish and Wildlife Service (USFWS), CDFW, and plant species covered under the Western Riverside County.

Special-Status Plant Species

Record searches and consultation with local experts identified a total of 53 special-status plant taxa that have been documented within the general region of the Survey Area. Of this total, 17 taxa were present or determined to have a moderate or high potential to occur in the Survey Area due to a variety of factors. Figures C.5-3a-b and C.5-4a-d (located at the end of this section) illustrate the known locations of special-status plants occurring in or near the Study Area and within the general region (CDFW, 2015a). One federally listed (no state listed) plant species was identified in the Survey Area. Multiple populations of San Diego Ambrosia, federally listed as endangered (also a California Rare Plant Rank [CRPR] 1B.1 plant), were detected in the southern extent of the Survey Area in 2014 (refer to Figures C.5-4a-d, located at the end of this section). Table C.5-4 lists the special-status plants, including federally or State listed, CRPR 1 – 4, and MSHCP covered species that have the potential to occur in or near the Survey Area. Each of these taxa was assessed for its potential to occur within the Survey Area based on the following criteria:

- **Present:** Taxa were observed within the Study Area during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Both a documented recent record (within 10 years) exists of the taxa within the Study Area or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa present within the Study Area.

- **Moderate:** Both a documented recent record (within 10 years) exists of the taxa within the Study Area or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal and/or limited within the Study Area or the Study Area is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the Study Area.
- **Low:** A historical record (over 10 years) exists of the taxa within the Study Area or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the Study Area.

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Brand's phacelia *Phacelia stellaris*	Federal: FC State: None CRPR: 1B.1 MSHCP: Covered	Annual herb; coastal dunes and coastal scrub; between 1 and 400 m.	March to June	**Not Likely To Occur.** No suitable habitat, not known from within 25 miles; not detected during surveys.
California bearddtongue *Penstemon californicus*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Perennial herb; sandy soils in chaparral, lower montane coniferous forest, pinyon and juniper woodland; between 1,170 and 2,300 m.	May to August	**Not Likely To Occur.** Survey Area is well below the elevation range and outside of geographic range.
California orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: 1B.2 MSHCP: Covered	Annual grass; vernal pools; between 15 and 660 m.	April to August	**Low.** No suitable habitat present. Observed within approximately 2.0 miles of the Survey Area in 2001 (CCH 2015) and by Aspen in 2015.
Chaparral sand-verbena *Abronia villosa* var. *Aurita*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Annual or perennial herb; sandy soils in chaparral, coastal scrub, and desert dunes; between 80 and 1,600 m.	January to Sept.	**Low.** Marginally suitable sandy wash habitat. Known from within approximately 5.0 miles of project; not detected during surveys.
Coulter's goldfields *Lasthenia glabrata* ssp. *Coulteri*	Federal: None State: None CRPR: 1B.1 MSHCP: Covered	Annual herb; marshes, swamps (coastal salt), playas and vernal pools; between 1 and 1,220 m.	February to June	**Low.** Minimal suitable habitat present. Known from within approximately 5.0 miles; not detected during surveys.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Annual herb; alkali soils on coastal bluff scrub, coastal scrub; between 10 and 200 m.	April to October	**Low.** Minimal suitable habitat present. Known from within approximately 5.0 miles; not detected during surveys.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CRPR: 4.3 MSHCP: Covered	Tree; oak woodlands, chaparral, and coastal sage scrub, usually in canyons and foothills; between 50 and 1,300 m.	March to June	**Present.** Several trees planted with ornamental species.
Hammitt's clay-cress Sibaropsis hammittii	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Annual herb; clay substrate in chaparral and native grasslands; between 720 and 1,065 m.	March to April	**Not Likely To Occur.** Survey Area is well east of the known geographic range.

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Perennial bulb; rocky and calcareous substrate in chaparral, coastal scrub, native grassland; between 105 and 855 m.	May to July	**Moderate**. Marginally suitable habitat is present. Known from within 2 miles; not detected during surveys.
Jaeger's milk-vetch *Astragalus pachypus* var. *jaegeri*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Perennial herb; sandy or rocky substrates in chaparral, cismontane woodland, coastal scrub, native grassland; between 365 and 915 m.	Dec. to June	**Not Likely To Occur.** Marginally suitable habitat present; Survey Area well west of geographic range.
Johnston's rock cress *Boechera johnstonii*	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Perennial herb; on eroded clay in chaparral and lower montane coniferous forest; between 1,350 and 2,150 m.	February to June	**Not Likely To Occur.** Marginally suitable habitat present; well west of geographic range
Little mousetail *Myosurus minimus* ssp. *Apus*	Federal: None State: None CRPR: 3.1 MSHCP: Covered	Annual herb; native grassland, vernal pools (alkaline); between 20 and 640 m.	March to June	**Moderate.** Marginally suitable habitat present. Known from within approximately 0.5 miles; not detected during surveys.
Little purple monkey flower *Mimulus purpureus*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Annual herb; meadows and seeps, pebble plain, upper montane coniferous forest; between 1,900 and 2,300 m.	May to June	**Not Likely To Occur.** Well outside of geographic and elevation range.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland. Often prefers clay soils. Occurs between 30 and 1,530 m. Annual herb	April to July	**Present.** Observed at two locations within the southern half of the Survey Area.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Perennial herb; heavy clay soils in chaparral, coastal scrub, and native grassland; between 0 and 790 m.	April to July	**Not Likely To Occur.** Survey Area well outside of known geographic range.
Mesa horkelia *Horkelia cuneata* ssp. *Puberula*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Perennial herb; chaparral, cismontane woodland, and coastal scrub; between 70 and 810 m.	February to Sept.	**Low**. Marginally suitable habitat is present. Not known from within 5.0 miles of the Survey Area; not detected during surveys
Mojave tarplant *Deinandra mohavensis*	Federal: None State: None CRPR: 1B.3 MSHCP: Covered	Annual herb; mesic substrates in chaparral, coastal scrub and riparian scrub; between 640 and 1,600 m.	June to January	**Not Likely To Occur.** Survey Area is well outside of known geographic range.
Mud nama *Nama stenocarpum*	Federal: None State: None CRPR: 2.2 MSHCP: Covered	Annual or perennial herb; vernal pools, marshes and swamps (lake margins, riverbanks); between 5 and 500 m.	January to July	**Not Likely To Occur.** Survey Area is well outside of known geographic range.

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Munz's mariposa lily *Calochortus palmeri* var. *munzii*	Federal: None Stats: None CRPR: 1B.2 MSHCP: Covered	Perennial bulb; meadow and seeps in chaparral, lower montane coniferous forest; between 1,200 and 2,200 m.	May to July	**Not Likely To Occur.** No suitable habitat present and the Survey Area is well below the known elevation range.
Munz's onion *Allium munzii*	Federal: FE State: ST CNPS: 1B.1 MSHCP: Covered	Perennial bulb; mesic and clay soils in chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, native grassland; between 297 and 1,070 m.	March to May	**High.** Suitable habitat present. Known from within approximately 0.5 miles of the Survey Area; not detected during surveys.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CRPR: 1B.1 MSHCP: None	Shrub; sandy and rocky soils in chaparral, cismontane woodland, coastal scrub, native grassland; between 295 and 825 m.	March to June	**Not Likely To Occur.** Survey Area is well outside of known geographic range.
Orcutt's brodiaea *Brodiaea orcuttii*	Federal: None State: None CRPR: 1B.1 MSHCP: Covered	Perennial herb; clay or serpentine soils in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, native grassland, vernal pools; between 30 and 1,692 m.	May to July	**Not Likely To Occur.** Survey Area is northeast of the known geographic range and it was not detected during surveys.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CRPR: 4.2 MSHCP: None	Annual; clay soils in chaparral, coastal scrub, and native grasslands, between 15 and 830 m.	March to April	**Present.** Observed at several locations within the Survey Area.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CRPR: 4.2 MSHCP: None	Annual herb; coastal scrub, native grasslands, and vernal pools; between 25 and 940 m.	April to Nov.	**Present.** Observed at numerous locations within the Survey Area.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: 1B.1 MSHCP: Covered	Annual herb; alkali soils in chenopod scrub, playas, and vernal pools; between 25 and 1,900 m.	June to October	**Low.** Minimal suitable habitat present. Known from within approximately 1.5 miles; not detected during surveys.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Annual herb; sandy and rocky soils in chaparral, cismontane woodland, coastal scrub, native grassland; between 275 and 1,220 m.	April to June	**High.** Suitable habitat is present. Known from approximately 1.0 mile to the east; not detected during surveys.
Payson's jewel-flower *Caulanthus simulans*	Federal: None State: None CRPR:4.2 MSHCP: None	Annual herb; burned areas, or in disturbed sites such as streambeds; also on rocky, steep slopes in chaparral, coastal scrub; between 90 and 2,200 meters.	February to June	**Low.** Minimal suitable habitat present. Known from within approximately 2.0 miles; not detected during surveys.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Perennial bulb; granitic or rocky substrates in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, native grassland; between 100 and 1,700 m.	May to July	**Moderate**. Marginally suitable habitat present. Known from within approximately 2.0 miles not; detected during surveys.

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Prostrate navarretia *Navarretia prostrata*	Federal: None State :None CRPR:1B.1 MSHCP: Covered	Annual herb; vernal pools, mesic areas in coastal scrub, meadows and seeps, native grassland (alkaline); between 15 and 1,210 m.	April to July	**Not Likely To Occur.** Survey Area is northeast of the known geographic range and it was not detected during surveys.
Rainbow manzanita *Arctostaphylos rainbowensis*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Shrub; chaparral; between 225 and 640 m.	January to February	**Not Likely To Occur.** Survey Area is well north of the known geographic range; not detected surveys.
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	Federal :None State: None CRPR: 4.3 MSHCP: None	Annual; chaparral and coastal scrub; between 1 and 885 m.	January to July	**High.** Suitable habitat present. Known from within approximately 1.0 mile; not detected during surveys.
Round-leaved filaree *California macrophylla*	Federal: None State: None CRPR: 1B.1 MSHCP: None	Annual herb; clay soils in cismontane woodland, native grassland; between 13 and 1,200 m.	March to May	**High.** Suitable habitat present. Known from within approximately 1.0 mile; not detected during surveys.
Salt spring checkered bloom *Sidalcea neomexicana*	Federal: None State: None CRPR 2.2 MSHCP: None	Perennial herb; alkali and mesic soils in chaparral, coastal scrub, lower montane coniferous forest, desert scrub, playas; between 15 and 1,530 m.	March to June	**Not Likely To Occur.** Minimal suitable habitat present; Survey Area is more than 10 miles from nearest known population.
San Diego ambrosia *Ambrosia pumila*	Federal :FE State: None CRPR: 1B.1 MSCP: Covered	Rhiz. perennial herb; chaparral, coastal scrub, Native grassland, vernal pools; often in disturbed Areas; between 20 and 415 m.	April to October	**Present**. Species was observed within the southern extent of the Survey Area in 2014.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CRPR: 1B.1 MSCP: Covered	Annual herb; coastal scrub, native grasslands and vernal pools; between 20 and 620 m.	April to June	**Not Likely To Occur.** Minimal suitable habitat present. Survey Area is well east of the known geographic range.
San Jacinto Mountains bedstraw *Galium angustifolium* ssp. *Jacinticum*	Federal: None State: None CRPR: 1B.1 MSHCP: Covered	Perennial herb; lower montane coniferous Forest; between 1,350 and 2,100 m.	June to August	**Not Likely To Occur.** Survey Area is well west of the known geographic range and below the known elevation range.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CRPR: 1B.1 MSHCP: Covered	Annual herb; alkali substrates in playas, native grasslands and vernal pools; between 139 and 500 m.	April to August	**Low.** Minimal suitable habitat present. Known from within approximately 5.0 miles; not detected during surveys.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CRPR: 1B.2 MSHCP: Covered	Perennial herb; on gabbroic or metavolcanic soils in chaparral, cismontane woodland, coastal scrub, riparian woodland, native grasslands; between 120 and 1,075 m.	March to July	**Not Likely To Occur.** Survey Area is northeast of the known geographic range and it was not detected during surveys.

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Santa Lucia dwarf rush *Juncus luciensis*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Annual herb; seeps in chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, as well as vernal pools; between 300 and 2,040 m.	April to July	**Not Likely To Occur.** Survey Area is northeast of the known geographic range and it was not detected during surveys.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR: 1B.1 MSHCP: Covered	Annual herb; sandy soils on alluvial benches in chaparral, cismontane woodland, and coastal scrub; between 200 and 760 m.	April to May	**Not Likely To Occur.** No suitable alluvial habitat present; species not detected during surveys.
Small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	Federal: None State: None CRPR: 4.2 MSHCP: None	Annual herb; clay soils in cismontane woodland, coastal scrub, native grasslands, and vernal pools; between 15 and 1,070 m.	March to May	**High.** Suitable habitat present. Known from within approximately 2.0 miles; not detected during surveys.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CRPR: 4.2 MSHCP: None	Annual herb; openings in chaparral and coastal scrub, And native grasslands; between 30 and 700 m.	March to July	**Present.** Species was observed at numerous locations within the southern half of Survey Area.
Smooth tarplant *Centromadia pungens* ssp. *Laevis*	Federal: None State: None CRPR: 1B.1 MSCP: Covered	Annual herb; alkali soils in chenopod scrub, meadows and seeps, playas, riparian woodland and native grasslands; between 0 and 640 m.	April to Sept.	**Present.** Species was observed at several locations within the Survey Area.
South coast saltscale *Artiplex pacifica*	Federal: None State: None CRPR: 1B.2 MSHCP: None	Annual; coastal bluff scrub, coastal dunes, coastal scrub, playas; between 0 and 140 m.	March to August	**Low.** Minimal suitable habitat present. Known from within approximately 5.0 miles; not detected during surveys.
Southern California black walnut *Juglans californica*	Federal: None State: None CRPR: 4.2 MSHCP: Covered	Deciduous tree; chaparral, coastal scrub, and both cismontane and riparian woodlands; between 50 and 900 m.	March to August	**High**. Suitable habitat present; not detected during surveys.
Southern mountains skullcap *Scutellaria bolanderi* ssp. *Austromontana*	Federal: None State: None CRPR:1B.2 MSHCP: None	Perennial herb; streamside in chaparral, cismontane woodland, lower montane coniferous forest and oak or pine woodland; between 425 and 2,000 m.	June to August	**Low.** Minimal suitable habitat present. Nearest known population approximately 7.5 miles to the west.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CRPR: 1B.1 MSHCP: Covered	Annual herb; vernal pools, playas, and mesic areas in chenopod scrub, marshes and swamps; between 30 and1,300 m.	March to May	**Low.** No suitable habitat present. Observed within approximately 2.0 miles of the Survey Area by Aspen in 2015.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CRPR: 1B.1 MSHCP: Covered	Perennial bulb; clay substrates in chaparral (openings), cismontane woodland, coastal scrub, playas, native grassland, and vernal pools; between 25 and 1,219 m.	March to June	**Low**. Marginally suitable habitat present. Known from within approximately 5.0 miles; not detected during surveys

Table C.5-4. Special-Status Plants Present or with Potential to Occur in the Project Survey Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Vail Lake ceanothus *Ceanothus ophiochilus*	Federal: FT State: SE CRPR: 1B.1 MSCP: None	Shrub; prefers gabbroic or pyroxenite-rich outcrops in chaparral; known only from near Vail Lake; between 580 and 1,065 m.	February to March	**Not Likely To Occur.** Survey Area is well north of the known geographic range.
Vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: 3.2 MSHCP: Covered	Annual grass; coastal dunes, coastal scrub; native grasslands, and vernal pools; between 5 and 1,000 m.	March to June	**High.** Suitable habitat present. Observed in the Survey Area in 2006 (CCH, 2015) but not detected during recent surveys
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: 2.2 MSHCP: None	Perennial herb; sandy substrates in chaparral, cismontane woodland, coastal scrub, and riparian woodlands; between 0 and 2,100 m.	July to Dec.	**Low**. Suitable habitat present. Not known within 5 miles of Survey Area.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: None State: None CRPR: 2.1 MSHCP: Covered	Annual herb; alkali soils in meadows, seeps, marshes, swamps, riparian forest and vernal pools; between 5 and 435 m.	May to Sept.	**Not Likely To Occur.** Survey Area is well south of the known geographic range.
Yucapia onion *Allium marvinii*	Federal: None State: None CRPR: 1B.1 MSHCP: Covered	Perennial bulb; clay substrates in chaparral; between 760 and 1,065 m.	April to May	**Not Likely To Occur.** Survey Area is well south of the known geographic range.

Federal designations: (federal ESA, USFWS).
FE: Federally listed, endangered.
FT: Federally listed, threatened.
FC: Federal candidate for listing.
State designations: (CESA, CDFW)
END: State listed, endangered.
THR: State listed, threatened.
California Rare Plant Rank (CRPR):
1A. – Presumed extinct in California
1B. – Rare or endangered in California and elsewhere
2A. – Presumed extinct in California, more common elsewhere
2B. – Rare or endangered in California, more common elsewhere
3. – Plants for which more information is needed (Review list)
4. – Plants of limited distribution (Watch List)
Threat Rank Extension:
0.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = Fairly endangered in California (20-80% occurrences threatened)
0.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)
Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)
Covered= Species that are covered by the MSHCP as either a Criteria Area Plant or a Narrow Endemic Plant

Seven special status plant species were found in the Survey Area between 2013 and 2015. One of these, San Diego ambrosia, is a federally listed as endangered; the remaining species have a CRPR of 1B, 3, or 4. Some of the special-status plants present or with some potential for occurrence in the Survey Area are covered under the MSHCP. All populations of special-status plant species were mapped throughout the Survey Area (refer to Figures C.5-4a-d, located at the end of this section, and Appendix 3-2, Plants Observed). Additional details pertaining to special-status species found within the Survey Area and all those with at least a moderate or high potential for occurrence are presented below.

Federal or State Listed Plant Species

San Diego ambrosia (*Ambrosia pumila*)

San Diego ambrosia is a federally endangered species. It also has a CRPR of 1B.1 and is a covered species under the MSHCP. Botanical surveys documented multiple populations totaling approximately 16,400 plants in the Survey Area approximately 0.2 miles north of the southern terminus of the Survey Area (Figures C.5-4a-d, located at the end of this section). Because this species spreads via rhizomes one or more visible stems may be emanating from a single plants root structure. Within large populations of this species the actual number of plants present is often over estimated. This population was also documented in 2006 by botanist Andy Sanders (CCH, 2015) who at that time estimated the population at approximately 10,000 plants.

Munz's onion (*Allium munzii*)

Munz's onion is federally endangered and State listed as threatened, has a CRPR of 1B.1 and is a covered species under the MSHCP. This species was not documented in the Survey Area during focused botanical surveys however it has a high potential for occurrence. Suitable habitat is present within the Survey Area and this species has been documented within 0.5 miles of the Survey Area (CCH, 2015).

CRPR 1B Special-Status Plant Species

Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*)

Intermediate mariposa lily has a CRPR of 1B.2 and is a covered species under the MSHCP. This species was not documented in the Survey Area but it has been observed roughly 1.3 miles west in similar habitat to what is present in the Survey Area. This species has a moderate potential for occurrence in the Survey Area.

Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)

Long-spined spineflower has a CRPR of 1B.2 and is a covered species under the MSHCP. Approximately 400 plants were observed north of and 130 plants south of Murrieta Hot Springs Road in the southern portion of the Survey Area. All plants were found within non-native grassland and Diegan coastal sage scrub habitats (Figures C.5-4a-d, located at the end of this section).

Parry's spineflower (*Chorizanthe parryi* var. *parryi*)

Parry's spineflower has a CRPR of 1B.1 and is a covered species under the MSHCP. This species was not documented in the Survey Area but has been observed roughly 1.3 miles west in similar habitat to what is present in the Survey Area during surveys conducted in 2014. This species has a High potential for occurrence in the Survey Area.

Round-leaved filaree (*California macrophylla*)

Round-leaved filaree has a CRPR of 1B.1. This species was not observed within the Survey Area but is known from two locations within 0.5 miles (CCH, 2015) of the Survey Area. One is a historical record from the old Alice Mine, approximately 1.6 miles west of the Survey Area (just north of Keller Road) and the other is from 1998 near "The Willows" development within the general vicinity of the southern terminus of the Survey Area (CCH, 2015). This species typically germinates in years with higher rainfall levels (which did not occur during the survey years) and therefore may not have been visible during focused botanical surveys from 2012 – 2014; this species has a high potential for occurrence.

Smooth tarplant (*Centromadia pungens* ssp. *laevis*)

Smooth tarplant has a CRPR of 1B.1 and is a covered species under the MSHCP. This species was generally found in disturbed ephemeral basins and shallow watercourses, within the northern portions of the Survey Area (Figures C.5-4a-d, located at the end of this section).

CRPR 3 Special-Status Plant Species.

Little mousetail (*Myosurus minimus* ssp. *apus*)

Little mousetail has a CRPR of 3.1 and was not found in the Survey Area. This species has been documented within 0.5 miles of the Survey Area (CCH, 2015). Although this species was not detected within the Survey Area it has a moderate potential for occurrence, especially in years with above average rainfall totals that fill seasonal ponds and/or vernal pools.

Vernal barley (*Hordeum intercedens*)

Vernal barley has a CRPR of 3 and is a covered species under the MSHCP. It was found within the Survey Area in 2006 (CCH, 2015). Although this species was not detected in the Survey Area during the most recent surveys suitable habitat is present and it has a high potential of occurrence.

CRPR 4 Special-Status Plant Species

Engelmann oak (*Quercus engelmannii*)

Engelmann oak, which has a CRPR of 4.2, was observed within the Survey Area north of Simpson Rd. along the west side of Leon Rd. where it appears to have been planted as an ornamental tree. Although no naturally occurring Engelmann oaks were observed within the Survey Area they do have some potential for occurrence in the southern portions of the Survey Area.

Palmer's grapplinghook (*Harpagonella palmeri*)

Palmer's grapplinghook has a CRPR of 4.2. This species was observed approximately 0.5 miles north of Murrieta Hot Springs Rd. in the southern portion of the Survey Area (approximately 1,050 plants). The plants were located on clay soils in non-native grassland and Diegan coastal sage scrub (Figures C.5-4a-d, located at the end of this section).

Paniculate tarplant (*Deinandra paniculata*)

Paniculate tarplant, which has a CRPR of 4.2, was found in large local populations throughout the southern portion of the Survey Area and within a few distinct locations in the northern portion of the Survey Area. This species was most observed in non-native grassland and ruderal habitats along disturbed road edges, in Diegan coastal sage scrub, and at the edges of seasonally wet basins, and riparian zones.

Plummer's mariposa lily (*Calochortus plummerae*)

Plummer's mariposa lily, which has a CRPR of 4.2, was not observed in the Survey Area. This species is known from within approximately 3.5 miles (CCH 2015) of the Survey Area and has a moderate potential to occur in areas mapped as Diegan coastal sage scrub habitats.

Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)

Robinson's pepper-grass, which has a CRPR of 4.3, was not observed in the Survey Area. This species was observed approximately 1.3 miles east of the Survey Area during surveys conducted in 2014; this species has a high potential for occurrence in the Survey Area. This subspecies is currently not recognized by the most recent edition of the Jepson Manual (Baldwin et al. 2012). Robinson's pepper grass is now included

under *Lepidium virginicum* ssp*. menziesii*, the only other subspecies of *Lepidium virginicum.* Because these two subspecies may be difficult to distinguish in the field, academics are currently debating whether the two should be differentiated or considered the same species. For the purposes of this document, the plants are treated as distinct subspecies.

Small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*)

Small-flowered microseris, which has a CRPR of 4.2, was not observed in the Survey Area. This species was observed approximately two miles east of the Survey Area during surveys conducted in 2014 and has a moderate potential to occur within the Survey Area.

Small-flowered morning-glory (*Convolvulus simulans)*

A CRPR rank 4.2 species, small-flowered morning-glory was found at multiple locations within the southern half of the Survey Area. The largest population, approximately 50,000 plants, occurs just south of and adjacent to Auld Road.

Southern California black walnut (*Juglans californica*)

Southern California black walnut has a CRPR of 4.2 and is a covered species under the MSHCP. This species was not observed in the Survey Area but has a high potential to occur within many of the mapped riparian habitats.

Special-Status Wildlife Species

Special-status taxa include those listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for listing, Species of Special Concern, and other taxa which have been identified by the USFWS, CDFW, or are covered under the MSHCP as unique or rare and which have the potential to occur within the Survey Area. Figures C.5-3a-b and C.5-5a-d (located at the end of this section) illustrate the known locations of special-status wildlife occurring within the queried area (CDFW, 2015a). The CNDDB was queried for occurrences of special-status wildlife taxa within a 3-mile radius surrounding the Survey Area. The specific habitat requirements and the locations of known occurrences of each special-status wildlife taxa were the principal criteria used for inclusion in the list of taxa potentially occurring within the Survey Area. There are currently 91 special-status wildlife taxa that have been documented within the general region of the Survey Area. Each of these taxa were assessed for its potential to occur within the Survey Area based on the following criteria:

- **Present:** Taxa (or sign) were observed in the Survey Area or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Habitat (including soils) for the taxa occurs on site and a known occurrence occurs within the Survey area or adjacent areas (within 5 miles of the site) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate:** Habitat (including soils) for the taxa occurs on site and a known regional record occurs within the database search, but not within 5 miles of the Survey Area or within the past 20 years; or, a known occurrence occurs within 5 miles of the Survey Area and within the past 20 years and marginal or limited amounts of habitat occurs on site; or, the taxa's range includes the geographic area and suitable habitat exists.
- **Low:** Limited habitat for the taxa occurs in the Survey and no known occurrences were found within the database search and the taxa's range includes the geographic area.

A total of 37 taxa were either observed or assumed to be present within, or immediately adjacent to the Survey Area, based on surveys conducted from 2012 - 2014, and/or consultation with local experts. The remaining 54 taxa were reviewed and 43 taxa were determined to have a low, moderate or high potential to occur in the Survey Area based on existing recorded occurrences, known geographic range, and/or the presence of suitable habitat. Table C.5-5 summarizes the special-status wildlife taxa known to regionally occur and their potential for occurrence in the Survey Area. A detailed list of all taxa (common and special-status) present in the Survey Area is included in Appendix 3-1 of this document.

Threatened, Endangered, or Special-Status Invertebrates

A habitat assessment and protocol surveys for the federally endangered Quino checkerspot butterfly were conducted in 2013. No Quino checkerspot were detected during the surveys although widespread suitable habitat was present in the Survey Area. Wet and dry season surveys for fairy shrimp were conducted from 2012 – 2014 within suitable habitat in the Survey Area; no listed species were detected.

Threatened, Endangered, or Special-Status Reptiles

Three special-status reptiles, coastal western whiptail (*Aspidoscelis tigris multiscutatus*), two-striped garter snake (*Thamnophis hammondii*), and coast horned lizard (*Phrynosoma blainvillii*), have been observed in the Survey Area. Two adult coastal western whiptail, a CDFW Special Animal and MSHCP covered species, were observed within disturbed and scrub habitats near developed areas in the southern extent of the Survey Area during surveys conducted in 2012. Two-striped garter snake, a California Species of Special Concern, was found within a disturbed drainage northwest of the intersection of Leon and Baxter roads. Multiple coast horned lizards were detected within coastal sage scrub habitat adjacent to Leon Road, just north of Holland Road, in the northern portion of the Survey Area. The coast horned lizard is a California Species of Special Concern and an MSHCP covered species.

While not detected in the Study Area, a variety of special-status reptiles are known to occur in the vicinity including northern red diamond rattlesnake (*Crotalus ruber ruber*) and orange throated whiptail (*Aspidoscelis hyperythra*). Both silvery legless lizard (*Anniella pulchra pulchra*), a California Species of Special Concern, and granite night lizard (*Xantusia henshawi henshawi*), a MSHCP covered species, are also known to occur in the general vicinity of the Survey Area.

Threatened, Endangered, or Special-Status Amphibians

Western spadefoot toad (*Spea hammondii*), a California Species of Special Concern and MSHCP covered species, was detected at two locations during surveys conducted in the Survey Area from 2012 – 2014. A single adult toad was found within a ponded area in Salt Creek and within a disturbed drainage northwest of the intersection of Leon and Baxter Roads. While not detected during surveys within the Survey Area, San Diego banded gecko (*Coleonyx variegatus abbottii*), an MSHCP covered species, is likely to occur within the large rock outcrops present throughout the Survey Area.

Threatened, Endangered, or Special-Status Birds

With the exception of protocol least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher (*Polioptila californica californica*), and southwestern willow flycatcher (*Empidonax traillii extimus*) surveys, the majority of bird sightings were made while conducting general biological surveys. Least Bell's vireo, federally and state listed as endangered and a MSHCP covered species, was documented within and adjacent to the Survey Area during surveys in 2012 and 2014. Multiple individuals were detected within a riparian area just east of the Survey Area and immediately north of Auld Road in 2014. Least Bell's vireo

were also detected within the riparian and freshwater marsh habitats that occur in the Survey Area immediately upstream of Max Gillis Blvd.

Protocol surveys for southwestern willow flycatcher, federally and State endangered and a MSHCP covered species, were conducted in both 2012 and 2014; no southwestern willow flycatchers were detected during the surveys. A single willow flycatcher (*Empidonax traillii*), State listed as endangered, was detected within a stand of ornamental trees at the entrance to a private residence, just south of Auld Road, in the Survey Area in 2014.

A federally threatened, California Species of Special Concern, and MSHCP covered species, Coastal California gnatcatcher was detected during both protocol and general biological surveys within the Survey Area. A single female gnatcatcher was observed just north of the intersection of Case Road and Briggs Road in the northern portion of the Survey Area in 2012 (SCE, 2014). Two adults and three fledglings were observed adjacent to Leon Road, just north of Holland Road, during 2012 protocol surveys (SCE, 2014). A single gnatcatcher was detected within coastal sage scrub habitat adjacent to Leon Road, north of Murrieta Hot Springs Road, during burrowing owl surveys in 2014.

Two California Fully Protected species, white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), have been observed within or adjacent to the Survey Area. While-tailed kites were observed foraging within the northern extent of the Survey Area during surveys in 2012. A pair of golden eagles was observed perched on a rock outcrop in the agricultural fields east of Leon Road and south of Craig Road adjacent to the Survey Area during surveys in 2012; this species is not expected to nest in the Survey Area but likely forages throughout. A total of five burrowing owls (*Athene cunicularia*), a California Species of Special Concern, were detected in or immediately adjacent to the Survey Area during surveys conducted in 2012; suitable habitat for this species occurs throughout the Survey Area.

Several species listed as species of special concern by the CDFW have been identified in the Survey Area including tricolored blackbird (*Agelaius tricolor*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), northern harrier (*Circus cyaneus*), horned lark (*Eremophila alpestris*), prairie falcon (*Falco mexicanus*), yellow-breasted chat (*Icteria virens*), loggerhead shrike (*Lanius ludovicianus*), and yellow warbler (*Setophaga petechial*). Great egret (*Ardea alba*), great blue heron (*Ardea herodias*), Costa's hummingbird (*Calypte costae*), snowy egret (*Egretta thula*), Nuttall's woodpecker (*Picoides nuttallii*), Allen's hummingbird (*Selasphorus sasin*), and Lawrence's goldfinch (*Spinus lawrencei*), all CDFW Special Animals, have also been detected within the Survey Area.

Threatened, Endangered, or Special-Status Mammals

Stephens' kangaroo rat (*Dipodomys Stephensi*), a federally endangered, state threatened, and MSHCP covered species, was detected during small mammal trapping events within grassland and open sage scrub habitats within both the northern and southern extents of the Survey Area. Twelve Stephens' kangaroo rats were recorded during small mammal trapping events within the Survey Area in 2012 and 2014.

A variety of special-status mammals, all California Species of Special Concern and MSHCP covered species, have been detected in the Survey Area including San Diego black-tailed jack rabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). Southern grasshopper mouse, a CDFW Species of Special Concern, was also detected within the Survey Area. Although not detected during survey events a suite of other special-status mammals have the potential to occur in the Survey Area. Some of these species include pallid bat (*Antrozous pallidus*),

western mastiff bat (*Eumopos perotis californicus*), hoary bat (*Lasiurus cinereus*), and American badger (*Taxidea taxus*).

Wildlife Corridors and Linkages

The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy home ranges, if a species range extends across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The California Missing Linkages Project (CMLP) has identified an at-risk habitat linkage area that crosses Leon Road, just north of Baxter Road, in the Survey Area (Penrod et al., 2001). The VSSP occurs within the CLMPs defined South Coast ecoregion; this ecoregion had the most at-risk linkage areas within the State. The South Coast ecoregion is roughly bound by the Sierra Madre Mountains, and Tehachapi mountains to the north, the Antelope Valley, Little San Bernardino Mountains, Coachella Valley, and Imperial Valley to the east; Baja to the south, with the Pacific Ocean forming the western boundary (Penrod et al., 2001). The CMLP has identified the at-risk habitat linkage area, occurring within the Survey Area, as South Coast ecoregion No. 58, Tucalota Creek. Types of threats listed for Tucalota Creek include housing development, human recreation, and exotic plants (Penrod et al., 2001). The riparian habitat within this at-risk linkage area is a key component facilitating wildlife movement.

Ultimately, linkages and corridors facilitate regional animal movement. Corridors offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Riparian corridors like the Santa Clara River remain a common pathway utilized by many species because they typically provide cover, foraging opportunities, and water. However, as the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or perpendicular linear movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor," but towards suitable riparian or upland wintering habitat (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh, 1997). In general, the following corridor functions should be considered when evaluating impacts to wildlife movement corridors:

a. **Movement corridors** are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits, but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
INVERTEBRATES					
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Vernal Pools.	Although not detected during surveys conducted from 2012 to 2014. The CNDDB reports an occurrence of this species approximately 0.4 miles east of the southern extent of the Survey Area. Potentially suitable habitat is present within the Survey Area.	High
Euphydryas editha quino	Quino checkerspot	FE, MSHCP	Occurs in sunny openings within chaparral and coastal sage shrub, grasslands, and vernal pools, often along ridgelines and hilltops in parts of Riverside and San Diego Counties. The primary host plants for this species' larvae are *Plantago erecta*, *P. patagonica*, and *Castilleja exserta* (TRC, 2013).	Suitable habitat for this species is present in the Survey Area. However, surveys conducted in 2013 did not detect this species. The CNDDB reports multiple occurrences of this species within and adjacent to the Survey Area.	High
Danaus plexippus	Monarch butterfly (California overwintering population)	SA	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby	Although not detected this species may occur intermittently in the Survey Area; suitable winter roosting habitat is available within the stands eucalyptus present in the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area.	Low
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	MSHCP	Cool water vernal pools on the Santa Rosa Plateau. Found in depressions over basaltic soils (AECOM, 2014).	This species has not been detected in the Survey Area however potentially suitable habitat is present. This species is only known from the Santa Rosa Plateau in western Riverside County. The closest CNDDB record for this species is approximately 6 miles to the west of the Survey Area on the Santa Rosa Plateau.	Not Likely To Occur
Rhaphiomidas terminates abdominalis	Delhi Sands flower-loving fly	FE, MSHCP	Delhi sands soil type and dunes with open coastal sage scrub and grassland.	This species was not detected during surveys conducted within the Survey Area. Suitable sand dune habitat is not present within the Survey Area. The nearest CNDDB record is approximately 15 miles to the northwest of the Survey Area.	Not Likely To Occur.
Streptocephalus woottoni	Riverside fairy shrimp	FE	Vernal pools and other ephemeral wetlands within coastal sage scrub, valley and foothill grassland (TRC, 2013).	There are multiple CNDDB records for this species within or immediately adjacent to the Survey Area. Surveys conducted from 2012 – 2014 did not detect this species in the Survey Area; surveys were conducted in years of less than average rainfall which may have affected the results. Potentially suitable habitat occurs in the Survey Area.	High

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
FISH					
Gila orcuttii	Arroyo chub	CSC, MSHCP	Los Angeles Basin southern coastal streams; slow water stream sections with mud or sand bottoms; feeds heavily on aquatic vegetation and associated invertebrates.	This species was not documented within the Survey Area. The Survey Area is located within the known geographic distribution for this species; limited suitable habitat may be present in the drainages that occur within the Survey Area (during periods when flowing water is present). The CNDDB reports a historic occurrence of this species approximately 3.5 miles southwest of the southern extent of the Survey Area.	Not Likely To Occur.
AMPHIBIANS					
Anaxyrus californicus	Arroyo toad	FE, CSC, MSHCP	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash; rivers with sandy banks, willows, cottonwoods, and/or sycamores.	There are no known records for this species in the Survey Area or surrounding areas; the Survey Area is located just outside of the known current geographic distribution for this species. Potentially suitable habitat occurs within portions of the Survey Area.	Low
Rana draytonii	California red-legged frog	FT, CSC, MSHCP	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to aestivation habitat.	Although not documented from the Study Area, the Survey Area is within the known historic range for this species. Suitable but limited habitat occurs within portions of the Study Area when flowing water is present for extended periods of time. This species is known from the Santa Rosa Plateau approximately 6 miles west of the Survey Area.	Low
Rana mucosa	Mountain yellow-legged frog	FE, SE, CSC	Prefers partly shaded, shallow streams with a rocky substrate; requires a minimum of 15 weeks of permanent water for metamorphosis.	This species has not been documented in the Survey Area; the Survey Area is outside of the known historic range for this species. Suitable but limited habitat occurs within portions of the Study Area when flowing water is present for extended periods of time. There are no CNDDB records for this species within 20 miles of the Survey Area.	Not Likely To Occur
Spea hammondii	Western spadefoot	CSC, MSHCP	Occurs in numerous habitat types, primarily in grasslands but can be found in valley-foothill hardwood woodlands, sage scrubs, chaparral where pooled/ponded water, supporting typically clay-rich soils, remains through early spring (April/May); in some areas, vernal pools, stock ponds, and road pools are essential for breeding, egg-laying, and larval development.	Western spadefoot toads were detected at two locations in the Survey Area during surveys from 2012 – 2014. The Survey Area is located within the known geographic distribution for this species	Present

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Taricha torosa	Coast Range newt	CSC, MSHCP	Breeds in ponds, reservoirs, streams; terrestrial individuals occupy various adjacent upland habitats, including grasslands, woodlands, and forests.	There are no known recent records for this species in the Survey Area; the Survey Area is located on the boundary of the known geographic distribution for this widespread species. Limited breeding habitat is potentially available (dependent on rainfall) however suitable upland habitat occurs within portions of the Study Area. The closest known CNDDB record for this species is approximately 7.5 miles west.	Low
REPTILES					
Anniella pulchra	Silvery legless lizard	CSC	Sandy or loose loamy soils under sparse vegetation; soil moisture is essential; prefer soils with high moisture content.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species; suitable habitat occurs throughout the Survey Area. The closest CNDDB records for this species occurs approximately 19 miles north.	Moderate
Aspidoscelis hyperythra	Orange-throated whiptail	CSC, MSHCP	Openly vegetated areas with sandy or loose soil within coastal sage scrub, chaparral, and valley foothill hardwood habitats. Requires termite colonies for food (TRC, 2013).	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs throughout the Survey Area. This species has been recently documented approximately 2 miles to the west of the Survey Area (TRC, 2013)	High
Aspidoscelis tigris stejnegeri	Coastal western whiptail	SA, MSHCP	Found in deserts and semi-arid areas with sparse vegetation and open areas; also found in woodland and riparian habitats; substrates may be firm soil, sandy, or rocky.	This species was detected at multiple locations in the Survey Area during surveys from 2012 – 2014; the Survey Area is located within the known geographic distribution for this species.	Present
Coleonyx variegatus abbottii	San Diego banded gecko	MSHCP	Occurs in arid areas including creosote flats, sagebrush desert, pinion juniper woods, and chaparral. Prefers rocky areas, but may occur in rock-free areas such as sand dunes (TRC, 2013).	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs throughout portions of the Survey Area. The CNDDB reports multiple occurrences of this species within approximately 5.5 - 6 miles east and southeast of the Survey Area.	Moderate
Crotalus ruber	Red diamond rattlesnake	CSC, MSHCP	Primarily coastal sage scrub and chaparral, but also open woodland, grassland, and desert fringe areas on both sides of dividing ranges. Prefers rocky areas with rodent burrows, rock fissures, or other surface cover objects.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs throughout the Survey Area. This species was recently observed approximately 2.0 miles to the west (TRC, 2013). There are multiple CNDDB records for this species within 5 miles of the Survey Area, including one in the southern extent of the Survey Area.	High

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Emys marmorata	Western pond turtle	CSC, MSHCP	Inhabits permanent or nearly permanent bodies of water in various habitat types; requires basking sites such as partially submerged logs, vegetation mats, or open mud banks.	There are no known records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs within limited portions of the Survey Area. The CNDDB reports an occurrence of this species approximately 1 mile east of the southern extent of the Survey Area.	Moderate
Lampropeltis zonata parvirubra	San Bernardino mountain kingsnake	CSC, MSHCP	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Found in southern California in the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel Mountains, and the Verdugo Hills.	There are no known records for this species in the Survey Area; the Survey Area is located outside the known geographic distribution for this species. There are no CNDDB records for this species within 20 miles of the Survey Area.	Not Likely To Occur
Lampropeltis zonata pulchra	San Diego mountain kingsnake	CSC, MSHCP	Occurs in a variety of habitats, spends most of its time underground under objects or in crevices. Active during the day when near shaded streams on warm days.	There are no known records for this species in the Survey Area; the Survey Area is located outside the known geographic distribution for this species. There are no CNDDB records for this species within 20 miles of the Survey Area.	Not Likely To Occur
Phrynosoma blainvillii	Coast horned lizard	CSC, MSHCP	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate zones; prefers friable, rocky, or shallow sandy soils; requires native ant food source.	Multiple coast horned lizards were observed within coastal sage scrub habitats in the Survey Area. The Survey Area is located within the known geographic distribution for this species; suitable habitat occurs within large portions of the Survey Area.	Present
Salvadora hexalepsis virgultea	Coast patch-nosed snake	CSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, rocky areas; broad generalist.	There are no known records for this species within the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs within the Survey Area. The CNDDB reports multiple occurrences of this species from approximately 12 – 13 miles both east and west of the Survey Area.	Moderate
Sceloporus graciosus vandenburgianus	Southern sagebrush lizard	MSHCP	Open rocky or sandy areas in montane chaparral or forest.	There are no known records for this species in the Survey Area; the Survey Area is located just outside the known geographic distribution for this species. There are no CNDDB records for this species within 20 miles of the Survey Area.	Not Likely To Occur

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Sceloporus orcuttii	Granite spiny lizard	MSHCP	Extensive outcrops of large granitic boulders, especially with fissures. Within various scrub, grassland, and woodland vegetation types (TRC, 2013).	This species was documented at multiple locations within the Survey Area during surveys conducted in 2012. The Survey Area is within the known geographic distribution for this species.	Present
Thamnophis hammondii	Two-striped garter snake	CSC	Highly aquatic; found in or near permanent fresh water; often along streams with rocky beds and riparian growth.	This species was documented within the Survey Area during surveys conducted in 2012. The Survey Area is within the known geographic distribution for this species.	Present
Xantusia henshawi	Granite night lizard	MSHCP	Extensive outcrops of large granitic boulders, especially with fissures. Within various scrub, grassland, and woodland vegetation types (TRC, 2013).	There are no known records for this species in the Survey Area. The Study Area is located just west of the known geographic distribution for this species. Suitable habitat occurs within portions of the Survey Area.	Moderate
BIRDS					
Accipiter cooperii (nesting)	Cooper's hawk	WL, MSHCP	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees.	This species was documented within the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic distribution for this species; suitable nesting and foraging habitat occurs throughout portions of the Survey Area. The Survey Area is located within the known geographic distribution for this species.	Present
Accipiter striatus (nesting)	Sharp-shinned hawk	WL, MSHCP	Prefers, but not restricted to riparian habitats; breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats; requires north-facing slopes with perches.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic year-round distribution for this species. Suitable breeding habitat does not occur, however, suitable foraging habitat occurs throughout the Survey Area. A review of online eBird data shows multiple occurrences of this species approximately 2.5 miles east at Skinner Reservoir.	Not Likely To Occur (nesting)High (foraging)
Agelaius tricolor (nesting colony)	Tricolored blackbird	CSC, BCC, MSHCP	Highly colonial species; requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of colony.	This species was documented within the Survey Area during surveys conducted in 2014. The Survey Area is located within the known geographic distribution for this species; limited suitable nesting and foraging habitat occurs throughout portions of the Survey Area. The Survey Area is located within the known geographic distribution for this species.	Present
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	WL, MSHCP	Resident in southern CA coastal sage scrub and sparse mixed chap-arral; frequents relatively steep, often rocky hillsides with grass and forb patches.	This species was documented within the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic distribution for this species; suitable nesting and foraging habitat occurs throughout portions of the Survey Area. The Survey Area is in the known geographic distribution for this species. CNDDB records identify this species within and adjacent to the Survey Area.	Present

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Ammodramus savannarum	Grasshopper sparrow	CSC, MSHCP	Inhabits grassland, upland meadow, pasture, hayfield, and old field habitats. Nests on ground (TRC, 2013).	There are no known records for this species in the Survey Area. Suitable nesting and foraging habitat for this species is present within portions of the Survey Area. But, CNDDB records do not identify this species within 20 miles. A review of available online eBird data shows an occurrence of this species approximately 3.5 miles north of the Valley Substation.	Moderate
Amphispiza belli	Bell's sage sparrow	WL, BCC, MSHCP	Chaparral consisting of relatively dense stands of chamise.	This species was documented within the Survey Area during surveys conducted in 2012. The Survey Area is in the known geographic distribution for this species; suitable nesting and foraging habitat occurs throughout portions of the Survey Area. The CNDDB reports multiple records for this species within and adjacent to the Survey Area.	Present
Aquila chrysaetos	Golden eagle	CFP, WL, MSHCP	Forages in open grasslands, desert scrub and agricultural fields. Nests on ledges on cliff faces, rock outcrops and occasionally in large trees.	There are no known records for this species in the Survey Area. A pair of golden eagles was observed perched on a rock outcrop just outside of the Survey Area during surveys in 2012. Suitable nesting habitat for this species is not present but may occur in nearby areas. Suitable foraging habitat is present within portions of the Study Area. The CNDDB reports historic occurrences of this species from the Santa Monica Mountains approximately 15 miles southeast.	Not Likely To Occur (nesting)/Present (foraging and/or soaring)
Ardea alba	Great egret	SA	Lives in freshwater, brackish, and marine wetlands. During the breeding season they live in colonies in trees or shrubs with other water birds, ranging across the southeastern states and in scattered spots throughout the rest of the U.S. and southern Canada. [Cornell, 2015]	This species was observed in the Survey Area during surveys in 2012. The Survey Area is located within the known geographic distribution for this species; potentially suitable nesting and suitable foraging habitat occurs in limited portions of the Survey Area. Available online eBird data reports an occurrence of this species in Salt Creek where it crosses through the Survey Area.	Present
Ardea herodias (rookery sites)	Great blue heron	SA, MSHCP	Rookery sites typically occur in groves of large trees within proximity to aquatic foraging areas of streams, wetlands, and grasslands.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic distribution for this species; suitable rookery habitat may be present in limited portions of the Survey Area although no rookery were observed. Online eBird data shows multiple occurrences of this species at the Winchester Ponds in the northern portion of the Survey Area.	Present (No rookery observed)
Asio flammeus (nesting)	Short-eared owl	CSC	Usually occurs in open areas with few trees, such as grasslands, prairies, dunes, meadows, agricultural fields, emergent wetlands; requires dense vegetation for cover.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs within portions of the Survey Area. There is a 2001 eBird record for this species approximately .25 miles west of the Survey Area, just north of Baxter Road.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Athene cunicularia (burrowing sites & some wintering sites)	Burrowing owl	BCC, CSC, MSHCP	Open, dry perennial or annual grasslands, deserts, and scrublands characterized by low-growing vegetation; subterranean nester, dependent upon burrowing mammals, particularly CA ground squirrels.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic distribution for this species; suitable habitat is present throughout the Survey Area. The CNDDB reports multiple occurrences of this species within and adjacent to the Survey Area.	Present
Botaurus lentiginosus	American bittern	MSHCP	Dense marsh.	There are no known records for this species in the Survey Area and there are no CNDDB records within 20 miles. A review of online eBird data shows an occurrence of this species approximately 2.5 miles east of the Survey Area at Skinner Reservoir. Limited suitable nesting is present in the Survey Area.	Low
Buteo regalis	Ferruginous hawk	WL, BCC, MSHCP	Forages in grasslands and agricultural fields.	Surveys from 2012 – 2014 did not detect this species in the Survey Area. Available online eBird data shows an occurrence of this species along Leon Road between Holland Road and Craig Avenue in 2012; there are multiple other records within 1 – 3 miles of the Survey Area. Suitable nesting habitat is not present in the Study Area; suitable foraging habitat is present throughout.	High
Buteo swainsoni	Swainson's hawk	ST, BCC, MSHCP	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannahs.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic distribution for this species. Suitable habitat occurs within portions of the Survey Area. The CNDDB reports a historic record of this species approximately 3 miles south of the southern terminus of the Survey Area. There is a 2012 eBird record for this species approximately 1 mile west of the Survey Area near Briggs Road.	High
Calypte costae	Costa's hummingbird	SA	Primarily occurs in desert wash, edges of desert riparian and valley-foothill riparian, coastal scrub, desert scrub, low-elevation chaparral.	This species was documented in the Survey Area during surveys conducted in 2014. The Survey Area is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the Study Area.	Present
Campylorhynchus brunneicapillus	Cactus wren	CSC, BCC, MSHCP	Foraging and breeding habitat is coastal sage scrub with patches of tall prickly pear and coastal cholla (Opuntia littoralis and O. oricola). Nests almost exclusively in prickly pear and coastal cholla.	There are no known recent records for this species in the Survey Area; the Survey Area is located just outside the known geographic range for this species. Limited suitable breeding and foraging habitat may be present in the Survey Area. There is an eBird record for this species approximately 3 miles south of the southern terminus of the Survey Area.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Cathartes aura (nesting)	Turkey vulture	MSHCP	Searches for forage aerially above virtually any vegetation type or terrain, except dense human development. Secluded cliff ledge or rock fissure in remote, rugged terrain required for nesting. Native or non-native tree groves in lowlands often used as winter roosts (TRC, 2013).	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species; suitable foraging and non-breeding roosting habitat occurs throughout the Study Area.	Present
Chaetura vauxi (nesting)	Vaux's swift	CSC	Breeds in coniferous and mixed coniferous forests; requires large-diameter, hollow trees for breeding and roosting; forages in areas of open water where insect prey congregates.	There are no known recent records for this species in the Survey Area; the Survey Area is located outside the known geographic breeding range for this species but is within the migration range. Limited suitable breeding and foraging habitat may be present in the Survey Area. There is an eBird record for this species approximately 2.5 miles to the east at Skinner Reservoir.	Low
Charadrius montanus	Mountain plover	FC, BCC, CSC, MSHCP	Winters in short grasslands and agricultural fields. Breeds in short-grass prairies outside of California.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic wintering range for this species. Suitable breeding and foraging habitat is present in the Survey Area. There is an eBird record for this species just west of Leon Road, north of Baxter Road, in the Survey Area.	High.
Circus cyaneus (nesting)	Northern harrier	CSC, MSHCP	Prefer open country, grasslands, steppes, wetlands, meadows, agriculture fields; roost and nest on ground in shrubby vegetation often at edge of marshes.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species; suitable foraging and breeding habitat occurs throughout the Study Area. The CNDDB reports multiple occurrences of this species within approximately 3 miles of the Survey Area.	Present
Coccyzus americanus occidentalis (nesting)	Western yellow-billed cuckoo	FC, SE, BCC, MSHCP	Nests along the broad, lower flood-bottoms of larger river systems; also nests in riparian forests and riparian jungles of willow often mixed with cottonwoods, with an understory of blackberry, nettles, or wild grape (USACE and CDFG, 2010).	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable breeding and foraging habitat is present in the Survey Area. The CNDDB reports a historic occurrence of this species approximately 4.5 miles to the south.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Egretta thula	Snowy egret	SA	Snowy Egrets nest in colonies on thick vegetation in isolated places such as barrier islands, dredge-spoil islands, salt marsh islands, swamps, and marshes. They often change location from year to year. During the breeding season Snowy Egrets feed in estuaries, saltmarshes, tidal channels, shallow bays, and mangroves. They winter in mangroves, saltwater lagoons, freshwater swamps, grassy ponds, and temporary pools, and forage on beaches, shallow reefs, and wet fields. [Cornell, 2015]	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species; suitable foraging habitat occurs within limited portions of the Study Area. Online eBird data shows multiple occurrences of this species within and immediately adjacent to the Survey Area.	Present
Elanus leucurus (nesting)	White-tailed kite	CFP, MSHCP	Typically nests at lower elevations in riparian trees, including oaks, willows, and cottonwoods; forages over open country.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species; suitable foraging and breeding habitat occurs throughout the Study Area. The CNDDB reports an occurrence of this species adjacent to the southern portion of the Survey Area. A review of online eBird data shows multiple occurrences of this species within approximately 0.5 miles of the Survey Area.	Present
Empidonax traillii (nesting)	Willow flycatcher	SE, BCC	Mature, extensive cottonwood-willow riparian forest.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species; suitable foraging and breeding habitat occurs within portions of the Survey Area. A review of online eBird data shows an occurrences of this species in Warm Springs Creek approximately 2.5 miles west of the Survey Area.	Present
Empidonax traillii extimus (nesting)	Southwestern willow flycatcher	FE, SE, MSHCP	Riparian woodlands in southern CA.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable breeding and foraging habitat is present in the Survey Area. The closest CNDDB record of this species is approximately 12.5 miles southeast of the Survey Area.	High (Migrants)

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Eremophila alpestris	California horned lark	WL, MSHCP	Occurs in open habitats, forages in bare dirt in short and/or sparse grassland and areas of scattered shrubs.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species; suitable foraging and breeding habitat occurs within portions of the Study Area. A review of online eBird data shows multiple occurrences of this species in within and immediately adjacent to the Survey Area.	Present
Falco columbarius (non-breeding/ wintering)	Merlin	WL, MSHCP	Wide-variety of habitats including marshes, deserts, seacoasts, open woodlands, fields.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable foraging habitat is present in the Survey Area. There is an online eBird record for this species approximately .25 miles west of the Survey Area just north of Murrieta Hot Springs Road.	High
Falco mexicanus (nesting)	Prairie falcon	BCC, WL, MSHCP	Rare in southern CA; nests along cliff faces or rocky outcrops; forages over open spaces, agricultural fields.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species. While suitable foraging habitat is present suitable breeding habitat does not occur in the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area. There is an eBird record for this species in the Survey Area and several within the immediate vicinity.	Present
Falco peregrinus anatum	American peregrine falcon	CFP, BCC, MSHCP	Occurs in various open habitats, especially where suitable nesting cliffs present.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable foraging habitat is not present in the Survey Area but is located within approximately 2.5 miles to the west (Skinner Reservoir and Diamond Valley Lake). There are no CNDDB records for this species within 20 miles of the Survey Area. There are several online eBird records for this species adjacent to the Survey Area and approximately 2.5 miles west of the Survey Area at Skinner Reservoir.	Low
Falco sparverius	American kestrel	MSHCP	Expanses of various types of open vegetation, including anthropogenic conversions (e.g., farmland). Requires suitable tree or other cavities for nesting.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area. A review of available online eBird data shows multiple occurrences of this species within and adjacent to the Survey Area.	Present

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Haliaeetus leucocephalus	Bald eagle	SE, CFP, BCC, MSHCP	Nests on large trees in the vicinity of large lakes, reservoirs and rivers. Wintering birds are most often found near large concentrations of waterfowl or fish.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable foraging habitat is not present in the Survey Area but is located within approximately 2.5 miles to the west (Skinner Reservoir and Diamond Valley Lake). There is a single CNDDB and multiple eBird records for this species identified at the nearby Skinner Reservoir.	Moderate (soaring)
Icteria virens (nesting)	Yellow-breasted chat	CSC, MSHCP	Inhabits riparian thickets of willow and other brushy tangles near water courses; nests in low, dense riparian vegetation; nests and forages within 10 feet of ground.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. The closest CNDDB record for this species is approximately 12 miles south of the Survey Area. There is an eBird record for this species approximately 2.5 miles west of the Survey Area near Warm Springs Creek.	Present
Lanius ludovicianus (nesting)	Loggerhead shrike	CSC, BCC, MSHCP	Broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are CNDDB records for this species within and immediately adjacent to the Survey Area. There are multiple eBird records for this species approximately within approximately 1 mile of the Survey Area.	Present
Nycticorax (nesting)	Black-crowned night heron	SA, MSHCP	Feeds along the margins of lacustrine, large riverine, and fresh and saline emergent habitats and, rarely, on kelp beds in marine subtidal habitats. Nests and roosts in dense-foliaged trees and dense emergent wetlands (AECOM, 2014).	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Limited suitable foraging and breeding habitat is present in the Survey Area. There is a historic CNDDB record for this species approximately 4.5 miles southwest of the Survey Area. A review of online eBird data shows a record for this species approximately .25 miles west of the Survey Area just north of Auld Road.	High
Pandion haliaetus	Osprey	WL, MSHCP	Forages and nests along rivers, lakes, and reservoirs.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Very limited suitable foraging and breeding habitat is present in the Survey Area at the Winchester Ponds in the northern extent of the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area. A review of online eBird data shows records for this species approximately at the Winchester Ponds and within approximately 1 mile of the Survey Area.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
Picoides nuttallii	Nuttall's woodpecker	SA, BCC	Resident. A relatively common species in much of its range. Occurs in woodlands, primarily those dominated by oaks.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area. There are multiple eBird records for this species approximately within approximately 1 - 2 miles of the Survey Area.	Present
Plegadis chihi (nesting)	White-faced ibis	WL, MSHCP	Freshwater marsh, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense freshwater marsh (AECOM, 2014).	This species was documented in flight over in the Survey Area during surveys conducted in 2014 and foraging adjacent to the Survey Area during surveys in 2012. The Survey Area is located within the known geographic range for this species. Suitable foraging habitat is present in the Survey Area; limited breeding habitat may be present. The closest CNDDB record for this species is approximately 8 miles northeast of the Survey Area. There are multiple eBird records for this species approximately within approximately 1 - 2 miles of the Survey Area.	Present
Polioptila californica	Coastal California gnatcatcher	FT, CSC, MSHCP	Various sage scrub communities, often dominated by CA sage and buckwheat; generally avoids nesting in areas with a slope of greater than 40%, and typically less than 820 feet in elevation (USACE and CDFG, 2010).	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are multiple CNDDB records for this species in and in the immediate vicinity of the Survey Area.	Present
Riparia (nesting)	Bank swallow	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, or the ocean to dig a nesting hole (USACE and CDFG, 2010).	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable foraging habitat is present in the Survey Area; very limited suitable breeding habitat may be present. There are no CNDDB records for this species within 20 miles of the Survey Area. A review of online eBird data shows a record for this species approximately 2.5 miles to the east at Skinner Reservoir.	Low
Selasphorus sasin	Allen's hummingbird	SA	Most commonly breeds in coastal scrub, valley-foothill hardwood, and valley-foothill riparian habitats; occurs in a variety of woodland and scrub habitat as a migrant.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are no CNDDB records for this species within 20 miles of the Survey Area. There is an online eBird record for this species approximately 1.25 miles west of the Survey Area just north of Holland Road.	Present

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Setophaga occidentalis	Hermit warbler	SA	Generally occurs in tall coniferous forests.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable foraging habitat is present in the Survey Area; very limited suitable breeding habitat may be present. There are no CNDDB records for this species within 20 miles of the Survey Area. A review of online eBird data shows a record for this species approximately 2.5 miles to the east at Skinner Reservoir.	Moderate (migrant)
Setophaga petechial (nesting)	Yellow warbler	CSC, BCC, MSHCP	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. The closest CNDDB record for this species is approximately 13 miles to the southeast. There are multiple observations reported in online eBird data within and immediately adjacent to the Survey Area.	Present
Spinus lawrencei (nesting)	Lawrence's goldfinch	BCC, SA	Nests in open oak or other arid woodland and chaparral near water; nearby herbaceous habitats used for foraging; closely associated with oaks.	This species was documented in the Survey Area during surveys conducted in 2014. The Survey Area is located within the known geographic range for this species; suitable foraging and breeding habitat occurs within portions of the Survey Area. A review of online eBird data shows an occurrence of this species in the Survey Area just north of Auld Road.	Present
Vireo bellii pusillus (nesting)	Least Bell's vireo	FE, SE, BCC, MSHCP	Summer resident of southern CA in low riparian habitats in vicinity of water or dry river bottoms; found below 2000 ft.; nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mesquite, Baccharis sp.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species. Suitable foraging and nesting habitat is present in the Survey Area. There are multiple CNDDB records for this species within 4 miles of the Survey Area. Online eBird data reports two occurrences of this species in the Survey Area just north of Auld Road.	Present
MAMMALS					
Antrozous pallidus	Pallid bat	CSC	Desert, grassland, shrubland, woodland, forest; most common in open, dry habitats with rocky areas for roosting; very sensitive to disturbance of roosting sites.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Limited roosting habitat is present and suitable foraging habitat occurs throughout the Study Area. There are multiple CNDDB records for this species approximately 15 – 19 miles southwest of the Survey Area.	Moderate
Bassariscus astutus	Ringtail	CFP	Occurs in chaparral, coastal sage scrub, riparian scrub, oak woodlands, and riparian woodlands in proximity to permanent water.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Study Area.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Chaetodipus californicus femoralis	Dulzura pocket mouse	CSC	Variety of habitats, including coastal scrub, chaparral, and grassland; attracted to grass-chaparral edges.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable habitat occurs in portions of the Survey Area. There is a historic CNDDB record for this species in the northern extent of the Survey Area.	Moderate
Chaetodipus fallax	Northwestern San Diego pocket mouse	CSC, MSHCP	Inhabits arid coastal and desert border areas with sandy herbaceous areas, usually in association with rocks or coarse gravel (TRC, 2013).	This species was documented in the Survey Area during small mammal trapping events in 2012 and 2014. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Choeronycteris mexicana	Mexican long-tongued bat	CSC	Known in California only from San Diego County and only as a summer resident. California records largely have been in urban habitat in San Diego.	There are no known records for this species in the Survey Area; the Survey Area is outside the reported geographical distribution of this species. Suitable roosting habitat is present within many of the trees in the Study Area, should this species occur. There are no CNDDB records for this species within 20 miles of the Survey Area.	Low
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE, CSC, MSHCP	Inhabits alluvial scrub/coastal sage scrub habitats on gravelly and sandy soils adjoining river and stream terraces, and on alluvial fans. Rarely dense vegetation or rocky washes (TRC, 2013).	There are no known records for this species in the Survey Area; the Survey Area is within the historic range of this species however populations of this species in the Survey Area are believed to be extirpated.	Not Likely to Occur.
Dipodomys Stephens'i	Stephens' kangaroo rat	FE, ST, MSHCP	Inhabits annual and perennial grassland habitats, but may occur in coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas (TRC, 2013).	This species was documented in the Survey Area during small mammal trapping events in 2012 and 2014. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Euderma maculatum	Spotted bat	CSC	Occupies a wide variety of habitats from arid deserts and grasslands, to mixed conifer forests; feeds over water and along washes; needs rock crevices in cliffs or caves for roosting (USACE and CDFG, 2010).	There are no known records for this species in the Survey Area; the Survey Area is within the reported geographical distribution of this species. Suitable roosting habitat is not present in the Survey Area but may be present in the vicinity. There are no CNDDB records for this species within 20 miles of the Survey Area.	Moderate
Eumops perotis californicus	Western mastiff bat	CSC	Many open, semi-arid to arid habitats, including coniferous and deciduous woodland, coastal scrub, grassland, chaparral; roosts in crevices in cliff faces, high buildings, trees, tunnels.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Suitable roosting is present within the Study Area. Suitable foraging habitat occurs throughout the Study Area. The CNDDB reports multiple occurrences of this species approximately 4.5 miles to the northwest.	Moderate

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Felis concolor	Mountain Lion	MSHCP	Many different habitats within a large range. It typically inhabits remote mountainous areas near reliable water sources.	There are no known records for this species in the Survey Area; the Survey Area is within the reported historical geographical distribution of this species. Conversion of lands to agriculture and the development of urban areas limit the potential for this species to occur.	Low
Lasiurus cinereus	Hoary bat	SA	Prefers deciduous and coniferous woodlands; primarily roosts in tree foliage.	There are no known records for this species in the Survey Area; the Survey Area is within the reported geographical distribution of this species. Suitable roosting habitat is not present in the Survey Area but may be present in the vicinity. There is a single historic CNDDB record for this species approximately 17 miles to the southwest.	Low
Lasiurus xanthinus	Western yellow bat	CSC	Found in desert regions of the southwestern United States; this species tends to show an affinity for palms.	There are no known records for this species in the Survey Area; the Survey Area is within the reported geographical distribution of this species. Suitable habitat is present within limited portions of the Survey Area. There is a historic CNDDB record for this species approximately 1 miles to the north.	Low
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC, MSHCP	Intermediate canopy stages of shrub habitats and shrub, tree, herbaceous edges; primarily coastal sage scrub habitats.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Macrotus californicus	California leaf-nosed bat	CSC	Prefers caves, mines and rock shelters in Sonoran desert scrub.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Very limited suitable habitat may be present in the Survey Area; suitable foraging habitat occurs throughout the Survey Area.	Low
Mustela frenata	Long-tailed weasel	MSHCP	Broad range of vegetation types and elevations, but generally occurs in large undeveloped areas. In coastal lowlands inhabits scrub and grassland habitats.	This species was documented in the Survey Area during surveys conducted in 2012. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Myotis ciliolabrum	Western small-footed myotis	SA	Occurs in a wide variety of arid upland habitats at elevations ranging from sea level to 2,700 meters (8,860 feet); day roosts include rock crevices, caves, tunnels and mines, and, sometimes, buildings and abandoned swallow nests. (CDFW, 2015a)	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Very limited suitable habitat may be present in the Survey Area; suitable foraging habitat occurs throughout the Survey Area.	Low

Table C.5-5. Known and Potential Occurrence of Special-Status Wildlife within the Survey Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Neotoma lepida intermedia	San Diego desert woodrat	CSC, MSHCP	Coastal scrub; prefers moderate to dense canopies; particularly abundant in rock outcrops, rocky cliffs, and slopes.	This species was documented in the Survey Area during surveys conducted from 2012 - 2014. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Onychomys torridus ramona	Southern grasshopper mouse	CSC	Inhabits flat, sandy, valley floor habitats.	This species was documented in the Survey Area during surveys conducted from 2012. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CSC, MSHCP	Lower elevation grasslands and coastal sage communities in the Los Angeles basin. Prefers open ground with fine, sandy soils.	This species was documented in the Survey Area during surveys conducted from 2012. The Survey Area is located within the known geographic range for this species; suitable habitat occurs within portions of the Survey Area.	Present
Perognathus longimembris internationalis	Jacumba pocket mouse	CSC, MSHCP	Occurs in arid coastal sage and chaparral habitats.	There are no known recent records for this species in the Survey Area; the Survey Area is located outside the known geographic range for this species. Suitable habitat is present in the Survey Area.	Not Likely To Occur
Taxidea taxus	American badger	CSC	Most abundant in drier open stages of most shrub, forest, and herba-ceous habitats with friable soils; require sufficient food source, friable soils, and open, uncultivated ground; prey on burrowing rodents.	There are no known recent records for this species in the Survey Area; the Survey Area is located within the known geographic range for this species. Suitable habitat is present in the Survey Area. The closest CNDDB record for this species occurs approximately 9 miles north of the Survey Area.	Moderate

Federal Rankings:
FE = Federally Endangered
FT = Federally Threatened
FC = Federal Candidate for Listing
BCC = USFWS Bird of Conservation Concern
Other Rankings:
ABC = American Bird Conservancy: U.S. Watch List of Birds of Conservation Concern (nesting)
MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan Covered Species
State Rankings:
SE= State Endangered
ST = State Threatened
CFP = California Fully Protected
CPF = California Protected Fur-bearer
SA = CDFW Special Animal
WL = CDFW Watch List
CSC = California Species of Special Concern

b. **Dispersal corridors** are relatively narrow, linear landscape features embedded in a dissimilar matrix that links two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

c. **Habitat linkages** are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

d. **Travel routes** are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors within larger natural habitat areas that are used frequently by animals to facilitate movement and provide access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).

e. **Wildlife crossings** are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are man-made and include culverts, underpasses, drainage pipes, bridges, and tunnels constructed to provide wildlife access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent "choke points" along a movement corridor because usable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).

Considering smaller spatial scales or single habitat types, habitat fragmentation is no less important an issue. At these spatial scales, several studies have documented the negative effects on population structure, home range size, and genetic connectivity resulting from dirt roads, pipeline corridors, transmission line corridors, and other seemingly innocuous features traversing formerly undisturbed habitat (Mader, 1984; Swihart and Slade, 1984; Dunning et al., 1992).

C.5.2 Regulatory Framework

C.5.2.1 Federal

Federal Endangered Species Act

Federal Endangered Species Act provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." USFWS's regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Critical habitat is defined in Section 3(5)(A) of the ESA as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species." The effects analyses for designated critical habitat must consider the role of

the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*. Activities that may result in "take" of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from federal and State agencies during the environmental review process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the Migratory Bird Treaty Act. The Federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: "disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior'' (72 FR 31132; 50 CFR 22.3).

The USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for this Project. USFWS guidance on the applicability of current Eagle Act statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the "take" of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Act, which has been the primary regulation protection unlisted eagle populations since 1940. All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in western United States, it is expected permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

Federally Regulated Habitats

Areas meeting the regulatory definition of "Waters of the U.S." (Jurisdictional Waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise

defined as "Waters of the U.S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Study Area falls within the South Pacific Division of the USACE, and is under the jurisdiction of the Los Angeles District.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. As a part of the permit process the USACE works directly with the USFWS to assess potential Project impacts on biological resources.

C.5.2.2 State

California Endangered Species Act

Provisions of California Endangered Species Act protect State-listed Threatened and Endangered species. The CDFW regulates activities that may result in "take" of individuals ("take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "fully protected" (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to Federal and State-listed species, the CDFW also has produced a list of Species of Special Concern to serve as a "watch list." Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Under Sections 3503 and 3503.5 of the State Fish and Game Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the Migratory Bird Treaty Act, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the Migratory Bird Treaty Act, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800 are prohibited.

Native Plant Protection Act (Fish and Game Code 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The Applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Section 3503 and 3503.5 of the Fish and Game Code

Under these sections of the Fish and Game Code, the Applicant is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory non-game bird as designated in the Migratory Bird Treaty Act, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the Migratory Bird Treaty Act, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800.

Porter-Cologne Water Quality Control Act

Regional water quality control boards regulate the "discharge of waste" to "waters of the State." All projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional board. The board responds to the report by issuing waste discharge requirements (WDR) or by waiving WDRs for that project discharge. Both of the terms "discharge of waste" and "waters of the State" are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Isolated wetlands within California, which are no longer considered "waters of the United States" as defined by Section 404 of the CWA, are addressed under the Porter-Cologne Act.

State-Regulated Habitats

The State Water Resources Control Board is the State agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California. The Project falls under the jurisdiction of the RWQCB.

The CDFW extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (CDFW, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW.

C.5.2.3 Local

Stephens' Kangaroo Rat Habitat Conservation Plan

As mentioned in Section 3.1.1, the Riverside County Habitat Conservation Agency (RCHCA) adopted a separate Habitat Conservation Plan (HCP) for Stephens'' kangaroo rat in 1996, prior to the approval of the MSHCP (see below). This plan remains in effect and must be complied with independently from the MSHCP. Stephens'' kangaroo rat is federally listed as endangered and State listed as threatened. As with the MSHCP, participants of the HCP can incorporate projects into the incidental "take" permit for Stephens's kangaroo rat if the project complies with the requirements of the plan. Payment of the mitigation fees and compliance with the HCP provides full mitigation under CEQA, NEPA, the CESA, and FESA for impacts to Stephens'' kangaroo rat. SCE's PEA shows the entire project within the HCP fee area, which is defined as areas within the greater HCP area, but beyond designated preserve areas. (SCE, 2014, Figure 2)

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP addresses conservation of species and their associated habitats in western Riverside County. It is a comprehensive, multi-jurisdictional Natural Communities Conservation Plan (NCCP) developed pursuant to the NCCP Act and an HCP pursuant to Section 10(a)(1)(B) of the FESA, The MSHCP was approved by the County of Riverside, local jurisdictions, and various regulatory agencies on June 17, 2003. The Western Riverside County Regional Conservation Authority was created in 2004 to implement the MSHCP. The area administered by the MSHCP comprises approximately 1.26 million acres west of and including a portion of the mountains that divide the coastal slope from the desert. [TRC, 2013]

The conservation objective of the MSHCP is preservation of approximately 500,000 acres of natural and semi-natural vegetation and habitats. About 347,000 acres (70%) of this preservation will be accomplished on existing public / quasi-public lands. The remaining 153,000 acres will be assembled from suitable portions of private lands throughout the plan area through zoning, conservation easements, and acquisition. Preserve assembly will observe conservation biology principles of incorporating large, core natural areas and biological landscape linkages. The collective area from which the 153,000 acres will be derived constitutes the Criteria Area, within which area-specific criteria for conservation based on careful examination of species occurrences, landscape features, and conceptual preserve design will be applied. The criteria are designed to achieve overall conservation goals at various spatial scales, from local to within and beyond the MSHCP area. An unbiased system (irrespective of political, property, or biological boundaries) of 0.25-mile square Criteria Cells was applied to the Criteria Area to provide a reference frame for conservation planning based on the distribution of critical biological and landscape features. Criteria Cells are the finest level planning unit in the conservation scheme described below. [TRC, 2013]

Biological conservation within the Criteria Area of the MSHCP area is identified, planned, and achieved through a hierarchical system of planning units (Dudek, 2003). The largest scale of these units consists of a set of irregular Area Plans, which correspond to Area Plan boundaries of the Riverside County General Plan and therefore occur irrespective of biological landscape features. Within these areas, single Criteria Cells or clusters of cells are grouped into Subunits by common ecological features. Section 3.3 of the MSHCP describes the Area Plans in detail, identifying target preservation acreages, core / linkage features, key habitat types, and relevant Planning Species for each. [SCE, 2014]

C.5.2.4 Other Applicable Regulations, Plans, and Standards

California Native Plant Society (CNPS) Rare Plant Program

The mission of the CNPS Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory and given a California Rare Plant Rank (CRPR). In 2011, the CNPS officially changed the name "CNPS List" to "CRPR." The Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have designated status under State endangered species legislation, are defined by the following CRPR:

- CRPR 1A - Plants considered by the CNPS to be extinct in California

- CRPR 1B - Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3 - Plants about which we need more information – a review list
- CRPR 4 - Plants of limited distribution – a watch list

In addition to the CRPR designations above the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 – Seriously threatened in California (high degree/immediacy of threat)
- 0.2 – Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known

C.5.3 Applicant-Proposed Measures

In order to reduce or avoid impacts to biological resources, the Applicant has proposed a series of Applicant Proposed Measures (APMs) that would be implemented during the construction and operation of the Proposed Project (refer to Table C.5-6 below). APMs include a range of actions from broad general measures designed to protect biological resources to specific actions regarding survey requirements or project design features. The CPUC and Aspen Biological Team have reviewed the proposed APMs and evaluated the measures' ability to reduce or mitigate project impacts to biological resources. All of the proposed APMs were considered in the analysis of biological impacts. While many of the measures proposed by the Applicant provide some level of detail, some APMs do not provide the specificity required by CEQA for defensible, enforceable measures. Therefore, the language of some APMs has been incorporated into the mitigation measures identified in this analysis. Should APMs and EIR proposed mitigation conflict, the mitigation measures identified in this EIR would supersede the APM.

Table C.5-6. Applicant-Proposed Measures – Biological Resources

APM	APM Description
BIO-1	**Preconstruction Surveys and Construction Monitoring** – Preconstruction biological clearance surveys shall be performed at specific construction and other work sites where potential biological resources are located to minimize impacts on special status wildlife and plant species. If special status species are present, biological monitors shall be onsite, as needed, and shall aid crews in implementing avoidance measures during construction. Special status species observations and avoidance measures will be reported to the appropriate wildlife agencies prior to construction in that area. In addition, appropriate agencies will be provided a monthly report summarizing all special status species observations and avoidance measures.
BIO-2	**Nesting Bird Preconstruction Surveys –** SCE would conduct preconstruction clearance surveys no more than 7 days prior to construction to determine the location of nesting birds and territories. Nesting survey results and avoidance measures, if applicable, will be reported to the appropriate wildlife agencies prior to construction in that area. An avian biologist would establish a buffer area around active nest(s) and would monitor construction activities. The buffer would be established based on construction activities, potential noise disturbance levels, and behavior of the species. A monthly report summarizing all active nest observations and avoidance measures will be provided to the appropriate agencies on a monthly basis, during the nesting season, or until all active nests have been determined to be inactive.
BIO-3	**Nesting Bird Management Plan–** SCE shall develop a Nesting Bird Management Plan with input from CDFW. The plan shall include (1) nest management and avoidance; (2) field approach (survey methodology, reporting, and monitoring), including information related to areas of occupied habitat for coastal California gnatcatcher; and (3) avian biologist qualifications. Avian biologist(s) shall be subject to review and approval by CDFW, and shall be responsible for determining the buffer area around active nest(s). Biological monitors shall monitor nests and construction activities.

Table C.5-6. Applicant-Proposed Measures – Biological Resources	
APM	**APM Description**
BIO-4	**Avian Safe Design –** The 115 kV subtransmission structures would be designed consistent with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (Avian Power Line Interaction Committee, 2006).
BIO-5	**Stephens'' Kangaroo Rat and Los Angeles Pocket Mouse Mitigation and Avoidance -** An SCE qualified biologist shall conduct preconstruction surveys (see APM BIO-1) in suitable habitat for Stephens'' kangaroo rat and Los Angeles pocket mouse at specific work areas along the Proposed Project and Alternative Project for impact avoidance and minimization. To address impacts to Stephens'' kangaroo rat, within the boundaries of the Stephens'' Kangaroo Rat HCP, SCE shall apply to participate in the plan through an agreement with the Riverside County Habitat Conservation Agency (Riverside County, 1996). To address impacts to Los Angeles pocket mouse, within the boundaries of the WRCMSHCP Plan Area, SCE shall apply to participate in the WRCMSHCP and shall follow provisions of the WRCMSHCP as they apply to this species. Stephens'' kangaroo rat and Los Angeles pocket mouse observations and avoidance measures will be reported to the appropriate wildlife agencies prior to construction in that area. In addition, appropriate agencies will be provided a monthly report summarizing all special status species observations and avoidance measures.
BIO-6	**Burrowing Owl Preconstruction Surveys and Monitoring -** A preconstruction non-protocol burrowing owl survey shall be conducted no more than 30 days prior to commencement of ground disturbing activities within suitable habitat to determine if any occupied burrows are present. SCE would establish a buffer area around active nest(s) and would monitor construction activities. If occupied burrows or other evidence of presence are found, adequate buffers shall be established around burrows. Adequate buffers shall be 160 feet from occupied wintering burrows (December 1 through January 31) and 250 feet from occupied breeding burrows during the breeding season (February 1 through August 31). A qualified avian specialist may increase or reduce these buffer distances on a case-by-case basis. Biologists shall monitor all construction activities that have the potential to impact active burrows. In addition, potential unavoidable impacts to burrowing owl and its habitat shall be mitigated by participation in the WRCMSHCP. SCE's participation, as a PSE (Participating Special Entity), shall include following the provisions and measures outlined in the WRCMSHCP. All reporting requirements would be conducted as described in APMs BIO-1 and BIO-2.
BIO-7	**Coastal California Gnatcatcher Impact Minimization and Mitigation –** Avoidance of active nests shall be accomplished through APMs BIO-2 and BIO-3, described above. In areas of occupied habitat for the coastal California gnatcatcher, a buffer area around active nest(s) would be established by the SCE biologist and provided to USFWS and CDFW for concurrence. The buffer would be established based on construction activities, potential noise disturbance levels, and behavior of the species. Construction activities in occupied habitat/suitable habitat for the coastal California gnatcatcher will be monitored by a qualified biologist. SCE shall apply to participate in the WRCMSHCP and shall follow provisions of the WRCMSHCP as they apply to coastal California gnatcatcher. Where Proposed Project design allows, SCE shall avoid or minimize impacts to Diegan and coastal sage scrub vegetation. All reporting requirements would be conducted as described in APMs BIO-1 and BIO-2.
BIO-8	**Listed Riparian Birds Impact Minimization –** Based on current design, SCE shall avoid direct construction impacts to riparian and other wetland habitats suitable for listed riparian bird species (least Bell's vireo, southwestern willow flycatcher). Avoidance of active nests shall be accomplished through APMs BIO-2 and BIO-3, described above. All reporting requirements would be conducted as described in APMs BIO-1 and BIO-2.
BIO-9	**Quino Checkerspot Butterfly Impact Minimization and Mitigation** – To address impacts to Quino checkerspot butterfly, within the boundaries of the WRCMSHCP Plan Area, SCE shall apply to participate in the WRCMSHCP and shall follow the provisions of the WRCMSHCP as they apply to this species. All reporting requirements would be conducted as described in APMs BIO-1 and BIO-2.
BIO-10	**Vernal Pool Resources –** A qualified biologist shall conduct preconstruction marking of previously mapped basins suitable to support vernal pool species within the potential Proposed Project Impact Corridor and depict them on construction plans with specifications for avoidance. Facts about the vernal pool habitat and potential impacts from construction and O&M activities shall be included in the WEAP materials. Wet season protocol level surveys for special status vernal pool resources will be conducted prior to construction. If special status species are detected, SCE shall follow the provisions of the WRCMSHCP as they apply to these species. All reporting requirements would be conducted as described in APMs BIO-1 and BIO-2.

Source: SCE, 2014 (PEA Table 3.13).

C.5.4 Environmental Impacts and Mitigation Measures

Consistent with the requirements of CEQA, the significance of potential impacts is evaluated through the application of the significance criteria described below in Section C.5.4.1. The objective of the biological resources analysis is to identify potential adverse effects and significant impacts on biological resources. While avoidance is the preferred approach for the management of biological resources, it is not always possible to avoid impacts to biological resources. If impacts can be avoided through project design, establishment of exclusion zones, or other means, then specific mitigation measures may be unnecessary. However, appropriate mitigation measures to avoid or minimize impacts are identified including procedures if significant biological resources are discovered during construction or operation.

Construction of the proposed Project includes modifications to the existing Valley South Substation, construction of 12 miles of new 115-kV subtransmission line, and replacement of approximately 3.4 miles of existing 115-kV conductor. The construction and maintenance of these structures include a number of impacts to biological resources. The specific impacts depend on the species, their habitat, hydrology, and other resources present at the proposed Project site. The following discussion provides an overview of the direct, indirect, and operational impacts that are expected to occur with the construction and maintenance of the proposed Project. For additional details on the proposed Project components refer to Section B.3 of the Project Description.

C.5.4.1 Criteria for Determining Significance

To satisfy CEQA requirements, conclusions are made regarding the significance of each identified impact that would result from the Proposed Project. Appropriate criteria have been identified and utilized to make these significance conclusions. The following significance criteria for biological resources were derived from previous environmental analyses and from the CEQA Guidelines (Appendix G, Environmental Checklist Form, Section IV). Impacts of the Proposed Project would be considered significant and would require mitigation if the project would:

- Criterion BIO1: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
- Criterion BIO2: Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species.
- Criterion BIO3: Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Criterion BIO4: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Criterion BIO5: 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.
- Criterion BIO6: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances.
- Criterion BIO7: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

C.5.4.2 Impact Analysis – Direct and Indirect Effects

CEQA defines direct impacts as those impacts that result from a project and occur at the same time and place. These include but are not limited to the removal of vegetation and disturbance to wildlife from construction activities. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance while still reasonably foreseeable and related to the project. Indirect impacts can include the disruption of the native seed bank, the spread of invasive plant species the disruption of prey base or increased predation through alterations of the physical landscape from project features (i.e. site preparation) that provide perch sites or shelter for predators. Indirect impacts may also include increased traffic and human disturbance related to maintenance of the new structures. General impacts to plants and wildlife are summarized in Table C.5-7.

Table C.5-7. Construction and Operational Impacts to Plants and Wildlife

Activity	Impacts
Earth moving, grading, habitat/vegetation removal	• Direct mortality to plants and small or less mobile species • Crushing of burrows or fossorial animals, disruption of soil surfaces, compaction of soils, and displacement of native species • Reduced use of area as a foraging or movement corridor • Fugitive dust and habitat loss • Creation of barriers disrupting movement • Displacement of breeding birds and the abandonment of active nests (during breeding season) • Loss of eggs and nestlings including ground nesting birds • Loss of foraging habitat • Brush fires • Spread of exotic weeds
Noise and vibration	• Interference with breeding or foraging activities and movement patterns • Avoidance of areas during construction • Interference with hearing resulting in increased predation • Abandonment of burrows or habitat
Man-made sources of light	• Disturbance or mortality to species that prey on insects attracted to light sources • Collisions with vehicles at night
Access roads	• Crushing of burrows, disruption of soil surfaces, compaction of soils, and displacement of native species • Establishment of ruts or depressions that can alter soil conditions and hydrology • Alteration of physical characteristics of soil underneath roads (placement of roads increases compaction up to 200 times relative to undisturbed sites) • Effect on animal behavior by altering home range use, affect movement patterns, reduce reproductive success, alter escape response, and increase physiological stress
Traffic	• Accidental mortality of small diurnal animals from vehicle collision • Secondary vehicular mortality of opportunistic predators feeding on road kill
Waste	• Ingestion of microtrash (i.e., broken glass, paper and plastic waste, and small pieces of metal) or ethylene glycol antifreeze (particularly California condors)

Project impacts are generally considered permanent if they involve the conversion of land to a new use, such as with the construction of new roads, installation of new wooden poles, and installation of underground vaults. Temporary impacts are usually considered to be those activities that are of short duration (i.e., six to 12 months) and that do not result in a permanent land use conversion. Temporary project impacts are those effects that include ground disturbance activities restricted solely to the construction phase, such as trimming of vegetation, grading of temporary roads and clearing vegetation within staging areas. These effects would be considered temporary provided the areas are subject to restoration at the conclusion of construction. Noise, human disturbance, vehicle traffic, and construction activities are also considered temporary impacts.

Construction of the proposed Project would occur for a period of approximately 16 months. This time frame exceeds the typical definition of temporary impacts as it relates to certain species of plants or wildlife. However, due to the linear nature of the proposed Project construction would not remain in any one location for extended periods of time.

Operational impacts include both direct and indirect impacts to biological resources. Ongoing operations and maintenance impacts would occur during routine inspection and maintenance of the substation facilities, wooden poles, and subtransmission lines. Operational impacts would also include weed abatement and vegetation management activities including but not limited to mechanical removal or mowing, hand removal, or herbicide treatment. These impacts would remain an ongoing source of disturbance for many plants and wildlife species that occur.

All VSSP related impacts will occur within a defined impact corridor as depicted on Figures C.5-1a-d (located at the end of this section). Within this corridor, SCE has provided tentative locations for the majority of VSSP components to be used in the analysis of impacts. Impacts were calculated using these tentative locations combined with the proposed impact areas for each component listed in Tables 3.2 and 3.5 of the PEA (SCE, 2014). Although the final location of some components may slightly differ from those used in the analysis below, they will remain within the boundaries of the defined impact corridor. Mitigation measures developed for specific impacts will account for these potential differences in component locations.

The location of some project components will not be determined until final construction plans are developed (i.e., access/spur roads, splicing setup areas, etc.) or at the time of construction (i.e., anchors). Permanent and temporary impacts associated with these components would occur within the same types of habitats and impact the same resources as for the known locations and would be subject to the same mitigation measures presented below. Impacts related to these additional components would not change any of the significance determinations made in this document. Table C.5-8 provides a summary of the types and acreages of these additional impacts.

This section describes the direct and indirect impacts of the proposed Project. Cumulative impacts are discussed separately in Section C.5.4.3.

Table C.5-8. Approximate Impact Acreage For Additional Project Components

Component Type	Approximate Acres	
	Permanent	Temporary
New TSP	0.34	3.78
New LSW	0.003	0.75
New Wood Poles/Wood Guy Stub Poles	0.15	3.74
Anchors	1.70	7.80
Reconfigure Pole Tops	0.00	0.28
Stringing Conductor/Cable (Pull and Tension) Setup Area	0.00	9.01
Stringing Conductor/Cable (Splicing) Setup Area	0.00	4.10
Underground Trench, Conduit, and Cable	0.00	1.20
Access Locations (Spur Roads)	7.70	0.00
Remove Existing Distribution Wood Poles	0.00	13.20
Install Underground Trench, Conduit, and Cable	0.00	0.60
Total	**9.89**	**44.46**

Impact BIO-1 (Criterion BIO1): The Project could result in temporary and permanent losses of native vegetation. (Class II)

The majority of VSSP related impacts (permanent and temporary) would occur within disturbed/ruderal habitat, agricultural lands, and urban/developed areas. Impacts would include a total of 0.20 acres of permanent and 6.16 acres of temporary impacts to riparian habitats or sensitive natural communities.

These impacts would largely be limited to access/spur road construction and improvements, site preparation for existing structure demolition and/or construction, pull sites, staging areas, equipment yards, and parking areas.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands.

In an otherwise arid landscape, primary productivity in riparian habitats is high due to year-round soil moisture. High plant productivity leads to increased habitat structural diversity and high food availability for herbivorous and (in turn) predatory animals. Insect productivity is also high, among both aquatic and terrestrial species. Insect numbers are very high during warm months, and serve as a prey base for a diverse breeding bird fauna, including several special-status birds. Habitat structure in riparian vegetation is also more diverse than in most regional uplands.

Table C.5-9. Vegetation Community and Land Cover Acreages Proposed Project Impact Areas

Vegetation Communities	Approximate Acres	
	Permanent	Temporary
Diegan Coastal Sage Scrub	0.19	3.93
Disturbed/Ruderal Habitat	3.16	57.17
Disturbed Wetland	0.00	0.79
Freshwater Marsh	0.00	0.45
Mulefat Scrub	0.00	0.37
Non-native Annual Grassland	0.30	15.14
Non-native Woodland/Ornamental	0.25	8.66
Southern Cottonwood – Willow Riparian	0.01	0.49
Southern Willow Scrub	0.00	0.13
Land Cover Types		
Agriculture	1.28	57.84
Non-vegetated Channel	0.00	0.10
Urban/Developed	4.77	73.33
Total	**9.95**	**218.39**

Riparian woodlands tend to have multiple-layered herb, shrub and tree canopies, whereas most upland shrublands are relatively simple in structure. The varied vertical habitat structure provides a greater diversity of nesting and feeding sites for birds compared with non-riparian communities. Similarly, mammal diversity is greater in riparian communities due to high biological productivity, denning site availability, thermal cover, and water availability.

Direct and indirect impacts to riparian habitats and sensitive communities would occur as described above in Table C.5-7 (Construction and Operational Impacts to Plants and Wildlife) and would take place primarily during VSSP construction. These effects may be temporary or permanent. Permanent impacts would preclude most natural vegetation and habitat function throughout the life of the VSSP, or longer. Examples of permanent impacts are removal of vegetation for permanent roads and access areas at each structure.

Temporary impacts to vegetation and habitat would occur during construction, where vegetation is removed for temporary work areas, without long-term land use conversion, so that vegetation may return to a more natural condition or may be actively revegetated or enhanced. Temporary impacts include vegetation removal for staging areas or temporary access roads. However, depending on the nature of

disturbance and local climate, characterization of permanent and temporary impacts must reflect slow vegetation recovery rates. Natural recovery rates vary according to the vegetation type and the nature and severity of the impact. For example, some vegetation may recover naturally within a few years after crushing by heavy vehicles (Gibson et al., 2004), whereas more severe damage involving vegetation removal and soil disturbance can take from 50 to 300 years for partial recovery, and complete ecosystem recovery may require over 3,000 years (Lovich and Bainbridge, 1999).

Removal of existing poles and associated vehicle travel on the existing dirt roads and other paved streets could result in increased fugitive dust to vegetation in adjacent areas. Wind-blown dust can degrade soils and vegetation over a wide area (Okin et al., 2001). Dust can have deleterious physiological effects on plants and may affect their productivity and nutritional qualities (Sharifi et al., 1997). Fugitive dust can kill plants by burial and abrasion, interrupt natural processes of nutrient accumulation, and allow the loss of soil resources. The destruction of plants and soil crusts by windblown dust exacerbates the erodibility of soil and accelerates the loss of nutrients (Okin et al., 2001).

Operational and maintenance impacts would be similar to those currently underway for the existing poles and subtransmission line and occur during routine inspection and maintenance of the line. These impacts could include trampling or crushing of vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

In arid regions such as Southern California, riparian habitats play a particularly crucial role in maintaining biodiversity because up to 80 percent of vertebrate species rely on them for at least part of their lifecycle (Knopf et al., 1988) and because of the central role riparian habitats play in a variety of ecological functions (Rottenborn, 1999; Fischer and Fischenich, 2000). Several species, such as the coastal California gnatchatcher, rely on upland coastal sage scrub communities for both foraging and breeding opportunities. Within the region, large areas of riparian and coastal sage scrub habitat have been lost to development.

Typically, the loss of non-sensitive plant communities, such as California annual grassland, would not be considered a significant impact. This community is not sensitive, is locally and regionally abundant, and is typically dominated by exotics. However, on the VSSP site this habitat supports a broad diversity of sensitive plant and animal life. California annual grassland in the VSSP area provides breeding, dispersal and foraging habitat for a variety of sensitive species including Stephens' kangaroo rat and burrowing owl.

Although impacts to riparian habitat as part of the VSSP would be relatively minimal, because of the overall loss of these communities within California, and their suitability to support several special-status species, the loss of this habitat, along with other sensitive communities (including non-native annual grassland), would be considered a significant adverse impact without mitigation.

Implementation of Mitigation Measures BIO-1 (Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices), BIO-3 (Compensation for Permanent Impacts to Sensitive Vegetation Communities), BIO-4 (Develop a Habitat Restoration and Monitoring Plan), and BIO-5 (Implement Biological Construction Monitoring) would minimize impacts to sensitive vegetation communities. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities. Implementation of these mitigation measures would reduce impacts to riparian habitats and sensitive vegetation communities to a less-than-significant level (Class II).

Mitigation Measures for Impact BIO-1

BIO-1 **Implement a Worker Environmental Education Program.** Prior to any proposed Project activities on the site (i.e., surveying, mobilization, fencing, grading, or construction), a Worker Environmental Education Program (WEEP) shall be prepared and implemented by a qualified biologist(s). The WEEP shall be approved by the CPUC and finalized prior to issuance of construction permits, and implemented throughout the duration of the construction activities. The WEEP shall be put into action prior to the beginning of any site related activities, including but not limited to those activities listed above, and implemented throughout the duration of VSSP construction.

- The WEEP, shall include, at a minimum, the following items:
  - Training materials and briefings shall include but not be limited to: a discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; hazardous substance spill prevention and containment measures; a contact person and phone number in the event of the discovery of dead or injured wildlife; and a review of mitigation requirements.
  - A discussion of measures to be implemented for avoidance of the sensitive resources discussed above and the identification of an onsite contact in the event of the discovery of sensitive species on the site; this will include a discussion on microtrash.
  - Protocols to be followed when road kill is encountered in the work area or along access roads and the identification of an onsite representative to whom the road kill will be reported. Road kill shall be reported to the appropriate local animal control agency within 24 hours.
  - Maps showing the known locations of special-status wildlife, populations of rare plants and sensitive vegetation communities, seasonal depressions and known waterbodies, wetland habitat, exclusion areas, and other construction limitations (e.g. limited operating periods, etc.). These features shall be included on the VSSP plans and specifications drawings.
  - Literature and photographs or illustrations of potentially occurring special-status plant and/or wildlife species will be provided to all VSSP contractors and heavy equipment operators.
- Evidence that all onsite construction and security personnel have completed the WEEP prior to the start of site mobilization. A special hardhat sticker or wallet size card shall be issued to all personnel completing the training, which shall be carried with the trained personnel at all times while on the VSSP site. All new personnel shall receive this training and may work in the field for no more than 5 days without participating in the WEEP. A log of all personnel who have completed the WEEP training shall be kept on site.
- A weather protected bulletin board or binder shall be centrally placed or kept on site (e.g., in the break room, construction foreman's vehicle, construction trailer, etc.) for the duration of the construction. This board or binder will provide key provisions of regulations or VSSP conditions as they relate to biological resources or as they apply to grading activities. This information shall be easily accessible for personnel in all active work areas.
- Develop a standalone version of the WEEP, that covers all previously discussed items above, and that can be used as a reference for maintenance personnel during VSSP operations.
- An environmental monitor, approved by the CPUC, will be retained during construction of the VSSP and will be directly involved with the implementation and enforcement of the WEEP. A log of all personnel who have completed the WEEP training shall be kept on site.

BIO-2 **Implement Best Management Practices (BMPs)**. BMPs will be implemented as standard operating procedures during all ground disturbance and construction related activities to avoid

or minimize VSSP impacts on biological resources. These BMPs will include but are not limited to the following:

- Compliance with BMPs will be documented and provided in a written report on an annual basis. The report shall include a summary of the construction activities completed, a review of the sensitive plants and wildlife encountered, a list of compliance actions and any remedial actions taken to correct the actions, and the status of ongoing mitigation efforts.
- Prior to ground disturbance of any kind the VSSP work areas shall be clearly delineated by stakes, flags, or other clearly identifiable system.
- Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
- Speed limit signs, imposing a speed limit of 15 miles per hour, will be installed throughout the VSSP site prior to initiation of site disturbance and/or construction. To minimize disturbance of areas outside of the construction zone, all VSSP related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas will be included in preconstruction surveys and to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts. Off-road traffic outside of designated VSSP areas will be prohibited.
- No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.
- All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps, cigarettes, etc.) and other human-generated debris will be stored in animal proof containers and/or removed from the site each day. No deliberate feeding of wildlife will be allowed.
- All pipes and culverts with a diameter of greater than 4 inches shall be capped or taped closed. Prior to capping or taping the pipe/culvert shall be inspected for the presence of wildlife. If encountered the wildlife shall be allowed to escape unimpeded.
- No firearms will be allowed on the VSSP site, unless otherwise approved for security personnel.
- To prevent harassment or mortality of listed, special-status species and common wildlife, or destruction of their habitats no domesticated animals of any kind shall be permitted in any VSSP area.
- Use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, State and federal regulations. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional VSSP related restrictions deemed necessary by the USFWS and CDFW. Use of rodenticides is restricted.
- Any contractor or employee that inadvertently kills or injures a special-status animal, or finds one either dead, injured, or entrapped, will immediately report the incident to the onsite representative identified in the WEEP. The representative will contact the USFWS, CDFW, and CPUC by telephone by the end of the day, or at the beginning of the next working day if the agency office is closed. In addition, formal notification shall be provided in writing within three working days of the incident or finding. Notification will include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured will be turned over immediately to CDFW for care, analysis, or disposition.
- During the site disturbance and/or construction phase, grading and construction activities before dawn and after dusk, is prohibited.
- Avoidance and minimization of vegetation removal within active construction areas, including the flagging of sensitive vegetation communities or plants.

- Avoidance and minimization of construction activities resulting in impacts to streambeds and banks of any ephemeral drainage.
- All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches will also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they will be thoroughly inspected for entrapped wildlife. Any wildlife discovered will be allowed to escape before construction activities are allowed to resume, or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- The VSSP shall be constructed to the most current Avian Power Line Interaction Committee's standards.

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities. To compensate for impacts to sensitive vegetation communities from the construction of the VSSP, SCE shall restore all temporary impact areas; restoration shall be completed as described in the Habitat Restoration and Monitoring Plan outlined below under Mitigation Measure BIO-4. Prior to disturbance, SCE shall have a qualified biologist, approved by the CPUC, verify the community type and acreage of vegetation that would be subject to VSSP disturbance. Impacts to all native trees with a diameter at breast height (DBH) greater than 3 inches would be documented by identifying the species, number, location, and DBH. All protection and replacement measures shall be consistent with applicable local jurisdiction requirements.

The creation or restoration of habitat shall be required for all permanent impacts to sensitive vegetation communities. The replacement ratios for permanent impacts to riparian vegetation are 3:1; a ratio of 1:1 shall be applied to all other sensitive communities (including non-native annual grassland). All created or restored habitats shall be monitored per the requirements in the Habitat Restoration and Monitoring Plan (see Mitigation Measure BIO-4). If SCE becomes a PSE with the MSHCP, compensation for impacts to sensitive vegetation communities may be accomplished through participation and implementation of the MSHCP requirements. Documentation of participation and compliance with the MSHCP, including mitigation fee payment confirmation, shall be submitted to the CPUC prior to site mobilization activities.

Compensation Land Selection Criteria. Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands would include all of the following:

- Compensation lands will provide habitat value that is equal to or better than the quality and function of the habitat impacted by the VSSP, taking into consideration soils, vegetation, topography, human-related disturbance, wildlife movement opportunity, proximity to other protected lands, management feasibility, and other habitat values.
- To the extent that proposed compensation habitat may have been degraded by previous uses or activities, the site quality and nature of degradation must support the expectation that it will regenerate naturally when disturbances are removed;
- Be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;
- Not have a history of intensive recreational use or other disturbance that might cause future erosion or other habitat damage, and make habitat recovery and restoration infeasible;

- Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration;
- Not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat;
- Must provide wildlife movement value equal to that on the project site, based on topography, presence and nature of movement barriers or crossing points, location in relationship to other habitat areas, management feasibility, and other habitat values; and

SCE shall either donate open space/conservation easements or provide funds for the acquisition of such easements to a "qualified easement holder" (defined below). The CDFW is a qualified easement holder. To qualify as a "qualified easement holder" a private land trust must have:

- Substantial experience managing open space/conservation easements that are created to meet mitigation requirements for impacts to special-status species;
- Adopted the Land Trust Alliance's Standards and Practices; and
- A stewardship endowment fund to pay for its perpetual stewardship obligations.

The CPUC will determine whether a proposed easement holder meets these requirements.

SCE shall also be responsible for providing to the qualified easement holder fees sufficient to cover: (1) Administrative costs incurred in the creation of the easement (appraisal, documenting baseline conditions, etc.) and (2) Funds in the form of a non-wasting endowment to cover the cost of monitoring and enforcing the terms of the easement in perpetuity.

BIO-4 **Develop a Habitat Restoration and Monitoring Plan.** The intent of this mitigation measure is to require SCE to restore temporarily disturbed areas to pre-construction conditions or better. Prior to the site mobilization activities and removal of any vegetation, SCE shall retain a qualified biologist (approved by the CPUC) knowledgeable in the area(s) of restoration as they pertain to the on-site vegetation communities, to prepare a Habitat Restoration and Monitoring Plan (HRMP); the plan must be approved by the CPUC prior to the start of site mobilization activities. This biologist will also be responsible for monitoring the implementation of the plan as well as the progress on achieving the established success criteria.

The purpose of the HRMP will be to explicitly identify the process by which all temporarily disturbed areas shall be restored to pre-construction conditions. The plan will address restoration and revegetation related to disturbance from construction. The plan shall include, at a minimum, the following items:

- Figures depicting areas proposed for temporary disturbance – The HRMP shall include detailed figures indicating the locations and vegetation types of areas proposed for temporary disturbance. These figures shall be updated, as necessary, to reflect current site conditions should they change.
- Proposed species for restoration/revegetation – The species palate proposed for restoration/revegetation shall include an appropriate native seed mix representative of the current species composition in the restoration/revegetation areas, and shall not contain non-native invasive species. Seed must be from genetic stock appropriate to Western Riverside County.
- Planting methodology – A description of the preferred methods proposed for seeding shall be provided (e.g., hydroseeding, drill seeding, broadcast seeding, etc.). Additionally, a discussion on timing of seeding, type of irrigation system proposed (as needed), type and duration of irrigation, and erosion controls proposed for revegetation activities shall be included.
- Success criteria – A description of the success criteria for the restoration/revegetation efforts, and supplemental activities to be conducted to ensure success criteria are met.

- Monitoring program – Areas subject to restoration/revegetation shall be monitored to assess progress and to make recommendations for successful habitat establishment. Monitoring will be performed by a qualified biologist(s) knowledgeable in the area of habitat restoration specific to the on-site vegetation communities. Monitoring should include, at a minimum:
  - Qualitative Monitoring – Qualitative monitoring surveys will be performed monthly in all restored/revegetated areas for the first year following planting in any phase of the VSSP. Qualitative monitoring will be on a quarterly schedule thereafter, until final completion and approval by the appropriate regulatory agencies. Qualitative surveys will assess native plant species performance, including growth and survival, germination success, reproduction, and plant fitness and health as well as pest or invasive plant problems.
  - Monitoring at this stage will indicate need for remediation or maintenance work well in advance of final success/failure determination. The monitoring reports will describe site progress toward achieving success criteria, conditions, and all observations pertinent to eventual success, and make recommendations as appropriate regarding remedial work, maintenance, etc.
  - Quantitative Monitoring – Quantitative monitoring will occur annually for years one to five or until the success criteria are met. Within each revegetation area, the biologist will collect data in a series of 1 m^2 quadrats to estimate cover and density of each plant species within the restored/revegetated areas. In year 2 or 3, depending on the growth within the restoration area, the qualitative monitoring methods may deviate from the quadrat methodology to toepoint transects based on methods described by Evans and Love (1957). Data will be used to measure native species growth performance, to estimate native and non-native species coverage, seed mix germination, native species recruitment and reproduction, and species diversity. Based on these results, the biologist will make recommendations for maintenance or remedial work on the site and for adjustments to the approved seed mix.
- Reporting – Reporting will include progress reports summarizing site status and recommended remedial measures that will be submitted by the biologist on a quarterly basis, with the exception of the site visits immediately preceding the development of each annual status report (see below). Each progress report will list estimated species coverage and diversity, species health and overall vigor, the establishment of volunteer native species, topographical/soils conditions, problem weed species, the use of the site by wildlife, significant drought stress, and any recommended remedial measures deemed necessary to ensure compliance with specified success criteria.

One annual site status report that summarizes site conditions will be forwarded by the biologist to the appropriate regulatory agencies (i.e., USACE, CDFW, and CPUC) at the end of each year following implementation of this plan until the established success criteria have been met. Each annual report will list plant species coverage and diversity measured during yearly quantitative surveys, compliance/non-compliance with required success criteria, species health and overall vigor, the establishment of volunteer native species, hydrological and topographical conditions, use of the site by wildlife, and the presence of invasive weed species. In the event of substantial non-compliance with the required success criteria, the reports will include remedial measures deemed necessary to ensure future compliance with specified performance criteria. Each annual report will include, at the minimum:

- The name, title, and company of all persons involved in restoration monitoring and report preparation;
- Maps or aerials showing restoration areas, transect locations, and photo documentation locations;
- An explanation of the methods used to perform the work, including the number of acres treated for removal of non-native plants; and
- An assessment of the treatment success.

BIO-5 Implement Biological Construction Monitoring. No more than 30 days prior to the commencement of ground disturbance or site mobilization activities, SCE shall retain a qualified biologist(s), approved by the CPUC, to monitor VSSP construction. The biologist will have demonstrated expertise with special-status plants, terrestrial mammals, reptiles, and birds. Monitoring will occur during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during all construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent to, or within, habitat that supports populations of listed or special-status species. Any special-status plants shall be flagged for avoidance. Any special-status terrestrial species found within a VSSP impact area shall be relocated by the authorized biologist to suitable habitat outside the impact area (permits and/or MOU's may be required for some species). Clearance surveys for special-status species shall be conducted by the authorized biologist prior to the initiation of construction each day during initial ground disturbance, and weekly thereafter. If nesting birds are found during the pre-construction surveys appropriate buffers shall be installed (as prescribed in Mitigation Measure BIO-6 [Conduct pre-construction surveys for nesting and breeding birds and implement avoidance measures]).

If, during construction, the biological monitor observes a dead or injured special-status wildlife species on the construction site, a written report shall be sent to the CPUC, CDFW and/or USFWS (as appropriate) within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass or injured animal and circumstances of its death or injury (if known). Injured animals will be taken immediately to the nearest appropriate veterinary or wildlife rehabilitation facility. The biological monitor shall, immediately upon finding the remains or injured animal, coordinate with the onsite construction foreman to discuss the events that caused the mortality or injury, if known, and implement measures to prevent future incidents. Details of these measures shall be included with the report. Species remains shall be collected and frozen as soon as possible, and CDFW and USFWS, as appropriate, shall be contacted regarding ultimate disposal of the remains.

Impact BIO-2 (Criterion BIO2): The Project could cause the loss of foraging habitat for wildlife. (Class III)

As described above in the environmental setting, the VSSP supports a broad diversity of both common and sensitive wildlife. Many of these species use the riparian and upland habitats within and adjacent to the proposed Project, for foraging and other life history requirements including breeding, movement, and refugia. Over half (approximately 138.42 acres) of the habitat/land cover types within the VSSP impact areas are mapped as disturbed/ruderal or urban/developed. For many common species including rabbits, ground squirrels, and some birds, the VSSP would not lead to a substantial loss of foraging habitat. New structures constructed as part of the VSSP may actually provide additional perches, refugia, and increased access to some prey, for species such as Cooper's hawks and kestrels.

Direct impacts from the VSSP would include permanent and temporary disturbance of vegetation communities and land cover types (i.e., disturbed/ruderal areas) utilized as foraging habitat for common and sensitive wildlife. Indirect impacts could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, increased noise levels from construction activities, and the establishment of noxious weeds. Operational impacts include increased human presence and the spread of noxious weeds due to use of new or improved access roads. Due to the temporary nature of the impacts and the availability of foraging habitat in adjacent areas the loss of foraging habitat for wildlife resulting from the construction of the VSSP would be considered less than significant (Class III).

Impact BIO-3(Criterion BIO2): The Project could result in disturbance to nesting birds or raptors. (Class II)

Riparian and upland habitats within the VSSP, and in adjacent areas, provide foraging, cover, and/or breeding habitat for a variety of resident and migratory birds (i.e., western king bird, California quail, and American kestrel). Species such as red-tailed hawk and Cooper's hawk have been observed either nesting within the VSSP site or in adjacent habitats. Direct impacts to nesting birds include ground-disturbing activities associated with removal/installation of structures, creation of access/spur roads, preparation of staging areas, and increased human presence.

Indirect impacts to nesting birds include increased noise levels from heavy equipment, human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting.

Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. The increased noise levels resulting from the construction of the VSSP would likely temporarily alter and/or preclude the breeding activities for many common and sensitive bird species known to occur along the proposed Project route. Some species of birds however will likely nest in and adjacent to the VSSP during construction and maintenance activities. Depending on the species, birds may actively nest on the ground close to equipment or even on idle construction equipment. In other arid ecosystems in southern California, birds have been documented nesting on vehicles, foundations, construction trailers, and other equipment left overnight or during a long weekend. In areas where construction may be phased birds may quickly utilize these features as nest sites. Many of the birds that would be likely to use these types of nesting substrates are common species such as ravens, house finches, and doves.

Many riparian birds, including least Bell's vireo and other neo-tropical migrants, are adversely affected by noise and human disturbance. Reijnen et al. demonstrated that for two species of European warbler (*Phylloscopus* sp.), sound levels between 26 dB(A) and 40 dB(A) reduced breeding density by up to 60 percent compared to areas without disturbance (1995). In addition, while current sound thresholds for most birds in California are considered to be approximately 60 dB(A), this level may still adversely affect breeding success for least Bell's vireo. W. Haas (personal communication, 2007) reported that in 1999, sound levels were recorded at 87 locations containing similar habitat conditions in the vicinity of the San Luis Rey River, the most robust and stable population of flycatchers in California. Data indicated that noise levels were the most important factor for occupancy. These data suggest disturbance from adjacent road noise and urban development may be a contributing factor in the use of habitat adjacent to developed areas. Conversely, Aspen has noted least Bell's vireo successfully fledging chicks in a number of locations with high levels of ambient noise. This includes urban areas of Murrieta Creek and at Prado Dam in Riverside County.

When possible, construction and maintenance activities would occur outside of the recognized breeding season (generally February – September [as early as January for some raptors]). However, if construction activities would occur during the breeding season, it is possible that these activities would exclude some species of birds that are less tolerant of anthropogenic disturbance. If birds elect to nest in areas within close proximity to on-going construction activities during the breeding season the qualified avian biologist (refer to Mitigation Measure BIO-6 [Conduct pre-construction surveys for nesting and breeding birds and implement avoidance measures] below) shall implement a standard avoidance buffer (300 feet [500 feet for raptors]) around the nest and no activities will be allowed within the buffer(s) until the young have

fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified avian biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors.

With the exception of a few non-native birds such as European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*), the loss of active bird nests or young is regulated by the Federal Migratory Bird Treaty Act (MBTA) and Fish and Game Code Section 3503 and would be considered a significant and adverse impact without mitigation.

To minimize impacts to nesting birds and raptors, Mitigation Measures BIO-6 (Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures) and BIO-7 (Prepare and Implement a Nesting Bird Management Plan) would require pre-construction clearance surveys and the development of a Nesting Bird Management Plan. Mitigation Measures BIO-1 (Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices), and BIO-5 (Implement Biological Construction Monitoring) would also be required to reduce impacts. These measures would require worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities.

Mitigation Measure NOI-2 (Implement Best Management Practices for Construction Noise) would require the use of noise-suppression techniques, to the extent feasible, during construction. Mitigation Measure BIO-7 (Prepare and Implement a Nesting Bird Management Plan) includes a noise monitoring and suppression component. With the implementation of these mitigation measures, impacts to nesting birds and raptors would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact BIO-3

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-6 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. Prior to construction activities (i.e., mobilization, staging, grading, or construction) SCE shall retain a qualified avian biologist, approved by the CPUC, to conduct pre-construction surveys for nesting birds within the recognized breeding season in all areas within 500 feet of all VSSP components (i.e., staging areas, tower/pole sites, and access road locations). Surveys for raptors shall be conducted for all areas from January 1 to August 15. The required survey dates may be modified based on local conditions, as determined by the qualified avian biologist, with the approval of the CDFW and/or USFWS (where applicable). Measures intended to exclude nesting birds shall not be implemented without prior approval by the CDFW and/or USFWS.

If breeding birds with active nests are found prior to or during construction, the qualified avian biologist shall establish a minimum 300 foot buffer (500 foot for raptors) around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails.

The prescribed buffers may be adjusted by the qualified avian biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. Buffer reductions for listed or special-status species may require coordination with the USFWS and/or CDFW. The qualified avian biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that VSSP activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The avian biologist shall be responsible for documenting the results of the surveys, nest buffers implemented, and the results of ongoing monitoring and will provide a copy of the monitoring reports for impact areas to the appropriate resource agencies.

Surveys shall be conducted to include all impact areas on the VSSP site as well as all construction equipment. If birds are found to be nesting in facility structures or construction equipment and the nests contain eggs or young, buffers as described above shall be implemented.

If trees with nests are to be removed as part of VSSP construction activities, they will be done so outside of the nesting season to avoid additional impacts to nesting raptors. If removal during the nesting season cannot be avoided all trees will be inspected for active nests by the avian biologist. If nests are found within these trees and contain eggs or young no activities within a 300-foot buffer for nesting birds and/or a 500-foot buffer for raptors shall occur until the young have fledged the nest.

BIO-7 **Prepare and Implement a Nesting Bird Management Plan.** SCE shall prepare a Nesting Bird Management Plan (NBMP) in coordination with the CPUC, CDFW, and USFWS. The NBMP shall describe methods to minimize potential project effects to nesting birds, and avoid any potential for unauthorized take. Project-related disturbance including construction and pre-construction activities shall not proceed until approval of the NBMP by CPUC in consultation with CDFW and USFWS. The NBMP shall be implemented over the entire VSSP site regardless of SCE's PSE status with the MSHCP.

The NBMP shall include: (1) definitions of standard nest buffers for each species or group of species, depending on characteristics and conservation status for each species; (2) a notification procedure for buffer distance reductions should they become necessary under special circumstances; (3) a rigorous monitoring protocol including qualifications of monitors, monitoring schedule, and field methods, to ensure that any project-related effects to nesting birds will be minimized; and (4) a protocol for documenting and reporting any inadvertent contact or effects to birds or nests.

The background section of the NBMP shall include the following:

- A summary of applicable State and federal laws and regulations, including definition of what constitutes a nest or active nest under state and federal law. This section shall describe SCE's proposed applicability of the NBMP in the event that state or federal regulations affecting nesting birds may be revised before project implementation.
- A list of bird species potentially nesting on or near the ROW or other work areas, indicating approximate nesting seasons, nesting habitat, typical nest locations (e.g., ground, vegetation, structures, etc.), tolerance to disturbance (if known) and any conservation status for each species. This section will also note any species that do not require avoidance measures (e.g., rock pigeons).
- A list of the types of project activities (construction, operation, and maintenance) that may occur during nesting season, with a short description of the noise, physical disturbance, and lighting resulting from each activity.

- A discussion of project activity scheduling, to avoid or minimize project impacts to nesting birds. Clearing of any vegetation, site preparation in open or barren areas, or other project-related activities that may adversely affect breeding birds shall be scheduled outside the nesting season, as feasible.

The NBMP shall describe the proposed field methods, survey timing, and qualifications of field biologists for pre-constructions surveys following the guidelines outlined in Mitigation Measure BIO-6 (Conduct pre-construction surveys for nesting and breeding birds and implement avoidance measures).

Nest Buffer Modification or Reduction. At times, SCE or its contractor may propose buffer distances different from those approved in the NBMP. Buffer adjustments shall be reviewed and recommended by a qualified avian biologist, approved by CPUC in consultation with the CDFW and/or USFWS. The NBMP shall provide a procedure and timing requirements for notifying CPUC, CDFW, and USFWS of any planned adjustments to nest buffers. Separate and distinct procedures will be provided for special-status birds. The NBMP will list the information to be included in buffer reduction notifications in a standardized format.

- **Nest deterrents.** The NBMP shall describe any proposed measures or deterrents to prevent or reduce bird nesting activity on project equipment or facilities, such as buoys, visual or auditory hazing devices, bird repellents, securing of materials, and netting of materials, vehicles, and equipment. It shall also include timing for installation of nest deterrents and field confirmation to prevent effects to any active nest; guidance and training for the contractor to properly install, maintain, and use nest deterrents; and daily monitoring of nest deterrents to ensure proper installation and functioning and prevent injury or entrapment of birds or other animals. In the event that an active nest is located on project facilities, materials or equipment, SCE will either (1) avoid disturbance or use of the facilities, materials or equipment (e.g., by red-tag) until the nest is no longer active, or (2) coordinate with the CPUC, CDFW, and USFWS to obtain authorization to remove the nest. The NBMP shall describe the proposed procedure for removal of nests, including wildlife rehabilitation options.
- **Communication.** The NBMP shall specify the responsibilities of construction monitors in regards to nests and nest issues, and specify a direct communication protocol to ensure that nest information and potential adverse impacts to nesting birds can be promptly communicated from nest monitors to construction monitors, so that any needed actions can be taken immediately.

  The NBMP shall specify a procedure to be implemented following accidental disturbance of nests or project-related premature fledging, including wildlife rehabilitation options. It also shall describe any proposed measures, and applicable circumstances, to prevent take of precocial young of ground-nesting birds such as killdeer or quail. For example, chick fences may be used to prevent them from entering work areas and access roads. Finally, the NBMP will specify a procedure for removal of inactive nests, including verification that the nest is inactive and notification and approval process prior to removal.
- **Monitoring.** SCE shall be responsible for monitoring the implementation, conformance, and efficacy of the avoidance measures (above). The NBMP shall include specific monitoring measures to track any active bird nest within or adjacent to project work areas, bird nesting activity, project-related disturbance, and outcome of each nest. SCE shall monitor each nest until nestlings have fledged and dispersed or until the nest becomes inactive. In addition, monitoring shall include pre-construction surveys, daily sweeps of work areas and equipment, and any special monitoring requirements for particular activities (tree trimming, vegetation removal, etc.) or particular species (noise monitoring, etc.). Nest monitoring shall continue throughout the breeding season during each year of the VSSP's construction activities.

- **Reporting.** Throughout the construction phase of the VSSP, nest locations, project activities in the vicinity of nests (including helicopter traces), and any adjustments to buffer areas shall be updated and available to CPUC monitors on a daily basis. All buffer reduction notifications and prompt notifications of nest-related non-compliance and corrective actions will be made via email to CPUC monitors. The draft NBMP shall include a proposed format for daily reporting (e.g., spreadsheet available online, tracking each nest). In addition, the NBMP shall specify the format and content of nest data to be provided in regular monitoring and compliance reports. At the end of each year's nest season, SCE will submit an annual NBMP report to the CPUC, CDFW, and USFWS. The annual report shall describe all preconstruction survey work, monitoring data (including names of monitors, activities and sites visited throughout the season), all reductions from standard buffer distances, buffer incursions and nest disturbance, project-related take of nesting birds, injury or entrapment of birds or other animals due to nest deterrents, and nest outcomes for all nests documented throughout the year.

Noise Monitoring Component

If an active breeding territory or nest is confirmed within 500 feet of any project activity site, SCE shall prepare and implement noise monitoring throughout construction and/or VSSP related activities taking place while listed birds occupy the nesting territory. Sound levels at the nest sites shall not exceed 8 dBA above ambient levels or 70 dBA (hourly average Leq), whichever is greater. Ambient levels will be established prior to initiation of construction and demolition, using the same methodology that will be used to take noise measurements during monitoring.

If the hourly average noise threshold is exceeded, or if the qualified biological monitor or qualified avian biologist determines that construction activities are disturbing nesting birds, additional noise reduction techniques shall be implemented to reduce project noise below the thresholds. Noise monitoring will be conducted to verify the reduction of noise levels below the thresholds. Noise reduction techniques can include, but are not limited to:

- Temporary noise barriers or sound walls
- Noise pads or dampers
- Replace and update noisy equipment
- Moveable task noise barriers
- Queue construction vehicles to distribute idling noise
- Locate vehicle access points and loading and shipping facilities away from the nest site
- Reduce the number of noisy activities that occur simultaneously
- Relocate noisy stationary equipment away from the nest sites

Impact BIO-4 (Criterion BIO2): The Project could result in disturbance to wildlife in adjacent habitat. (Class II)

The riparian and upland habitats adjacent to the VSSP provide refugia and breeding habitat for a variety of common and sensitive reptiles, amphibians, mammals, birds, and invertebrates. For example, the riparian scrub habitats present just east of the VSSP and immediately north of Auld Road provide suitable nesting and foraging habitat for the federally and state endangered and MSHCP covered least Bell's vireo; known territories are present within this area. The federally threatened coastal California gnatcatcher, while known from the VSSP site, likely forages and breeds within the adjacent coastal sage scrub habitats present throughout the proposed Project area.

Some of the species known from the area are permanent residents such as coyote, western toad, western scrub jay, and the California Species of Special Concern and MSHCP covered coast horned lizard. Other species including merlin and osprey are winter residents that forage in and adjacent to the VSSP area. How the VSSP would affect individual species depends on many factors including how a species tolerates disturbance and the ability of a species to adapt to features such as new access roads, increased noise levels (i.e., removal and/or construction of towers/poles) and periodic human presence.

While there would be no direct impacts to adjacent habitat, indirect impacts from the VSSP would include fugitive dust, increased noise levels due to heavy equipment and vehicle traffic, light impacts from construction during low-light periods, alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weeds. Noise from vegetation clearing, excavation/grading, and construction activities could affect wildlife in adjacent habitats by interfering with breeding or foraging activities and movement patterns, causing animals to temporarily avoid areas adjacent to the construction zone. Construction could also affect nocturnal wildlife that roost within habitat adjacent to the VSSP by displacing these species and increasing their risk of injury or mortality. More mobile species such as birds (during the non-breeding season) and larger mammals adjacent to the VSSP would likely disperse into habitat adjacent to the VSSP footprint during construction activities.

Construction activities associated with VSSP, specifically the increased noise levels resulting from construction activities, would result in disturbance to a variety of common and sensitive wildlife within the adjacent habitats. The increased noise levels would likely alter and/or preclude the breeding activities for many common and sensitive bird species known to occur in western Riverside County. Refer to Impact BIO-3 (The Project would result in disturbance to nesting birds or raptors) above for additional information on noise related impacts. The disturbance to wildlife in adjacent habitats resulting from the construction of the VSSP would be considered a significant adverse impact without mitigation.

To minimize impacts to wildlife in adjacent habitats, the following measures have been identified: Mitigation Measures BIO-1 (Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices), BIO-5 (Implement Biological Construction Monitoring), BIO-6 (Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures), and BIO-7 (Prepare and Implement a Nesting Bird Management Plan). These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, monitoring noise levels near nest sites, and clearance surveys for nesting birds and raptors prior to the start of construction activities.

Also, Mitigation Measure NOI-2 (Implement Best Management Practices for Construction Noise) would require the use of noise-suppression techniques, to the extent feasible, during construction. Mitigation Measure BIO-7 (Prepare and Implement a Nesting Bird Management Plan) includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to nesting birds and raptors to the extent possible; impacts would be less-than-significant (Class II).

Mitigation Measures for Impact BIO-4

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-6 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

Impact BIO-5 (Criterion BIO2): The Project could disturb nesting willow flycatchers, southwestern willow flycatchers, least Bell's vireos, or their habitat. (Class II)

Approximately 2.24 acres of riparian and riparian scrub habitats with the potential to support several listed avian species will be impacted by the VSSP. Southwestern willow flycatchers (SWFL), federally and state listed as endangered and a MSHCP covered species, have not been recently documented within the VSSP area but are known to occur in the region. A single singing willow flycatcher (WFL), state listed as endangered, was observed within a stand of ornamental trees at the entrance to a private residence, just south of Auld Road, in 2014. Suitable breeding habitat for southwestern willow flycatchers and willow flycatchers is present within a very limited portion of the VSSP site but is present in many nearby areas. Critical habitat for this does not occur within or adjacent to the VSSP.

Least Bell's vireo (LBV) were documented within and adjacent to the VSSP project area during surveys in 2012 and 2014. Multiple birds were detected within a riparian area just east of the VSSP and immediately north of Auld Road in 2014. Least Bell's vireo were also detected within the riparian and freshwater marsh habitats that occur in the VSSP project area immediately upstream of Max Gillis Blvd. Critical Habitat for this species is not present in the proposed Project area.

VSSP activities have the potential to impact LBV, WFL, and SWFL through direct impacts, similar to those described above under Impact BIO-3 (The project would result in disturbance to nesting birds or raptors), including vegetation removal, construction of new access/spur roads, increased noise levels (i.e., removal and/or construction of LWS poles and TSPs), and periodic human presence. During the breeding season construction activities could result in the displacement of breeding birds and the abandonment of active nests. Indirect impacts could include the loss of habitat as a result of the spread of noxious weeds, increased noise levels from heavy equipment, exposure to fugitive dust, human presence during repairs to structures or routine inspection of the subtransmission line. Weed management could also affect nesting.

Construction activities will be conducted outside the recognized breeding season to the extent possible. Should construction occur during the breeding season it is possible that the increased noise and disturbance related to VSSP activities would exclude birds such as LBV, WFL, and SWFL that are less tolerant of anthropogenic disturbance. Refer to Impact BIO-3 (The Project would result in disturbance to nesting birds or raptors) above for additional information on noise and disturbance related impacts to birds. VSSP activities that result in the degradation to habitat for or the loss LBV, WFL, and SWFL would be considered a significant adverse impact without mitigation.

To minimize impacts to LBV, WFL, and SWFL, Mitigation Measure BIO-8 *(Conduct Protocol Surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, and Willow flycatcher; Avoid Occupied Habitat)* has been identified to require protocol surveys within suitable habitat, avoidance of any active nests, and monitoring of nest buffers. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent*

Impacts to Sensitive Vegetation Communities), BIO-4 *(Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring)*, BIO-6 *(Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures)*, and BIO-7 (*Prepare and Implement a Nesting Bird Management Plan)* would further reduce potential impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, monitoring noise levels near nest sites, and clearance surveys for nesting birds and raptors prior the start of construction activities.

Mitigation Measure NOI-2 *(Implement Best Management Practices for Construction Noise)* would require the use of noise-suppression techniques, to the extent feasible, during construction. Mitigation Measure BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)* also includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to LBV, WFL, and SWFL to the extent possible and reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP, additional measures to mitigate the proposed Project's impacts to LBV, WFL, and SWFL, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-5

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-6 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

BIO-8 Conduct Protocol Surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, and Willow Flycatcher; Avoid Occupied Habitat. Construction activities shall avoid suitable habitat for listed riparian birds and occur outside of the recognized breeding season to the extent feasible. If suitable habitat cannot be avoided, SCE shall consult with CDFW and USFWS and obtain the appropriate take authorizations or permits prior to site mobilization activities. SCE shall also implement any conservation measures contained within these permits. Mitigation Measure BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)* will compensate for impacts to Least Bell's Vireo (LBV), Southwestern Willow Flycatcher (SWFL), and Willow Flycatcher (WFL) habitat by requiring the restoration, creation, or acquisition of lands containing riparian habitat; no further compensation is required. Take of LBV, SWFL, and WFL habitat and incidental take of individual LBV, SWFL, and/or WFL may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP. Documentation of participation

and compliance with the MSHCP, including mitigation fee payment confirmation, shall be provided to the CPUC prior to site mobilization activities.

If VSSP-related activities are scheduled to occur during the breeding season (February through September), SCE shall have a qualified and permitted avian biologist, approved by the CPUC, conduct protocol surveys in suitable habitat within 500 feet of disturbance areas. In known occupied habitat for listed riparian birds, SCE shall conduct focused protocol surveys of the VSSP and adjacent areas within 500 feet. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.

Prior to construction, SCE shall submit documentation providing the results of the pre-construction focused surveys for LBV, SWFL, and WFL to the CPUC for review and approval in consultation with USFWS and CDFW. Protocol or focused nest location surveys, as appropriate, shall be conducted within one year prior to the start of construction and shall continue annually until completion of construction and restoration activities.

If an active breeding territory or nest is confirmed, the CPUC, USFWS, and CDFW shall be notified immediately. All active nests shall be monitored on a weekly basis until the nestlings fledge or the nest becomes inactive. SCE shall provide monitoring reports to the CPUC for review on a weekly basis. In coordination with the USFWS and CDFW, a minimum 300-foot disturbance-free ground buffer shall be established around the active nest and demarcated by fencing or flagging. No construction or vehicle traffic shall occur within nest buffers.

The qualified biologist shall have the authority to halt construction activities and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.

Impact BIO-6 (Criterion BIO2): The Project could disturb nesting coastal California gnatcatchers, or their habitat. (Class II)

Surveys conducted from 2012 – 2014 have detected coastal California gnatcatcher (CAGN) at several locations within the VSSP site; this species is well known from western Riverside County. The proposed Project will permanently impact approximately 0.19 acres and temporarily impact approximately 3.93 acres of coastal sage scrub habitats that have the potential to support both foraging breeding activities for this species. CAGNs were detected during both protocol and general biological surveys within the VSSP site.

A single female CAGN was observed just north of the intersection of Case Road and Briggs Road in the northern portion of the Survey Area in 2012 (SCE, 2014). Two adults and three fledglings were observed adjacent to Leon Road, just north of Holland Road, during 2012 protocol surveys (SCE, 2014). A single CAGN was detected within coastal sage scrub habitat adjacent to Leon Road, north of Murrieta Hot Springs Road, during burrowing owl surveys in 2014.

Impacts to CAGN would be similar to those described above under Impacts BIO-3 *(The project would result in disturbance to nesting birds or raptors)* and BIO-5 (*The project could disturb nesting willow flycatchers, southwestern willow flycatchers, least Bell's vireos, or their habitat)*. Construction activities will be conducted outside the recognized breeding season to the extent possible. Should construction occur during the breeding season it is possible that the increased noise and disturbance related to VSSP activities

would exclude birds such as CAGN that are less tolerant of anthropogenic disturbance. Refer to Impact BIO-3 above for additional information on noise and disturbance related impacts to birds. VSSP activities that result in the degradation to habitat for or the loss of CAGN would be considered a significant adverse impact without mitigation.

To minimize impacts to CAGN, Mitigation Measure BIO-9 *(Conduct Protocol Surveys for Coastal California Gnatcatcher and Avoid Occupied Habitat)* would require protocol surveys of suitable habitat, avoidance of any active nests, and monitoring of nest buffers and BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)* would require restoration, enhancement, or land compensation for impacts to coastal sage scrub habitats. In addition, to further reduce impacts the following additional measures are recommended: Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-4 (*Develop a Habitat Restoration and Monitoring Plan)*, BIO-*5 (Implement Biological Construction Monitoring)*, BIO-6 *(Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures)*, and BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)*. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, monitoring noise levels near nest sites and clearance surveys for nesting birds and raptors prior the start of construction activities.

Mitigation Measures NOI-2 (Implement Best Management Practices for Construction Noise) would require the use of noise-suppression techniques, to the extent feasible, during construction. Mitigation Measure BIO-7 (Prepare and Implement a Nesting Bird Management Plan) would include a noise monitoring component. With the implementation of these mitigation measures, impacts to CAGN would be reduced to the extent possible and impacts would be reduced to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to CAGN, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-6

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-6 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

BIO-9 Conduct Protocol Surveys for Coastal California Gnatcatcher (CAGN) and Avoid Occupied Habitat. Construction activities shall avoid suitable habitat for CAGN and occur outside of the recognized breeding season to the extent feasible. If suitable habitat cannot be avoided, SCE

shall consult with CDFW and USFWS and obtain the appropriate take authorizations or permits prior to site mobilization activities. SCE shall also implement any conservation measures contained within these permits. Mitigation Measure BIO-3 (Compensation for Permanent Impacts to Sensitive Vegetation Communities) will compensate for impacts to CAGN habitat by requiring the restoration, creation, or acquisition of lands containing coastal sage scrub habitat; no further compensation is required. Take of CAGN habitat and incidental take of individual CAGN may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP. Documentation of participation and compliance with the MSHCP, including mitigation fee payment confirmation, shall be provided to the CPUC prior site mobilization activities.

SCE shall have a qualified and permitted avian biologist, approved by the CPUC, conduct protocol surveys for CAGN in all areas of coastal sage scrub habitat that may be affected by the proposed Project. Survey areas will include a 500-foot buffer around proposed Project disturbance areas. Presence or absence of CAGN shall be determined prior to construction activities. In occupied habitat, SCE shall conduct additional focused nest location surveys to determine the locations of nests and territories; survey areas shall include a 500-foot buffer around VSSP disturbance areas.

Surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season. Prior to construction, SCE shall submit documentation providing the results of the pre-construction focused surveys for coastal California gnatcatchers to the CPUC for review and approval in consultation with USFWS and CDFW. Protocol or focused nest location surveys, as appropriate, shall be conducted within one year prior to the start of construction and shall continue annually until completion of construction and restoration activities.

If an active breeding territory or nest is confirmed, the CPUC, USFWS, and CDFW shall be notified immediately. All active nests shall be monitored on a weekly basis until the nestlings fledge or the nest becomes inactive. SCE shall provide monitoring reports to the CPUC for review on a weekly basis. In coordination with the USFWS and CDFW, a minimum 300-foot disturbance-free ground buffer shall be established around the active nest and demarcated by fencing or flagging. No construction or vehicle traffic shall occur within nest buffers.

The qualified biologist shall have the authority to halt construction activities and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.

Impact BIO-7 (Criterion BIO2): The Project could result in injury or mortality of Quino checkerspot, or disturbance of its habitat. (Class II)

A habitat assessment and protocol surveys for the federally endangered and MSHCP covered Quino checkerspot butterfly were conducted in 2013 within the VSSP site; surveys did not result in the detection of this species. The larval host plant for this species (within the elevation range of the VSSP), dot-seed plantain (*Plantago erecta*), was observed at numerous locations in the proposed Project area. Dot-seed plantain was generally observed in grasslands and coastal sage scrub communities within the proposed Project area. The VSSP would permanently impact approximately 0.49 acres and temporarily impact approximately 19.07 acres of grassland and coastal sage scrub communities, which have the potential to support this species.

Although not detected in the proposed Project area, should they occur, direct impacts to Quino checkerspot would most likely result from vehicle strikes and removal of larval host plants. Indirect and operational impacts could include the spread or colonization of weeds, weed management, fugitive dust, increased noise levels from construction, and the alteration of hydrology. Impacts to this species, should they occur, would be considered a significant adverse impact without mitigation.

To reduce and/or avoid impacts to Quino checkerspot, Mitigation Measure BIO-10 (*Protocol Surveys for Quino checkerspot and Avoidance of Suitable/Occupied Habitat)* and BIO-11 (*Compensation for Impacts to Quino checkerspot Suitable Habitat)* would be required to conduct protocol surveys of suitable habitat, avoidance of suitable/occupied habitat, and compensation for impacts to suitable habitat. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, and BIO-5 (*Implement Biological Construction Monitoring)* would also be required to further reduce impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities. Implementation of these mitigation measures would minimize impacts to Quino checkerspot, to the extent possible, and reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to Quino checkerspot, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-7

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-10 Protocol Surveys for Quino Checkerspot and Avoidance of Suitable/Occupied Habitat. Construction of the VSSP will avoid and minimize, to the extent possible, impacts to coastal sage scrub and grassland vegetation communities. These habitat types are known to support the larval host (i.e., dot-seed plantain) and adult food plants (i.e., dot-seed plantain, *Lasthenia* sp., and *Cryptantha* sp.) for the Quino checkerspot. If suitable habitat cannot be avoided, SCE shall consult with the USFWS and obtain the appropriate take authorizations or permits. SCE shall also implement any conservation measures contained within these permits. Take of Quino checkerspot habitat and incidental take of individual Quino checkerspot may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP. Documentation of participation with the MSHCP, including mitigation fee payment confirmation, shall be provided to the CPUC prior to any take of this species.

SCE will conduct protocol surveys, following current USFWS guidelines, for the Quino checkerspot; any deviations from the most up to date guidelines must be approved by the USFWS. Surveys will be conducted by a qualified and permitted biologist approved by the CPUC. Protocols require an initial site habitat assessment, prior to the first survey, to determine the location of areas with suitable habitat. Subsequent surveys are not to be conducted concurrently with any other survey effort. Prior to construction, SCE shall submit documentation providing the results of the pre-construction focused surveys for Quino checkerspot to the CPUC for review and approval in consultation with the USFWS.

BIO-11 Compensation for Impacts to Quino Checkerspot Suitable Habitat. SCE will provide compensation for impacts to suitable habitat containing the larval host plant for this species; the larval host plant is dot-seed plantain. Mitigation Measure BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)* will compensate for impacts to habitat by requiring the restoration, creation, or acquisition of lands containing riparian habitat, coastal sage scrub habitat, annual grassland, or other sensitive habitats. However, this measure does not require compensation for common and/or non-native plant communities other than annual grassland. Dot-seed plantain often occurs in native and non-native communities in which compensation for impacts is not required. Therefore, the creation or restoration of habitat shall be required at a 1:1 ratio for all permanent impacts to habitats within the VSSP site, found to support populations of the host plant, that do not require compensation under Mitigation Measure BIO-3. The compensation land criteria presented in Mitigation Measure BIO-3 will also apply to lands obtained for impacts to Quino checkerspot.

If SCE becomes a PSE with the MSHCP, compensation for impacts to Quino checkerspot may be accomplished through participation and implementation of the MSHCP requirements. Documentation of participation and compliance with the MSHCP, including mitigation fee payment confirmation, shall be submitted to the CPUC prior to site mobilization activities.

Impact BIO-8 (Criterion BIO2): The Project could result in injury or mortality of vernal pool or Riverside fairy shrimp, or disturbance of their habitat. (Class II)

Wet and dry season surveys for fairy shrimp were conducted within potentially suitable habitat at the VSSP site from 2012 – 2014; vernal pool and Riverside fairy shrimp were not detected. If present during construction of the VSSP direct impacts would include loss or mortality from construction activities that crush individuals, bury pools, or alter pool morphology. Indirect and operational impacts could include the spread or colonization of weeds, weed management, altered hydric regimes, and the alteration of hydrology or the disruption of flows to off-site areas. These impacts would be considered significant without mitigation. Impacts to vernal pool and Riverside fairy shrimp, should they occur, would be considered a significant adverse impact without mitigation.

To reduce and/or avoid impacts to listed fairy shrimp, Mitigation Measures BIO-12 *(Complete Protocol-level Surveys for Vernal Pool and Riverside Fairy Shrimp)*, BIO-13 (*Avoid Seasonal Depressions and Known Waterbodies)*, and BIO-14 *(Compensate for Impacts to Vernal Pool or Riverside Fairy Shrimp Habitat)* would be required. These measures require protocol surveys prior to VSSP site disturbance, avoidance of seasonal depressions and known water bodies, and requires compensation for impacts to suitable habitat or loss of individuals. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, and BIO-5 (*Implement Biological Construction Monitoring)* would also be required. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and

avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities. Implementation of these mitigation measures would minimize impacts to listed fairy shrimp, to the extent possible, and would reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to listed fairy shrimp, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-8

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-5 Implement Biological Construction Monitoring.

BIO-12 Complete Protocol-level Surveys for Vernal Pool and Riverside Fairy Shrimp. SCE will conduct protocol surveys for the federally threatened vernal pool fairy shrimp and the federally endangered Riverside fairy shrimp each year of construction in areas subject to project disturbance. Surveys can only be suspended upon written authorization from the USFWS/CDFG and the CPUC. SCE shall retain a CPUC approved biologist holding the required 10(a)(1)(A) recovery permit from the USFWS to conduct surveys within all potential fairy shrimp habitat found within the project footprint including, but not limited to, seasonal/ephemeral wetlands, swales, large road ruts and known vernal pool habitat. Surveys shall follow the guidelines set forth by the USFWS in the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act (ESA) for Listed Vernal Pool Branchiopods. Within 90 days of the completion of surveys, a report shall be submitted to the CPUC detailing the results of each survey event.

BIO-13 Avoid Seasonal Depressions and Known Waterbodies. All known seasonal/ephemeral depressions, vernal pools and known water bodies (refer to EIR Figures C.5-2a to C.5-2g) that have been verified or have the potential to be occupied by listed fairy shrimp shall be shown on all applicable construction plans. SCE shall avoid all seasonal/ephemeral depressions, vernal pools and known waterbodies that occur within the project site to minimize impacts to listed fairy shrimp. A 100-foot buffer shall be placed around all seasonal/ephemeral depressions, vernal pools and known waterbodies that have the potential to, but do not presently support listed fairy shrimp, to prevent equipment from entering these areas. If, after conducting surveys according to the methods described above under Mitigation Measure BIO-12, areas identified as potential habitat have been verified to not contain listed fairy shrimp, the 100-foot buffer can be removed. All vernal pools, seasonal depressions and known waterbodies containing documented populations of listed fairy shrimp shall require a 250-foot buffer. These buffers shall be shown on all applicable construction plans (with a highly visible method easily identifiable by construction workers in the field). On-site delineation of this buffer shall be in place prior to the commencement of construction activities. The method used for delineation shall be kept in good working order for the duration of the construction period.

If avoidance of known populations of listed fairy shrimp is not possible, consultation with the USFWS regarding the potential impacts to the species will be necessary.

BIO-14 Compensate for Impacts to Vernal Pool or Riverside Fairy Shrimp Habitat. If VSSP impacts will result in impacts to habitat for, or result in the loss of, vernal pool or Riverside fairy shrimp SCE, as indicated above, will be required to consult with the USFWS. If suitable or occupied habitat cannot be avoided, SCE shall consult the USFWS and obtain the appropriate take authorizations or permits prior to site mobilization activities. SCE shall also implement any conservation measures contained within these permits. To compensate for impacts, the USFWS will require both a preservation and creation component for compensation as follows:

Preservation component – For every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within a USFWS approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the project site or on another non-bank site as approved by the USFWS.

Creation component – For every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a USFWS approved habitat mitigation bank, or, based on USFWS evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the project site or on another non-bank site as approved by the USFWS.

Take of suitable or occupied habitat may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP. Documentation of participation and compliance with the MSHCP, including mitigation fee payment confirmation, shall be provided to the CPUC prior site mobilization activities.

Impact BIO-9 (Criterion BIO2): The Project could result in injury or mortality of Stephens' kangaroo rat. (Class II)

Stephens' kangaroo rat (SKR), a federally endangered, State threatened, and MSHCP covered species, was detected during small mammal trapping events within grassland and open sage scrub habitats in both the northern and southern extents of the VSSP. A total of twelve SKR were recorded during small mammal trapping events in 2012 and 2014. Direct impacts to SKR, if present, would include mortality from trampling or crushing and disturbance to above ground seed storage or granaries. VSSP construction could also disrupt paths and trails, and compact loose soils used by SKR for sand bathing. Ground disturbance from trenching required for the installation of vaults would directly affect SKR where trenches are excavated through precincts. Open trenches would create impassable barriers that would disrupt movement between burrows and foraging areas. Installation of new poles could also result in ground disturbance that would directly affect SKR. Increased noise levels due to heavy equipment, vibration, light impacts from construction during low-light periods, increased vehicular and human presence along existing and new access roads would also occur. Construction of the VSSP could also result in displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions, fugitive dust, and increased erosion and sediment transport.

Indirect impacts to SKR could include compaction of soils, the introduction of exotic plant species, and alterations to the existing hydrological conditions. Furthermore, the placement of poles and fencing will also provide roosting opportunities for avian predators which are known to occur at the VSSP site. Operational impacts include the risk of mortality by vehicles driven at night, crushing of precincts by routine maintenance activities, and vegetation management activities.

Impacts to SKR resulting from the VSSP would be considered significant without mitigation. To reduce and/or avoid impacts to SKR, Mitigation BIO-15 (*Complete Focused Pre-construction Stephens' Kangaroo Rat (SKR) Burrow/Precinct Surveys and Implement Avoidance Measures)* and BIO-16 (*Compensate for Permanent Impacts to Stephens' Kangaroo Rat)* would require focused surveys prior to VSSP site disturbance and provide for compensation for impacts to suitable habitat or loss of individuals. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, and BIO-5 (*Implement Biological Construction Monitoring)* would be required. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities. Implementation of these mitigation measures would minimize impacts to SKR to the extent possible and reduce impacts to a less than significant level (Class II).

If SCE becomes a PSE in the MSHCP and/or a participating member of the RCHCA HCP for SKR additional measures to mitigate the proposed Project's impacts to SKR, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-9

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-5 Implement Biological Construction Monitoring.

BIO-15 Complete Focused Pre-construction Stephens' Kangaroo Rat (SKR) Burrow/Precinct Surveys and Implement Avoidance Measures. No more than 30 days prior to commencement of ground disturbing activities, SCE shall retain a qualified and permitted biologist, approved by the CPUC, to conduct pre-construction surveys for SKR. If active SKR burrows/precincts are present, they shall be flagged, with ground-disturbing activities to be setback a minimum of 100 feet from each active burrow/precinct. The setback shall be delineated in the field in such a method that it is easily visible by all construction personnel and no work will be allowed within the setback areas (for the duration of the VSSP) until authorized by the USFWS, CDFW, and the CPUC. The biological monitor shall periodically field check the mapped burrows/precincts to buffer delineation and that flagging are all in good working order. All active burrows/precincts shall be mapped and incorporated into a GIS based figure for use by the on-site monitors and construction crews. Figures shall include each mapped burrow/precinct and buffer utilizing a highly visible method easily identifiable by construction workers and monitors in the field. Prior to the completion of the VSSP a final monitoring report shall be submitted to the CPUC, CDFW and USFWS.

Avoidance of burrows/precincts is mandatory. If SCE determines that construction activities will require work within the setback areas noted above they must provide documentation of a take permit and biological opinion from the CDFW and USFWS respectively. Take of individual SKR may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP and/or is an approved participant in the Riverside County Habitat Conservation Agency

HCP for SKR. Documentation of participation with either the MSHCP or SKR HCP shall be provided to the CPUC prior to any take of this species.

BIO-16 Compensate for Permanent Impacts to Stephens' Kangaroo Rat. Based on the results of the SKR surveys (refer to Mitigation Measure BIO-15) SCE may be required to compensate for impacts to occupied habitat or individual species. If SCE determines that construction activities must occur within occupied habitat, and they have obtained the required take permit and biological opinion (as noted above under Mitigation Measure BIO-15), they shall be required to compensate for impacts to SKR. To compensate for permanent impacts to this species SCE shall acquire parcels of land at the ratios described below.

Parcels shall be acquired at a 4:1 ratio for impacts to SKR. If the acquired lands for other species, such as burrowing owl or coastal California gnatcatcher, can be managed to support SKR the proposed mitigation lands could be aggregated so the purchase of mitigation lands for one species could cover a portion of the mitigation requirements for the remaining species. Mitigation lands must not already be public land and shall be located within the Western Riverside County.

A conservation easement would need to be recorded on all property associated with the mitigation lands as to protect the existing biological resources in perpetuity. A conservation easement could be held by CDFW or an approved land management entity and shall be recorded immediately upon the dedication or acquisition of the land. Preserved or acquired mitigation lands will be monitored and maintained per the requirements set forth in the Habitat Mitigation and Monitoring Plan prepared for the project and discussed below under Mitigation Measure BIO-17. The location of all lands proposed for mitigation land must be submitted to the CPUC, for review and approval, prior to start of construction mobilization activities.

If SCE becomes a PSE and implements the requirements of the MSHCP and/or is an approved participant in the RCHCA HCP for SKR compensation for impacts to SKR may be accomplished through participation and implementation of the MSHCP and Riverside County Habitat Conservation Agency HCP requirements. Documentation of participation and compliance with these plans, including mitigation fee payment confirmation, shall be submitted to the CPUC prior to site mobilization activities.

BIO-17 Preparation of a Habitat Mitigation and Monitoring Plan. To ensure the success of on-site preserved land and acquired mitigation lands, required for compensation of permanent impacts to vegetative communities and listed or Special-Status plants and wildlife, SCE shall retain a CPUC approved/qualified biologist to prepare a Habitat Mitigation and Monitoring Plan (HMMP). The HMMP will be submitted to the CPUC for approval prior to the start of construction mobilization activities. Prior to the end of VSSP construction final impact acreages must be presented to the CPUC and acquisition of off-site lands must be verified. The HMMP will include, at a minimum, the following information:

a. Summary of anticipated habitat impacts and the proposed mitigation.

b. Detailed description of the location and boundaries of undisturbed project areas (i.e., areas supporting dot-seed plantain) proposed for preservation, off-site mitigation lands and a description of existing site-wide conditions

c. Discussion of measures to be undertaken to enhance (e.g., through focused management) the on-site preserved habitat and off-site mitigation lands for listed and special-status species

d. Dedication of adequate funds consistent with the PAR analysis required for CDFW and USFWS permit requirements.

e. Description of management and maintenance measures (e.g., managed grazing, fencing maintenance, etc.)

f. Discussion of habitat and species monitoring measures for on-site preservation areas and off-site mitigation lands, including specific, objectives, performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc.

g. Development of a monitoring strategy, which shall serve to document the persistence of SKR (Quino checkerspot, burrowing owl, and other species if applicable) populations within the VSSP site. This monitoring will be conducted for a minimum of 5 years after the completion of construction activities. The strategy should include, at the minimum, the following:

    1. Documentation of pre-project population levels for the species noted above, based on results of focused pre-construction surveys and previously supplied applicant data.

    2. On-going monitoring of species populations upon completion of construction activities, while the project is in operation, for a minimum of three years.

    3. Monitoring of reference populations for each of these species in areas that contain undisturbed habitat, such as the Carrizo Plain National Monument.

    4. An analysis of the comparison of percent changes in population levels at the project and reference sites to be used in the determination of additional compensatory mitigation.

    j. SCE shall prepare a contingency plan for mitigation elements that do not meet performance or final success criteria within 5 years. This plan will include specific triggers for remediation if performance criteria are not being met and a description of the process by which remediation of problems with the mitigation site (e.g., presence of noxious weeds) will occur.

SCE (in consultation with the land trust/agency that holds conservation easements on mitigation lands) is responsible for the monitoring of the mitigation lands during VSSP construction and for 3 years after the completion of construction. Thereafter, mitigation lands shall be monitored at least once per year by the land trust/agency that holds the conservation easements. Monitoring reports shall be submitted to the CPUC annually.

If SCE becomes a PSE and implements the requirements of the MSHCP, and/or is an approved participant in the RCHCA HCP for SKR compensation, impacts to SKR may be accomplished through participation and implementation of the MSHCP and RCHCA HCP requirements thus precluding the need for any on-site mitigation or off-site acquisition of lands. Documentation of participation and compliance with these plans, including mitigation fee payment confirmation, shall be submitted to the CPUC prior to site mobilization activities.

Impact BIO-10 (Criterion BIO2): The Project could disturb endangered, threatened, or proposed plant species or their habitat. (Class II)

One listed plant species was detected on the VSSP site during surveys conducted from 2012 - 2014. Multiple populations of San Diego ambrosia, federally listed as endangered (also a CRPR list 1B.1 plant), were detected in the southern extent of the VSSP site in 2014 (refer to Figures C.5-4a-d, located at the end of this section). Due to low rainfall from 2011-2013, a variety of plant species may not have been detectable during botanical surveys. However, for the VSSP site, rainfall for the 2011-2013 rain years appears to be adequate for the detection of most rare plants.

Although not detected, suitable habitat for other endangered or threatened species such as Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*), Small-flowered microseris (*Microseris douglasii ssp. Platycarpha*), Round-leaved filaree (*California macrophylla*), and Parry's spineflower (*Chorizanthe parryi var. parryi*) is present and there are known occurrences within two miles of the VSSP. There is an existing record of vernal barley (*Hordeum intercedens*) in the VSSP from 2006 however it was not detected during the recent surveys (CCH, 2015).

Although only one rare plant was detected on the Project site, irregular plant life histories, and ongoing agricultural activities can limit the ability to detect rare plants. Botanical field surveys can only detect individual plants whose above-ground growth is large or conspicuous enough to be noted by field personnel. Even under ideal conditions, some living plants may not have emerged above ground or may be too small for detection. These limitations are especially important for small or inconspicuous species. For example, although suitable habitat is found on the site, vernal barley was not observed during botanical surveys, which were conducted within its blooming period. However, it is an annual species, and it may only be observed in certain years when annual precipitation levels are appropriate.

If present, direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower/pole site preparation, and the construction, grading, and widening of new and existing access roads. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. Operational impacts could include trampling or crushing due to use of new or improved access roads, increased erosion, and the colonization and spread of noxious weeds. Impacts to San Diego Ambrosia, or other listed plant species (should they be present), would be considered significant without mitigation.

The most effective mechanism for reducing impacts to sensitive plant species is to avoid or minimize on-site impacts. Therefore, the key mitigation strategy is to require surveys and avoid populations of rare listed plants, where detected. If the plants cannot be avoided then mitigation through the acquisition and protection of listed plant populations on private lands would be needed. This strategy would also necessitate botanical surveys of proposed mitigation lands to be acquired. Other options are the protection of onsite populations provided they are protected through a conservation easement and the preparation and implementation of a habitat management plan to ensure long-term conservation of these species.

Therefore, to reduce and/or avoid impacts to listed plant species or their habitats, Mitigation Measure BIO-18 *(Conduct Pre-construction Surveys for State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants and Implementation of Avoidance Measures)* and BIO-19 *(Compensate for Impacts to State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants)* would require focused surveys prior to VSSP site disturbance and provides compensation for unavoidable

impacts. In addition, Mitigation Measures BIO-1 (*Implement a Worker Environmental Education Program)*, BIO-2 (*Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring)*, and BIO-17 *(Preparation of a Habitat Mitigation and Monitoring Plan)* have been identified to further reduce potential impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Mitigation and Monitoring Plan, and conducting biological monitoring during ground disturbing and other construction related activities. Implementation of these mitigation measures would minimize impacts to listed plant species to the extent possible and reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to listed plant species, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-10

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-5 Implement Biological Construction Monitoring.

BIO-17 Preparation of a Habitat Mitigation and Monitoring Plan.

BIO-18 Conduct Pre-construction Surveys for State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants and Implementation of Avoidance Measures. Prior to initial ground disturbance and for undisturbed areas in subsequent construction years, SCE shall conduct pre-construction surveys for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity, including, but not limited to, tower/pole locations, construction areas, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist, approved by the CPUC, according to protocols established by the USFWS, CDFW, and California Native Plant Society (CNPS). All listed plant species found shall be marked and avoided. Any populations of special-status plants found during surveys will be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared.

These surveys must be accomplished during a year in which rainfall totals are at least 80% of average and in which the temporal distribution of rainfall is not highly abnormal (e.g., with the vast majority of rainfall occurring very early or late in the season) to be reasonably certain of the presence/absence of rare plant species, unless surveys of reference populations document that precipitation conditions would not have adversely affected the ability to detect the species. If a listed plant species cannot be avoided, consultation with USFWS and CDFW will occur.

Prior to excavation and grading activities or vegetation removal, any populations of listed plant species identified during the surveys within the VSSP limits and beyond, shall be protected and a buffer zone placed around each population. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and

dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, physical and chemical characteristics of soils) that are identified by the qualified plant ecologist and/or botanist. The buffer for herbaceous and shrub species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the USFWS, CDFW, and the CPUC.

Where impacts to listed plants are determined to be unavoidable, the USFWS and/or CDFW shall be consulted for authorization. Additional mitigation measures to protect or restore listed plant species or their habitat, including but not limited to a salvage plan including seed collection and replanting, may be required by the USFWS or CDFW before impacts are authorized, whichever is appropriate.

Take of State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants may be covered by the MSHCP if SCE becomes a PSE and implements the requirements of the MSHCP. Documentation of participation with the MSHCP shall be provided to the CPUC prior to any take of this species.

BIO-19 Compensate for Impacts to State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants. To compensate for permanent impacts to State and federally Threatened, Endangered, Proposed, Petitioned and Candidate plants, habitat that is not already public land shall be preserved and managed in perpetuity at a 1:1 mitigation ratio (One acre preserved for each acre impacted). Prior to the disturbance of habitat for or take of listed plant species, SCE will be required to obtain CPUC approval of preserved and/or mitigation lands as well as provide documentation of a recorded conservation easement(s). Compensation for temporary impacts shall include land acquisition and/or preservation at a 0.5:1 ratio. The preserved habitat for a significantly impacted plant species shall be of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, vegetation structure, and will contain verified extant populations, of the same size or greater, of the State or federally listed plants that are impacted. A conservation easement would need to be recorded on all property associated with the mitigation lands as to protect the existing plant resources in perpetuity. A conservation easement could be held by CDFW or an approved land management entity and shall be recorded immediately upon the dedication or acquisition of the land. Preserved or acquired mitigation lands will be monitored and maintained per the requirements set forth in the Habitat Mitigation and Monitoring Plan prepared for the project, discussed above under Mitigation Measure BIO-17.

However, if lands acquired or protected for the compensation of permanent impacts to burrowing owl, SKR, and/or vegetative communities contain similar sized populations of the impacted listed plant species, no further mitigation would be required. The location of all lands proposed for mitigation land must be submitted to the CPUC, for review and approval, prior to the start of construction mobilization activities.

If SCE becomes a PSE with the MSHCP this compensation may be accomplished through participation and implementation of the MSHCP requirements. Documentation of participation and compliance with the MSHCP, including verification of mitigation fee payments, shall be submitted to the CPUC prior to construction mobilization activities.

Impact BIO-11 (Criterion BIO3): The Project could result in injury or mortality of western spadefoot toad. (Class II)

The western spadefoot toad, a California Species of Special Concern and MSHCP covered species, was detected at two locations during surveys conducted in the VSSP from 2012 – 2014. A single adult toad was found within a ponded area in Salt Creek and within a disturbed drainage northwest of the intersection of Leon and Baxter Roads. This species could potentially breed within seasonal drainages and other depressions present within the VSSP site provided that they hold water for approximately three weeks.

This species is almost completely terrestrial entering water only to breed (Jennings and Hayes, 1994; Holland and Goodman, 1998; Storey et al., 1999). While adults typically emerge from burrows from January through March, they may also emerge in any month between October and April if rain thresholds are met (Stebbins, 1972; Morey and Guinn, 1992; Jennings and Hayes, 1994; Holland and Goodman, 1998). The species typically aestivates in upland habitats near potential breeding sites but may range several hundred meters from the breeding pool, in burrows approximately one meter in depth (Stebbins, 1972).

Direct impacts to western spadefoot toad are expected to occur as a result of crushing from mechanized equipment, temporary disruption of foraging or aestivation sites in adjacent upland areas, fugitive dust, or harm to egg masses from impacts to water quality. Construction activity may result in the loss of individual toads, egg masses, and larvae depending on the construction season. Because this species is largely nocturnal (active during the night) and difficult to detect in the dark, vehicles driven at dawn, dusk, and during the evening could impact this species.

Indirect impacts on this species, if present, may be caused by soil compaction, altered hydrologic conditions, night time lighting, or the establishment of noxious weeds. Human activities can indirectly affect western spadefoot toads through increased noise or through onsite trash attracting predators such as the common raven and coyote (Boarman, 2002). Increased noise levels can also interfere with breeding and mask the approach of predators.

Operational impacts include collisions with vehicles, weed management activities that disrupt foraging or breeding, and the spread of weeds.

The impacts of the VSSP on this species would be considered significant without mitigation. Therefore, to reduce and/or avoid impacts to western spadefoot toad, Mitigation Measure BIO-20 (*Complete Focused Pre-construction Western Spadefoot Toad Surveys and Implement Avoidance Measures)* would require focused surveys prior to VSSP site disturbance and provides for habitat restoration and relocation of individuals and egg masses. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 (*Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring)*, and BIO-13 *(Avoid Seasonal Depressions and Known Waterbodies)* have been identified to further reduce impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and avoiding known depressions and water bodies. Implementation of these mitigation measures would minimize impacts to western spadefoot toad, to the extent possible, and would reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to western spadefoot toad, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-11

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-13 Avoid Seasonal Depressions and Known Waterbodies.

BIO-20 Complete Focused Pre-construction Western Spadefoot Toad Surveys and Implement Avoidance Measures. Prior the site mobilization, SCE shall retain a CPUC approved/qualified biologist to conduct the following:

a. Conduct a pre-construction survey during the appropriate time of year when this species can be detected (i.e., during periods of suitable rainfall that result in pooling or the formation of other aquatic habitat) to determine the presence of western spadefoot toad and related habitat.

b. Should the toad and habitat be found, and be impacted by temporary and/or permanent project impacts, a habitat restoration and management plan shall be prepared for review and approval by the County, that addresses the following:

    1. Impacted occupied breeding habitat to be replaced, on-site, at a 2:1 ratio.

    2. Relocation areas shall be designed as suitable toad habitat, and as far away as feasible from any project related structure or foreseeable construction area (minimum 250 foot buffer from construction activities).

    3. Terrestrial habitat surrounding the proposed relocation site shall be as similar in type, aspect, and density to the location of the existing ponds as feasible.

    4. No site preparation or construction activities shall be permitted in the vicinity of any occupied ponds until the design and construction of the relocation habitat in preserved areas of the site has been completed and all western spadefoot toad adults, tadpoles, and egg masses detected are moved to the created pool habitat.

    5. Restoration areas shall be monitored and maintained until they are shown as successful habitat for the toad, or up to five years. Success criteria shall be proposed. Provisions to make adjustments to remediate problems shall also be included.

    6. Permanent protection and management of restoration areas (e.g., conservation easement or fee title purchase, etc.).

Annually, for the duration of construction activities and based on appropriate rainfall and temperatures (generally between the months of February and April) the biologist shall conduct a series of pre-construction surveys in all appropriate vegetation communities within the project footprint. Surveys will include evaluation of all previously documented occupied areas and a

reconnaissance level survey of the remaining natural areas of the site. All western spadefoot adults, tadpoles, and egg masses encountered shall be collected and released in the identified/created restoration ponds described above.

If SCE becomes a PSE with the MSHCP, this habitat restoration and management may be accomplished through participation and implementation of the MSHCP requirements. Documentation of participation and compliance with the MSHCP, including mitigation fee payment verification, shall be submitted to the CPUC prior to site mobilization activities.

Impact BIO-12 (Criterion BIO3): The Project could result in injury or mortality of two-striped garter snake. (Class II)

Two-striped garter snake, a California Species of Special Concern, was found within a disturbed drainage northwest of the intersection of Leon and Baxter Roads in the VSSP area. The two-striped garter snake is highly aquatic but may move considerable distances into upland habitats, even where permanent water is lacking. Two-striped garter snakes have been observed in riparian, freshwater marsh, coastal sage scrub, chaparral, oak woodland, and grassland habitats. Rathburn et al. (1993) found that these snakes tend to occupy streamside sites during the summer and switch to nearby upland habitats during the winter.

Direct impacts due to construction activities include mortality or injury of individual snakes as a result of mechanical crushing, loss of nesting, breeding, or basking sites, and human trampling. Other direct effects to these species include degradation of water quality and removal of vegetation. Indirect effects include compaction of soils, fugitive dust, and introduction of exotic plant species. Operational impacts include risk of mortality by vehicles and disturbance on access roads during routine maintenance and inspection activities. Project effects to this species would be similar to western spadefoot toad and would be considered a significant adverse impact without mitigation.

To reduce and/or avoid impacts to two-striped garter snake, Mitigation Measure BIO-21 *(Conduct Surveys for Two-striped Garter Snakes and Implement Avoidance Measures)* requires focused surveys prior to VSSP site disturbance and provides for relocation of individuals outside of any impact area. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring)*, and BIO-13 *(Avoid Seasonal Depressions and Known Waterbodies)* have been identified to further reduce impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, compensation for impacts to riparian habitat, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and avoiding known depressions and water bodies. Implementation of these mitigation measures would minimize impacts to two-striped garter snake to the extent possible and would reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to two-striped garter snake, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-12

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-13 Avoid Seasonal Depressions and Known Waterbodies.

BIO-21 Conduct Surveys for Two-striped Garter Snakes and Implement Avoidance Measures. Prior to ground disturbance or vegetation clearing in the VSSP area, SCE shall retain a qualified biologist, approved by the CPUC, to conduct focused surveys for two-striped garter snakes where suitable habitat is present and directly impacted by construction, vehicle access, or maintenance. Focused surveys shall consist of a minimum of four daytime surveys within one week of vegetation clearing. The qualified biologist will be present during all activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake. Clearance surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of construction each day. Any snakes found within the area of disturbance or potentially affected by the VSSP will be relocated to the nearest suitable habitat that will not be affected by the VSSP.

Impact BIO-13 (Criterion BIO-3): The Project could result in injury or mortality of amphibian and reptile species designated as California Species of Special Concern, CDFW Special Animals, and/or MSHCP covered species. (Class II)

Three special-status reptile and/or amphibian species (other than western spadefoot toad and two-stripe garter snake discussed above) including the coast horned lizard, granite spiny lizard, and coastal western whiptail were detected on the VSSP site during surveys conducted form 2012-2014. Although not detected, several other special-status species of reptiles and amphibians (terrestrial herpetofauna) could be affected by the VSSP. These include the following California Species of Special Concern, CDFW Special Animals, and MSHCP covered species:

- Orange-throated whiptail
- Silvery legless lizard
- San Diego banded gecko
- Red diamond rattlesnake
- Western pond turtle
- Coast patch-nosed snake
- Granite night lizard

Given the ecology of these species and their cryptic nature, it is likely that some or all of the species identified above may occur in or near the VSSP area. Special-status terrestrial herpetofauna present or potentially present in the VSSP area would be subject to similar types of impacts as described above for western spadefoot toad (Impact BIO-11: The project could result in injury or mortality of western spadefoot toad) and two-striped garter snake (Impact BIO-12: The project could result in injury or mortality of two-striped garter snake).

Direct impacts include being hit by vehicles on access roads and mechanical crushing during vegetation removal and pole/tower installation. Other impacts include general disturbance due to increased human activity. Special-status terrestrial herpetofauna could be injured or killed during ground-disturbing

activities in undeveloped upland habitats and in some developed areas throughout the VSSP, including staging areas. Indirect impacts to these species include compaction of soils, fugitive dust; increased noise levels, and the introduction of exotic plant species. Operational impacts include risk of mortality by vehicles and disturbance on access roads during routine maintenance and inspection activities. Direct loss of these species would be considered a significant adverse impact without mitigation.

To reduce and/or avoid impacts to terrestrial herpetofauna, Mitigation Measure BIO-22 *(Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures)* requires focused surveys prior to VSSP site disturbance and provides for relocation of individuals outside of any impact area. In addition, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring)*, and BIO-13 *(Avoid Seasonal Depressions and Known Waterbodies)* have been identified to further reduce potential impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and avoiding known depressions and water bodies. Implementation of these mitigation measures would minimize impacts to terrestrial herpetofauna to the extent possible and would reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to some species of terrestrial herpetofauna, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-13

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-13 Avoid Seasonal Depressions and Known Waterbodies.

BIO-22 Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing within the VSSP site, SCE shall retain a CPUC approved/qualified biologist to conduct surveys for terrestrial herpetofauna where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. Focused surveys shall consist of a minimum of three daytime surveys and one nighttime survey within one week of vegetation clearing. The qualified biologist will be present during all activities immediately adjacent to or within habitat that supports terrestrial herpetofauna. Clearance surveys for terrestrial herpetofauna shall be conducted by the qualified biologist prior to the initiation of construction each day in suitable habitat. Terrestrial herpetofauna found within the area of disturbance or potentially affected by the VSSP will be relocated to the nearest suitable habitat that will not be affected by the VSSP.

Impact BIO-14 (Criterion BIO3): The Project could disturb nesting or migrant California Species of Special Concern, CDFW Special Animals, California Fully Protected, or MSHCP covered bird species. (Class II)

A variety of bird species, listed as California Species of Special Concern, CDFW Special Animals, California Fully Protected species, and MSHCP covered species were documented within the riparian and upland habitats within and adjacent to the VSSP site (refer to Appendix 3-1 for a complete list of all wildlife observed). These include Cooper's hawk, yellow warbler, white-tailed kite, yellow-breasted chat, loggerhead shrike, Allen's hummingbird, and hermit warbler. Direct, indirect, and operational impacts to nesting birds would be the same as described above for Impact BIO-3 *(The Project would result in disturbance to nesting birds or raptors)*, Impact BIO-5 *(The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat)*, and Impact BIO-6 (*The project could disturb nesting coastal California gnatcatchers, or their habitat)*. Direct impacts to nesting birds include ground-disturbing activities associated with vegetation removal, grading of new access roads, increased noise levels from heavy equipment, and increased human presence.

Indirect impacts to nesting birds include human disturbance, increased noise levels from construction activities (i.e., vegetation removal and pole installation), exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance of facilities. Weed management could also affect nesting.

VSSP activities have the potential to affect foraging and nesting birds if present during construction activities. Birds and other wildlife may temporarily or permanently leave their territories to avoid construction activity (i.e., increased noise levels), which could lead to reduced reproductive success and increased mortality. Refer to Impact BIO-3 (*The Project would result in disturbance to wildlife in adjacent habitat)*, for additional information on impacts related to increased noise and disturbance levels. The loss of nests or of migrant California Species of Special Concern, CDFW Special Animals, California Fully Protected, and MSHCP covered bird species would be considered a significant adverse impact without mitigation.

To minimize impacts to bird species, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan), BIO-5 (Implement Biological Construction Monitoring*), BIO-6 *(Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures)*, BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)*, BIO-8 *(Conduct Protocol Surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, and Willow Flycatcher; Avoid Occupied Habitat)*, and BIO-9 (*Conduct Protocol Surveys for Coastal California Gnatcatcher and Avoid Occupied Habitat)* would be required. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities.

Additional measures include: Mitigation Measure NOI-2 *(Implement Best Management Practices for Construction Noise)* that would require the use of noise-suppression techniques, to the extent feasible, during construction and Mitigation Measure BIO-7 (*Prepare and Implement a Nesting Bird Management Plan)* that includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to bird species listed as California Species of Special Concern, CDFW Special Animals,

California Fully Protected species, and MSHCP covered species to the extent possible and reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP, additional measures to mitigate the proposed Project's impacts to bird species listed as California Species of Special Concern, CDFW Special Animals, California Fully Protected species, and MSHCP covered species, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-14

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-6 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

BIO-8 Conduct Protocol Surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, and Willow flycatcher; Avoid Occupied Habitat.

BIO-9 Conduct Protocol Surveys for Coastal California Gnatcatcher and Avoid Occupied Habitat.

Impact BIO-15 (Criterion BIO3): The Project could result in mortality of, and loss of habitat for, Special-status bat species. (Class II)

Focused surveys for bats in the VSSP area have not been conducted to date. While not specifically detected a variety of sensitive bat species are known to occur in the general area and likely roost and forage within portions of the VSSP site and in adjacent habitats. Western mastiff bat, pallid bat, Mexican long-tongued bat, western yellow bat, and spotted bat, all California Species of Special Concern, have the potential to occur within and adjacent to the VSSP. Hoary bat and western small-footed myotis, CDFW Special Animals, may also occur on or near the VSSP site. Proposed Project areas include numerous locations that constitute suitable bat foraging and roosting habitat including riparian woodlands, wind rows of eucalyptus, large rock outcrops (with cracks and crevices), and adjacent scrub communities.

Bat life histories vary widely. Some species hibernate during winter, or migrate to warmer areas. During the breeding season, bats generally roost during the day, either alone or in communal roost sites, depending on species. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands. The decline of bat populations is often due to roost site disturbance, loss of foraging habitat, and loss of roost sites. Activities that have been documented to impact bats include livestock grazing, vegetation treatments, and water reclamation that could lead to loss of a water source or riparian habitat. Due to their sensitivity to human disturbance, roost protection is important for bats. Roost protection measures may include seasonal use restrictions or physical closures as necessary.

Direct impacts to bats include mortality or displacement of bats during ground-disturbing activities associated with vegetation removal and pole installation, and increased human presence. Noise, vibration, and human activity could disrupt maternity roosts during the breeding season. Indirect effects could include increased traffic, increased noise levels from heavy equipment and pole installation, exposure to fugitive dust, and human presence in the VSSP area that could result in bats abandoning their roosts or maternal colonies. Refer to Impact BIO-3 *(The Project would result in disturbance to wildlife in adjacent habitat)* and Impact BIO-4 *(The Project would result in disturbance to nesting birds or raptors)* for additional information on impacts related to increased noise and disturbance levels; impacts from increased noise levels on bat species would be similar to those discussed for birds. Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The use of access roads during dusk and dawn could also disturb bats or result in vehicle strikes.

Implementation of the VSSP would not prevent bats from foraging in the VSSP area. The proposed Project, however, may result in the loss of known maternity sites or roosting trees should they occur; there are no currently identified maternity sites within the VSSP site. Special-status bats are known from the general area and could be disturbed from VSSP activities. The loss or disturbance to special-status bats would be considered a significant adverse impact without mitigation.

To minimize impacts to special-status bats, Mitigation Measure BIO-23 (*Survey for Maternity Colonies or Hibernaculum for Roosting Bats)* requires surveys for bats prior to ground disturbing activities or vegetation removal and identification of alternative roost sites should eviction be required. Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program), BIO-2 (Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, and BIO-5 *(Implement Biological Construction Monitoring)* have also been identified to further reduce potential impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities.

In addition, Mitigation Measure NOI-2 *(Implement Best Management Practices for Construction Noise)* would require the use of noise-suppression techniques, to the extent feasible, during construction and Mitigation Measure BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)* includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to special-status bats to the extent possible and reduce impacts to a less-than-significant level (Class II).

Mitigation Measures for Impact BIO-15

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

BIO-23 Survey for Maternity Colonies or Hibernaculum for Roosting Bats. Prior to ground disturbance or vegetation clearing at all VSSP locations, SCE shall retain a qualified biologist, approved by the CPUC, to conduct surveys for sensitive bats. Surveys shall be conducted no more than 15 days prior to grading near or the removal of trees or other structures. Surveys shall also be conducted during the maternity season (1 March to 31 July) within 300 feet of VSSP activities. If active maternity roosts or hibernacula are found, the structure, tree or tower occupied by the roost shall be avoided (i.e., not removed), if feasible. If avoidance of the maternity roost is not feasible the qualified biologist will implement the following actions.

- **Maternity roosts.** If a maternity roost will be impacted by the VSSP, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the VSSP site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats requirements in coordination with CDFW. By making the roosting habitat available prior to eviction, the colony will have a better chance of finding and using the roost. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFW shall be notified of any hibernacula or active nurseries within the construction zone.
- **Exclusion of bats prior to eviction from roosts.** If non-breeding bat hibernacula are found in trees scheduled to be removed, the individuals shall be safely evicted, under the direction of a qualified biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

Impact BIO-16 (Criterion BIO3): The Project could result in mortality of, and loss of habitat for, small mammals designated as California Species of Special Concern or MSHCP covered species. (Class II)

A total of seven special-status mammal species were detected within or adjacent to the VSSP during surveys conducted from 2012 – 2014. Species detected included San Diego black-tailed jack rabbit, San Diego desert woodrat, northwestern San Diego pocket mouse, and Los Angeles pocket mouse, all California Species of Special Concern and MSHCP covered species. Southern grasshopper mouse, a CDFW Species of Special Concern, was also detected within the VSSP site. Although not detected American badger and dulzura pocket mouse (*Chaetodipus californicus femoralis*), both California Species of Special Concern, are known to occur in the general area. Direct impacts to these species would include mechanical crushing by vehicles and construction equipment, trampling, and loss of habitat. Construction disturbance can also result in the flushing of small animals from refugia, which increases the predation risk for small rodents. Indirect impacts include exposure to fugitive dust, alteration of soils, such as compaction, that could preclude burrowing and the spread of exotic weeds, and increased noise levels. Because the VSSP would remove or disturb vegetation and these animals would be subject to mortality from construction activities, impacts to these species would be considered significant absent mitigation.

To minimize impacts to special-status mammal species, Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-3 (*Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, and BIO-5 *(Implement Biological Construction Monitoring)* have been identified. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities.

Mitigation Measures NOI-2 *(Implement Best Management Practices for Construction Noise)* would require the use of noise-suppression techniques, to the extent feasible, during construction and Mitigation Measure BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)* includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to special-status mammals to the extent possible and reduce impacts to a less-than-significant level (Class II).

Mitigation Measures for Impact BIO-16

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-7 Prepare and Implement a Nesting Bird Management Plan.

Impact BIO-17 (Criterion BIO3): The Project could disturb CRPR or MSHCP covered plant species or their habitat. (Class II)

Six species of rare plants were detected on the VSSP site however, many occur in areas not subject to direct impacts. These species included Engelmann oak (CRPR 4.3 and MSHCP), long-spined spineflower (CRPR 1B.2), Palmer's grapplinghook (CRPR 4.2), paniculate tarplant (CRPR 4.2), small-flowered morning-glory (CRPR 4.2), and smooth tarplant (CRPR 1B.1 and MSHCP). The majority of the rare plant locations were comprised of individual plants or small groups of plants; however, a large population of Palmer's grapplinghook, comprised of approximately 1,050 plants, was found in the southern portion of the VSSP site. Long-spine spineflower was found in two patches of approximately 400 and 130 plants each (both patches within the southern portion of the VSSP site). Small-flowered morning-glory was found at multiple locations within the southern half of the VSSP area including one large population of approximately 50,000 plants.

Botanical field surveys conducted for CEQA review cannot serve as formal censuses of rare plants. At best, a plant census in any given year can only provide the minimum number of living plants on the survey date. A census can only detect individual plants whose above-ground growth is large or conspicuous enough to be noted by field personnel. An ideally designed census would be scheduled at the height of the plant's growth season; use a technique to ensure that field personnel walked transect lines close enough to every plant to assure its detection; and field personnel would be well-trained, well-rested, and would have consistently high mental and visual acuity throughout each field day and throughout the field survey

period. Even under these ideal conditions, some living plants may not have emerged above ground or may be too small for detection by field crews. However, based on the information obtained to date regarding the distribution of rare plants on the VSSP site, a reasonable assessment of impacts can be evaluated.

Direct, indirect, and operational impacts to special-status plant species would be the same as described for listed plant species (See Impact BIO-10). These impacts include but are not limited to the direct removal of plants during the course of construction, the creation of conditions favorable to invasion of weedy exotic species, altered light and hydrologic regimes, and vegetation management.

More than half of the rare plants identified in the VSSP site are ranked as CRPR 4 species. CRPR 4 species are plants of limited distribution or infrequent throughout a broader area of California, and their vulnerability or susceptibility to threat appears low at this time (CNPS, 2010). Very few CRPR 4 plants meet the definition for State or federal listing (CNPS, 20010). Nevertheless, they may be locally significant if, for example, they occur at the periphery of their geographic ranges, exhibit unusual morphology, or occur in atypical habitats. However, these species do not represent unique or rare populations nor do they occur at the margins of their known ranges. Therefore impacts of the VSSP are considered adverse but not significant (Class III) and do not reach the threshold for significance under CEQA. Although impacts to these plants are not considered significant mitigation for other species including the acquisition of lands for burrowing owl and impacts to sensitive vegetation communities will reduce impacts to these species should they occur on the acquired parcels.

Long-spined spineflower and smooth tarplant, found as individual plants or as small groups of plants scattered throughout the southern and northern portions (respectively) of the VSSP site, are CRPR 1B species. Impacts to this species would be considered significant without mitigation. Under Section 15380 of the CEQA guidelines, a species may be considered endangered, rare or threatened, if it can be shown to meet the criteria for State or federal listing. “CEQA Section 15380 provides that a plant or animal species may be treated as ‘rare or endangered’ even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.”

The California Native Plant Society (CNPS) cooperates under a memorandum of understanding with CDFW to identify which plants may be rare or threatened, evaluate threats to them, share occurrence data, and plan protective measures. In this role, CNPS evaluates plant taxa according to abundance, distribution, and threats, and it ranks rare species on a series of lists. The joint CNPS Rare Plant Program and CDFW’s CNDDB Plant Status Review Process for CRPR and CDFW Special Plants List status is a rigorous review process that evaluates existing literature, reviews herbarium collections, and communicates with experts before making a recommendation for listing. A summary of information on each candidate taxon is reviewed by a network of California botanists, representing state and federal agencies, environmental consulting firms, academic institutions, CNPS, and other conservation organizations.

All of the CRPR 1B and 4 plants in the VSSP area are also included in the CDFW Special Plants List (CDFW, 2015d) and are tracked by CDFW’s CNDDB. The CNPS Inventory has been a broadly recognized and accepted source of science-based information on the rarity, endangerment, and distribution of California special-status plants since its first edition in 1974. By CNPS’s standards, the plants ranked as CRPR 1A, 1B and 2 meet the definitions of Sections 2062 and 2067 (CESA) of the California Fish and Game Code, and are eligible for state listing (CNPS, 2001). The CPUC considers those plants ranked as CRPR 1B or 2 to meet CEQA’s Section 15380 criteria, and adverse effects to these species are generally considered “significant” except where substantial data may show otherwise.

To minimize impacts to rare plant species, Mitigation Measure BIO-24 *(Conduct Pre-construction Surveys for Special-Status Plants and Implement Avoidance Measures)* and BIO-25 (*Compensate for Impacts to Special-Status Plant Species)* would require pre-construction surveys, implementation of avoidance

measures, and compensation for permanent and temporary impacts. The following measures would further reduce impacts: Mitigation Measures BIO-1 *(Implement a Worker Environmental Education Program)*, BIO-2 (*Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, and BIO-5 *(Implement Biological Construction Monitoring)*. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities. Implementation of these mitigation measures would minimize impacts to special-status plants to the extent possible and would reduce impacts to less than significant (Class II).

If SCE becomes a PSE in the MSHCP, additional measures to mitigate the proposed Project's impacts to rare plants, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-17

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-17 Preparation of a Habitat Mitigation and Monitoring Plan.

BIO-24 Conduct Pre-construction Surveys for Special-Status Plants and Implement Avoidance Measures. Prior to initial ground disturbance and for undisturbed areas in subsequent construction years, SCE shall conduct pre-construction surveys for special-status plant species in all areas subject to ground-disturbing activity, including, but not limited to, tower/pole preparation and construction areas, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist, approved by the CPUC, according to protocols established by the USFWS, CDFW, and California Native Plant Society (CNPS). All listed plant species found shall be marked and avoided. Any populations of special-status plants found during surveys will be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared.

These surveys must be accomplished during a year in which rainfall totals are at least 80% of average and in which the temporal distribution of rainfall is not highly abnormal (e.g., with the vast majority of rainfall occurring very early or late in the season) to be reasonably certain of the presence/absence of rare plant species, unless surveys of reference populations document that precipitation conditions would not have adversely affected the detectability of the species.

Prior to site grading, any populations of special-status plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and

includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, physical and chemical characteristics of soils) that are identified by a qualified plant ecologist and/or botanist. The buffer for herbaceous and shrub species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the USFWS, CDFW, and CPUC. Highly visible flagging shall be placed along the buffer area and remain in good working order during the duration of any construction activities in the area. If project related impacts result in the loss of more than 10% of the on-site population of any special-status plant species, compensatory mitigation will be required as described below.

BIO-25 Compensate for Impacts to Special-Status Plant Species. If VSSP related impacts result in the loss of more than 10% of the on-site population of any special-status plant species, compensatory mitigation will be required. Prior to the disturbance of habitat for or take of special-status plants/populations, SCE must receive CPUC approval of preserved and/or mitigation lands as well as present documentation of a recorded conservation easement(s). Compensation will be required for all impacts that exceed the 10% threshold (e.g. impacts to 15% of a population will only require compensation for 5% or the amount of impacts that exceed the 10% threshold). To compensate for permanent (including areas located beneath the arrays) impacts to special-status plant species, habitat (which may include preservation of areas within the undisturbed areas of the VSSP footprint, mitigation lands outside of VSSP site or a combination of both) that is not already public land shall be preserved and managed in perpetuity at a 1:1 mitigation ratio (one acre preserved for each acre impacted). Compensation for temporary impacts shall include land acquisition and/or preservation at a 0.5:1 ratio. The preserved habitat for a significantly impacted plant species shall be of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, vegetation structure, and will contain verified extant populations, of the same size or greater, of the special-status plants that are impacted. Impacts could include direct impacts resulting from loss of habitat or indirect impacts if a significant population or portion thereof is unable to be avoided. A conservation easement would need to be recorded on all property associated with the mitigation lands as to protect the existing plant resources in perpetuity. A conservation easement could be held by CDFW or an approved land management entity and shall be recorded immediately upon the dedication or acquisition of the land. Preserved or acquired mitigation lands will be monitored and maintained per the requirements set forth in the Habitat Mitigation and Monitoring Plan prepared for the project, discussed above (Mitigation Measure BIO-17).

However, if lands acquired or protected for the compensation of permanent impacts species such as burrowing owl (Mitigation Measure BIO-25), and/or vegetative communities (Mitigation Measure BIO-3) contain similar sized populations of the impacted special-status plant species, of equal or greater habitat value, these mitigation lands may be used to achieve the required compensation ratios for special-status plant species.

If SCE becomes a PSE with the MSHCP this compensation may be accomplished through participation and implementation of the MSHCP requirements. Documentation of participation and compliance with the MSHCP, including verification of mitigation fee payments, shall be submitted to the CPUC prior to construction mobilization activities.

Impact BIO-18 (Criterion BIO3): The Project could result in injury or mortality of burrowing owl. (Class II)

SCE's PEA identified five individual burrowing owls and numerous suitable burrows within or adjacent to the VSSP site during surveys conducted from 2012 – 2014; burrowing owls were most often observed in

disturbed or grassland habitats. The VSSP would permanently impact 0.30 acres and temporarily impact 15.14 acres of annual grassland habitat, which is known to support burrowing owls. In addition, fallow agricultural fields and the borders of agricultural fields are known to support burrowing owls.

Construction of the VSSP would temporarily affect foraging and breeding habitat for this species. The potential effects of the project to burrowing owls depend on many factors including the number of owls present in the VSSP and how the species utilizes the area (i.e., migratory stopover, year round, breeding, or wintering). For the VSSP, the burrowing owls appear to be breeding birds and may be year round residents. Direct impacts to burrowing owls would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds, mowing or grazing of existing vegetation and the degradation of foraging habitat. Operational impacts include increased human presence from maintenance personnel that would flush or otherwise disturb burrowing owls, weed control, and use of access roads.

If burrowing owls are present within or adjacent to a construction zone, disturbance could destroy occupied burrows or cause the owls to abandon burrows. Construction during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The loss of occupied burrowing owl habitat (habitat known to have been occupied by owls during the nesting season within the past three years) or reductions in the number of this rare species, directly or indirectly through nest abandonment or reproductive suppression, would constitute an adverse impact. Furthermore, raptors, including owls and their nests, are protected under both federal and State laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.5.

Impacts to burrowing owl would be significant without mitigation. To minimize impacts to burrowing owl, Mitigation Measure BIO-26 (*Complete Focused Pre-construction Burrowing Owl Surveys and Implement Avoidance Measures)* requires pre-construction surveys and implementation of buffers around occupied nest locations. In addition, Mitigation Measures BIO-1 (*Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, and BIO-5 *(Implement Biological Construction Monitoring)* would further reduce impacts. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan, conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities. Mitigation Measure BIO-3 requires compensation for impacts to annual grassland habitat, which is known to support species such as burrowing owl; therefore no additional compensation for impacts to burrowing owl habitat is needed.

Mitigation Measure NOI-2 *(Implement Best Management Practices for Construction Noise)* would require the use of noise-suppression techniques, to the extent feasible, during construction. Mitigation Measure BIO-7 *(Prepare and Implement a Nesting Bird Management Plan)* includes a noise monitoring component. Implementation of these mitigation measures would minimize impacts to burrowing owl to the extent possible and reduce impacts to a less-than-significant level (Class II).

If SCE becomes a PSE in the MSHCP additional measures to mitigate the proposed Project's impacts to burrowing owl, above and beyond those described below, may be required.

Mitigation Measures for Impact BIO-18

NOI-2 Implement Best Management Practices for Construction Noise. (Section C.12 Noise)

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-26 Complete Focused Pre-construction Burrowing Owl Surveys and Implement Avoidance Measures. No more than 15 days prior to the commencement of initial ground disturbing for individual VSSP areas, SCE shall implement focused pre-construction reconnaissance level surveys for burrowing owls. Surveys shall be conducted prior to the initiation of ground disturbance and be conducted by a qualified biologist(s), approved by the CPUC, that is knowledgeable with the species. In conformance with federal and State regulations regarding the protection of raptors, surveys for burrowing owls shall be conducted in conformance with CDFW's 2012 Staff Report on burrowing owl mitigation. Surveys shall be completed within all areas proposed for ground disturbance (including a minimum 250-foot survey buffer) and shall include the following avoidance measures:

a. Occupied burrows shall not be disturbed during the nesting season (1 February through 31 August) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Owls present on site after 1 February will be assumed to be nesting unless evidence indicates otherwise. This protected buffer area will remain in effect until 31 August, or based upon monitoring evidence, until the young owls are foraging independently or the nest is no longer active

b. Unless otherwise authorized by CDFW and the CPUC, a 250-foot buffer, within which no activity will be permissible, will be maintained between VSSP activities and nesting burrowing owls during the nesting season. This protected area will remain in effect until 31 August or based upon monitoring evidence, until the young owls are foraging independently. For burrowing owls present during the non-breeding season (generally 1 September to 31 January), a 150-ft buffer zone will be maintained around the occupied burrow(s).

c. If there is any danger that owls will be injured or killed as a result of construction activity, during the non-breeding season, the birds may be passively relocated. Relocation of owls during the non-breeding season will be performed by a qualified biologist using one-way doors, which should be installed in all burrows within the impact area and left in place for at least two nights. These one-way doors will then be removed and the burrows backfilled immediately prior to the initiation of grading. To avoid the potential for owls evicted from a burrow to occupy other burrows within the impact area, one-way doors will be placed in all potentially suitable burrows within the impact area when eviction occurs.

d. Any damaged or collapsed burrows will be replaced with artificial burrows in adjacent habitat at a 2:1 ratio.

Impact BIO-19 (Criterion BIO4): The Project could result in the loss of jurisdictional waters and/or wetland habitats. (Class II)

Table C.5-10. Acreage of Jurisdictional Waters and Wetlands Within Proposed Project Impact Areas

Jurisdictional Feature Type		Approximate Acres*	
		Permanent	Temporary
Corps/RWQCB * Waters and Wetlands	Non-wetland Waters of the U.S.	0.00	0.31
	Wetlands	0.01	1.48
RWQCB* Waters	Non-wetland Waters	0.00	0.39
CDFW Jurisdictional Waters		0.01	2.43

* The VSSP occurs in jurisdictional areas for both the San Diego and Santa Ana Regional Water Quality Control Boards.

An assessment of jurisdictional wetlands, other "waters of the U.S.," waters of the State, and riparian habitat has been conducted for the VSSP site; the assessment identified approximately 4.64 acres of jurisdictional features within proposed Project impact areas (see Figures C.5-2a-g, located at the end of this section). Table C.5-10 lists the feature type and approximate impact acreages resulting from construction and operation of the VSSP. Based on the tentative design information provided by SCE, construction of the VSSP components would result in the permanent loss of 0.01 acres of federally jurisdictional wetlands and CDFW jurisdictional waters. The VSSP would also temporarily impact federal wetlands and non-wetlands waters, RWQCB non-wetland waters, and CDFW jurisdictional waters (refer to Table C.5-10 for impact acreages). SCE has committed to avoiding impacts to jurisdictional features for the entire VSSP; should this not be feasible during construction impacts to jurisdictional features would occur as described below.

The importance of intermittent and ephemeral streams to wildlife in arid environments is well known (Levick et al., 2008). Ephemeral drainages, such as those occurring in the VSSP area, provide unique habitat that is distinct from the surrounding uplands providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands. Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al., 2008). They have higher moisture content and provide shade and cooler temperatures within the channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities provide habitat values not available in the adjacent uplands.

Direct impacts to State and federal waters would include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to wetland habitats would be similar to direct and indirect impacts. As required by law, SCE would comply with the regulations regarding conducting VSSP activities in water courses and habitats under the jurisdiction of the State and federal government. Therefore, SCE would obtain required permits pursuant to Section 401 and 404 of the CWA, the State Porter-Cologne Act, and Fish and Game Code Section 1605. Due to the importance of riparian habitats and ephemeral/perennial drainages and their suitability to support special-status species, any loss of the habitats described above associated with the VSSP would be considered a significant adverse impact without mitigation.

To minimize impacts to jurisdictional wetland and waters features, Mitigation Measures BIO-1 (*Implement a Worker Environmental Education Program)*, BIO-2 *(Implement Best Management Practices)*, BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)*, BIO-5 *(Implement Biological Construction Monitoring)*, and BIO-13 *(Avoid Seasonal Depressions and Known Waterbodies)* have been identified. These measures include worker education describing the sensitive biological resources that occur on the VSSP site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, development of a Habitat Restoration and Monitoring Plan,

conducting biological monitoring during ground disturbing and other construction related activities, and clearance surveys prior the start of construction activities. Implementation of these mitigation measures would minimize impacts to jurisdictional wetland and waters features to the extent possible and reduce impacts to a less-than-significant level (Class II).

Mitigation Measures for Impact BIO-19

BIO-1 Implement a Worker Environmental Education Program.

BIO-2 Implement Best Management Practices (BMPs).

BIO-3 Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-4 Develop a Habitat Restoration and Monitoring Plan.

BIO-5 Implement Biological Construction Monitoring.

BIO-13 Avoid Seasonal Depressions and Known Waterbodies.

Impact BIO-20 (Criterion BIO5): The Project could interfere with established wildlife migratory corridors. (Class III)

Studies suggest that habitat fragmentation and isolation of natural areas ultimately results in the loss of native species within those communities (Soulé et al., 1988). The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to an animal's ability to occupy home ranges, if a species range extends across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The California Missing Linkages Project (CMLP) has identified an at-risk habitat linkage area that crosses Leon Road, just north of Baxter Road, in the Survey Area (Penrod et al., 2001). The VSSP occurs within the CLMPs defined South Coast ecoregion; this ecoregion had the most at-risk linkage areas within the State. The CMLP has identified the at-risk habitat linkage area, occurring within the VSSP, as South Coast ecoregion No. 58, Tucalota Creek. Types of threats listed for Tucalota Creek include housing development, human recreation, and exotic plants (Penrod et al., 2001).

Direct impacts resulting from the construction of VSSP include the placement of physical structures such as new poles/towers and fencing. Ground-disturbing activity including vegetation removal and tower/pole site preparation are expected to temporarily interfere with terrestrial wildlife movement during construction of the VSSP. The VSSP could also affect wildlife in adjacent habitats by interfering with movement patterns or causing animals to temporarily avoid areas adjacent to the construction zone. More mobile species such as birds and larger mammals would likely disperse into adjacent habitat areas during ground disturbing activities.

Indirect impacts include human disturbance, colonization or expansion of invasive weeds, and vehicle traffic. Operational impacts would be the same as described for direct and indirect impacts.

Construction activities may temporarily limit terrestrial wildlife movement within the VSSP; however, the broad geographic range and habitat that occurs in the region would remain available to wildlife. The VSSP would not substantially interfere with the movement of any native resident or migratory fish, reptile, avian, mammalian, or amphibian species. Existing barriers to movement (i.e., agricultural fencing) and surrounding land uses (i.e., commercial, residential and recreational) currently constrain or limit movement in the VSSP area.

There are no known bird or bat migratory corridors that would be directly impeded by the VSSP. Large concentrations of migrants are not known to utilize any specific portion of the VSSP site and VSSP activities are not expected to preclude use of the area. Although species would be disrupted during certain activities impacts to migratory corridors from the proposed Project would not be significant (Class III).

Criterion BIO6: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances.

The CPUC regulates and authorizes the construction of investor-owned public utility facilities, and therefore the CPUC has jurisdiction over the siting and design of the proposed Project. Investor-owned public utility projects, such as the VSSP, are exempt from local land use and zoning regulations and permitting in accordance with General Order (GO) No. 131-D. This exemption is applicable to all components of the proposed Project. However, Section XIV.B requires "public utilities shall consult with local agencies regarding land-use matters."

Consistent with GO 131-D, SCE would be required to comply with the Riverside County Oak Tree Management Guidelines if oak trees were impacted or removed as a result of the VSSP; a tree removal permit may be required by the County of Riverside. The Murrieta Development Code (MDC), Chapter 16.42, provides regulations for the protection, preservation, and maintenance of native oak, sycamore, and cottonwood trees. Under the MDC, a Tree Removal Permit must be applied for and approved by the Planning Director prior to the removal of a protected tree.

SCE has indicated that approximately 27 trees within the VSSP site would need to be trimmed or removed; the species of impacted trees has not been provided. Under GO 131-D, SCE would be required to coordinate with the applicable city and county jurisdictions to meet their permitting and zoning requirements for tree removal. Because SCE would be required to coordinate with local jurisdictions, the VSSP would be consistent with tree preservation policies or ordinances of the applicable local jurisdictions.

Although Section XIV.B does not require the CPUC to evaluate consistency with local land use policies, the CPUC has taken into consideration local policies in the preparation of this EIR. See Section C. 11 (Land Use and Planning) for a discussion of applicable local agency policies.

Criterion BIO7: Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or State HCP.

The VSSP does not conflict with any provisions of any adopted HCP, NCCP, or other approved local, regional, or state HCP. The VSSP does occur entirely within the areas of the MSHCP and Stephens' Kangaroo Rat HCP. Both of these documents were taken into consideration in addressing impacts related to the VSSP and the development of mitigation measures; therefore there is no impact.

C.5.4.3 Cumulative Impacts

Geographic Extent/Context

The area of cumulative effect for biological resources varies by a species' life history, mobility, distribution, and specific range in the proposed Project area. The "geographic scope" of the analysis of cumulative impacts to biological resources refers to the area within which cumulative impacts are likely to occur. For the proposed Project, the majority of the cumulative effects analysis makes a broad, regional evaluation of the impacts of existing and reasonably foreseeable future projects that threaten plant communities and wildlife within 20 miles of the VSSP area.

Existing Cumulative Conditions

The VSSP site supports a mixture of disturbed/developed lands and native and non-native habitats. These habitats provide foraging grounds, dispersal areas, and refugia to a variety of endangered, threatened, rare, and other special-status species. The loss of natural communities within Western Riverside County has been exacerbated through ongoing infrastructure development, urbanization, and the spread of exotic plant species. Construction of the proposed project and those reasonably foreseeable projects (see Section C.1.4.2) would result in further loss to natural lands and other habitat that supports special-status species and could contribute to the fragmentation of habitat by altering linkages and movement corridors.

Cumulative Impact Analysis

The potential for biological resources impacts of the proposed Project (described in Section C.5.4.2) to combine with the effects of other proposed, planned, and reasonably foreseeable future projects, as listed in Table C.1-1 (Section C.1) that are within the geographic extent of the cumulative analysis, are described below for each significance criterion.

Criterion BIO1: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFG or USFWS.

Construction and operation of the VSSP would result in permanent impacts to 0.20 acres and temporary impacts to 6.16 acres of sensitive natural communities (**Impact BIO-1**). The current and reasonably foreseeable projects listed in Table C.1-1 would require construction activities such as earth movement and grading (i.e., residential development projects), which have the potential to remove riparian habitat or other sensitive communities. Construction and operation of the VSSP would combine with the impacts from construction and operation for other projects in the defined geographic extent to result in significant cumulative impacts to riparian habitats and sensitive communities. However, the majority of the impacts from the VSSP are temporary in nature. Mitigation Measures BIO-3 *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)* and BIO-4 *(Develop a Habitat Restoration and Monitoring Plan)* would require compensation for permanent impacts to riparian habitat and sensitive communities and develop a plan for the restoration of all temporarily impacted habitats. With the implementation of these mitigation measures, the cumulative contribution of the VSSP to riparian habitats and sensitive communities would be less than significant (Class II).

Criterion BIO2: Have an adverse effect, either directly or through habitat modifications, on any species listed as endangered, threatened, or proposed or critical habitat for these species.

The VSSP site supports a variety of habitats known to provide foraging grounds, dispersal areas, and refugia to a variety of endangered or threatened plant and wildlife species. Construction of the proposed project and those reasonably foreseeable projects (see Section C.1) would result in further loss to natural lands and other habitat that supports endangered or threatened species and could contribute to the fragmentation of habitat by altering linkages and movement corridors. Direct effects to threatened or endangered wildlife from construction of the VSSP could include habitat loss, mortality from construction equipment or vehicles on roads, disturbance from human activity and equipment, and interference with movement. Proposed Project activities may cause disturbance to nesting birds that could result in the loss of a nest, eggs, or young. Indirect impacts to wildlife include noise and vibration from earthmoving and helicopter use, fugitive dust, the degradation of water quality, changes in water runoff due to alterations in topography, increased erosion and sediment transport, and the spread of invasive weeds.

Threatened or Endangered Birds

Construction of the VSSP and the other reasonably foreseeable projects would result in the loss or modification of vegetation and habitat known to support threatened or endangered birds such as coastal California gnatcatcher, golden eagle, least Bell's vireo, and southwestern willow flycatcher (refer to Impacts BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6). Construction of the VSSP and reasonably foreseeable projects would limit the use of the land for foraging, breeding, or wintering for many species of resident and migratory birds.

Threatened or Endangered Terrestrial Wildlife

Construction of the VSSP and the other reasonably foreseeable projects would result in the loss or modification of vegetation and habitat known to support threatened or endangered terrestrial wildlife such as Stephens' kangaroo rat and Quino checkerspot (refer to Impacts BIO-7 and BIO-9). The larval host plant for Quino checkerspot (within the elevation range of the VSSP), dot-seed plantain, was observed at numerous locations in the proposed Project area and may be present on reasonably foreseeable project sites. Stephens' kangaroo rat was detected during small mammal trapping events within grassland and open sage scrub habitats in both the northern and southern extents of the VSSP and potentially occurs within other habitats proposed for development in the general area.

Threatened or Endangered Plants

The federally endangered San Diego ambrosia is present within the VSSP site and is known to occur in the general area (refer to **Impact BIO-10**). Grading and construction activities resulting in vegetation removal as part of the VSSP and the other reasonably foreseeable projects within the geographical extent have the potential to take individual plants or impact the habitat supporting this species.

Because so much of the remaining habitat for the listed species within the region has been lost or degraded already, relatively minor changes within the remaining habitat, particularly when considered cumulatively, would have significant impacts to listed plants and wildlife. Construction and operation of the VSSP would combine with the construction and operation for other projects in the defined geographic extent to result in significant cumulative impacts to threatened or endangered plants and wildlife. Implementation of Mitigation Measures BIO-1 through BIO-18 require compensation for permanent impacts to riparian habitat and sensitive communities, development of a plan for the restoration of all temporarily impacted habitats, focused pre-construction surveys for listed species, and compensation for impacts to listed species and/or their habitats. With the implementation of these mitigation measures the cumulative contribution of the VSSP to listed plant and wildlife species would be less than significant (Class II).

Criterion BIO3: Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS.

The VSSP site supports a variety of habitats known to provide foraging grounds, dispersal areas, and refugia to a variety of special-status plants and wildlife (i.e., California Species of Special Concern, California Fully Protected, CRPR Plants, and MSHCP covered species). Construction of the proposed Project and those reasonably foreseeable projects (see Section C.1) would result in further loss to natural lands and other habitat that supports special-status plants and wildlife and could contribute to the fragmentation of habitat by altering linkages and movement corridors. Direct effects to special-status wildlife from construction of the VSSP would be similar to those described above for threatened or endangered wildlife.

Special-Status Birds

Construction of the VSSP and the other reasonably foreseeable projects would result in the loss or modification of vegetation and habitat known to support special-status birds such as coastal California gnatcatcher, golden eagle, least Bell's vireo, and southwestern willow flycatcher (refer to Impacts BIO-14 and BIO-18). Development of the VSSP and reasonably foreseeable projects would limit the use of the land for foraging, breeding, or wintering for many species of resident and migratory birds.

Special-Status Terrestrial Wildlife

Construction of the VSSP and the other reasonably foreseeable projects would result in the loss or modification of vegetation and habitat known to support special-status terrestrial wildlife such as San Diego black-tailed jack rabbit, San Diego desert woodrat, northwestern San Diego pocket mouse, western spadefoot toad, two-stripe garter snake, and pallid bat (refer to Impacts BIO-9, BIO-11, BIO-13, BIO-15 and BIO-16).

Special-Status Plants

Six species of rare plants were detected on the VSSP including Engelmann oak (CRPR 4.3 and MSHCP), long-spined spineflower (CRPR 1B.2), Palmer's grapplinghook (CRPR 4.2), paniculate tarplant (CRPR 4.2), small-flowered morning-glory (CRPR 4.2), and smooth tarplant (CRPR 1B.1 and MSHCP) (refer to **Impact BIO-17**). Grading and construction activities resulting in vegetation removal as part of the VSSP and the other reasonably foreseeable projects within the geographical extent have the potential to take individual plants or impact the habitat supporting this species.

Because so much of the remaining habitat for the listed species has been lost or degraded already, relatively minor changes within remaining habitat, particularly when considered cumulatively, would have significant impacts to listed plants and wildlife. Construction and operation of the VSSP would combine with the impacts from construction and operation for other projects in the defined geographic extent to result in significant cumulative impacts to threatened or endangered plants and wildlife. Implementation of Mitigation Measures BIO-1 through BIO-26 require compensation for permanent impacts to riparian habitat and sensitive communities, development of a plan for the restoration of all temporarily impacted habitats, focused pre-construction surveys for listed and special-status species, and compensation for impacts to listed and special-status species and/or their habitats. With the implementation of these mitigation measures the cumulative contribution of the VSSP to special-status plant and wildlife species would be less than significant (Class II).

Criterion BIO4: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Construction and operation of the VSSP would result in approximately 0.01 acres of permanent and 4.61 acre of temporary impacts to jurisdictional wetlands and/or waters. The removal of native riparian vegetation and alterations to existing topographical and hydrological conditions associated with the VSSP and other reasonably foreseeable projects would directly impact jurisdictional wetlands and/or waters (refer to **Impact BIO-19**). Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al., 2008). Construction and operation of the VSSP would combine with the impacts from reasonably foreseeable projects in the defined geographical extent to result in a significant cumulative impact related to jurisdictional wetlands and/or waters. Implementation of Mitigation Measures BIO-1 through BIO-5 and BIO-13 require compensation for permanent impacts to riparian habitat and sensitive communities, development of a plan for the restoration of all temporarily impacted habitats, monitoring during construction, and avoidance of seasonal depressions

and known waterbodies. With the implementation of these mitigation measures, the cumulative contribution of the VSSP to jurisdictional wetlands and/or waters would be less than significant (Class II).

Criterion BIO5: 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.

Although construction activities may temporarily limit terrestrial wildlife movement within the VSSP the broad geographic range and habitat that occurs in the region would remain available to wildlife. The VSSP would not substantially interfere with the movement of any native resident or native resident or migratory fish, reptile, avian, mammalian, or amphibian species. However, cumulative impacts of the VSSP when combined with impacts from the reasonably foreseeable projects have the potential to substantially reduce the size of movement corridors and alter the movement patterns.

Large areas of foraging habitat still remain in Western Riverside County and wildlife would likely disperse to those areas both during construction of the VSSP and other reasonably foreseeable projects in the defined geographical extent. While the VSSP itself only represents a small portion of the available habitat in the region, the impacts of the VSSP and reasonably foreseeable projects would be cumulatively significant. Implementation of Mitigation Measures BIO-1 through BIO-5, and BIO-7 would reduce the proposed Project's incremental contribution to cumulative impacts to wildlife movement to less than cumulatively considerable (Class II).

Criterion BIO6: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances

As stated earlier, the CPUC has the responsibility for regulating and permitting investor-owned utilities. However, GO-131-D (Section XIV.B) requires public utilities to consult with local agencies. To address this requirement, SCE would coordinate with the applicable city and county jurisdictions to meet their permitting and zoning requirements. Therefore, the VSSP is not expected to cumulatively contribute to an inconsistency with applicable plans, policies, and regulations. In addition, the cumulative projects would need local discretionary permits prior to construction, which would further reduce the potential for inconsistencies with local plans and regulations.

Criterion BIO7: Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or State HCP

Both the MSHCP and Stephens' kangaroo rat HCP have been used as guidance for the analysis of impacts (Section C.5.4.2) and the development of mitigation measures. SCE has indicated their desire to seek PSE status with both of the plans. The proposed Project would not create a conflict with applicable HCP's, NCCP's, or other approved local, regional, or State HCP that would be cumulatively considerable.

C.5.4.4 Impact and Mitigation Summary

This section summarizes the conclusions of the impact analysis and associated mitigation measures presented in Section C.5.4.2 for the proposed Project. Table C.5-11 lists each impact identified for the proposed Project, along with the significance of each impact.

Table C.5-11 Impact and Mitigation Summary – Biological Resources		
Impact	**Significance Conclusion**	**Reason for Conclusion**
BIO-1: The Project could result in temporary and permanent losses of native vegetation.	Class II	The VSSP would result in direct impacts to vegetation communities that support a variety of sensitive wildlife species. Impacts would be reduced by implementation of the following measures: **BIO-1** *(Implement a Worker Environmental Education Program)*, **BIO-2** *(Implement Best Management Practices)*, **BIO-3** *(Compensation for Permanent Impacts to Sensitive Vegetation Communities)*, **BIO-4** *(Develop a Habitat Restoration and Monitoring Plan)*, and **BIO-5** *(Implement Biological Construction Monitoring)*.
BIO-2: The Project could cause the loss of foraging habitat for wildlife.	Class III	Direct impacts would include permanent and temporary disturbance of vegetation communities and disturbed/ ruderal areas utilized as foraging habitat for common and sensitive wildlife. Due to the temporary nature of the impacts and the availability of foraging habitat in adjacent areas, the loss of foraging habitat for wildlife resulting from the VSSP would be less than significant.
BIO-3: The Project could result in disturbance to nesting birds or raptors.	Class II	The VSSP would result in direct and indirect impacts to nesting birds and raptors from increased noise and ground disturbance. Impacts would be minimized by implementation of the following mitigation measures: **NOI-2** *(Implement Best Management Practices for Construction Noise),* **BIO-1** through **BIO-5** (see above)*,* **BIO-6** (*Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures)*, and **BIO-7** *(Prepare and Implement a Nesting Bird Management Plan)*.
BIO-4: The Project could result in disturbance to wildlife in adjacent habitat.	Class II	While there would be no direct impacts to adjacent habitat, indirect impacts from the VSSP would include fugitive dust and increased noise levels due to heavy equipment and vehicle traffic. Impacts would be minimized by the following measures: **NOI-2**, **BIO-1, BIO-2, BIO-4, BIO-5, BIO-6,** and **BIO-7** *(see above)*.
BIO-5: The Project could disturb nesting willow flycatchers, southwestern willow flycatchers, least Bell's vireos, or their habitat.	Class II	VSSP activities have the potential to impact LBV, WFL, and SWFL through vegetation removal, construction of new access roads, and increased noise levels. Impacts would be minimized by implementation of the following measures: **NOI-2** *(see above)*, **BIO-1** through **BIO-7** *(see above)*, and **BIO-8** *(Conduct Protocol Surveys for Least Bell's Vireo, Southwestern Willow Flycatcher, and Willow Flycatcher; Avoid Occupied Habitat)*.
BIO-6: The Project could disturb nesting coastal California gnatcatchers, or their habitat.	Class II	VSSP activities have the potential to impact CAGN through vegetation removal, construction of new access roads, and increased noise levels. Impacts would be minimized by implementation of the following mitigation measures: **NOI-2** *(see above)*, **BIO-1** through **BIO-7** *(see above)*, and **BIO-9** *(Conduct Protocol Surveys for Coastal California Gnatcatcher (CAGN) and Avoid Occupied Habitat)*.
BIO-7: The Project could result in injury or mortality of Quino checkerspot, or disturbance of its habitat.	Class II	Impacts to Quino checkerspot could result from vehicle strikes, removal of larval host plants, the spread or colonization of weeds, weed management, fugitive dust, increased noise levels from construction, and the alteration of hydrology. Impacts would be minimized by the following measures: **NOI-2** *(see above)*, **BIO-1** through **BIO-5** *(see above)*, **BIO-10** (*Protocol Surveys*

Table C.5-11 Impact and Mitigation Summary – Biological Resources		
Impact	**Significance Conclusion**	**Reason for Conclusion**
		for Quino checkerspot and Avoidance of Suitable/ Occupied Habitat), and **BIO-11** *(Compensation for Impacts to Quino checkerspot Suitable Habitat)*.
BIO-8: The Project could result in injury or mortality of vernal pool or Riverside fairy shrimp, or disturbance of their habitat.	Class II	If present during construction, impacts could include loss or mortality from construction activities that crush individuals, bury pools, or alter pool morphology as well as the spread or colonization of weeds, weed management, altered hydric regimes, and the alteration of hydrology or the disruption of flows to off-site areas. Impacts would be minimized by the following measures: **BIO-1**, **BIO-2**, and **BIO-5** *(see above)* and **BIO-12** *(Complete Protocol-level Surveys for Vernal Pool and Riverside Fairy Shrimp)*, **BIO-13** *(Avoid Seasonal Depressions and Known Waterbodies)*, and **BIO-14** *(Compensate for Impacts to Vernal Pool or Riverside Fairy Shrimp Habitat)*.
BIO-9: The Project could result in injury or mortality of Stephens' kangaroo rat.	Class II	Impacts to SKR, if present, could include mortality from trampling or crushing and disturbance to above ground seed storage or granaries and from compaction of soils, the introduction of exotic plant species, and alterations to the existing hydrological conditions. Impacts would be minimized by the following measures: **BIO-1**, **BIO-2**, **BIO-3**, and **BIO-5** *(see above)*, **BIO-15** *(Complete Focused Pre-construction Stephens' Kangaroo Rat (SKR) Burrow/Precinct Surveys and Implement Avoidance Measures)*, **BIO-16** *(Compensate for Permanent Impacts to Stephens' Kangaroo Rat)*, and **BIO-17** *(Preparation of a Habitat Mitigation and Monitoring Plan)*.
BIO-10: The Project could disturb endangered, threatened, or proposed plant species or their habitat.	Class II	Impacts to listed plant species could occur from removal of vegetation, grading, or sedimentation, including tower/pole site preparation, and the construction, grading, and widening of new and existing access roads. Impacts would be minimized by the following measures: **BIO-1**, **BIO-2**, **BIO-3**, **BIO-5**, and **BIO-17** *(see above)*; **BIO-*18*** *(Conduct Pre-construction Surveys for State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants and Implementation of Avoidance Measures)*, and **BIO-19** *(Compensate for Impacts to State and Federally Threatened, Endangered, Proposed, Petitioned, and Candidate Plants)*.
BIO-11: The Project could result in injury or mortality of western spadefoot toad.	Class II	Impacts to western spadefoot toad could result from crushing from mechanized equipment, temporary disruption of foraging or aestivation sites in adjacent upland areas, fugitive dust, or harm to egg masses from impacts to water quality. Impacts would be minimized by the following measures: **BIO-1** through **BIO-5**, and **BIO-13** *(see above)*; and **BIO-20** *(Complete Focused Pre-construction Western Spadefoot Toad Surveys and Implement Avoidance Measures)*.
BIO-12: The Project could result in injury or mortality of two-striped garter snake.	Class II	Construction could result mortality or injury of individual snakes as a result of mechanical crushing, loss of nesting, breeding, or basking sites, and human trampling. Impacts would be minimized by the following mitigation measures: **BIO-1** through **BIO-5**, and **BIO-13**

Table C.5-11 Impact and Mitigation Summary – Biological Resources		
Impact	**Significance Conclusion**	**Reason for Conclusion**
		(see above); and **BIO-21** *(Conduct Surveys for Two-striped Garter Snakes and Implement Avoidance Measures)*.
BIO-13: The Project could result in injury or mortality of amphibian and reptile species designated as California Species of Special Concern, CDFW Special Animals, and/or MSHCP covered species.	Class II	Impacts to these species could include being hit by vehicles on access roads and mechanical crushing during vegetation removal and pole/tower installation. Impacts would be minimized by the following measures: **BIO-1** through **BIO-5**, and **BIO-13** *(see above)*; and **BIO-22** *(Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures)*.
BIO-14: The Project could disturb nesting or migrant California Species of Special Concern, CDFW Special Animals, California Fully Protected, or MSHCP covered bird species.	Class II	Impacts to nesting birds resulting from ground-disturbing activities associated with vegetation removal, grading of new access roads, increased noise levels from heavy equipment, and increased human presence. Impacts would be minimized by implementation of the following mitigation measures: **NOI-2**, **BIO-1** through **BIO-9** *(see above)*.
BIO-15: The Project could result in mortality of, and loss of habitat for, Special-status bat species.	Class II	Impacts to bats could include mortality or displacement of bats during ground-disturbing activities associated with vegetation removal and pole installation, and increased human presence. Impacts would be minimized by the following mitigation measures: **NOI-2**, **BIO-1** through **BIO-5**, and **BIO-7** *(see above)*; and **BIO-23** *(Survey for Maternity Colonies or Hibernaculum for Roosting Bats)*.
BIO-16: The Project could result in mortality of, and loss of habitat for, small mammals designated as California Species of Special Concern or MSHCP covered species.	Class II	Impacts to these species could include mechanical crushing by vehicles and construction equipment, trampling, and loss of habitat. Construction disturbance could flush small animals from refugia increasing predation risk for small rodents. Impacts would be minimized by implementation of the following mitigation measures: **NOI-2**, **BIO-1** through **BIO-5**, and **BIO-7** *(see above)*.
BIO-17: The Project could disturb CRPR or MSHCP covered plant species or their habitat.	Class II	Impacts to special-status plant species would be the same as described for listed plant species (Impact BIO-10). Impacts would be minimized by the following mitigation measures: **BIO-1** through **BIO-5**, and **BIO-17** *(see above)*; **BIO-24** (*Conduct Pre-construction Surveys for Special-Status Plants and Implement Avoidance Measures)*; **BIO-25** *(Compensate for Impacts to Special-Status Plant Species)*.
BIO-18: The Project could result in injury or mortality of burrowing owl.	Class II	Construction would temporarily affect foraging and breeding habitat. Direct impacts could include crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment, increased human presence, and exposure to fugitive dust. Impacts would be minimized by implementation of the following mitigation measures: **NOI-2**, **BIO-1** through **BIO-5** *(see above)*; **BIO-26** *(Complete Focused Pre-construction Burrowing Owl Surveys and Implement Avoidance Measures)*.
BIO-19: The Project could result in the loss of jurisdictional waters and/or wetland habitats.	Class II	Impacts to State and federal waters would include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport Impacts would be minimized by

Table C.5-11 Impact and Mitigation Summary – Biological Resources		
Impact	**Significance Conclusion**	**Reason for Conclusion**
		implementation of the following mitigation measures: **BIO-1** through **BIO-5**, and **BIO-13** *(see above)*.
BIO-20: The Project could interfere with established wildlife migratory corridors.	Class III	Construction may temporarily limit terrestrial wildlife movement. However, the broad geographic range and habitat that occurs in the region would remain available to wildlife. The VSSP would not substantially interfere with the movement of any native resident or migratory fish, reptile, avian, mammalian, or amphibian species.

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less than significant level through the application of feasible mitigation measures presented in this EIR/EIS.

Class III: **Adverse; less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: **Beneficial impact.** A Class IV impact represents a beneficial effect that would result from project implementation.

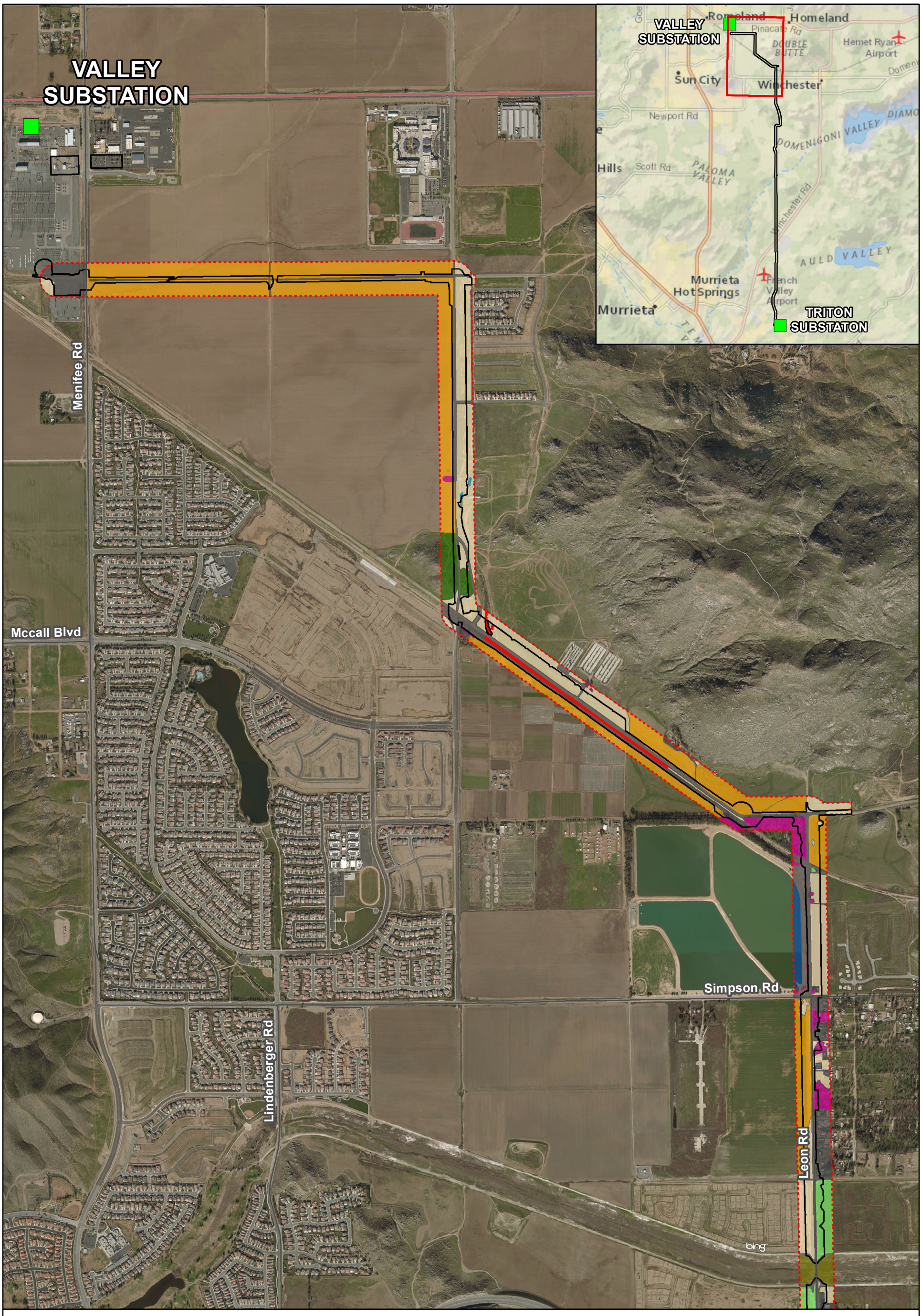
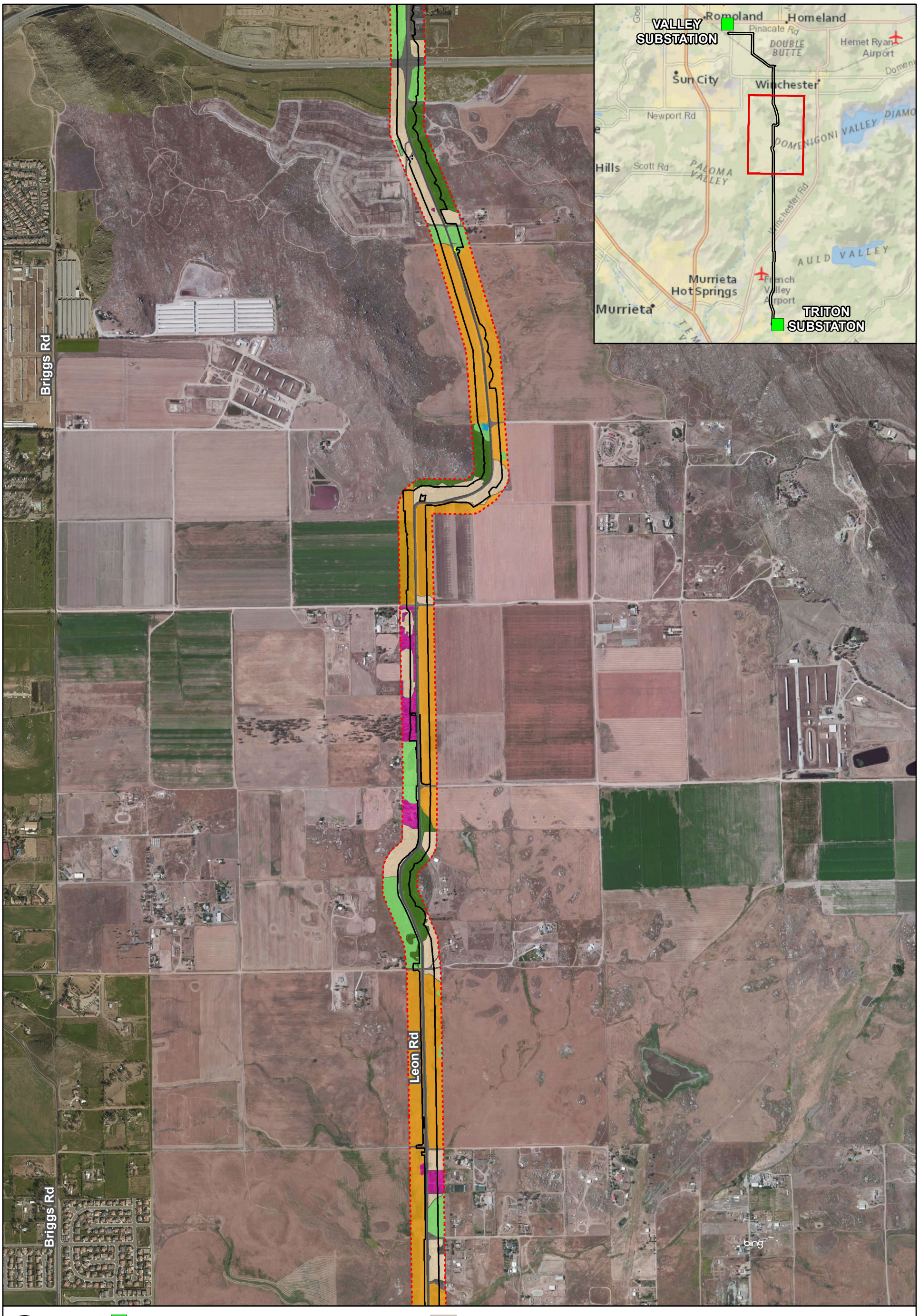


Figure C.5-1a
Map A

Vegetation and Cover Types



Source: Aspen 2015 and SCE 2014

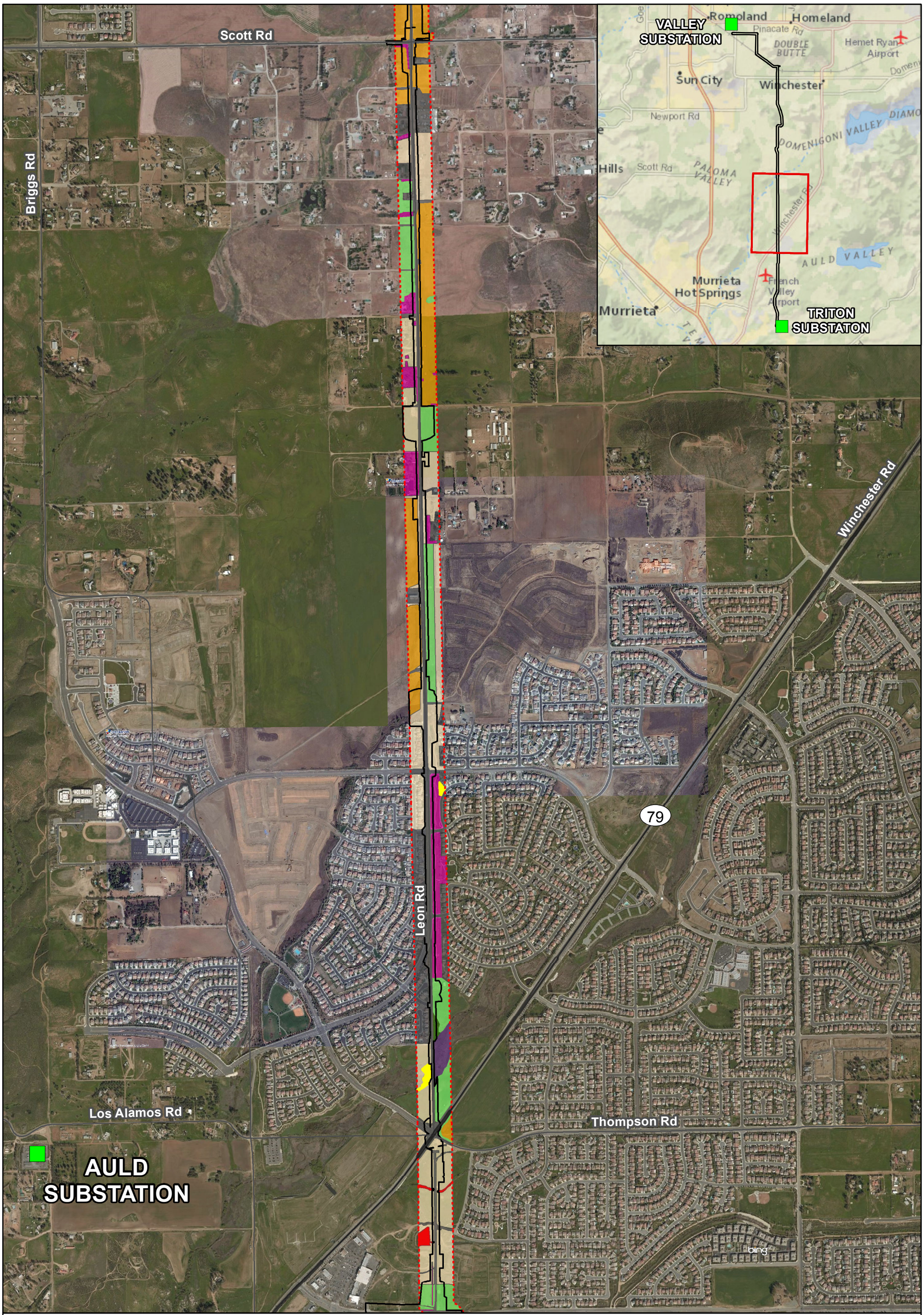
0 0.25 0.5 Miles

Existing Substation
Impact Corridor
Survey Area

Vegetation Community/Land Cover Type

Agriculture
Diegan Coastal Sage Scrub
Disturbed / Ruderal Habitat
Non-native Grassland
Nonnative Woodland/Ornamental
S. Cottonwood - Willow Riparian Forest
Southern Willow Scrub
Urban / Developed

Figure C.5-1b
Map B
Vegetation and Cover Types



Source: Aspen 2015 and SCE 2014

0 0.25 0.5 Miles

Existing Substation
Impact Corridor
Survey Area

Vegetation Community/Land Cover Type

- Agriculture
- Diegan Coastal Sage Scrub
- Disturbed / Ruderal Habitat
- Freshwater Marsh
- Mulefat Scrub
- Non-native Grassland
- Nonnative Woodland/Ornamental
- S. Cottonwood - Willow Riparian Forest
- Urban / Developed

Figure C.5-1c
Map C

Vegetation and Cover Types

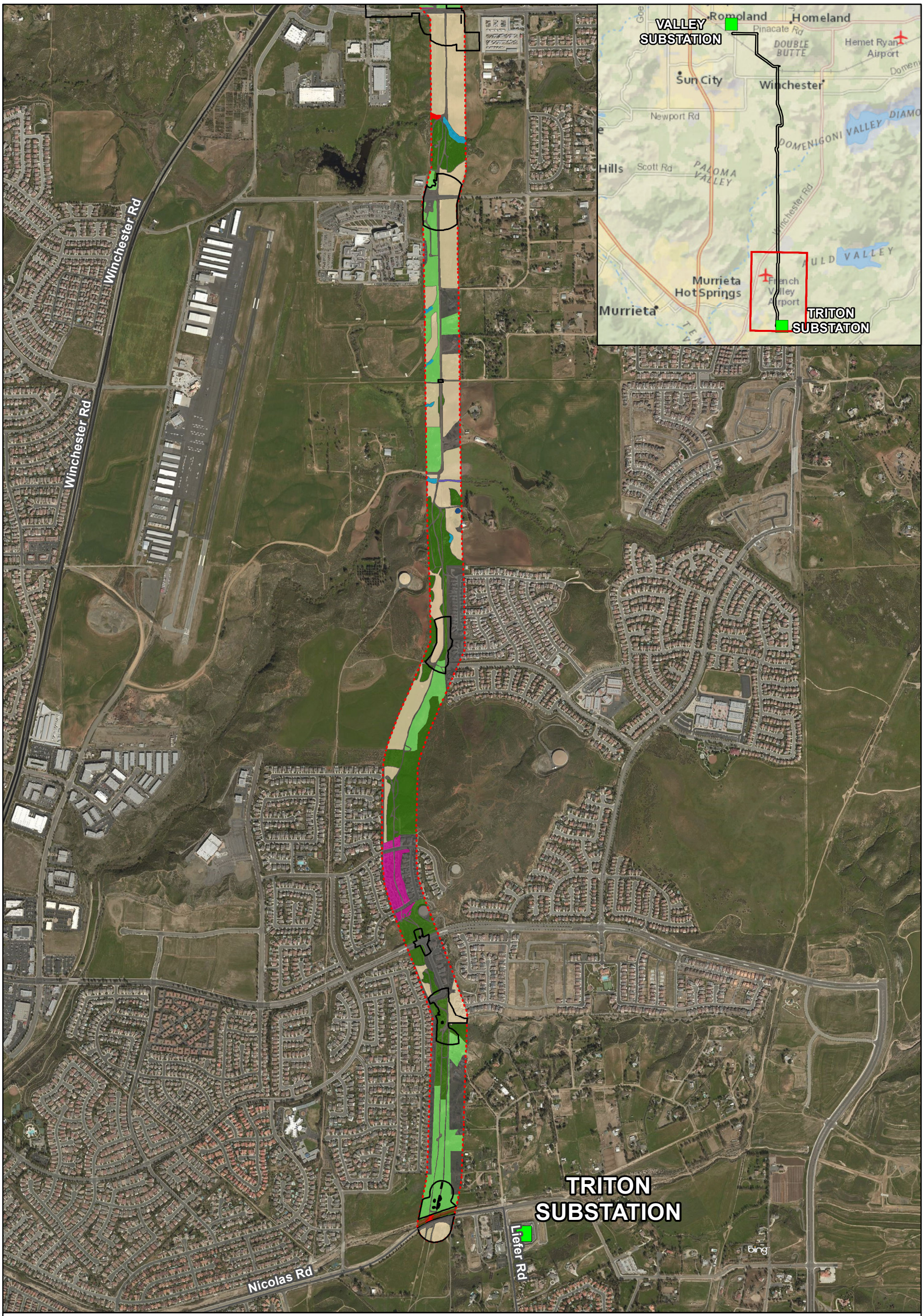
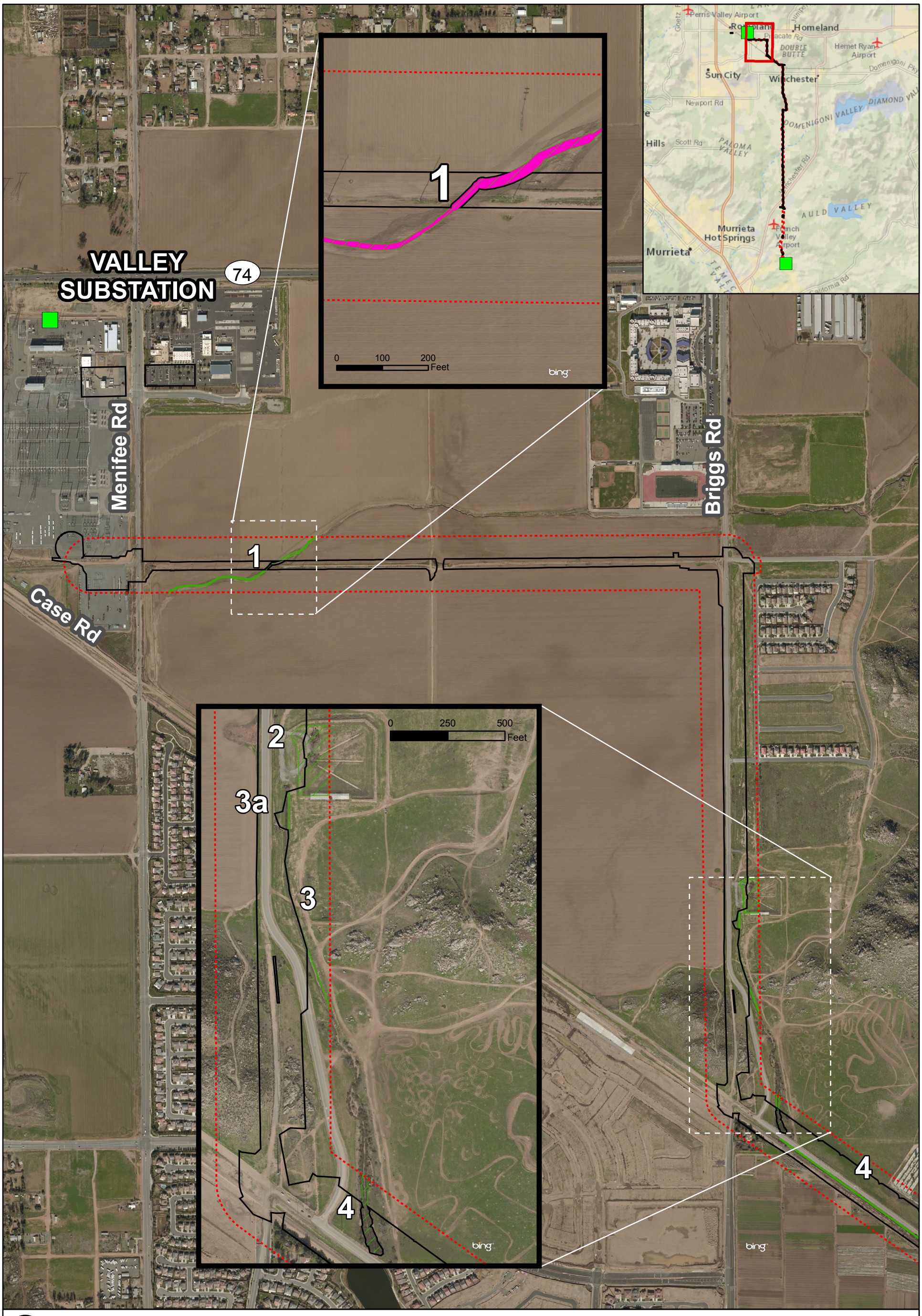


Figure C.5-1d
Map D

Vegetation and Cover Types



Source: Aspen 2015 and SCE 2014

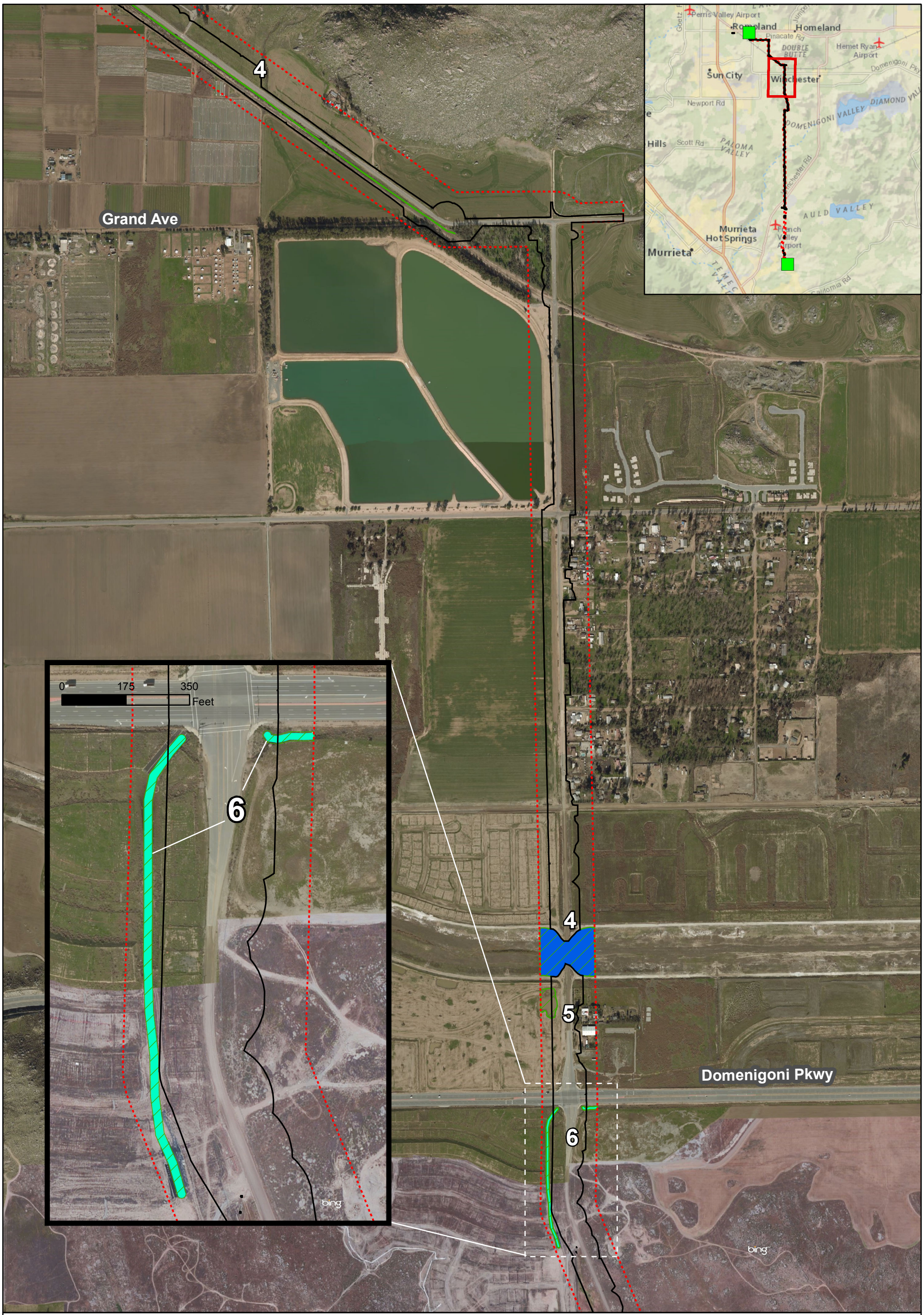
0 0.25 0.5 Miles

Existing Substation
Impact Corridor
Survey Area

CDFW Jurisdictional Waters

Figure C.5-2a
Map A

Jurisdictional Features



Source: Aspen 2015 and SCE 2014

0 0.25 0.5 Miles

Existing Substation
Impact Corridor
Survey Area

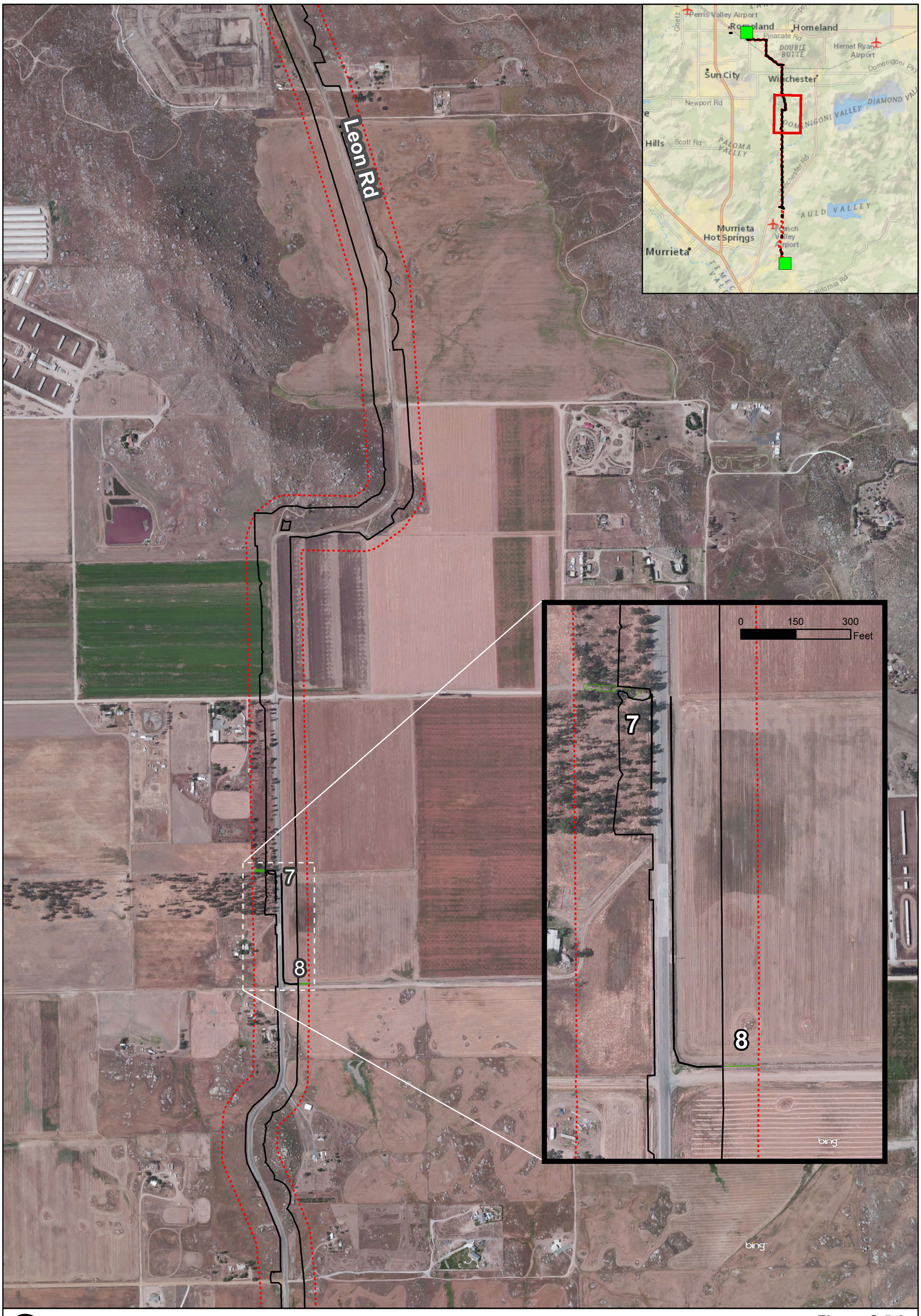
CDFW Jurisdictional Waters

USACE / RWQCB Jurisdictional Waters

Non-Wetland Waters
Wetland Waters

Figure C.5-2b
Map B

Jurisdictional Features



Source: Aspen 2015 and SCE 2014

0 0.1 0.2 Miles

Existing Substation

Impact Corridor

Survey Area

CDFW Jurisdictional Waters

Figure C.5-2c
Map C

Jurisdictional Features

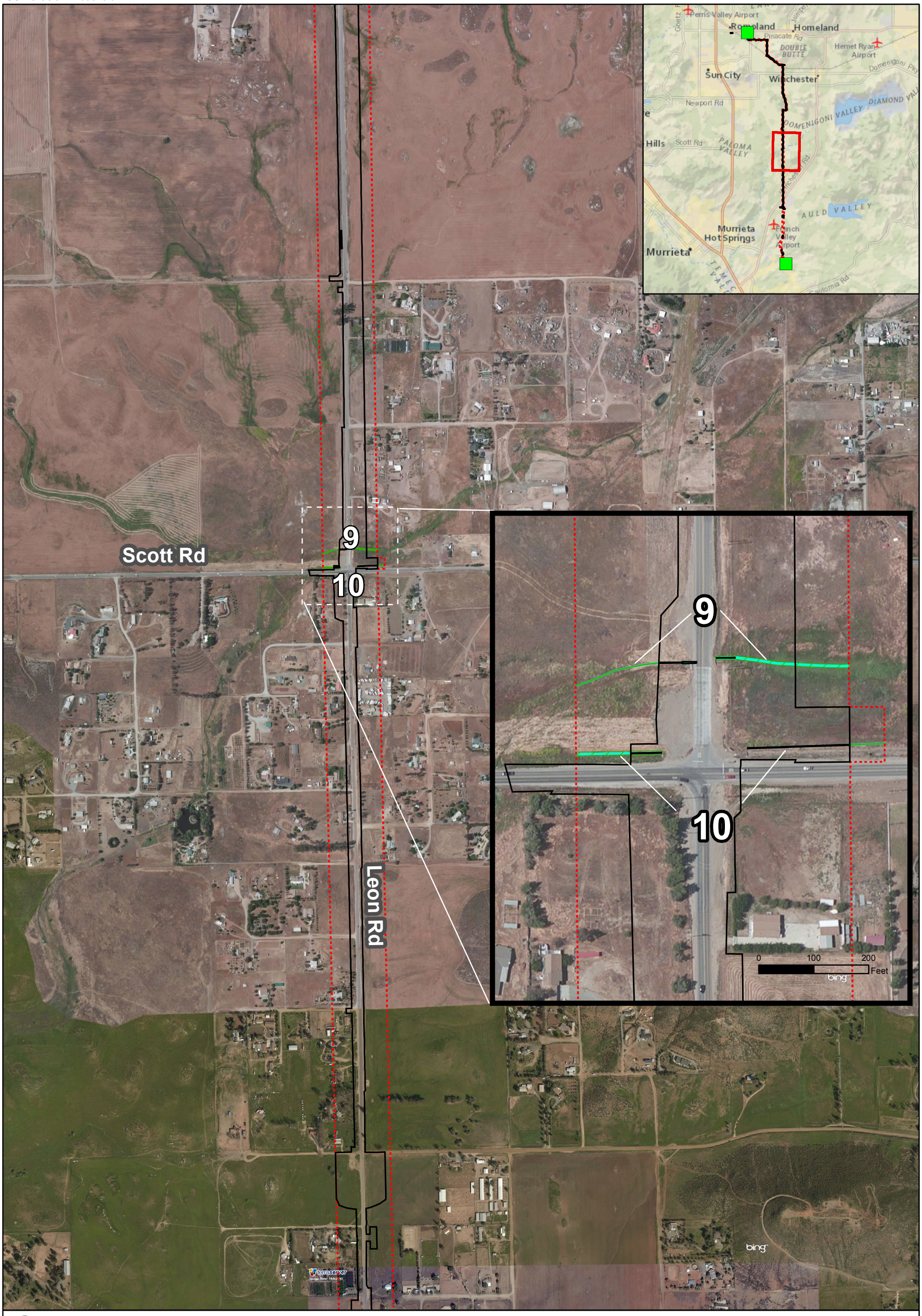


Figure C.5-2d
Map D

Jurisdictional Features

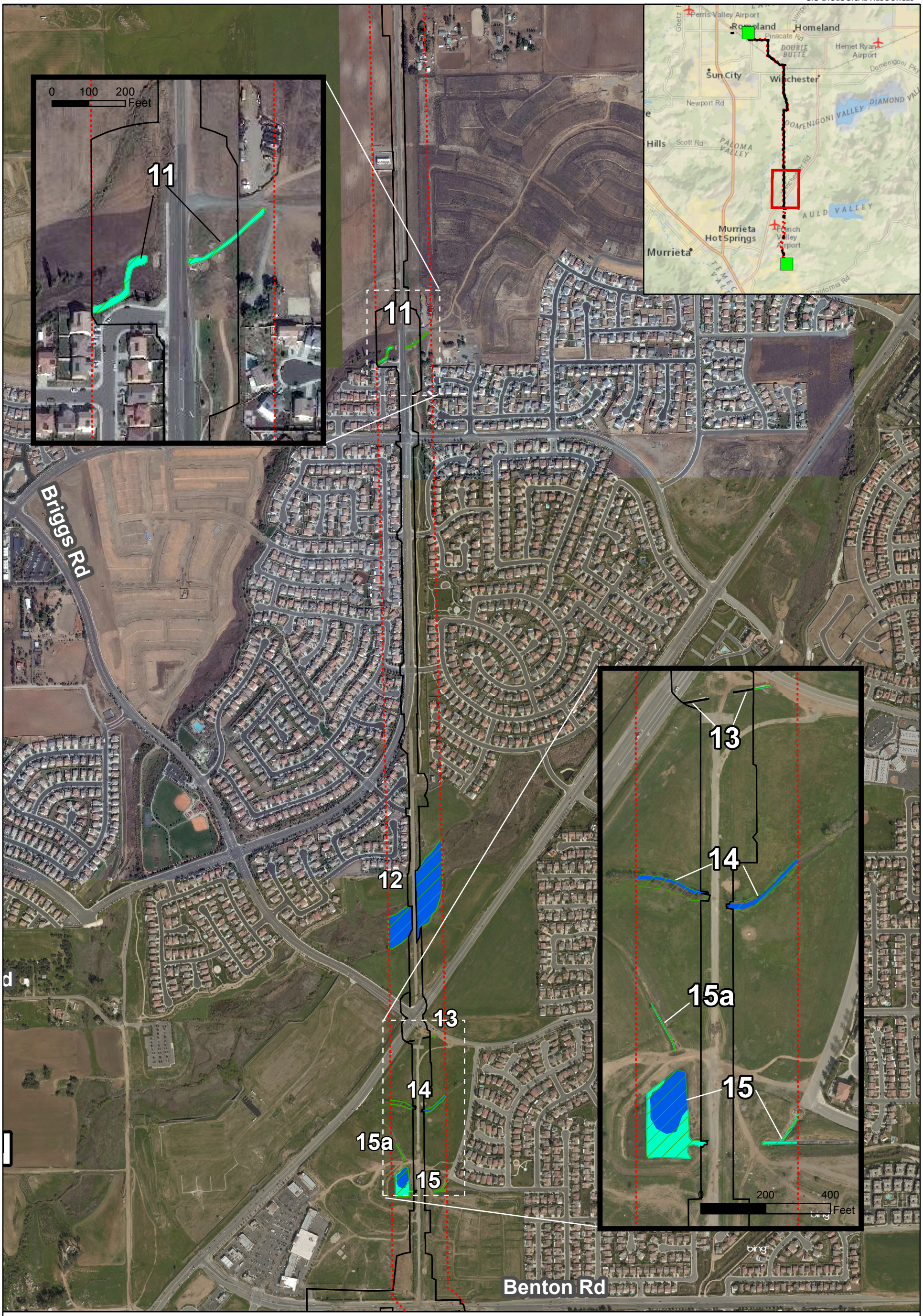
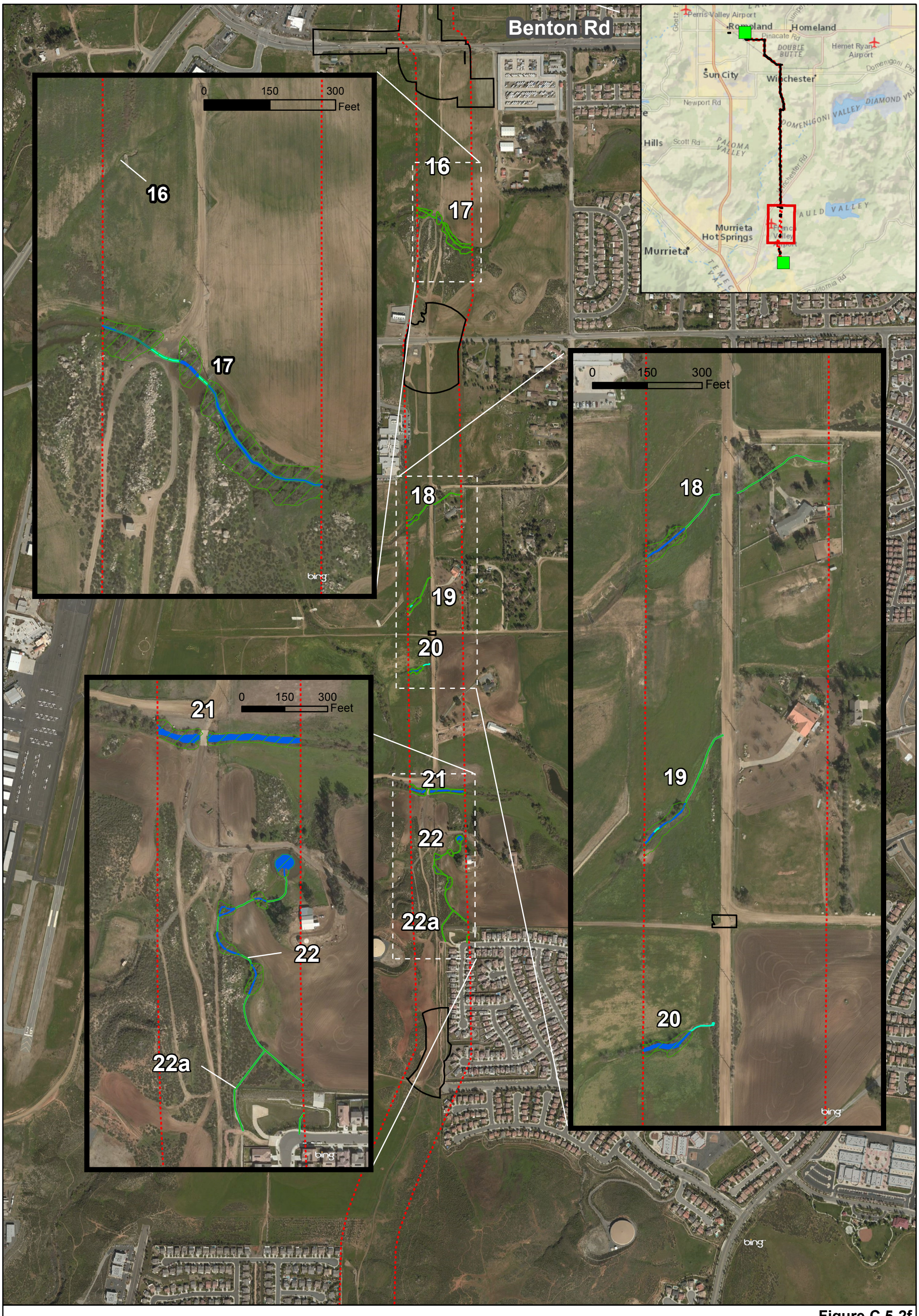


Figure C.5-2e
Map E

Jurisdictional Features



Source: Aspen 2015 and SCE 2014

0 0.25 0.5 Miles

Existing Substation

Impact Corridor

Survey Area

CDFW Jurisdictional Waters

USACE / RWQCB Jurisdictional Waters

Non-Wetland Waters

Wetland Waters

Figure C.5-2f
Map F

Jurisdictional Features

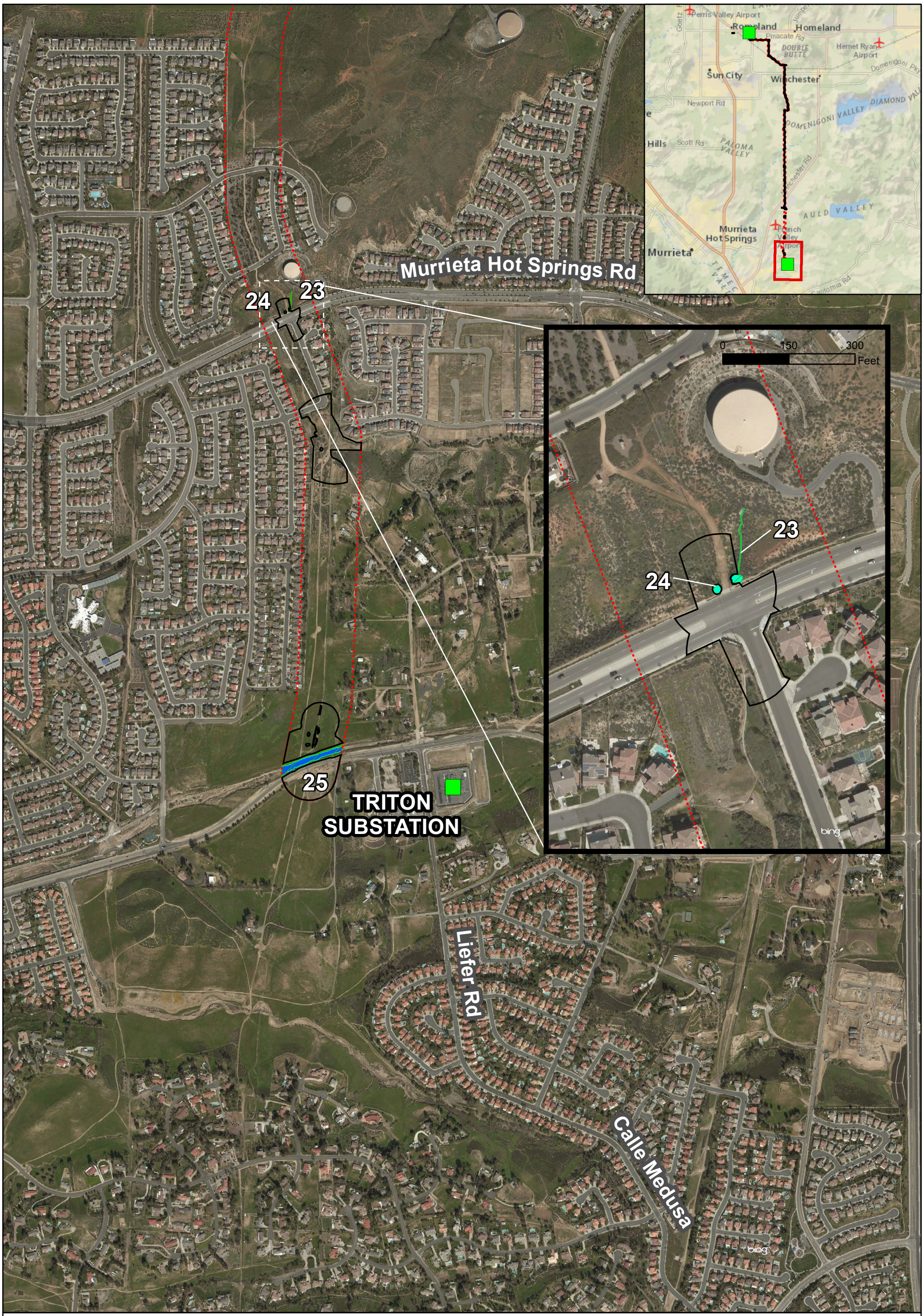


Figure C.5-2g
Map G

Jurisdictional Features

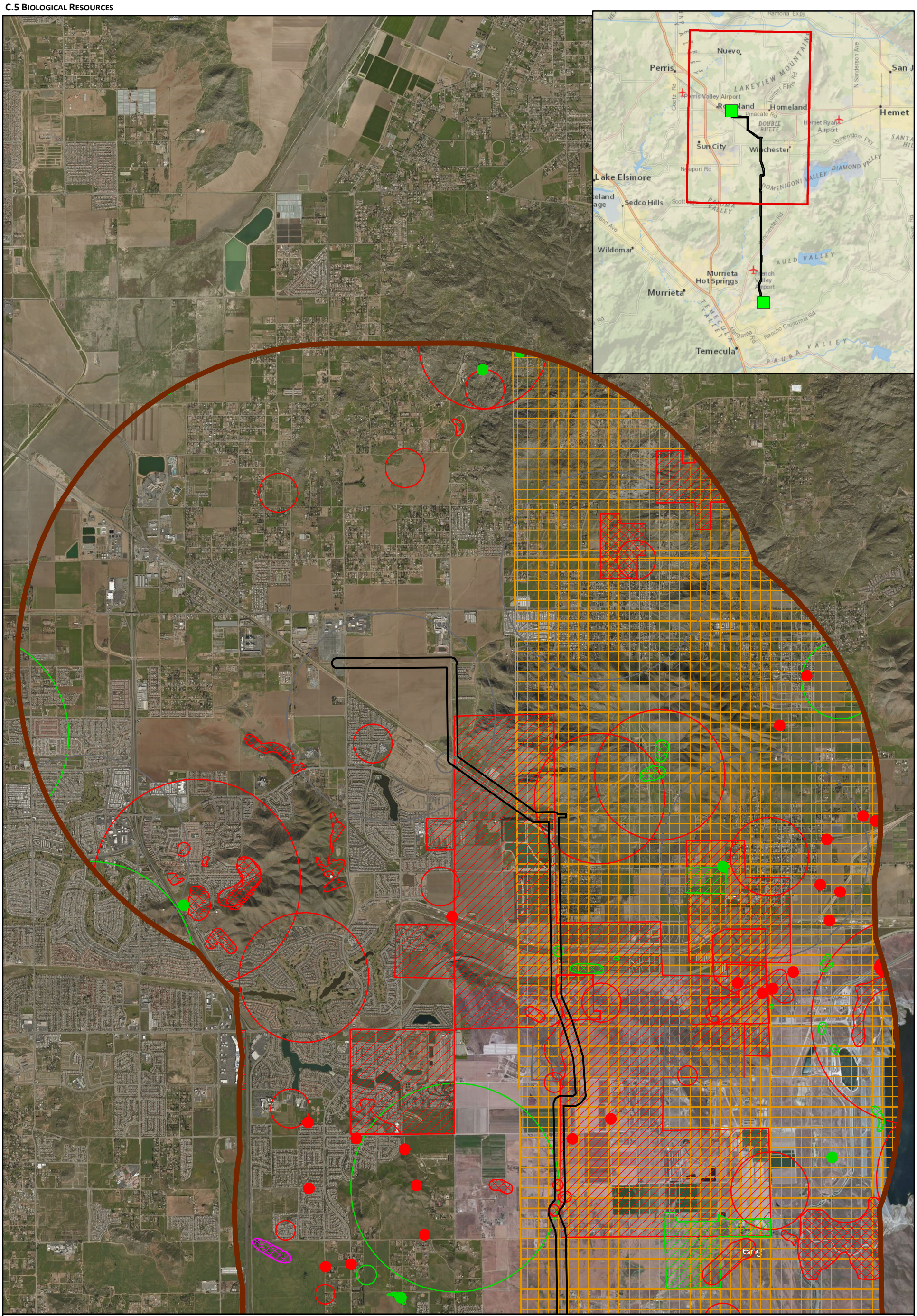


Figure C.5-3a
Map A

CNDDB Records

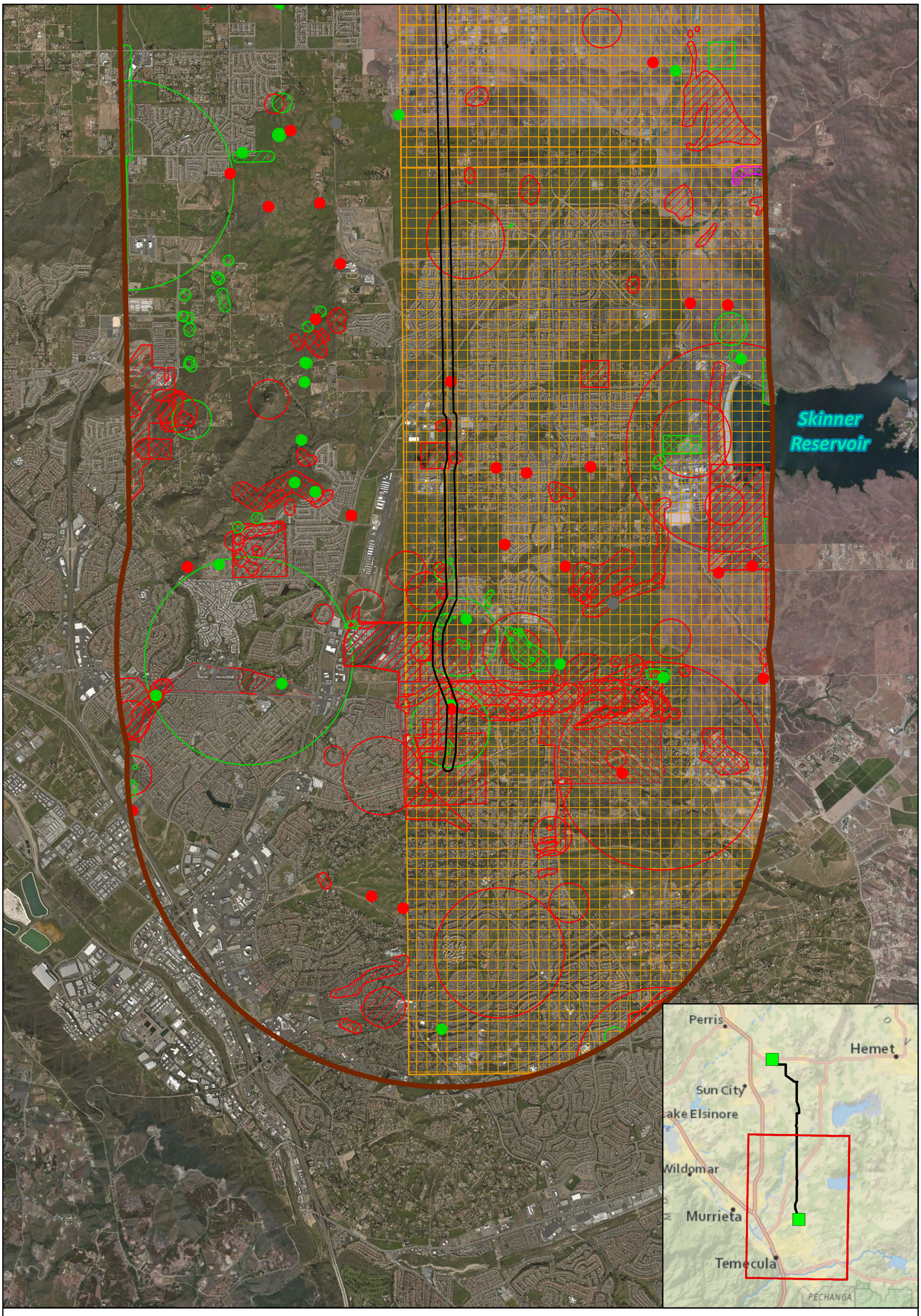


Figure C.5-3b
Map B
CNDDB Records

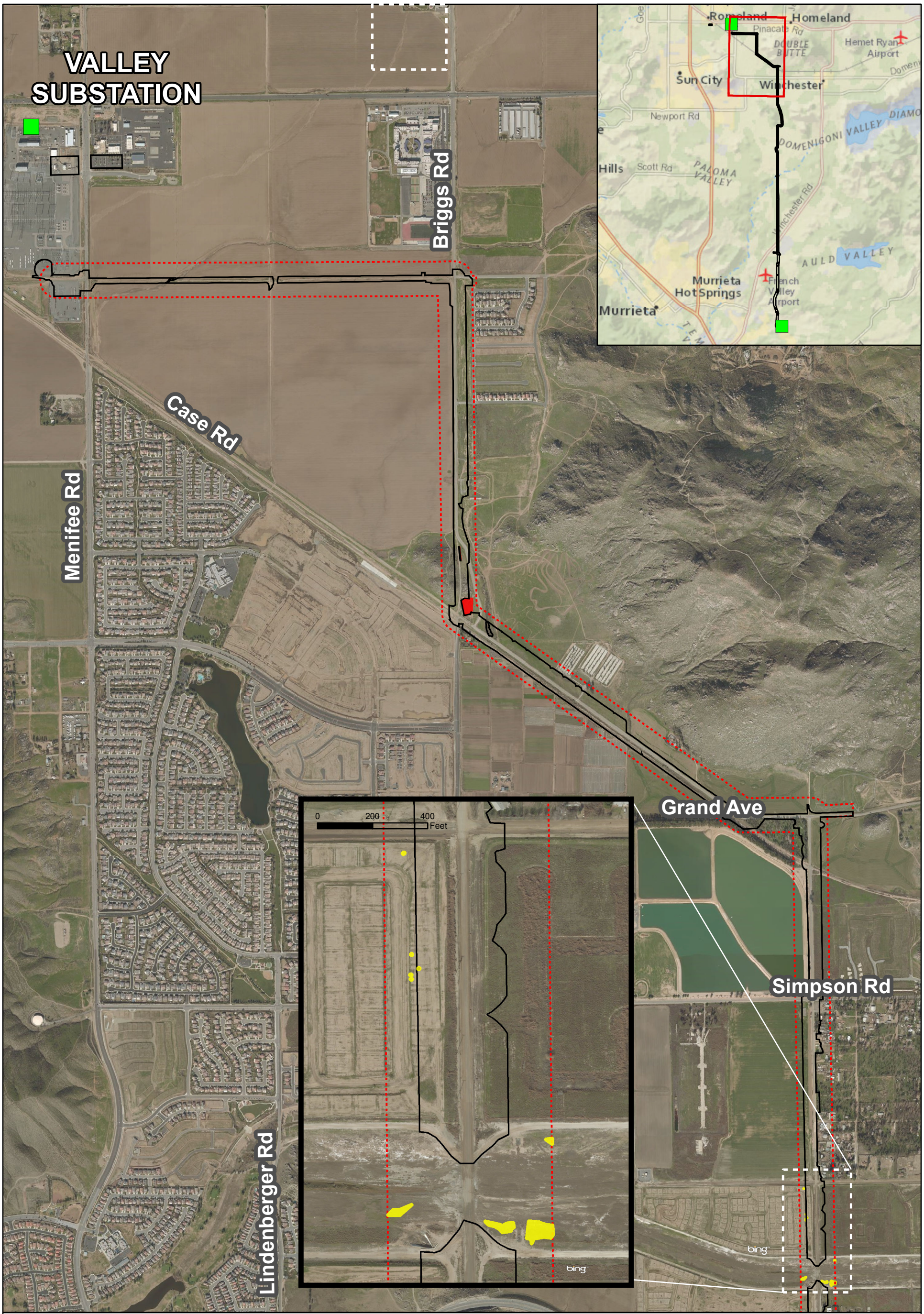
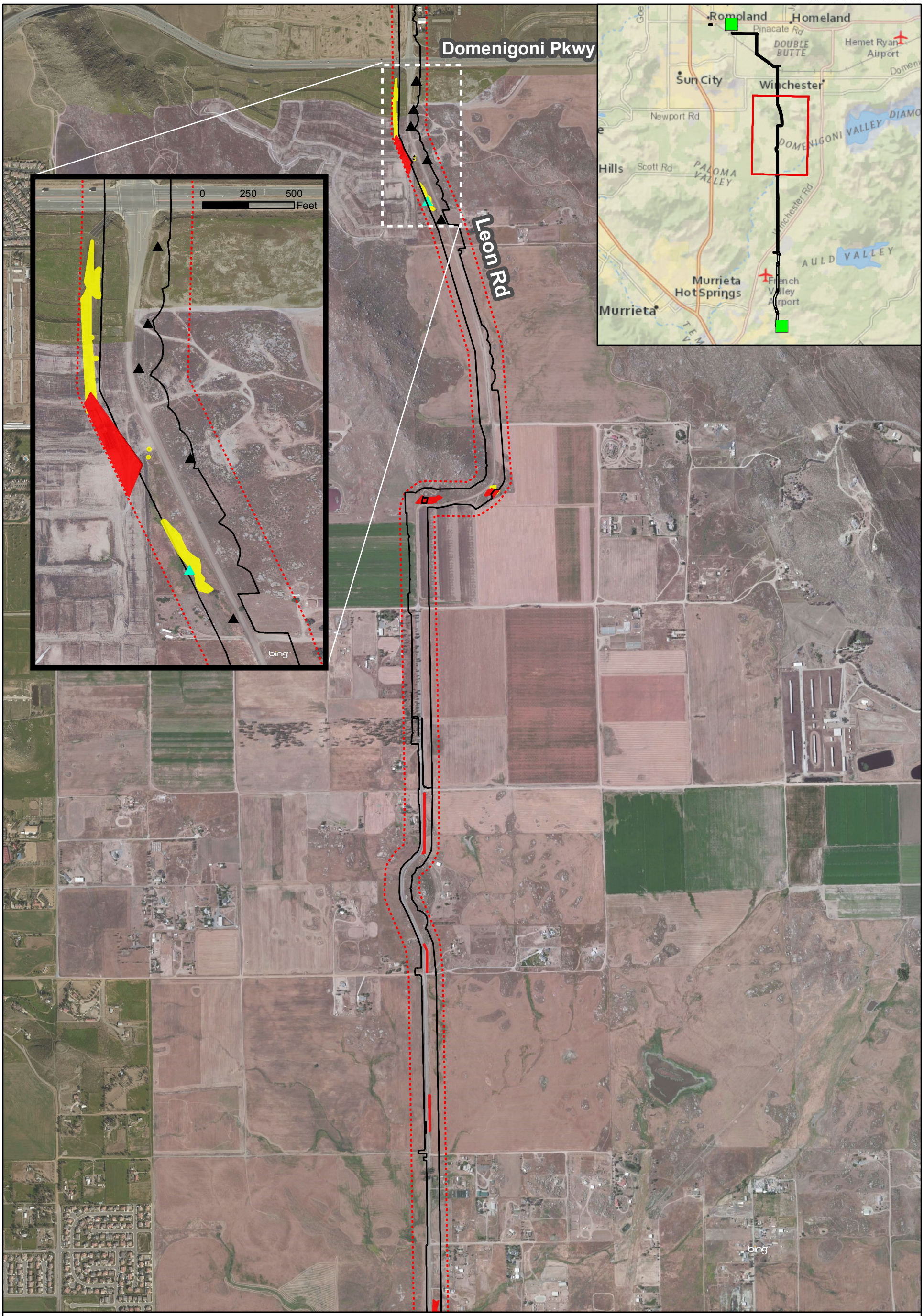


Figure C.5-4a
Map A

Special-status Plant Species Occurences



Source: Aspen 2015 and SCE 2014

0 1,000 2,000 Feet

Existing Substation
Impact Corridor
Survey Area

Plant Observations Points
- Paniculate tarplant
- Smooth tarplant

Plant Observations Polygons
- Paniculate tarplant
- Smooth Tarplant

Figure C.5-4b
Map B

Special-status Plant Species Occurences

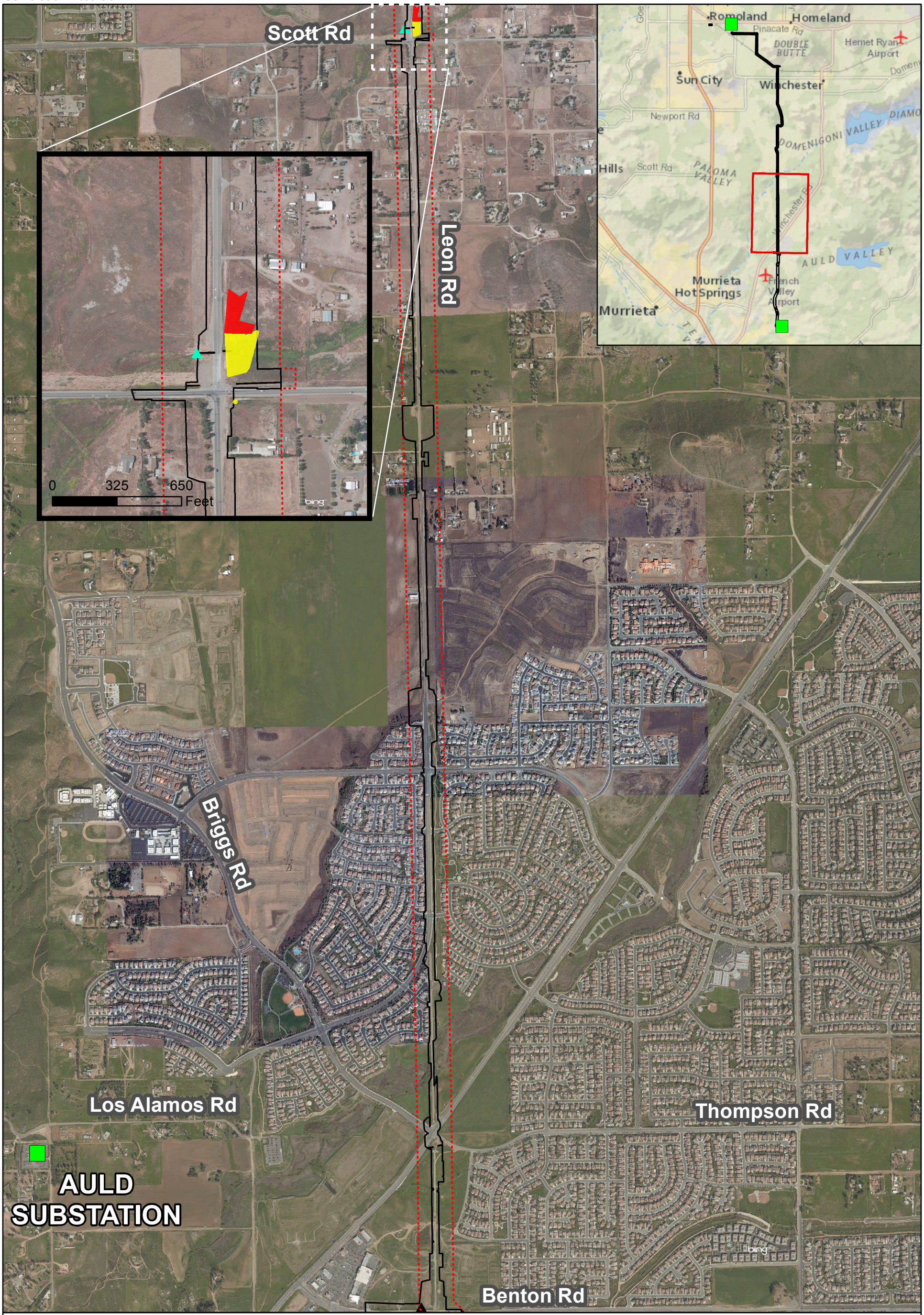


Figure C.5-4c
Map C

Special-status Plant Species Occurences

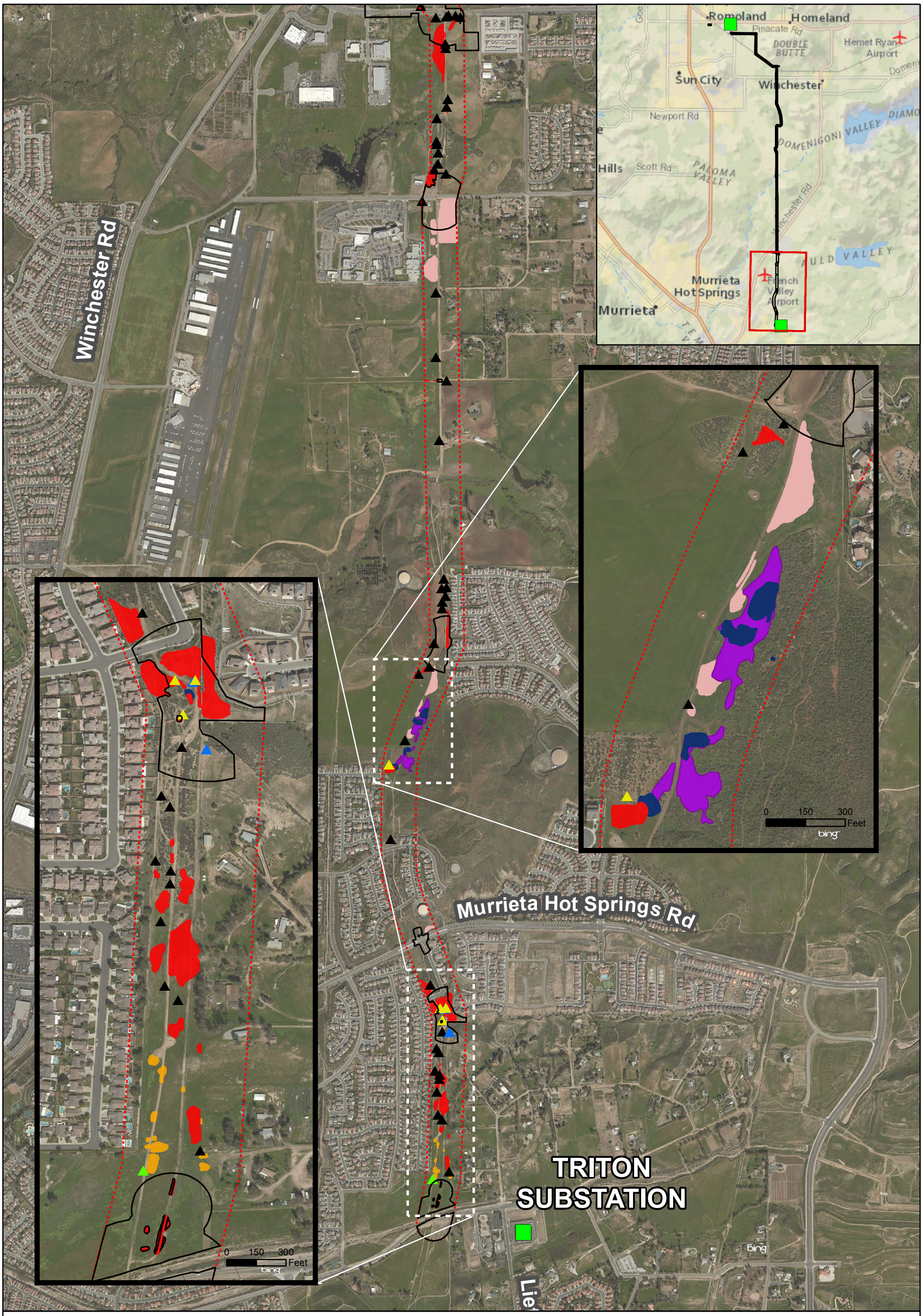


Figure C.5-4d
Map D

Special Status Plant Species Occurences

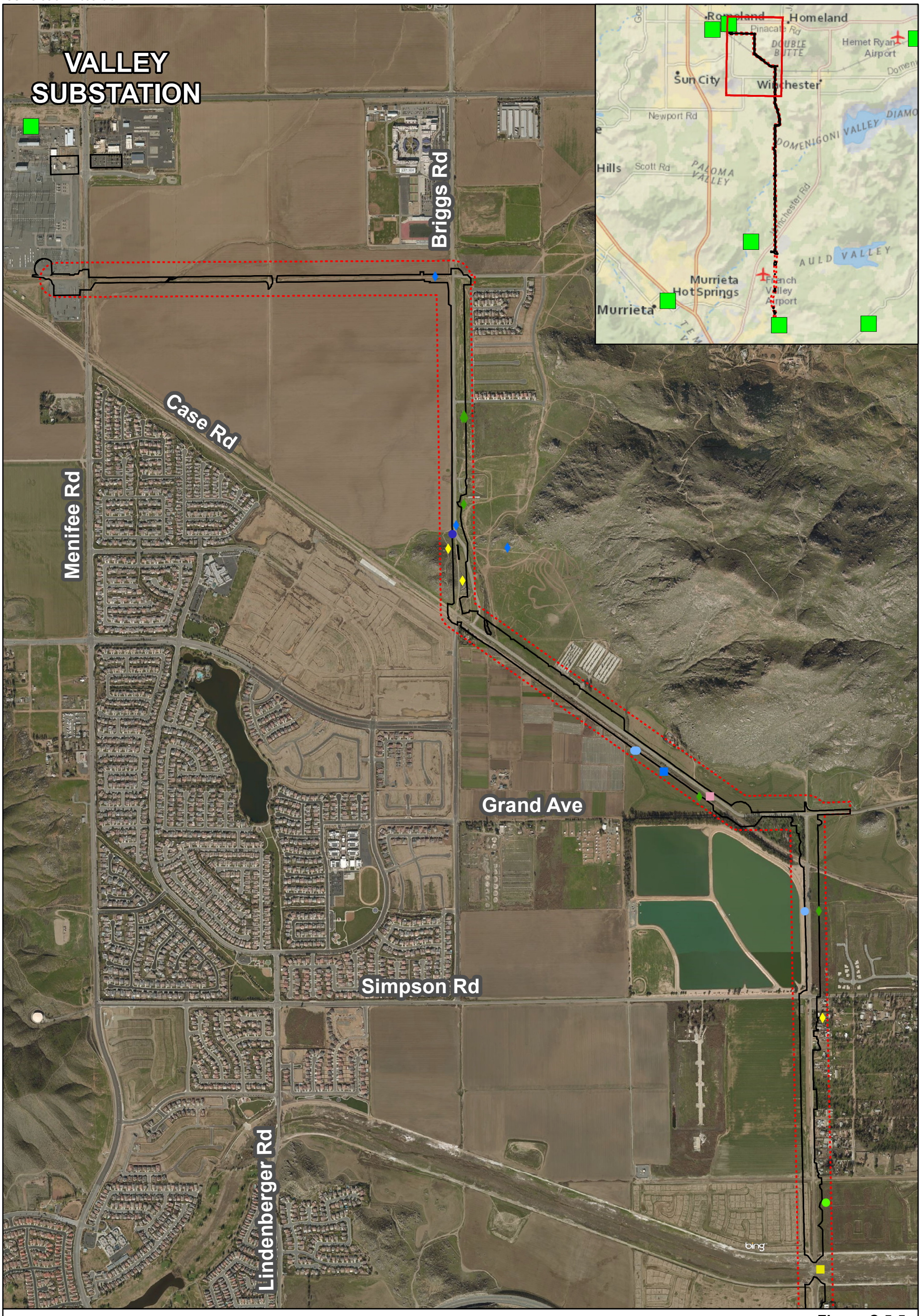
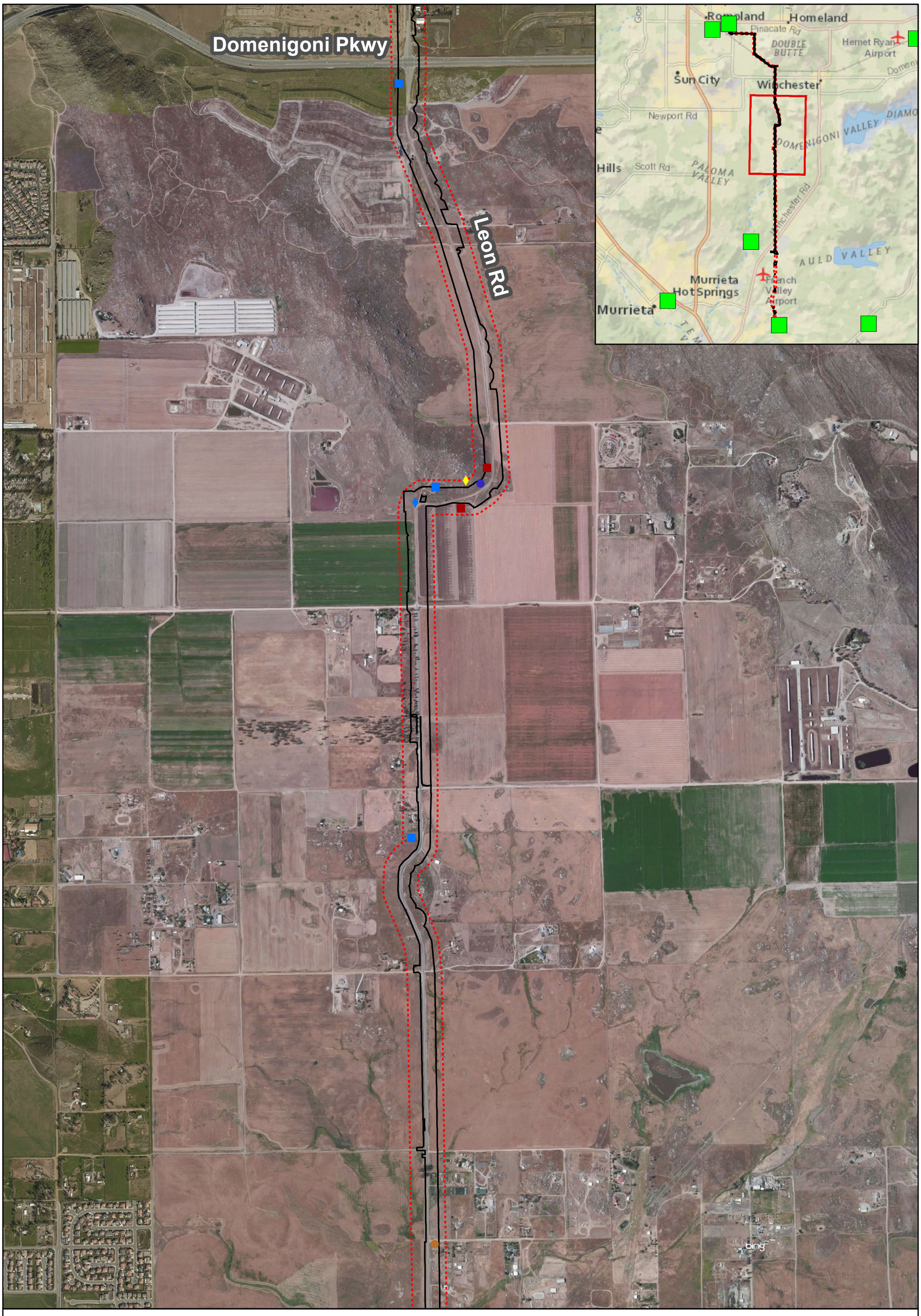


Figure C.5-5a
Map A
Special-status Wildlife Species Occurrences



Existing Substation
Impact Corridor
Survey Area

Mammal Species Observations
San Diego Desert Woodrat
Stephens' kangaroo rat

Herp Observations
Coastal Western whiptail
San Diego horned lizard

Avian Species Observations
Burrowing Owl
California Gnatcatcher

Source: Aspen 2015 and SCE 2014

0 1,000 2,000 Feet

Figure C.5-5b

Map B Special-status Wildlife Species Occurrences

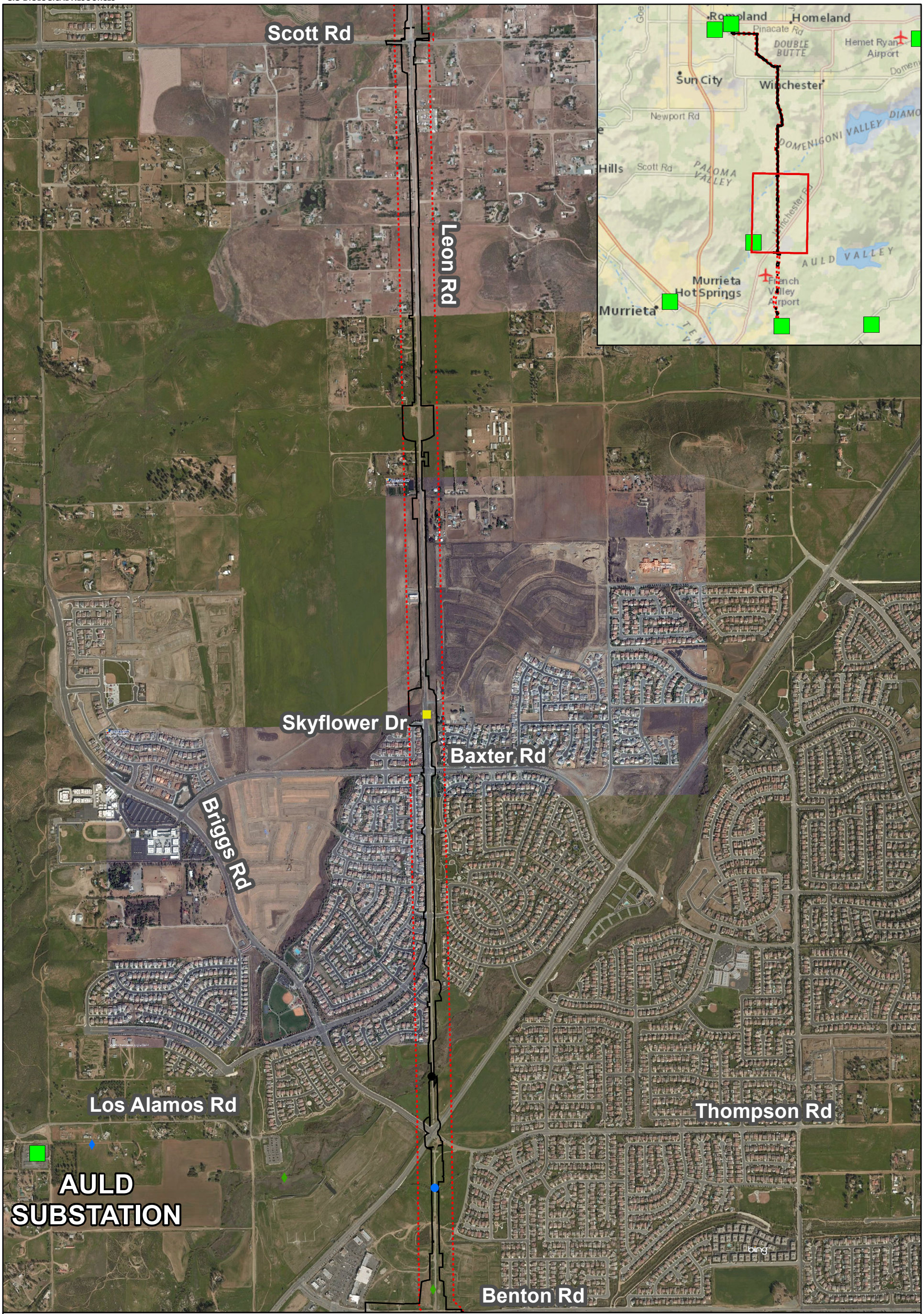
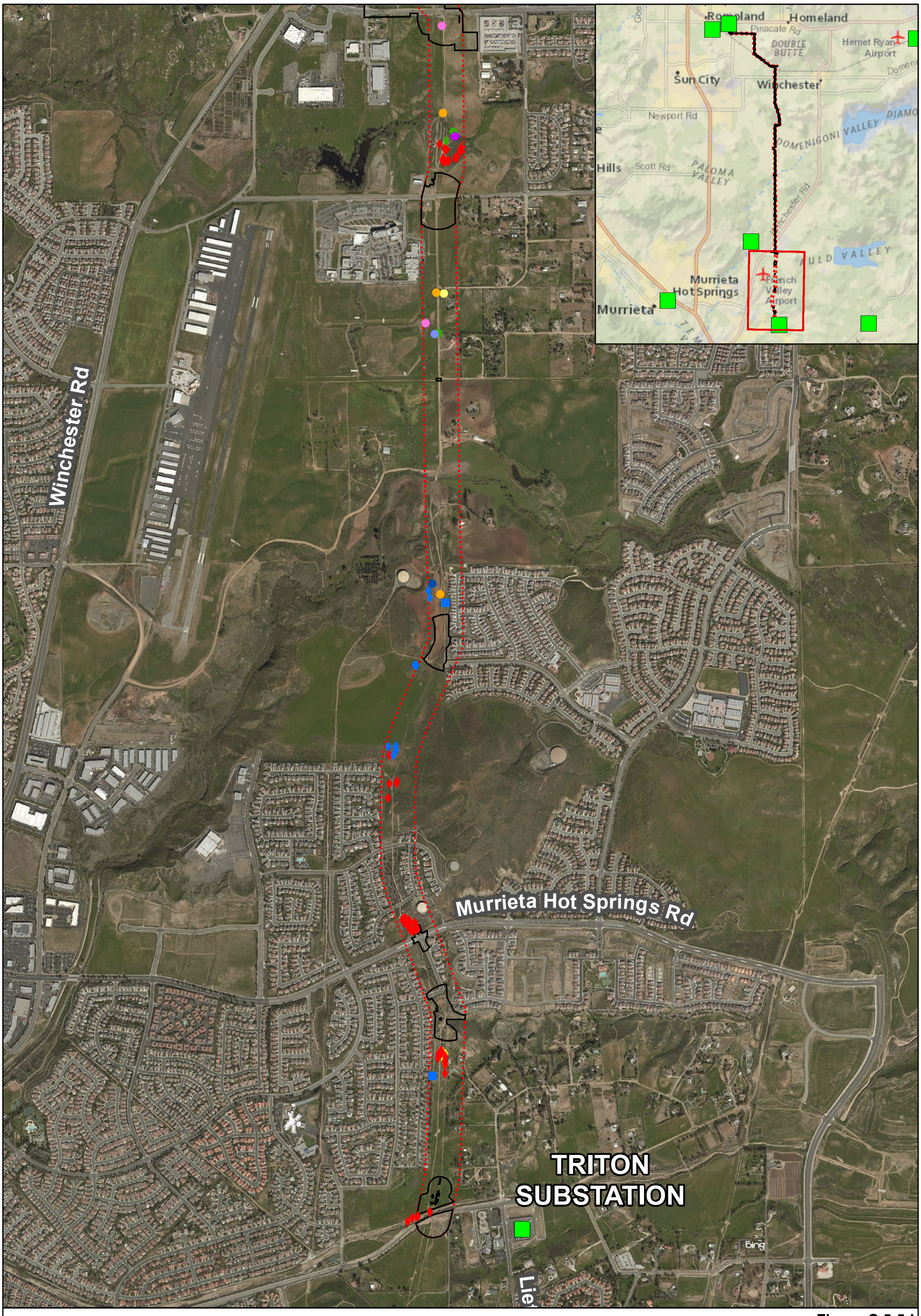


Figure C.5-5c
Map C
Special-status Wildlife Species Occurrences



Source: Aspen 2015 and SCE 2014

0 1,000 2,000 Feet

Existing Substation
Impact Corridor
Survey Area

Mammal Species Observations
- San Diego Black-tailed Jackrabbit
- NW San Diego pocket mouse
- San Diego Desert Woodrat
- Stephens' kangaroo rat

Herp Observations
- Coastal Western whiptail

Avian Species Observations
- Black-crowned night heron
- California horned lark
- Cooper's Hawk
- Costa's hummingbird
- Lawrence's goldfinch
- White-faced ibis
- Willow Flycatcher

Figure C.5-5d
Map D
Special-status Wildlife Species Occurrences