

APPENDIX H

Biological Resources Supporting Information

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Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution

Table H-1 Special-Status or MSHCP Covered Species Relevant to the Revised Project Area

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
aguanga kangaroo rat <i>Dipodomys merriami collinus</i>	Not Listed	Covered	Found within a limited range from southwestern Riverside to northeastern San Diego counties. Appears to be associated with Riversidean sage scrub, chaparral, redshank chaparral, and nonnative grassland, where sandy-loam soils allow for ease of digging. Avoids rocky substrates. <i>Low potential to occur in the annual brome grasslands of the revised project area. Unlikely to occur in criteria cells.</i>
American badger <i>Taxidea taxus</i>	SSC	Not Covered	Badgers are uncommon throughout southern California. They are generally associated with dry, open, treeless regions, including grasslands, rangelands and high deserts. In southern California they have been found in grassy openings within coastal sage scrub. The badger's altitudinal range extends from below sea level to over 12,000 feet. <i>Moderate potential to occur in annual brome grasslands or barren-not developed areas of the revised project, or at the Etiwanda marshalling yard.</i>
American bittern <i>Botaurus lentiginosus</i>	Not Listed	Covered	A fairly rare winter visitor to southern California; formerly a regular breeder throughout the coastal slope. Generally restricted to fairly extensive freshwater marsh habitats with dense patches of cattails and rushes. <i>Absent from the revised project area.</i>
arroyo chub <i>Gila orcuttii</i>	SSC	Covered	The arroyo chub is native to the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita rivers and to Malibu and San Juan creeks. They prefer slow-moving mud or sand-bottomed sections of streams and are abundant only in portions of the Santa Margarita River and Trabuco, San Juan, and Malibu creeks. <i>Absent from the revised project area.</i>
arroyo toad <i>Anaxyrus californicus</i>	FE, SSC	Covered	Uncommon and local in primarily cismontane southern California from Santa Barbara County south into Baja California. Inhabits washes, streams, arroyos and adjacent uplands, generally where riparian woodlands (willow, cottonwood, sycamore, and/or coast live oak) are present. Typically requires shallow, gravelly pools adjacent to sandy terraces, with little or no emergent vegetation. <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
bald eagle <i>Haliaeetus leucocephalus</i>	FD, FP, BCC, SE	Covered	Occurs primarily as a fairly rare, localized winter visitor to southern California, preferring ocean shore, estuaries, lake margins, and riverine habitats. Nesting has recently been documented in southern California mountain lakes (e.g., Lake Hemet). Nests and roosts in large, old-growth trees as well as tall snags, especially where near open water or other open wetland habitats and available sources of food. <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra</i>	WL	Covered	Occurs in a limited range within the coastal slope of southern California, from the Santa Ana River area portions of Orange, Riverside and San Bernardino counties, and south into Baja California. From sea level to approximately 2,000 feet elevation. Prefers semi-arid brushy areas, typically with loose soil and rocks, including coastal sage scrub, chaparral, rocky hillsides, washes and streamsides. <i>Low potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club.</i>
Bell's sage sparrow <i>Artemisiospiza belli belli</i>	BCC, WL	Covered	An uncommon, localized resident and breeder in cismontane southern California. Preferred habitat includes low, dense chaparral (typically chamise dominant) in interior foothills, as well as coastal sage scrub (often with white sage). <i>Absent from the revised project area.</i>
black-crowned night heron <i>Nycticorax nycticorax</i>	Not Listed	Covered	An uncommon to fairly common resident in southern California, being most common near the coast; breeds locally. Foraging habitat includes a variety of coastal and interior wetland communities, riparian woodlands, and waterways. Roosts and breeds in dense marshes or groves of dense trees (native or nonnative) near water bodies or other foraging areas. <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
black swift <i>Cypseloides niger</i>	BCC, SSC	Covered	A rare spring and fall transient and very local breeder (primarily May to Sept.) in southern California. In Riverside County it is known to breed in the San Jacinto Mountains. Nesting in this region is generally restricted to waterfalls in steep canyons. <i>Absent from the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
bobcat <i>Lynx rufus</i>	Not Listed	Covered	Occurs throughout most of southern California, inhabiting a wide range of habitats including mixed woodlands and forest edge, marsh, riparian, and various brushland communities (such as sage scrub and chaparral). Large tracts of habitat are most often favored. Rests and/or dens in rocky clefts, caves/rock shelters, hollow logs, under fallen trees, etc. <i>Low potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Brand's star phacelia <i>Phacelia stellaris</i>	1B.1, S1	Covered	An annual herb native to multiple counties in southern California. Seriously endangered in California; known from approximately ten occurrences. Inhabits coastal dunes and coastal scrub. <i>High potential to occur in the revised project area within the alluvial margins of the Santa Ana River.</i>
burrowing owl <i>Athene cunicularia hypugaea</i>	BCC, SSC	Covered	Now a fairly rare, and decreasing, resident breeder in southern California, away from the Imperial Valley. A small influx of nonbreeding birds often occurs during the winter. Prefers open, low-growing grasslands, fallow fields, agricultural areas, earth-lined flood control channels/ditches, and dairies. Relies on the presence of burrowing rodents (especially California ground squirrel) for roost and nest sites. <i>Burrowing owl habitat exists in the revised project area in the form of rock outcrops, non-native grasslands, fallow fields, deeply incised washes, road embankments, and vacant lots with potential makeshift burrows (e.g., rip-rap, culverts, concrete debris piles, etc.). No burrowing owls were detected in focused survey conducted in 2016, however the potential for occurrence is still moderate based on habitat present, nearby occurrences, and historic occupation by the species.</i>
California horned lark <i>Eremophila alpestris actia</i>	WL	Covered	In southern California, a fairly common winter visitor, and uncommon, localized summer resident/breeder. Occurs in winter, and as a breeder in sparse grasslands, large vacant lots, fallow agricultural fields, rangeland, typically on relatively level terrain. <i>Moderate potential to occur in the annual brome grasslands and agricultural lands in the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
California (San Bernardino) mountain kingsnake <i>Lampropeltis zonata (parvirubra)</i>	WL	Covered	Limited range includes the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel mountains of southern California. Can be found in diverse habitats, including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, and coastal sage scrub. Preferred areas include wooded areas near a stream with rock outcrops, talus, or rotting logs. Found as high as 9,000 feet on Mt. San Jacinto. <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
California (San Diego) mountain kingsnake <i>Lampropeltis zonata (pulchra)</i>	WL	Covered	Found in three restricted areas in southern California: 1) in the central San Diego County Peninsular Ranges (the Laguna, Palomar, Volcan, and Hot Springs mountains); 2) the Santa Ana Mountains; and 3) the Hollywood Hills and Santa Monica Mountains. Has similar habitat preferences to the San Bernardino Mountain kingsnake (see above). From near sea level along the south coast to above 6,500 feet in the Cuyamaca Mountains. <i>Absent from the revised project area.</i>
California red-legged frog <i>Rana draytonii</i>	FT, SSC	Covered	Usually occurs in or near permanent water of low gradient streams, marshes, ponds, lakes, and other quiet bodies of water. Breeding occurs in permanent or seasonal pools. The only known location for this species to still occur in Riverside County is the Santa Rosa Plateau. <i>Absent from the revised project area.</i>
California spotted owl <i>Strix occidentalis occidentalis</i>	BCC, SSC	Covered	A fairly rare to uncommon resident and breeder in the mountains and higher foothill canyons of southern California. Preferred habitat includes steep walled canyons that are densely wooded with mixtures of mature live oaks and conifers. Other key components include a multi-layered forest canopy; large, old trees and snags; and woody debris on the forest floor. <i>Absent from the revised project area.</i>
chaparral ragwort <i>Senecio aphanactis</i>	2B.2, S2	Not Covered	Occurs in the Central Western, South Coast, and Channel Islands subregions of California, as well as Baja California, Mexico. An annual herb that inhabits alkaline flats and dry, open rocky areas from 30-1800' in elevation. <i>Absent from the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	SSC	Not Covered	Occurs in southern California from the Carrizo Plains in San Luis Obispo County south through the coastal zone, west of the deserts, into coastal northern Baja California. Inhabits semi-arid brushy areas, including sage scrub and chaparral, in canyons, rocky hillsides, and mesas. <i>Absent from the revised project area.</i>
coast horned lizard <i>Phrynosoma blainvillii</i>	SSC	Covered	Found along the coastal slope of southern California from the San Francisco Bay area south into Baja California. Inhabits open areas of sandy soil, sandy ridges, and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet in elevation. Found in grasslands, woodlands, sage scrub, and chaparral in openings with areas of friable soil. Frequently found near harvester ant mounds, its preferred prey. <i>Moderate potential to occur in the annual brome grasslands and Fremont cottonwood forest within the revised project area.</i>
coast range newt <i>Taricha torosa</i>	SSC	Covered	Occurs along the coast and coast ranges of California from Mendocino County to San Diego County. Breeding occurs in ponds, reservoirs, and streams. Outside breeding season found in terrestrial habitats (e.g., grasslands, moist oak woodlands and chaparral); can migrate over 0.5 mile to find breeding ponds or slow-moving streams. Will spend drier periods burrowing in soil or under fallen logs and debris. <i>Absent from the revised project area.</i>
coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	BCC, SSC	Covered	This population of cactus wren is an uncommon and declining resident breeder along the coastal slope of southern California. It occurs in coastal sage scrub, although it requires mature patches of tall prickly pear or cholla cactus for nesting and roosting. <i>Absent from the revised project area.</i>
coastal California gnatcatcher <i>Polioptila californica californica</i>	FT, SSC	Covered	An uncommon resident species and breeder in cismontane southern California from southeastern Ventura County to western San Diego County. Restricted to Riversidean, Diegan, and Venturan sage scrub communities in arid washes and mesas and on mild to moderate slopes. Habitat typically dominated or codominated by California sagebrush, California buckwheat, and brittlebush. Most populations occur below 1,500 feet elevation. Breeding typically occurs between March and August. <i>Absent from the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
coastal western whiptail <i>Aspidoscelis tigris stejnegeri</i>	SSC	Covered	Found in coastal southern California habitats which have been altered and fragmented by development. Chaparral, woodland, and riparian areas. Inhabits a variety of ecosystems, primarily hot and dry open areas with sparse foliage. <i>Moderate potential to in the annual brome grasslands, ornamental/landscaped and Fremont cottonwood forest of the revised project area.</i>
Cooper's hawk <i>Accipiter cooperii</i>	WL	Covered	An uncommon, though increasing, breeding resident species in cismontane southern California, with an influx of birds during the winter months. Forages over a broad variety of woodland and shrub communities, especially wherever concentrations of birds (their preferred prey) may be found. Nests within a variety of woodland habitats, such as riparian or oak woodlands, but in recent years has shown a tolerance for developed areas and has begun nesting in suburban and urban "woodlands." <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Low potential to occur in the developed areas of the revised project area.</i>
Delhi Sands flower-loving fly (DSFLF) ^a <i>Rhaphiomidas terminatus abdominalis</i>	FE	Covered	Known from a very small range in southern California, southwestern San Bernardino and northwestern Riverside counties; currently known only from a range encompassing an 8-mile radius, though presumed to have once occurred throughout the Colton Dunes formation, a 40-square-mile area. Its habitat is restricted to fine, sandy soils, often with wholly or partly consolidated dunes, and a particular soil type classified as the "Delhi" formation. <i>The revised project area contains small areas of moderate quality habitat for DSFLF. However, a focused survey conducted in 2016 did not find any DSFLF in the revised project area. There is a low potential for DSFLF to occur in the revised project area.</i>
double-crested cormorant <i>Phalacrocorax auritus</i>	WL	Covered	Fairly common, year-round in southern California, with largest numbers during the nonbreeding season. Breeding occurs locally, though is increasing, primarily along the coast. Preferred foraging areas typically include larger lakes, reservoirs, and rivers with tall trees and snags used for roosting. <i>Moderate potential to occur in the Fremont Cottonwood forest associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
downy woodpecker <i>Picoides pubescens</i>	Not Listed	Covered	An uncommon to fairly common breeding resident in cismontane southern California, being more common to the north and west of Riverside Co. Inhabits a variety of woodland communities, including urban settings, though is most typical in a variety of riparian communities. <i>Moderate potential to occur in the Fremont cottonwood forest associated with the Goose Creek golf club. Low potential to occur in the developed areas of the revised project area.</i>
dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	SSC	Not Covered	Known to occur only from extreme southwestern Riverside County south through western and central San Diego County and into Baja California. Found from sea level to 4,600 feet elevation. Preferred habitat includes chaparral, coastal sage scrub, and, especially, shrub/grassland ecotones. <i>Absent from the revised project area.</i>
ferruginous hawk <i>Buteo regalis</i>	BCC, WL	Covered	A rare to uncommon transient and winter visitor in southern California. Typically requires extensive grasslands, sparsely vegetated rolling hills, and agricultural fields for foraging habitat. Roosts in open areas, usually in a lone tree or utility pole. <i>Low potential to occur near the active agriculture areas in the revised project area.</i>
golden eagle <i>Aquila chrysaetos</i>	BCC, FP, WL	Covered	A fairly rare resident, and breeder, in more remote regions of southern California, with generally some influx occurring into the region during winter. Forages over a variety of habitats and terrain, including grasslands, brushlands, and open woodland and savannah. This species is primarily restricted to rugged, mountainous terrain for nesting, generally well away from human disturbance. <i>Absent from the revised project area.</i>
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Covered	An uncommon, localized summer resident (March through August), and breeder, in cismontane southern California. Declining throughout much of its former range. Nests and forages in areas of relatively expansive grasslands (both native and nonnative), including grasslands interspersed with occasional shrubs (e.g., sage scrub species) or taller weeds (e.g., wild artichoke). Can occur on level or sloping terrain; generally found in lower elevations. <i>Moderate potential to nest and forage in the grassland habitat in the southwest corner of the overhead transmission line along Wineville Ave. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
great blue heron <i>Ardea herodias</i>	Not Listed	Covered	Fairly common year-round in southern California, though somewhat smaller numbers during the breeding season. Breeds very locally, especially away from the coast. Forages at a wide variety of wetland habitats, including ponds, marshes, creeks, flood control channels, etc. Also will forage for rodents in fallow agricultural fields and vacant lots. Clusters of tall trees (e.g., eucalyptus) are often used for nesting. <i>Moderate potential to nest and forage in the Fremont cottonwood forest habitat, low potential to forage in the active agriculture and barren-not developed areas of the revised project area.</i>
Lawrence's goldfinch <i>Spinus lawrencei</i>	BCC	Not Covered	Primary range extends from central California south to northern Baja California and east (at least formerly) to Arizona, with a few nesting records outside this region (Davis 1999); this goldfinch is most numerous in inland valleys and foothills of southern California. Habitats include oak woodland, chaparral, riparian woodland, pinyon-juniper association, and weedy areas in arid regions, usually near water (AOU 1983). Breeding occurs predominantly in open woodlands of arid and semiarid foothills and valleys, usually near water; from sea level near the coast and in some interior valleys to nearly 9500' in southern California (Davis 1999). Nests are in evergreen oaks, conifers, or deciduous trees, 3-40' above ground. <i>Moderate potential to nest and forage in the Fremont cottonwood forest associated with the Goose Creek golf club. Absent from the overhead transmission line along Wineville Ave and the Etiwanda marshalling yard.</i>
least Bell's vireo ^a <i>Vireo bellii pusillus</i>	FE, SE	Covered	A fairly rare to locally uncommon summer resident (late March to early Sept.) and breeder in southern California in relatively low elevation riparian floodplain habitat. Prefers willow riparian communities, which may be in the vicinity of water or along dry river bottoms. Nesting habitat generally includes a well-developed understory, which is necessary for nest concealment. Nests usually placed in <i>Baccharis</i> or young willows adjacent to or in openings within the riparian community. <i>Present in the revised project area. A focused survey conducted in 2016 found that a breeding population of least Bell's vireo does occur within the riparian habitat associated with the Goose Creek golf club.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
loggerhead shrike <i>Lanius ludovicianus</i>	BCC, SSC	Covered	A rare to uncommon breeding resident in southern California, with an influx into the region during winter. Prefers open terrain with short vegetation, including rangeland, agricultural fields, open brushlands, etc. Was once more common and widely distributed in North America. <i>Moderate potential to occur in the agricultural fields along Wineville Ave and at the intersection of Limonite Ave and I-15. Absent from the remainder of the revised project area.</i>
long-eared owl <i>Asio otus</i>	SSC	Not Covered	A fairly rare resident and very localized breeder in cismontane southern California, although somewhat more widespread and common as a winter visitor. Prefers dense riparian communities (including coast live oak, willows, and cottonwoods) or occasionally other types of cover (e.g., dense olive groves) for roosting and nesting. Generally, grasslands or other open habitats for foraging are adjacent to roosting/nesting sites. <i>Moderate potential to roost and nest in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	1B.2, S3	Covered	An annual herb native to Santa Barbara, Orange, Riverside, and San Diego counties. Inhabits chaparral, coastal scrub, meadows and seeps, valley and foothill grasslands, and vernal pools with a preference for clay soils. <i>Moderate potential to occur in areas of Altamont and Porterville clay soils within the revised project area.</i>
long-tailed weasel <i>Mustela frenata</i>	Not Listed	Covered	A fairly common, though rarely seen, resident of southern California west of the deserts in a variety of habitats and elevations. Often near water. Favored habitats include brushlands, open woodlands, agricultural field edges, riparian communities, and marshlands. Tolerant of close proximity to humans. <i>Moderate potential to roost and nest in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Los Angeles pocket mouse ^a <i>Perognathus longimembris brevinasus</i>	SSC	Covered	Ranges historically from Los Angeles and San Bernardino counties south to portions of western Riverside County. Occurs in relatively arid, lower elevations with fine, sandy soils, typically in grassland or coastal sage scrub habitats. <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. A focused survey was conducted in 2016 and no individuals were observed. Absent from the remainder of the revised project area.</i>

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many-stemmed dudleya <i>Dudleya multicaulis</i>	1B.2, S2	Covered	A perennial herb endemic to the coastal plains of southern California. It inhabits heavy clay soils in barrens, dry stony places, or thinly vegetated openings within coastal sage scrub, chaparral, and valley and foothill grassland communities. Occurs in habitats 0 – 2600' in elevation. <i>Moderate potential to occur in areas of Altamont and Porterville clay soils within the revised project area.</i>
mesa horkelia <i>Horkelia cuneata</i> var. <i>puberula</i>	1B.1, S1	Not Covered	A perennial herb native to the Outer South Coast Ranges, South Coast, and Peninsular Ranges floristic subregions of California. Inhabits dry, sandy, coastal chaparral ranging from 230 – 2900' in elevation. <i>Absent from the revised project area.</i>
mountain lion <i>Puma concolor</i>	Not Listed	Covered	Associated generally with mountainous or remote high desert areas of southern California but also occurs on the coastal slope, closer to towns and human-altered landscapes. Occupies a wide variety of habitats, including brushlands and woodlands with good cover, wetlands, riparian communities, and occasionally more open habitats. Studies have determined that habitat areas of at least 750 square miles are needed to ensure long-term population persistence (e.g., individual territories average well over 100 sq. miles per male, less for females). Protection of viable wildlife movement areas is considered very important for healthy lion populations. <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
mountain plover <i>Charadrius montanus</i>	BCC, SSC	Covered	An uncommon and localized winter visitor to California (primarily Oct. to Feb.), with most populations occurring in the Central, San Joaquin and Imperial valleys. Flocks typically forage in short grasslands and agricultural fields. <i>Moderate potential to occur in the agricultural fields along Wineville Ave and at the intersection of Limonite Ave and I-15, as well as the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>
mountain quail <i>Oreortyx pictus</i>	Not Listed	Covered	A generally uncommon breeding resident in the mountains of southern California. Rarely comes down to the foothills on the coastal slopes of the mountains. Prefer montane chaparral and a variety of montane woodlands where a brushy understory is also present. <i>Absent from the revised project area.</i>

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Nevin's barberry <i>Berberis nevinii</i>	FE, SE, 1B.1, S1	Covered	Ranges from the foothills of the San Gabriel Mountains of Los Angeles County to near the foothills of the Peninsular Ranges of southwestern Riverside County, California. 2 habitat types: the margins of dry washes with sandy and gravelly substrates and alluvial shrub communities; and steep slopes with coarse soils and chaparral communities. The presence of groundwater flow may be a habitat requirement (Natureserve Explorer). <i>Absent from the revised project area.</i>
northern goshawk <i>Accipiter gentilis</i>	SSC	Covered	Very rare, and extremely local, resident in a few southern California mountain ranges (e.g., the San Jacinto Mountains). Most records have been during the breeding season and have generally occurred in dense coniferous or mixed coniferous-deciduous woodlands. A rare winter visitor to the northern deserts. <i>Absent from the revised project area.</i>
northern harrier <i>Circus cyaneus</i>	SSC	Covered	A generally uncommon winter visitor to southern California, with a few nonbreeders occasionally remaining through the summer. Now a rare and localized breeder in the region. Forages over a variety of open habitat (e.g., marshes, vegetated shorelines, grasslands, agricultural fields) and occasionally open coastal sage scrub and brushy fields. Nests on the ground in open areas, where patches of taller vegetation are protected from disturbance. <i>Moderate potential to occur in the agricultural fields along Wineville Ave and at the intersection of Limonite Ave and I-15, as well as the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>
northwestern San Diego pocket mouse ^a <i>Chaetodipus fallax fallax</i>	SSC	Covered	Occurs on the coast slope of southern California from Los Angeles and San Bernardino counties south to San Diego County. It inhabits coastal sage scrub, scrub/grassland ecotones, and chaparral communities, often in rocky areas. <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. A focused survey was conducted in 2016 and no individuals were captured. Absent from the remainder of the revised project area.</i>
osprey <i>Pandion haliaetus</i>	WL	Covered	An uncommon, primarily nonbreeding visitor to southern California, with largest numbers occurring outside the breeding season. Nesting has been on the increase in recent years, especially near the coast. Most frequent along the immediate coast, although occurs also at larger inland bodies of water (e.g., lakes, reservoirs, rivers). <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. Unlikely to occur at the overhead transmission line along Wineville Ave or at the Etiwanda marshalling yard.</i>

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pallid bat <i>Antrozous pallidus</i>	SSC	Not Covered	Found over a broad range in southern California. Recorded in arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevice or building, less often in caves, under bridges, tree hollows, mines, etc. <i>Moderate potential to occur in the agricultural fields along Wineville Ave and at the intersection of Limonite Ave and I-15, as well as the annual brome grassland south of Landon Dr. Unlikely to occur in the rest of the revised project area.</i>
Paniculate tarplant <i>Deinandra paniculata</i>	4.2, S4	Not Covered	An annual herb native to central and southern California. Usually inhabits vernally mesic, and sometimes sandy soils within coastal scrub, valley and foothill grasslands, and vernal pools. <i>Moderate potential to occur in areas of Altamont and Porterville clay soils within the revised project area.</i>
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	1B.1, S3	Covered	Endemic to the Los Angeles, Riverside, and San Bernardino counties of southern California. Inhabits sandy or rocky chaparral, coastal scrub, and openings ranging from 300 – 2600' in elevation. <i>Absent from the revised project area.</i>
peregrine falcon <i>Falco peregrinus</i>	FD, BCC, SD, FP	Covered	A fairly rare perennial visitor throughout cismontane southern California, with most occurring along the coast, such as at estuaries and coastal bluffs and promontories. A very rare and local breeder along the coast; more widespread during migration and as a winter visitor. Locally, has adapted to breeding in urban environments, especially where high-rise buildings and concentrations of rock pigeons, as a reliable food source, are present. In more natural settings, foraging habitat typically includes a variety of coastal and interior wetland communities as well as open areas such as airports and farmland. <i>Absent from the revised project area.</i>
Plummer's mariposa-lily <i>Calochortus plummerae</i>	4.2, S4	Covered	A perennial herb endemic to the Los Angeles, Riverside, San Bernardino, and Ventura counties of Southern California. Inhabits chaparral, cismontane woodland, coastal scrub, lower montane coniferous forests, and valley and foothill grasslands in elevations less than 5600' in elevation. Also inhabits granitic and rocky habitats. <i>Moderate potential to occur in the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
pocketed free-tail bat <i>Nyctinomops femorosaccus</i>	SSC	Not Covered	Has been observed in southern California in Riverside, San Diego and Imperial counties, though records are few. Occurs in a variety of arid habitats, mostly in desert regions, such as pinyon-juniper woodland, desert scrub, palm oasis, desert washes, and riparian. Prefers rocky areas with high cliffs. <i>Absent from the revised project area.</i>
Pringle's monardella <i>Monardella pringlei</i>	1A, SX	Not Covered	An annual herb historically occurring in Riverside and San Bernardino counties, California. Inhabits sandy soils in coastal sage-scrub vegetation at 980-1300' in elevation. It was last documented in 1941; its habitat has been mostly destroyed by urbanization, and very limited potential habitat remains. <i>Absent from the revised project area.</i>
purple martin <i>Progne subis</i>	SSC	Covered	A rare spring/fall transient throughout southern California, and a very rare, declining, and localized summer resident and breeder in the mountains and foothills of southern California. For nesting, they typically prefer old, tall sycamores, pines, etc., often where these trees occur in open oak woodland or coniferous forest. The availability of suitable nesting cavities and competition with European starlings over potential nest sites are factors which limit breeding opportunities for this species. <i>Absent from the revised project area.</i>
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	FE	Covered	Range restricted to limited areas of southern California and northern Baja California; currently known in southern California only from relatively small populations within Riverside and San Diego counties. Inhabits openings within Riversidean sage scrub and chaparral; also found in grasslands, and vernal pool and lake margins. <i>Low potential to occur in the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>
Red-diamond rattlesnake <i>Crotalus ruber</i>	SSC	Covered	Occurs in southern California from the Morongo Valley area of San Bernardino County west to the coast and south along the Peninsular Ranges to Baja California. Inhabits arid, rocky, brushy areas, including coastal sage scrub and chaparral, as well as oak and other woodlands and grasslands. <i>Moderate potential to occur in the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE	Covered	Endemic to western Riverside County, as well as southern California coastal counties, from Ventura to San Diego. Restricted to relatively deep vernal pools in grasslands or in openings within coastal sage scrub and chaparral. Hatch in warm water later in season. <i>Absent from the revised project area.</i>
Robinson's pepper-grass <i>Lepidium virginicum</i> <i>var. robinsonii</i>	4.3, S3	Not Covered	An annual herb endemic to California. Inhabits dry, disturbed areas, bottomlands, riverbanks, meadows, fields, pastures, cliffs, and scrub less than 9200' in elevation (Al-Shehbaz 2017). <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
rosy boa <i>Charina trivirgata</i>	Not Listed	Not Covered	Occurs widely but sparsely distributed in the desert and chaparral habitats throughout southern California, south of Los Angeles, from the coast to the Mojave and Colorado deserts. In coastal areas it inhabits rocky chaparral covered hillsides and canyons, while in the desert it is found on scrub flats with good cover and in the mountains. <i>Absent from the revised project area.</i>
San Bernardino aster <i>Symphyotrichum defoliatum</i>	1B.2, S2	Not Covered	A perennial herb that inhabits the San Gabriel Mountains, San Bernardino Mountains, Peninsular Ranges, and San Jacinto Mountains floristic subregions of Southern California. It generally inhabits grasslands and disturbed places less than 6700' in elevation. <i>Moderate potential to occur in the annual brome grassland south of Landon Dr. Absent from the remainder of the revised project area.</i>
San Bernardino flying squirrel <i>Glaucomys sabrinus californicus</i>	SSC	Covered	A nocturnal resident of the San Bernardino and San Jacinto mountain ranges of southern California. An isolated, and the southern-most, subspecies of the wide-ranging northern flying squirrel. Typically inhabits old-growth forest comprised of nearly closed-canopy mixed coniferous woodland with some oak (especially black oak) usually present. <i>No potential to occur within 500 feet of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
San Bernardino kangaroo rat ^a <i>Dipodomys merriami parvus</i>	FE, SSC	Covered	Occurs in the San Bernardino and San Jacinto Valleys, with the largest remaining populations along the Santa Ana River, Lytle and Cajon washes, and the San Jacinto River. Its habitat includes alluvial sage scrub on alluvial fans, flood plains, washes, adjacent upland areas, and areas with historic braided stream channels. Prefers sand, loam, sandy loam, or gravelly soils. <i>High potential to occur in sandy Santa Ana River floodplain habitat. However, a focused survey was conducted for this species in 2016, and no individuals were found.</i>
San Diego ambrosia <i>Ambrosia pumila</i>	FE, 1B.1, S1	Covered	A perennial rhizomatous herb native to Riverside County and southern San Diego County (Lake Hodges to the border). Inhabits coastal scrub, grasslands, open floodplains and low valley bottoms below 500'. Persists where disturbance has been superficial. <i>Moderate potential to occur within suitable habitat present in the uplands of the revised project area.</i>
San Diego banded gecko <i>Coleonyx variegatus abbotti</i>	SSC	Covered	Occurs in the westernmost edge of Riverside county, as well as other parts of Southern California, generally west of the Peninsular ranges and south of the Transverse ranges. Its range also extends beyond California south into Baja California, Mexico. It inhabits rocky areas within coastal sage and chaparral habitats. <i>Absent from the revised project area.</i>
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC	Covered	Occurs west of the mountains in southern California, from Ventura to San Diego counties. A generalist that prefers a variety of open and semi-open habitats including grasslands, agricultural fields, sparse coastal sage scrub, open alluvial washes. Typically avoids dense chaparral and woodland habitats. <i>Moderate potential to occur in the agricultural fields along Wineville Ave and at the intersection of Limonite Ave and I-15, as well as the annual brome grassland south of Landon Dr. Low potential to occur in the remainder of the revised project area.</i>
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	SSC	Covered	Occurs in coastal California from San Luis Obispo County south through the Transverse and Peninsular ranges into Baja California. Occurs in a variety of habitats and elevations. Prefers pinyon-juniper woodland, chaparral, and sage scrub communities and most desert habitats. Most abundant in rocky outcrops and on rocky slopes, building a stick nest typically in cracks within rocky outcrops and boulder piles. <i>Absent from the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE	Not Covered	Known range limited to southern California, in Orange and San Diego counties, and adjacent northwestern Baja California. Occurs in vernal pools and similar ephemeral wetland habitats, including artificial habitats. All known localities below 2,300' elevation and within 40 miles of the Pacific Ocean. <i>Moderate potential to occur in the Etiwanda Avenue marshalling yard supporting flat open areas with impermeable soils below the ground surface. Absent from the remainder of the revised project area.</i>
Santa Ana river woolly-star <i>Eriastrum densifolium</i> <i>ssp. sanctorum</i>	FE, SE, 1B.1, S1	Covered	A perennial herb endemic to the Santa Ana River drainage of San Bernardino, Riverside, and Orange counties. Inhabits chaparral and coastal scrub 500 – 2000' in elevation. Located above main watercourses on fluvial deposits where flooding and scouring have been infrequent enough to allow the persistence of open shrublands in the flood plain. Sites are characterized by sandy soil, usually by a broken surface crust, and by very little low herbaceous cover. <i>Absent from the revised project area.</i>
Santa Ana speckled dace <i>Rhinichthys osculus</i>	SSC	Not Covered	The "Santa Ana" population of speckled dace is restricted to the headwaters of the Santa Ana and San Gabriel river drainages. Prefers shallow, gravel and cobble riffles of permanent flowing streams, with overhanging riparian vegetation for cover. <i>Low potential to occur in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Santa Ana sucker <i>Catostomus santaanae</i>	FT	Covered	Endemic to southern California, known historically only from the San Gabriel, Los Angeles, and Santa Ana river systems of Los Angeles, Orange, Riverside, and San Bernardino counties. Prefers permanent streams and small to medium-sized rivers with cool temperatures. Riparian habitat is typically to provide cover and refuge from floods. Can inhabit reservoirs. <i>Absent from the revised project area.</i>
sharp-shinned hawk <i>Accipiter striatus</i>	WL	Covered	An uncommon winter visitor to southern California. Occurs in a variety of woodland and shrubland communities (native and nonnative), wherever concentrations of small birds (their preferred prey) may be found. <i>Moderate potential to nest in the riparian habitat associated with the Goose Creek golf club. Moderate potential to forage, but unlikely to nest in the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
silvery legless lizard <i>Anniella pulchra</i>	SSC	Not Covered	This legless lizard burrows in loose soil, especially in semi-stabilized sand dunes and in other areas with sandy soil, including habitats vegetated with oak or pine-oak woodland, or chaparral; it also occurs along wooded stream edges, and occasionally in desert-scrub. Bush lupine and mock heather often are present in suitable dune habitats. The species is often found in leaf litter or under rocks, logs, or driftwood. <i>High potential to occur in the riparian habitat associated with the Goose Creek golf club. Moderate potential to occur in the remainder of the revised project area.</i>
smooth tarplant <i>Centromadia pungens</i> <i>ssp. laevis</i>	1B.1, S2	Covered	An annual herb native to the interior South Coast region and Peninsular Ranges of southern California. Inhabits open, poorly drained flats, depressions, waterway banks and beds, as well as grasslands and disturbed sites. Its elevation ranges from 300 – 1640'. <i>High potential to occur in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
Southern California black walnut <i>Juglans californica</i> var. <i>californica</i>	4.2, S3	Covered	A perennial deciduous tree endemic to southern California walnut forests, a fragmented, rare, and declining vegetation community. Inhabits alluvial soils within chaparral, cismontane woodland, coastal scrub, and riparian woodland. <i>Present along the relocated overhead transmission line segment of the revised project area, adjacent to AX21. Moderate potential to occur along the underground transmission line and at Distribution Line Relocation #7 and #8.</i>
southern California rufous-crowned sparrow <i>Aimophila ruficeps</i> <i>canescens</i>	WL	Covered	A fairly common resident and breeder in cismontane southern California. Prefers relatively steep, often rocky hillsides, with dominant vegetation ranging from grasses and forbs to a moderate shrub cover (including coastal sage scrub or sparse chaparral communities). <i>Absent from the revised project area.</i>
southern grasshopper mouse <i>Onychomys torridus</i> <i>ramona</i>	SSC	Not Covered	Common in arid desert habitats of the Mojave Desert and southern Central Valley of California. Alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats. Uncommon in valley foothill and montane riparian and in a variety of other habitats. <i>Absent from the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
southern mountain yellow-legged frog <i>Rana muscosa</i>	FE, SE, WL	Covered	Now rare and extremely localized in southern California. Inhabits perennial, cool mountain streams with steep gradients. Typically occurs in the chaparral belt, but may occur at higher elevations (e.g., most records between 1,500 and 7,500 feet elevation). <i>Absent from the revised project area.</i>
southern rubber boa <i>Charina umbratica</i>	ST	Covered	Found in only a few disjointed montane regions of southern California: the San Bernardino, San Jacinto and Tehachapi mountains. Inhabits oak-conifer and mixed-conifer forests at elevations between roughly 5,000 and 8,200 feet, where rocks, logs, or other debris provide shelter. <i>Absent from the revised project area.</i>
southern steelhead (southern California) <i>Oncorhynchus mykiss irideus</i>	FE	Not Covered	Range is from the Santa Maria River, San Luis Obispo County, south to the larger remaining streams in San Diego County. Southern steelhead currently occurs in only four large river systems in their range: the Santa Maria, Santa Ynez, Ventura, and Santa Clara rivers. Adults migrate from the ocean into freshwater streams to spawn between December and April. Juveniles remain in freshwater streams for two to three years before migrating to the ocean. <i>Absent from the revised project area.</i>
southwestern pond turtle <i>Emys marmorata</i>	SSC	Covered	Occurs along the coastal slope of southern California, from the San Francisco Bay area south into Baja California, from sea level to over 5,900 feet elevation. Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation and either rocky or muddy bottoms. Generally requires permanent (or nearly permanent) water. Can also be found in woodland and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. <i>Moderate potential to occur in the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
southwestern willow flycatcher ^a <i>Empidonax traillii extimus</i>	FE, SE	Covered	A very rare, localized, and declining summer resident/breeder in southern California. Occurs from early to mid-May to late Aug. Restricted as a breeder to moist riparian communities, with breeding documented from sea level to over 5,000 feet. In southern California, nesting habitat typically is dominated by willows, but may also be dominated by alders and (very locally) salt cedar and coast live oak. Nesting habitat nearly always includes areas with surface water, or at least saturated soils, and therefore the understory generally supports a variety of hydrophytic vegetation. <i>Southwestern willow flycatchers were detected within the riparian habitat associated with the Goose Creek golf club during a focused survey conducted in 2016. No breeding behavior was observed, and the occurrences coincided with peak migration through the area. Absent from the remainder of the revised project area.</i>
stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE, ST	Covered	This species has a small range limited to western Riverside County and northwestern and north-central San Diego County. Restricted to annual grassland and open Riversidean sage scrub with a shrub cover of less than 30%. Prefers loose, friable, well-drained soil (generally at least 1.5 feet deep) and flat or gently rolling terrain. This species may recolonize abandoned agricultural land. It is most abundant where stands of native vegetation remain. <i>Absent from the revised project area.</i>
swainson's hawk <i>Buteo swainsoni</i>	BCC, ST	Covered	A fairly rare, though increasing, spring and fall transient in southern California. Has been extirpated for years (from most of the region as a breeder. Forages over a variety of open habitats, including grasslands, rangeland, agricultural fields, etc. <i>Unlikely to nest within the revised project area; low potential to roost and forage in the agricultural fields and grasslands of the revised project area.</i>
thread-leaved brodiaea <i>Brodiaea filifolia</i>	FT, SE, 1B.1, S2	Covered	A perennial herb endemic to southern California; presently known from Riverside, San Bernardino, San Diego and Orange Counties. Inhabits grasslands, often in association with vernal pools and in floodplains. 300-1000' elevation. <i>Low potential to occur in the annual brome grassland south of Landon Dr. Unlikely to occur in the rest of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
tree swallow <i>Tachycineta bicolor</i>	Not Listed	Covered	A common spring and fall transient throughout southern California, and an uncommon, localized summer resident and breeder. For nesting, typically prefers open bodies of water, including rivers and marshy areas, with scattered trees and/or snags, or artificial nest boxes. Availability of nest sites (natural cavities or nest boxes) and competition with European starlings over potential nest sites are factors which limit the breeding success of this species in southern California. <i>Moderate potential to nest and forage within the riparian habitat associated with the Goose Creek golf club. Unlikely to forage or nest in the remainder of the revised project area.</i>
tricolored blackbird <i>Agelaius tricolor</i>	BCC, SC, SSC	Covered	A resident breeder in cismontane southern California. When present, can often occur in large numbers, as a highly colonial species. However, has significantly declined in the region and is becoming somewhat rare and localized. Often more common and widespread in winter. For breeding, requires open water, protected nest sites (flooded or spiny/thorny vegetation), and suitable foraging sites within a mile or two of the nesting colony. Dense beds of freshwater emergent vegetation (cattails and/or bulrush) are often used by colonies for nest placement, with foraging occurring in nearby grasslands, agricultural fields, fallow fields, dairies, and feedlots. <i>Low potential to occur within the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
two-striped garter snake <i>Thamnophis hammondi</i>	SSC	Not Covered	In southern California, ranges along the coast and east through the Transverse Ranges into limited portions of the western desert; then south through the Peninsular Ranges into northern Baja California. Can be found at elevations from sea level to 6,988 feet. Found in or near permanent fresh water, often along streams with rocky beds and riparian growth. <i>Moderate potential to occur within the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
vaux's swift <i>Chaetura vauxi</i>	SSC	Not Covered	In southern California, the Vaux's swift occurs only as a spring and fall migrant. <i>Moderate potential to occur (as a transient) within the revised project areas.</i>
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Covered	Found at scattered locations throughout southern California, although known only from Riverside and San Diego counties in southern California. Restricted to cool-water vernal pools, often early in the rainy season. <i>Moderate potential to occur in the Etiwanda Avenue marshalling yard supporting flat open areas with impermeable soils below the ground surface. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
western red bat <i>Lasiurus blossevillei</i>	SSC	Not Covered	Occurs over a large area of California but not found in the deserts. Can be locally common in some areas of California. Displays migratory movements between summer and winter, and transients may be outside their normal range. They prefer riparian areas for roosting, including areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores. Feeds over a wide variety of habitats, including grasslands, shrublands, open woodlands, and croplands. <i>Moderate potential to occur in the agricultural fields, annual brome grasslands, and Fremont cottonwood forest within the revised project area.</i>
western mastiff bat <i>Eumops perotis californicus</i>	SSC	Not Covered	An uncommon bat that inhabits arid and semi-arid lowlands in southern California, including deciduous and coniferous woodlands, coastal sage scrub, chaparral, and grasslands. Is known to be active year-round. They primarily roost in crevices in vertical cliffs and rock faces; occasionally are found roosting in high buildings, trees, and tunnels, although it needs vertical faces to drop from in order to take flight. <i>Moderate potential to occur in the agricultural fields, annual brome grasslands, and Fremont cottonwood forest within the revised project area.</i>
western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, BCC, SSC	Not Covered	In southern California, an uncommon, declining breeding resident along the immediate coast and very rare, local breeder in the interior (away from the Salton Sea). In the interior, will opportunistically colonize receding lakeshores, sinks, and alkaline lakes, generally where devoid of any significant vegetation. Nests on sandy shorelines, salt flats, etc. <i>Absent from the revised project area.</i>
western spadefoot toad <i>Spea hammondi</i>	SSC	Covered	Occurs in a variety of habitats, from lowlands to foothills, in grasslands, open chaparral and sage scrub, and open woodland. Most often prefers short-grass plains, with sandy or gravelly soils (e.g., alkali flats, washes, alluvial fans). Known to breed in stock tanks and other artificial water bodies. In upland habitats to avoid desiccation, becomes inactive and burrows underground. Active again in late winter and spring after the first rains. <i>Moderate potential to occur within the riparian habitat and the annual brome grasslands of the revised project area. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
western yellow bat <i>Lasiurus xanthinus</i>	SSC	Not Covered	An uncommon species in California restricted primarily to the southern counties of Riverside, San Diego and Imperial. It has been recorded in valley foothill riparian, desert riparian, and palm oasis communities. Considered to be migratory and is known to be in California only during spring, summer, and fall. Roosts in trees and appears to especially favor palms. <i>Moderate potential to occur within the riparian habitat associated with the Goose Creek golf club. Absent from the remainder of the revised project area.</i>
western yellow-billed cuckoo ^a <i>Coccyzus americanus occidentalis</i>	FT, BCC, SE	Covered	An extremely rare and localized summer resident (May to Aug.) and breeder, with breeding now restricted to only a few southern California sites. Requires relatively expansive tracts of mature floodplain riparian forest, generally consisting of dense cottonwoods and willows, with a well-developed understory component. <i>Low potential to occur within the riparian habitat associated with the Goose Creek golf club. A focused survey was conducted for this species in 2016 and no individuals were detected.</i>
white-faced ibis <i>Plegadis chihi</i>	WL	Covered	A generally uncommon, though increasing, transient and winter visitor to southern California; also occurs as a very local summer resident and breeder. Foraging birds occur in flooded agricultural fields, marshes, flood control ditches, etc.; breeders typically require fairly extensive and undisturbed marshes with cattails, bulrush. <i>Low potential to forage in the agricultural fields and riparian habitat; unlikely to nest. Absent from the remainder of the revised project area.</i>
white-tailed kite <i>Elanus leucurus</i>	FP	Covered	An uncommon, resident breeder in cismontane southern California. A cyclic species, it has undergone fairly significant population fluctuations, although currently appears to be declining in the region due to habitat loss. Winter roost site concentrations occasionally form during winter. Occurs in a variety of open habitats, foraging over valley and foothill grasslands, meadows, open marshy bottomlands, and agricultural fields; requires scattered large trees or mature riparian groves for nesting and winter roost sites. <i>Moderate potential to nest within the riparian habitat associated with the Goose Creek golf club and forage in the grasslands and agricultural fields of the revised project area. Absent from the remainder of the revised project area.</i>

Common and Scientific Names	Sensitivity Status	MSHCP Covered Species	Range, Preferred Habitat, Seasonal Status, and Potential for Occurrence
yellow-breasted chat <i>Icteria virens</i>	SSC	Covered	Summer resident in southern California (April to August), inhabiting willow riparian thickets and other brushy tangles near water courses. Typically nests in riparian-associated understory vegetation, including young willows, mule fat, blackberry, wild grape, etc. Generally forages and nests within 10 feet of the ground. <i>Present in the revised project area. Yellow-breasted chats were incidentally observed within the riparian habitat associated with the Goose Creek golf club during a focused survey conducted in 2016.</i>
yellow warbler <i>Setophaga petechia</i>	BCC, SSC	Covered	A common spring and fall transient throughout southern California and an uncommon, though increasing summer visitor (Apr. to Aug.) and breeder, primarily along the coastal slope. For breeding, requires mature riparian woodland, primarily consisting of tall cottonwoods, willows, or alders. <i>Present in the revised project area. Yellow warblers were observed within the riparian habitat associated with the Goose Creek golf club during a focused survey conducted in 2016. Breeding was confirmed as recently fledged young were observed in the area.</i>

^a Focused surveys were conducted for these species in 2016. These species are considered in further detail in Section 4.4.

Sources: (AECOM 2016b, AECOM 2016c, AECOM 2016a, Al-Shehbaz 2017, Allen 2017, Baldwin 2017, California Native Plant Society 2017, Moyle, et al. 1995, NatureServe 2015, Parus Consulting 2016)

Federal Status Designations:

FE – Federally Listed Endangered

FT – Federally Listed Threatened

FC – Federal Candidate Species for Listing

FD – Federally Delisted

BCC – U.S. Fish and Wildlife Service Birds of Conservation Concern

California Rare Plant Rank:

State Status Designations:

SE – State-listed as Endangered

ST – State-listed as Threatened

SC – State Candidate Species for Listing

SD – State Delisted

SSC – California Department of Fish and Wildlife Species of Special Concern

FP – California Department of Fish and Wildlife Fully Protected Species

WL – California Department of Fish and Wildlife Watch List Species

1A – Plants Presumed Extinct in California
 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere
 2 – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
 3 – Plants About Which More Information is Needed
 4 - Plants of Limited Distribution - A Watch List
 CNPS Threat Rank (extension to California Rare Plant Rank)
 0.1 - Seriously threatened in California
 0.2 - Fairly threatened in California
 0.3 - Not very threatened in California

California Natural Diversity Database Element Ranking:
 SX – All California sites are extirpated
 S1 – Critically Imperiled
 S2 – Imperiled
 S3 – Vulnerable
 S4 – Apparently Secure
 S5 - Secure

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APPENDIX H

Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution

August 29, 2016

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Subject: Riverside Transmission Reliability Project – Habitat Assessment Results

Dear Mr. Paul Yamazaki:

Southern California Edison (SCE) contracted AECOM to conduct habitat assessments and subsequent focused protocol surveys for a number of special-status species along and adjacent to the Riverside Transmission Reliability Project (RTRP) alignment (Project). These surveys are in response to data requests received from the California Public Utilities Commission (CPUC) during their review of SCE's Application for a Certificate of Public Convenience and Necessity. At the request of SCE, this letter report summarizes the findings of a literature review and habitat assessment intended to identify suitable habitat, and areas needing focused surveys, for the following species:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*)
- San Diego ambrosia (*Ambrosia pumila*)
- Brand's phacelia (*Phacelia stellaris*)
- San Miguel savory (*Satureja chandleri*)
- Other Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Special-Status Plant Species (Including Criteria Area and Narrow Endemic Plant Species) along the Project, where relevant.

This letter report includes the following sections:

- Section 1.0 – Introduction
 - Section 1.1 – Project Location
 - Section 1.2 – Project Description
- Section 2.0 – Methods
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 - Section 2.2 – Riparian Bird Habitat Assessment
 - Section 2.3 – Small Mammal Habitat Assessment
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- Section 3.0 – Results and Discussion
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1.0 INTRODUCTION

1.1 Project Location

The Project is located in the northwest portion of Riverside County, north of Norco and south and east of Mira Loma (Figure 1). The western (north-south) segment of the Project alignment is located just east of Interstate 15 (Figure 2). The northern terminus occurs just west of the intersection of Galena Street and Wineville Avenue, while the southern end of the western segment makes a 90-degree turn at 68th Street before heading east (Figure 2). The southern (east-west) segment of the alignment occurs just south of the Santa Ana River, terminating just east of Wilderness Avenue (Figure 2).

1.2 Project Description

The Project is a joint venture with Riverside Public Utilities (RPU) to provide a new 230-kilovolt (kV) transmission line connection to RPU's transmission system and increase the reliability of their grid. SCE's scope of work includes construction of the following:

- Approximately 10 miles of new 230kV transmission line
- Access roads
- Towers
- Telecom
- Two Marshalling Yards

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2.0 METHODS

Habitat assessments were conducted separately for each taxa/species by a respective specialist(s). The habitat assessments generally included areas within 500 feet of each Project component (including two marshalling yards) as well as 100 feet on either side of Project-related access roads identified by SCE. The only instance where this standard buffer was not implemented was the focused survey for San Diego ambrosia—surveys were conducted within and adjacent to the proposed impact areas. Detailed methodologies for each survey are included in Sections 2.2 through 2.5.

The biologists determined the location and extent of suitable habitat for the target species and delineated the limits of said habitat in the field using orthorectified aerial maps depicting the Project components and survey buffers. All suitable habitat was later digitized and quantified using Geographic Information System (GIS) software. To gain knowledge of the existing conditions within the Project area and vicinity, a historical literature and database review were first implemented before going in the field.

2.1 Historical Literature and Database Review

The 2010 RTRP Biological Resources Technical Report (BRTR) prepared by Power Engineers, Inc. (Power Engineers, Inc. 2010), and the protocol survey reports included within, were reviewed prior to conducting the fieldwork to understand the conditions of the Project area and better prepare for the contracted fieldwork (Tasks 2.2 through 2.5 described below). The information contained in the BRTR was later compared to the results of Tasks 2.2 through 2.5 (described below) to reassess the extent of suitable habitat for the aforementioned species since they were previously evaluated in 2010. From this comparison, recommendations could be made for focused surveys in the spring and summer of 2016. Outside of Project-specific literature, select data pertaining to the natural resources of the region were also reviewed prior to conducting the field surveys. The following sources were consulted to obtain public information relevant to the Project site:

- Western Riverside County MSHCP(RCIP 2004); and
- Riverside County Integrated Plan Online Conservation Report Generator (RCIP 2016).

2.2 Riparian Bird Habitat Assessment

A habitat assessment was conducted within 500 feet of each Project component, including two marshalling yards (Riparian Bird Survey Area), to determine the location and extent of riparian habitat along the Project alignment capable of supporting three listed avian species: the federal- and state-endangered least Bell's vireo, the federally and state-endangered southwestern willow flycatcher, and the federally and state-endangered western yellow-billed cuckoo. Prior to conducting the survey, the BRTR and aerial photographs were consulted to determine areas previously occupied by the species and areas where the habitat assessment survey should be focused. On May 9, 2016, AECOM avian biologists

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James McMorran and Emma Fraser qualitatively described the riparian habitat on-site and included information such as species composition and structure. The avian biologists mapped the areas of riparian habitat best suited to support the three target species onto orthorectified aerial field maps. Contiguous spans of primarily mature riparian habitat were considered capable of supporting the target species. Small patches of early seral riparian habitat or riparian scrub, which were disconnected from more mature riparian areas, were considered unsuitable due to the lack of cover and protection offered for nesting and roosting birds.

2.3 Small Mammal Habitat Assessment

A habitat assessment was conducted for three southern California heteromyid small mammals: the federally endangered San Bernardino Kangaroo rat (SBKR), the California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) Los Angeles little pocket mouse (LAPM), and the SSC San Diego pocket mouse (SDPM). The habitat assessment was conducted within 500 feet of each Project component, including two marshalling yards (Small Mammal Survey Area). On June 2 and 4, 2016, two biologists from SJM Biological Consultants, Inc. determined which, if any, parts of the Small Mammal Survey Area exhibited habitat conditions suitable to support the target species. Both biologists held U.S. Fish and Wildlife Service (USFWS) 10a(1)(A) recovery permits for SBKR and CDFW Memorandums of Understanding. The three target small mammal species are typically associated with sage scrub communities in sandy loam and loamy sand soils in the region of the current Project (e.g., see RCIP 2002). The habitat types preferred by each species, as well as atypical but known occupied habitat types for each species and designated critical habitat, were used as guidelines in assessing the potential for these mammals to occur within the Small Mammal Survey Area.

Using species-specific habitat requirements, all areas exhibiting potentially suitable conditions for one or more of the three target species were recorded as polygons on aerial maps and slated for subsequent trapping.

2.4 Delhi Sands Flower-loving Fly Habitat Assessment

Delhi Sands flower-loving fly (DSFLF) permitted biologist Ken Osborne completed the habitat assessment within 500 feet of each Project component, including two marshalling yards (DSFLF Survey Area), on June 8, 2016. The evaluation of suitable habitat for DSFLF involved a two-step or two-tiered process. First, because DSFLF is restricted to Aeolian Delhi sands soils (characterized as Delhi sands in Ballmer 1989 and USFWS 1996), soil survey maps (Knecht 1971) were first consulted to determine those undeveloped portions of the DSFLF Survey Area that fall within these mapped Delhi sands. The soils of particular interest are Delhi fine sand (DaD2; Knecht 1971) and Delhi loamy fine sand (DbA; Knecht 1971). Areas clearly outside of Delhi sands soils were deemed unsuitable for the DSFLF. Secondly, those portions of the DSFLF Survey Area that fall within mapped Delhi sands, and areas immediately adjacent to these mapped soils (boundaries between soil types are sometimes blended or blurred on lands that have long been subject to disking), were

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ground-proofed and investigated for suitable conditions. Habitat suitability for DSFLF was evaluated using indicators such as presence and abundance of loose, unconsolidated Delhi sands with low organic contamination; presence of sand-associated insects; degree of habitat disturbance indicated by plant species composition and disposition of soil surface; presence and abundance of native sand-associated plant species often associated with Delhi sands and indicative of relative disturbance regimens (i.e., conditions with lesser disturbance being of higher quality for DSFLF) such as California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), Thurber's buckwheat (*Eriogonum thurberi*), California buckwheat (*Eriogonum fasciculatum*), and golden crownbeard (*Verbesina encelioides*). Habitat evaluations for the northern portions of the Project were previously undertaken by Ken Osborne in 2010. Reports for the previous habitat assessment and focused surveys were reviewed as part of this evaluation (Osborne 2010, 2011).

In the course of previous work (Osborne 2003; Osborne et al. 2003), Ken Osborne developed a means of rating habitat on a given site for its potential to support DSFLF. Areas were rated on a scale of 1 to 5, with 5 being the best quality and most suitable habitat based on the following scheme:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. Unsuitable.
2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). Very Low Quality.
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. Low Quality.
4. Abundant clean Delhi sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. Moderate Quality.
5. Sand dune habitat with clean Delhi sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. High Quality.

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It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. While investigating the DSFLF Survey Area, Ken Osborne implemented an analysis of this kind to provide a general estimate of overall habitat conditions relevant to DSFLF potential.

2.5 Rare Plant Habitat Assessment

The rare plant habitat assessment included an evaluation of the areas within 500 feet of each Project component (Rare Plant Survey Area) to support rare plants, including San Diego ambrosia, Brand's phacelia, San Miguel savory, and other special-status plant species. Rare species may also be referred to as special-status species due to their "status" and recognition by regulatory or institutional entities with authority in determining rarity, endangerment, or declining populations. Plant species were considered special-status species if they were classified as one or more of the following:

- Officially listed by California or the federal government as endangered, threatened, or rare;
- A candidate for state or federal listing as endangered, threatened, or rare;
- Taxa listed in the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California;
- Taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines; and
- Taxa that are planning species under the MSHCP subunits that occur within the Project area and/or have applicable survey areas and methodology per the MSHCP.

The habitat assessment began with a historical literature and database review, which started with the Riverside County Integrated Project Conservation Summary Report Generator (RCIP 2016) to determine which special-status plant species should be included in the habitat assessment per the terms and conditions of the MSHCP.

2.5.1 Historical Literature and Database Review

Prior to the field analysis, the BRTR was reviewed to determine the extent and location of special-status species and vegetation communities observed during the 2008 habitat assessment and focused rare plant surveys (Power Engineers, Inc. 2010). Additionally, species occurrences from the CDFW California Natural Diversity Database (CNDDB) RareFind3 (CDFW 2016) and the CNPS Online Inventory of Rare and Endangered Plants (CNPS 2016) were queried for the U.S. Geological Survey (USGS) topographic quadrangles wherein the Project lies. The Corona North 7.5-minute USGS topographic quadrangle was

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used as the center of a nine-quad search of the CNPS database, and the Project alignment was used as the center of the 15-mile-radius query within the CNDDDB database to determine which special-status plant species needed analysis for potential occurrence within the Rare Plant Survey Area.

The CNDDDB and CNPS research produced a list of special-status plants known to occur within the aforementioned search parameters, including federally endangered or threatened species, state-endangered or threatened species, and species on the CNPS California Rare Plant Rank (CRPR) Lists 1 through 4.

The CNPS is a nongovernmental agency that uses a system of organization based upon scientific research to study the rarity of particular species. The CNPS has created effort hierarchy to rank plant species in terms of degrees of conservation concern (CNPS 2016).

As the entire Project falls within the MSHCP, the list of Covered Species was also consulted (RCIP 2004).

To summarize, GIS data on special-status plants were derived and consulted from the following sources:

- CDFW CNDDDB (accessed online June 2016);
- CNPS Rare Plant Inventory (accessed online June 2016)
- Riverside County Transportation and Land Management Agency County Wide Geographical Information Systems Data Layers (accessed online June 2016).

Based on the review of these sources, a list of potentially occurring special-status plants was prepared for the Project (Appendix A).

2.5.2 Field Analysis for Vegetation Communities and Potentially Occurring Rare Plants

AECOM botanists Jonathan Dunn and Jenna Hartsook conducted a fairly comprehensive field survey composed of a pedestrian assessment in late June 2016. Areas not accessible (such as inundated areas or areas with dense vegetation) were assessed from an adjacent area using binoculars to document the vegetation communities present. Prior to and during the field analysis, the botanists used aerial field maps to determine which areas within the Rare Plant Survey Area could be excluded from the habitat assessment. Clearly developed areas were omitted from the field habitat assessment and those areas currently or historically used for crop cultivation were considered unsuitable for all species being evaluated. The surveys were intended to assess habitat suitability for each of the special-status plant species with the potential to occur in the Rare Plant Survey Area as well as to determine the vegetation communities within 500 feet of each Project component. The habitat suitability assessment did not constitute a protocol-level presence/absence survey; however, if a special-status species was observed during the field effort, its presence was recorded as an incidental observation.

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The Riverside County Integrated Project (RCIP) Conservation Summary Report Generator was accessed in June 2016 to determine focused survey requirements for the Assessors Parcels represented by the RTRP. The Summary Report determined that habitat assessments (and potential focused surveys) were required for three Narrow Endemic Plant Species: San Diego ambrosia, Brand's Phacelia, and San Miguel savory.

The June 2016 habitat assessment was generally performed outside of the peak blooming season for most early spring and summer annual plant species. Additionally, a combination of unseasonably warm weather and the location of the Project in an area that is dry and hot relative to other suitable areas within the range of these species would have desiccated any existing populations to an unrecognizable state. Therefore, detectability of most plant species was limited. In addition, due to the reconnaissance level effort of the assessment, it is understood that more plant species than detected could be present within the Rare Plant Survey Area. Data were collected using hand-held global positioning system (GPS) units, photographs, and aerial field maps.

2.5.3 Rare Plant Potential for Occurrence

The special-status plant species that have the potential to occur in the Rare Plant Survey Area are tabulated in Appendix A. This table lists the special-status plant species yielded by the literature and database review discussed in Section 2.5.1, describes their status and habitat requirements, and designates a ranking for their potential to occur within the various areas of the Rare Plant Survey Area. Ranking for their potential to occur was based upon the plant communities observed in the field, observed soil and habitat conditions, and professional expertise. The potential for occurrence ranking criteria are as follows:

- Present – The species and/or conclusive sign was observed on-site during the survey.
- High likelihood to occur – Suitable habitat for the species is present and ecological conditions are favorable for its occurrence. Recent nearby occurrences for the species have been recorded (in the last decade).
- Moderate likelihood to occur – Suitable habitat for the species is present; however, ecological conditions are only moderately favorable for its occurrence.
- Low likelihood to occur – Only a minimal amount of suitable habitat for the species is present and the habitat may be of marginal quality. Ecological conditions are likely not favorable for its occurrence.
- Not likely to occur – No suitable habitat for the species is present.

2.5.4 Focused Survey for San Diego Ambrosia

A focused survey for San Diego ambrosia was conducted within the proposed impact areas as this was the only rare plant species of the three identified as target species by the RCIP

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and CPUC (see page 1 of this report) that would be recognizable this time of year. The surveys were pedestrian in nature and included transects were spaced approximately 5 meters apart to ensure 100 percent coverage of the impact areas.

2.5.5 Vegetation Community Mapping

Vegetation within 500 feet of each Project component was mapped through photo-interpretation as informed by field reconnaissance. Field ecologists were equipped with a portable GIS-enabled field computer, which allowed for the notation of key features and species composition in the field. Photo-interpretation was conducted over National Agriculture Imagery Program imagery (NAIP 2014). Final feature creation and map attribution were completed in a controlled office environment. Feature digitization was conducted at a viewing scale no finer than 1:1,000 (approximately 1" = 100') to provide consistent results throughout the mapping area. The minimum mapping unit was 1 acre. All vegetation features were assigned to Manual of California Vegetation (MCV) alliances.

3.0 RESULTS AND DISCUSSION

3.1 Riparian Bird Habitat Assessment

A total of 187.94 acres of suitable habitat for least Bell's vireo, southwestern willow flycatcher, and yellow-billed cuckoo were mapped and characterized within the Riparian Bird Survey Area (Figure 3), with a linear survey route of approximately 11.5 kilometers. These portions of the Project exhibit contiguous spans of primarily mature riparian habitat dominated by Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), and Fremont cottonwood (*Populus fremontii*) and were considered capable of supporting the target species. Small patches of early seral riparian habitat or riparian scrub sparsely dominated by mule fat (*Baccharis salicifolia*), which were disconnected from more mature riparian areas, were considered unsuitable due to the lack of cover and protection offered for nesting and roosting birds.

3.2 Small Mammal Habitat Assessment

Various types of human disturbances are common along all sections of the Project alignment and include cultivated fields, dairies, graded lands, residential housing areas, areas in the process of being developed, a golf course, highways and local heavily used roads, bridges, and extensive homeless encampments. The western (north-south) segment is essentially entirely disturbed, primarily by cultivated fields, residential developments, and a dairy, and no habitats suitable for the three target species occur in this part of the Project alignment. In contrast, the southern (east-west) segment exhibits extensive areas of development (residential, golf course) at its western end, but also extensive stands of less disturbed habitats in the form of well-developed stands of riparian woodland and riparian scrub vegetation, isolated patches of scrub vegetation, and expansive areas of disturbed annual grasslands to the east.

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Soil conditions in the southern segment vary from pure sand in the Santa Ana River system to sandy loams away from the river floodplain. Riparian vegetation occurs along the Santa Ana River and in occasional side drainages, while most patches of scrub habitat are small and of low quality due to the long history of human disturbances throughout this area.

The potential for SBKR and LAPM primarily occurs in the sandy Santa Ana River floodplain habitats, whereas SDPM would be expected at the edges of the Santa Ana River and in adjacent scrub and scrub-grassland habitats. The areas (polygons) shown in Figure 4 exhibit potentially suitable conditions for one or more of the three target species and will serve as the study area for subsequent trapping to confirm presence/absence of SBKR, LAPM, and SDPM. It should be noted that human disturbances in a trapping area, such as the trash-filled homeless encampments, may preclude a species from utilizing the area. The effects from encampments on presence/absence will be evaluated during the trapping sessions. A total of 53.35 acres of suitable habitat should be trapped for the three target species.

3.3 Delhi Sands Flower-loving Fly Habitat Assessment

The distribution of Delhi sands soils on undeveloped lands within the DSFLF Survey Area (i.e., habitat ratings 2–5 described in Section 2.4) are restricted to a few discontinuous areas extending from the north side of Limonite Avenue to immediately north of Cantu-Galleano Ranch Road (Figures 5–5d). For reference, each of these discontinuous, discrete areas identified as representing suitable habitat for DSFLF are numbered 1 through 4 (with subparts of area 2) as follows with their approximate acreages: Area 1 of 0.9 acre is located on the north side of Limonite Avenue; Area 2a of 4.63 acres is located on the south side of Landon Drive; Area 2b of 1.5 acres is located at the southwestern intersection of Landon Drive and Wineville Avenue; Area 3 of 35.69 acres is located on the northwestern intersection of Wineville Avenue and Cantu-Galleano Ranch Road; and Area 4 (the southernmost marshalling yard) of 5.42 acres is located northwest of the intersection of Cantu-Galleano Ranch Road and Etiwanda Avenue. The total combined acreage of these areas is 48.14 acres.

Area 1 is located north of and adjacent to Limonite Avenue (just east of Interstate 15) (Figure 5a). The majority of this undeveloped site (northerly portions) is situated in an active agricultural field, in use at least since 1994 (Google Earth). These agricultural portions of the site are Unsuitable for DSFLF. A small southern edge of this site exhibits abundant Delhi sands and sand-associated insects (*Bembix* are abundant) and plants (*Verbesina*) and is sufficiently undisturbed so as to constitute suitable DSFLF habitat of moderate to low quality.

Area 2 is a series of discontinuous patches of sand deposits along the south side of Landon Drive (Figure 5b) that have been left fallow after a history of agricultural use. Small patches of soils mapped as Delhi sands (Knecht 1971) constitute the portions representing DSFLF habitat (Figures 2a and 2b), including a sandy area not formally mapped by Knecht

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(whereas the remaining majority of these lands have fine, slightly alkaline, silty soils). Current conditions through these areas range from low to high quality DSFLF habitat.

Area 3, located northwest of the intersection of Wineville Avenue and Cantu-Galleano Ranch Road (Figure 5c), also represents a site left fallow after a history of agricultural use. Though portions appear to be disked on an annual basis, a small fragment of remnant dune along the roadside remains essentially unchanged since the previous DSFLF surveys were undertaken in 2010 and 2011 (Osborne 2011). Conditions on the site rate as moderate quality DSFLF habitat.

Area 4 on the west side of Etiwanda Avenue (Figure 5d) is an open field without any recent agricultural use, though it is subject to disking. Vegetation and disked soils indicate moderate quality DSFLF habitat.

Undeveloped land along the eastern side of Wineville Avenue from Landon Drive to Cantu-Galleano Ranch Road has a southern portion (previously identified as suitable DSFLF habitat [Osborne 2010, 2011]) that was recently developed for residential housing. The majority of the northern portion of this land continues to be used for active dairy operations (Osborne 2010), rendering the land unsuitable for DSFLF.

Much of the Project extends through extensive areas of undeveloped lands along the Santa Ana River. Though these riverine soils are often sandy, they are alluvial sands with an associated high water table, and represent conditions unsuitable for DSFLF.

Table 1 provides a summary of the habitat ratings for potential to support DSFLF, along with brief explanations of the conditions substantiating the rating.

Table 1
Rating of DSFLF Habitat Quality

Survey Area	Habitat for DSF	Justification
1	Low Quality	A small area with relatively undisturbed Delhi sands dune formation with vegetation dominated by <i>Verbesina</i> , but majority of area heavily disked and mixed with organic materials such as manure. Vegetation dominated by annual grasses and <i>Amaranthus</i> . Very small area in extent, long surrounded by unsuitable conditions, renders the site as low quality habitat.
2a	Moderate to High Quality	History of disking, vegetation of exotic annual grasslands with <i>Verbesina</i> , <i>Heterotheca</i> , and <i>Artemisia</i> in some areas. Very sandy.

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Survey Area	Habitat for DSF	Justification
2b	Low to Moderate Quality	History of disking, vegetation of exotic annual grasslands. Sands appear overly fine and semi-alkaline.
3	Moderate Quality	History of disking, vegetation of exotic annual grasslands with <i>Verbesina</i> (and likely other sand associated plants on portions). Portions of relictual dune.
4	Moderate Quality	Large field with extensive sandy soils. Sand-associated plants.
Dairy	Unsuitable	Heavily disturbed; wet, irrigated pastures; cattle pens; developed; and landscaping.

3.4 Rare Plants Habitat Assessment

The habitat assessment for special-status plants was conducted within the Rare Plant Survey Area in late June 2016. The bulk of the Project falls within Narrow Endemic Plant Species Survey Area (NEPSSA) 7 of the MSHCP, while the Clay Street and Etiwanda Avenue marshalling yards fall outside any NEPSSA. The Clay Street marshalling yard is a formerly developed site and is largely paved while the Etiwanda Avenue yard appears to have been in agricultural use since the mid-1960s. The habitat assessment determined that no special-status plants are expected to occur within either marshalling yard based on existing conditions, the lack of suitable habitat, and historic land uses. These marshalling yards will not be discussed further in this section.

3.4.1 Rare Plant Potential for Occurrence

This section contains discussions of the potential for occurrence of special-status plant species within the Project area.

The Project area supports both upland and riparian habitats. The upland habitats consist largely of lands impacted by current and historic agricultural activities. These areas are overwhelmingly dominated by nonnative plant species. While these agricultural impacts do not preclude the possibility of the presence of special-status plant species, they do significantly reduce the likelihood of such occurrences and most especially so for perennial plant species. The agricultural impacts appear of two basic types, intensive and passive. Intensive farming on the relatively level portions of the Rare Plant Survey Area can be characterized by repeated tilling and disking. Passive agricultural practices include grazing and other activities, which do not necessarily disturb the soil profile or native seed bank. Within the Rare Plant Survey Area, these historic passive agricultural areas are typically on slopes that were impractical for intensive agriculture. While these areas are still largely dominated by nonnative species, relictual populations of native shrubs and herbs persist in these areas. Upland habitats in the Rare Plant Survey Area also support several patches of

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native scrub vegetation. Riparian habitats within the Rare Plant Survey Area are found within the banks of the Santa Ana River and several tertiary drainages feeding into the river.

A total of 57 rare plant species have been documented within the vicinity of the Project (CDFW 2016; CNPS 2016). Of those 57 rare plant species, nine species were determined to have some potential to occur within the Rare Plant Survey Area based on the habitat assessment. These nine species have been highlighted within the Potential to Occur table located in Appendix A, Table 1. The remaining 48 species were considered unlikely to occur based on the known range of the species or the lack of suitable habitat. These species are listed in Appendix A, Table 2.

The habitat assessments conducted in June 2016 determined that suitable habitat for San Diego ambrosia and Brand's phacelia exists within the Rare Plant Survey Area, and that no suitable habitat for San Miguel savory is present.

3.4.2 Focused Survey for San Diego Ambrosia

During the June 2016 focused survey for San Diego ambrosia, no individuals were observed within or directly adjacent to the proposed impact areas.

3.4.3 Rare Plant Species Incidental Observations

During the June 2016 habitat assessment, a single rare species, Southern California black walnut (*Juglans californica*) (CNPS CRPR 4.2), was observed in the Rare Plant Survey Area, adjacent to structure AX15 (Figure 6).

3.4.4 Vegetation Community Mapping

Ten vegetation communities were mapped within 500 feet of each Project component. Each vegetation community is listed and described below. Figure 6 depicts the extent of each community within 500 feet of the Project components.

Fremont Cottonwood Forest

***Populus fremontii* Alliance**

All habitats within the floodplain of the Santa Ana River coincident with the 500-foot buffer around the Project components have been assigned to the *Populus fremontii* Alliance. This alliance is recognized by its relative dominance of *Populus fremontii* within the vegetation stand; however, numerous other riparian tree species are also represented within this habitat, including *Platanus racemosa*, *Salix laevigata*, and several other *Salix* species. *Vitis californica* is common in the understory, as is the nonnative *Verbesina encelioides*. These riparian habitats are complex and dynamic with species dominance shifting based on seasonal flooding and scouring. Localized within this mapping unit are recognizable small areas supporting other MCV classifications, such as *Salix exigua* Alliance, *Baccharis salicifolia* Alliance, *Toxicodendron diversilobum* Alliance, and *Typha latifolia* Alliance, as well as areas recently cleared through management actions that supported *Arundo donax* Semi-

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Natural Herbaceous Stands. These areas have been mapped in aggregate as *Populus fremontii* Alliance as they are smaller than the minimum mapping unit of 1 acre.

Coast Live Oak Woodland

***Quercus agrifolia* Alliance**

A single small patch of upland woodland supporting *Quercus agrifolia*, *Sambucus nigra* subsp. *caerulea*, *Juglans californica* (CNPS CRPR 4.2), and *Vitis californica* was assigned to *Quercus agrifolia* Alliance.

California Sagebrush-California Buckwheat Scrub

***Artemisia californica-Eriogonum fasciculatum* Alliance**

Despite extensive historical disturbance activities (disking, grazing, etc.) throughout the Santa Ana River watershed, native shrublands persist in several areas within 500 feet of the Project components. *Artemisia californica-Eriogonum fasciculatum* Alliance is characterized by the presence of the two eponymous species, as well as other native shrubs and cacti, including *Malosma laurina*, *Hazardia squarrosa*, and *Cylindropuntia californica*. Much this habitat is highly disturbed and exhibits significant cover of nonnative species, such as *Hirschfeldia incana*, *Centaurea melitensis*, and *Bromus madritensis*. Within the 500 feet of the Project components this alliance is found primarily on slopes likely unsuitable for intensive agriculture.

Palmers Goldenbush Scrub

***Ericameria palmeri* Provisional Alliance**

Within 500 feet of the Project components, *Ericameria palmeri* Provisional Alliance is quite similar in species composition and distribution to the *Artemisia californica-Eriogonum fasciculatum* Alliance described above with the inclusion and often dominance of *Ericameria palmeri* var. *pachylepis*. This alliance occurs on slopes 500 feet of the Project components near the end of Jurupa Avenue.

Annual Brome Grasslands

***Bromus (diandrus, hordeaceus)-Brachypodium distachyon* Semi-natural Herbaceous Stands**

Extensive areas 500 feet of the Project components have been impacted by historic agricultural activities and are dominated by a suite of nonnative grass and forb species, including *Bromus diandrus*, *Hordeum murinum*, *Sisymbrium orientale*, *Salsola tragus*, and *Chenopodium* species. This highly disturbed habitat also supports scattered nonnative trees and shrubs, including *Schinus molle* and *Nicotiana glauca*, and occasional fragments of *Artemisia californica-Eriogonum fasciculatum* Alliance smaller than a minimum mapping unit. Collectively, these habitats have been mapped as *Bromus (diandrus, hordeaceus)-Brachypodium distachyon* Semi-natural Herbaceous Stands.

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Other Cover Types

Developed

This cover type includes roadways, homes, businesses, parks, cemeteries, and similar developed lands, including their associated landscape plantings.

Active Agriculture

This cover type includes dairies and livestock feed yards or areas that have been tilled and used as croplands or groves/orchards.

Barren-Not Developed

This cover type includes areas devoid of vegetation due to clearing, grading, or other human activity.

Ornamental/Landscaped

This cover type includes vegetation planted and maintained for human aesthetic value, typically in proximity to developed areas.

Open Water

This cover type includes unvegetated naturally occurring waterbodies including streams, lakes, etc.

4.0 RECOMMENDATIONS

4.1 Riparian Birds

It is recommended that focused surveys for all three riparian bird species be conducted within the 188 acres of designated suitable habitat in the spring and summer of 2016. Surveys should be conducted by qualified, permitted biologists following the USFWS guidelines for least Bell's vireo (USFWS 2001) and southwestern willow flycatcher (USFWS 2000), and *A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods* (Halterman et al. 2015) for yellow-billed cuckoo.

4.2 Small Mammals

It is recommended that trapping for all three small mammal species be conducted within the 32.2 acres of designated suitable habitat in the summer of 2016; however, it should be noted that one of the areas identified as suitable cannot be trapped due to recent sightings of an active and aggressive mountain lion. This area is located just east of where the Santa Ana River crosses the alignment, north of California Avenue (Figure 4). Trapping should be conducted by permitted biologists and follow the basic protocols established for SBKR and Species of Special Concern as described below.

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Trap lines will be run for 5 consecutive nights, with traps remaining in the same locations. Trapping will only occur during periods when nighttime air temperatures are above or only slightly below 50 degrees Fahrenheit. Although midnight trap checks are normally required for these surveys, they will not be applied during the proposed survey, due to concerns for the safety of the trappers in the Project area (see Special Trapping Conditions below). However, because nighttime temperatures during the trapping effort are projected to be warm, the potential for harm to trapped animals will be eliminated.

The configuration of trap lines and/or trap groups will depend on the characteristics and size of each specific trapping locality. In general, however, traps will be set in lines and at approximately 7-meter intervals. Where appropriate, small groups of traps may be set at small sites versus in lines. The number of traps to be covered by each biologist each night will depend on the time required to access and check traps at each set of habitat polygons. Most polygons are separated by varying distances, and time is required to transit between polygons, thereby consuming extra time to complete each trapping session. It is expected that each biologist will be able to cover 150 to 180 traps per night.

The number of trapping sessions required to cover all mapped habitat polygons is projected to be four. Transects targeting SBKR and LAPM will be placed in microhabitats considered to be those most likely to yield these species, and will include relatively sparsely vegetated sites exhibiting sandy to sandy-loam substrates and a minimal component of rock. Transects targeting SDPM will be placed in areas exhibiting sage scrub cover and areas containing rock-outcrops and loamy soils. Only disinfected 12-inch modified Sherman collapsible live-traps will be used in this survey. Traps will be set at dusk each day and baited with a mixture of bird seed. Traps will be checked and closed the following morning.

All animals will be identified to species and released at the point of capture. Animals may be marked using nontoxic markers to identify any new animals captured over the 5-day trapping session. Field notes and photographs will be taken to document habitat conditions in trapping areas. Representative weather conditions at the time of the trapping study also will be noted.

Special Trapping Conditions

Homeless encampments are common in the well-developed riparian woodland along the Santa Ana River, in the eastern part of the Project alignment, but also possibly along the Santa Ana River to the east of the golf course. The Riverside County Sheriff's Department recommended that trap checks not be conducted during the night, especially in the vicinity of homeless encampments due to their inability to guarantee the safety of the biologists. At least three areas of interest coincide with large homeless camps. It also was recommended that two trappers be in close physical proximity during each baiting and trap closure each day. Due to the statements of the Sheriff's Department, night-time checks will not be conducted during the proposed trapping effort.

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4.3 Delhi Sands Flower-loving Fly

It is recommended that focused surveys be conducted for DSFLF within the 42.63 acres of identified suitable habitat in the summer and fall of 2016, then again during the same time period in 2018 (2-year survey according to protocol). Surveys should be conducted by a permitted biologist according to the *Guidelines for Conducting Presence/Absence Surveys for the Delhi Sands Flower-loving Fly* (USFWS 1996).

4.4 Rare Plants

It is recommended that focused surveys for the species listed in Appendix A, Table 1 be conducted in the spring of 2017 by qualified botanists with experience in the identification of species and botanical phenology within the Project vicinity. Focused surveys should follow accepted protocol such as the *Protocol for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009). Species listed in Appendix A, Table 2 were considered during this analysis but are not likely to occur within or adjacent to the Project alignment and no focused surveys are recommended. Focused rare plant surveys in upland habitats should be concentrated on passive agricultural areas as well as native scrub.

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Sincerely,

A handwritten signature in black ink, appearing to read 'Dallas Pugh', with a long horizontal line extending to the right.

Dallas Pugh
Senior Biologist

Attachments: Figures
Appendix A – Special-status Plant Species Documented or with Potential to Occur Within the Rare Plant Survey Area

FIGURES

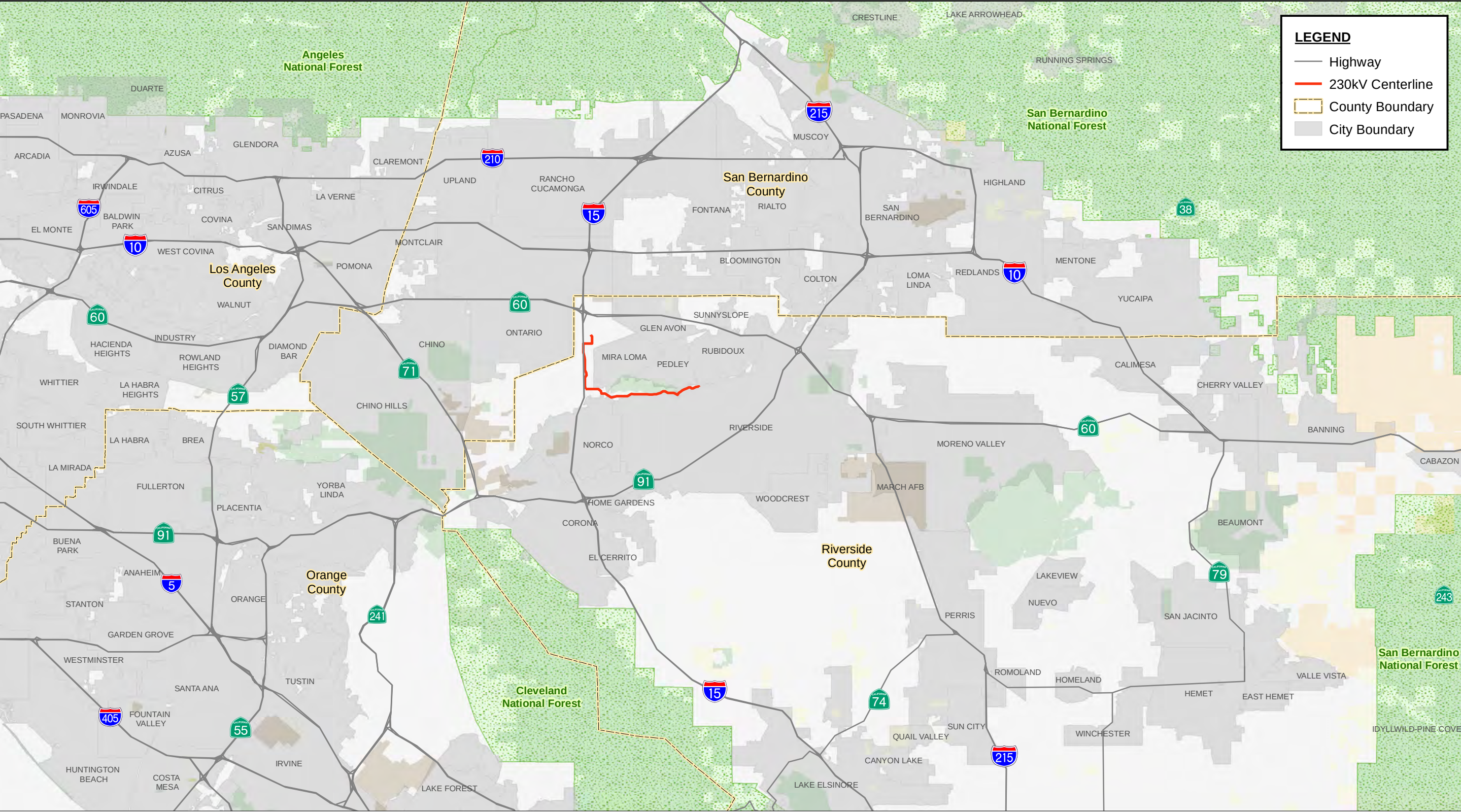
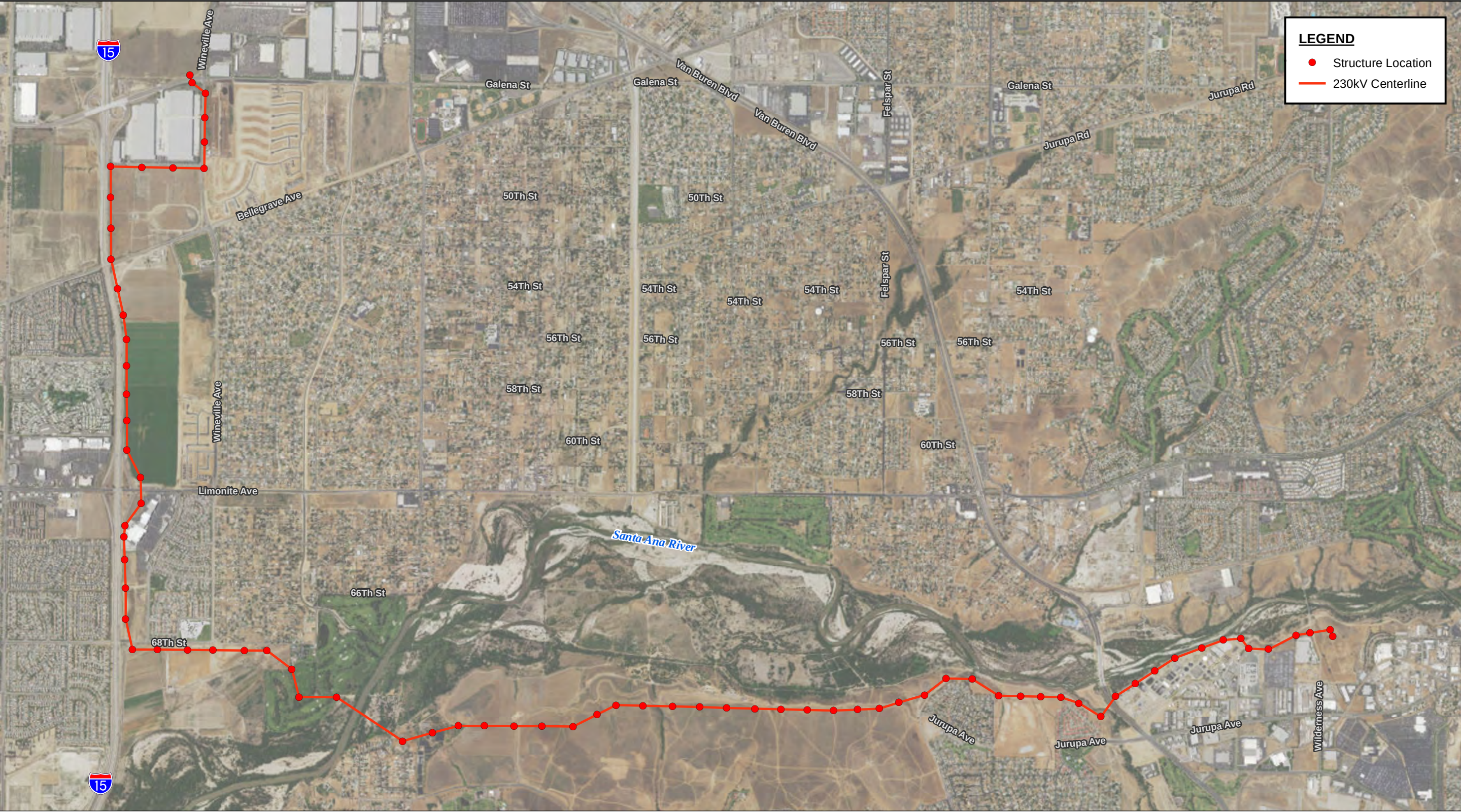


Figure 1
Regional Map



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

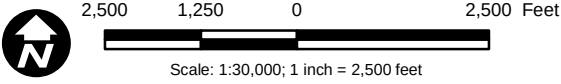
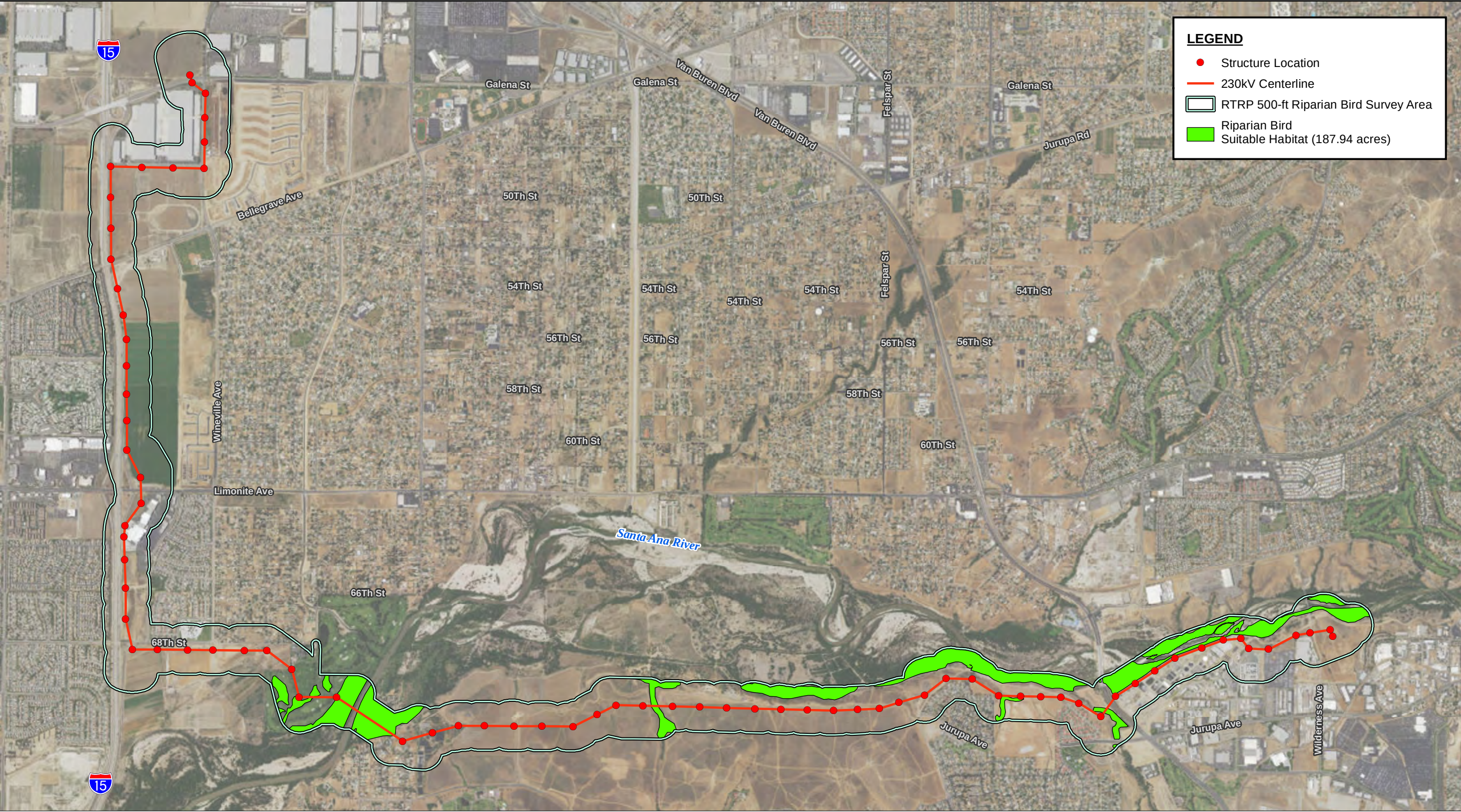


Figure 2
Vicinity Map



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

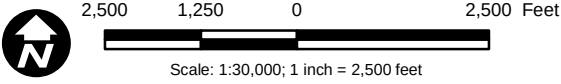
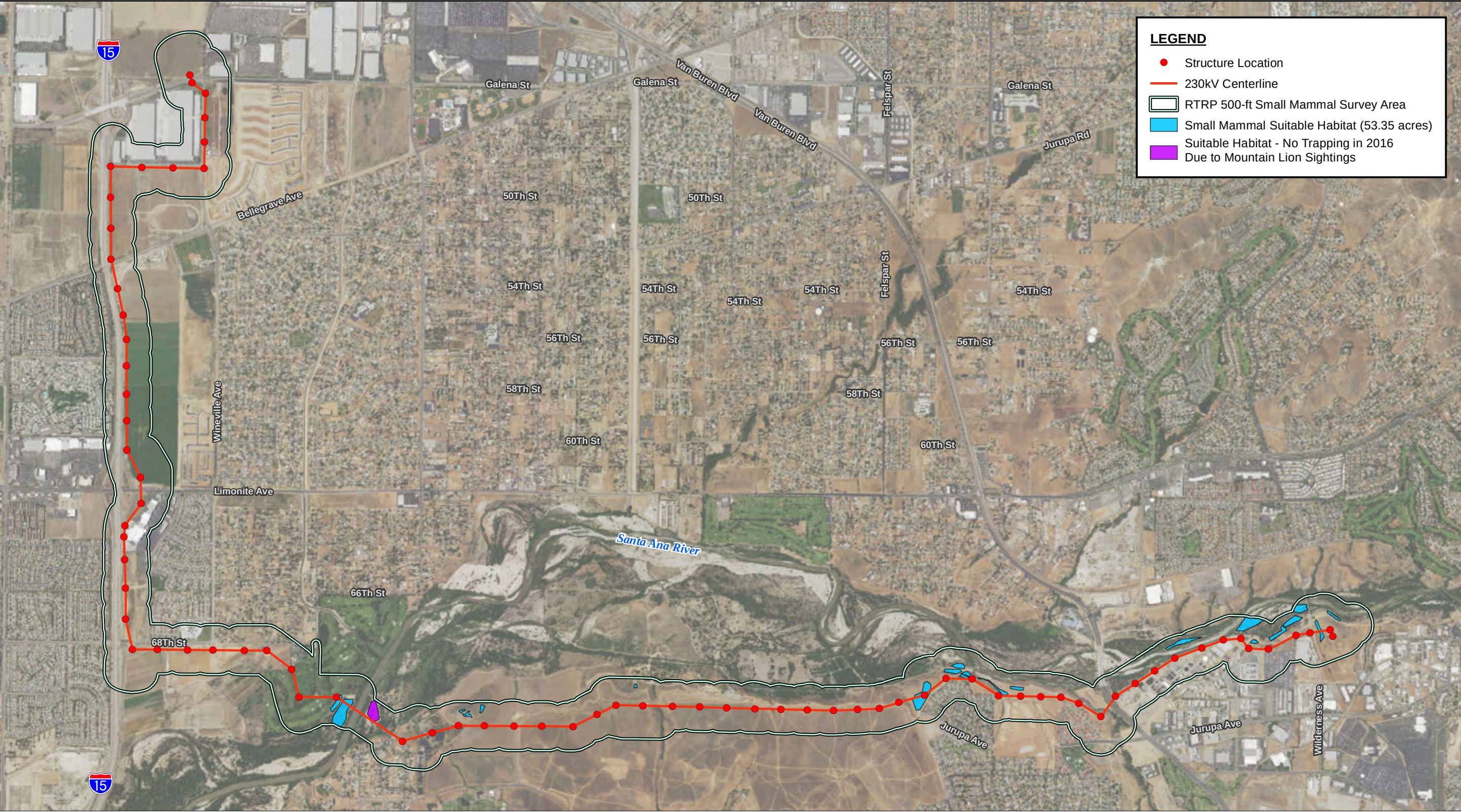


Figure 3
Riparian Bird Habitat Assessment Results



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

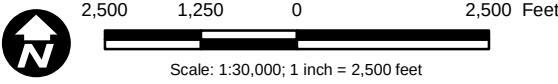


Figure 4
Small Mammal Habitat Assessment Results

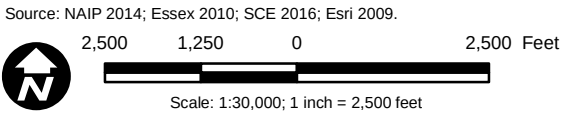
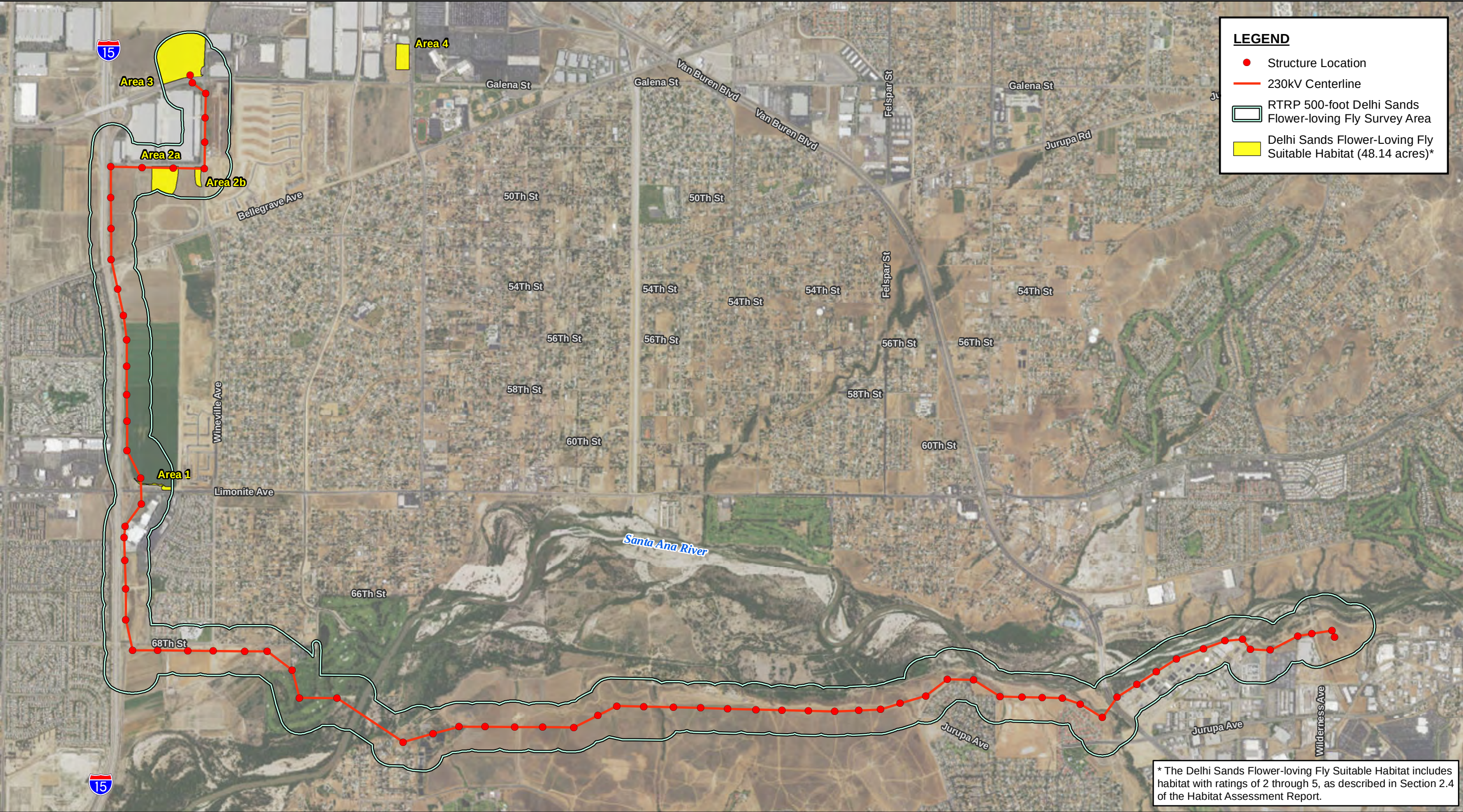


Figure 5

Delhi Sands Flower-loving Fly Habitat Assessment Results

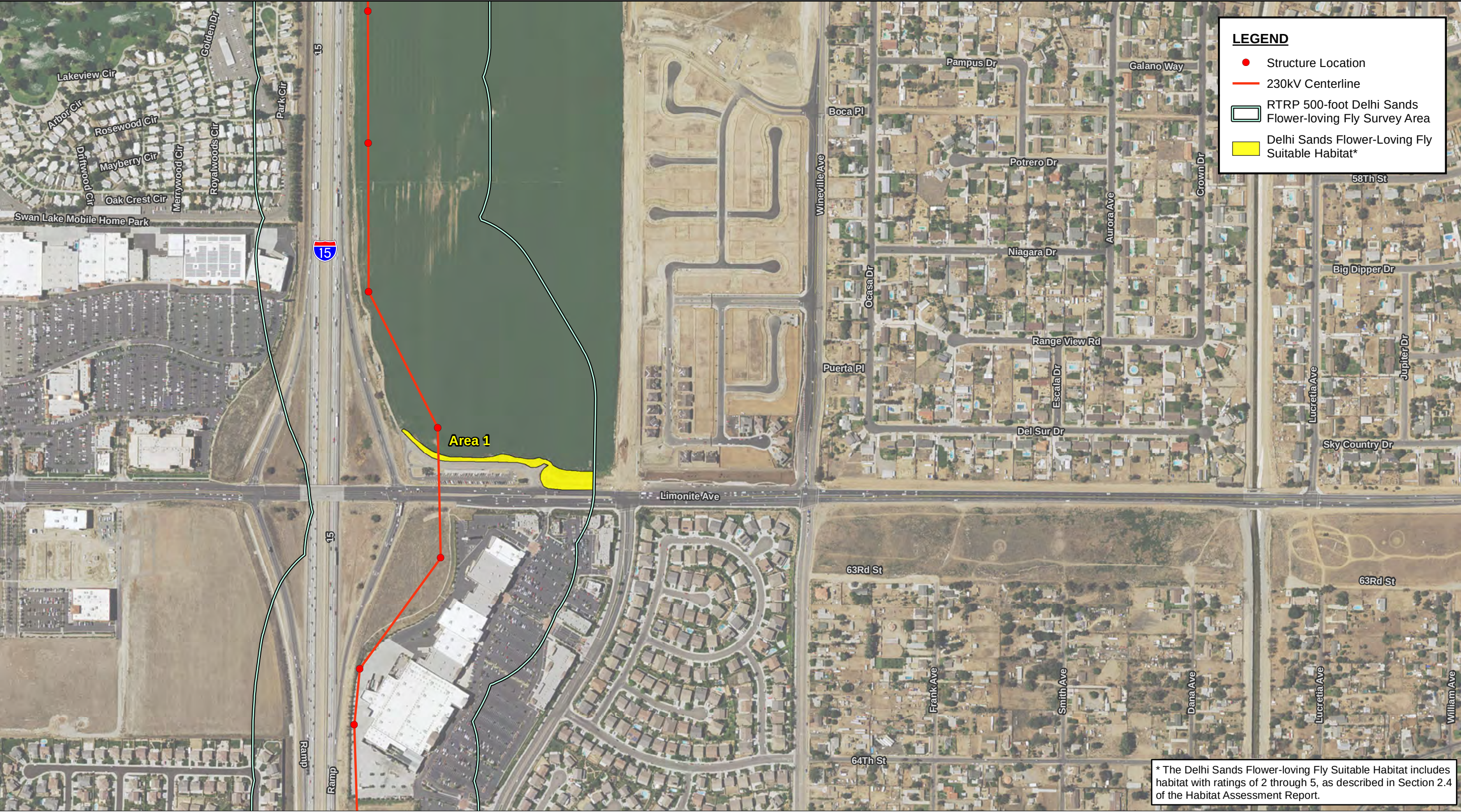


Figure 5a
Delhi Sands Flower-loving Fly Habitat Assessment Results - Area 1



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

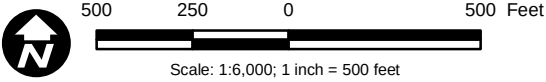
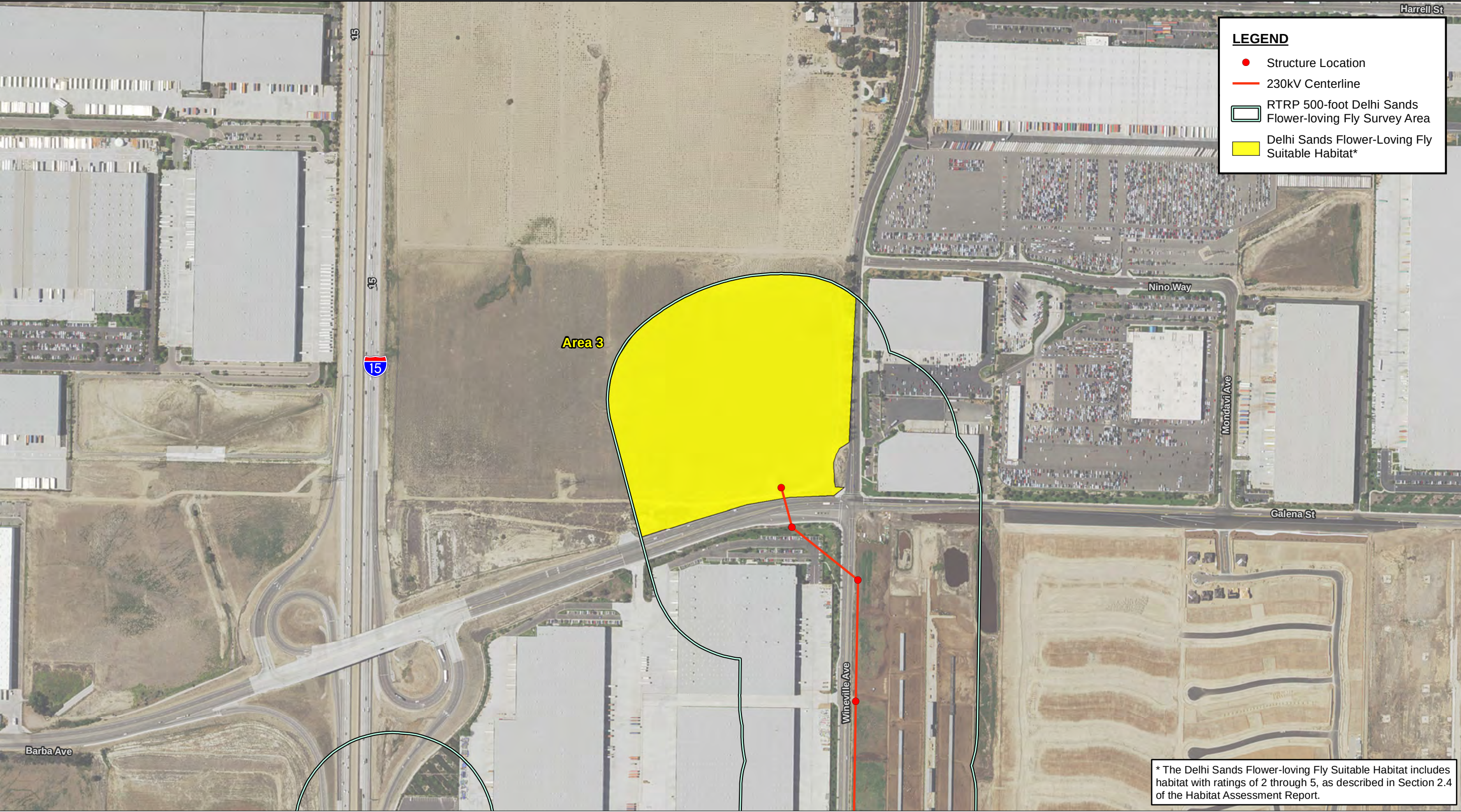


Figure 5b
Delhi Sands Flower-loving Fly Habitat Assessment Results - Areas 2a and 2b



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

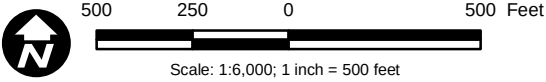
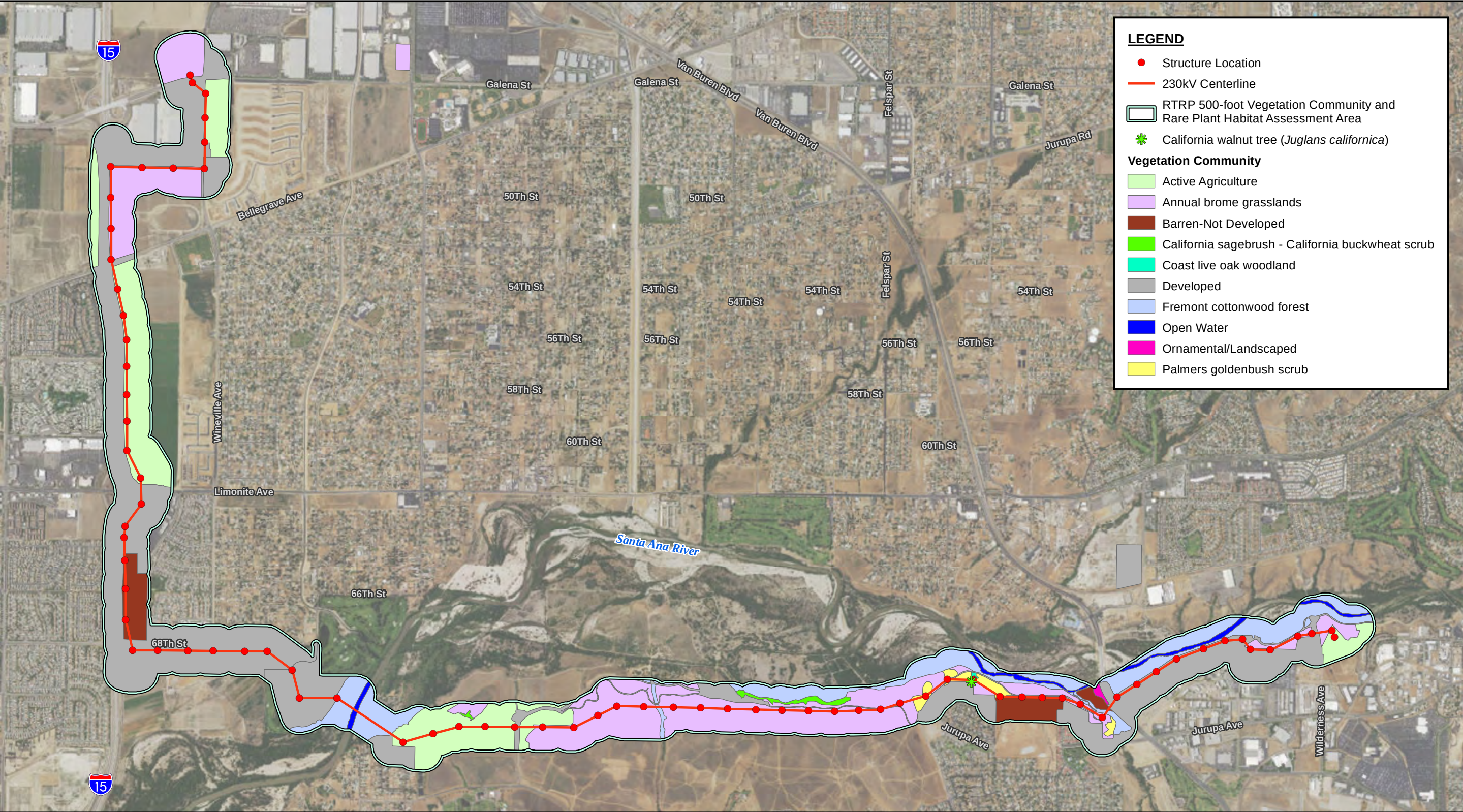


Figure 5c
Delhi Sands Flower-loving Fly Habitat Assessment Results - Area 3



Figure 5d
Delhi Sands Flower-loving Fly Habitat Assessment Results - Area 4



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

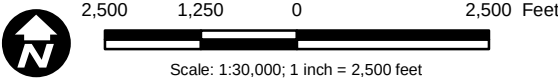


Figure 6
Vegetation Map

APPENDIX A

SPECIAL-STATUS PLANT SPECIES DOCUMENTED OR WITH POTENTIAL TO OCCUR WITHIN THE RARE PLANT SURVEY AREA

Table 1. Special-Status Plant Species with Potential to Occur within or Directly Adjacent to the Project Impact Areas

Common and Scientific Names	Sensitivity Status	Blooming Period	Preferred Habitat, and Potential for Occurrence
San Diego Ambrosia <i>Ambrosia pumila</i>	FE CRPR: 1B.1 MSHCP: NEPS	April - October	Occurs in open floodplain terraces and slopes on sandy, loam, and clay soils. RTRP: Suitable habitat is present in uplands exclusive of historic intensive agriculture areas. Moderate likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to level of disturbance. Site assessment was conducted during the known blooming season for this species and the species was not observed. Etiwanda Ave. Marshalling Yard: Not likely occur due to level of disturbance. Site assessment was conducted during the known blooming season for this species and the species was not observed.
Smooth Tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	CRPR: 1B.1 MSHCP: CAPS	April-September	Occurs in alkali meadow or alkali scrub within valley and foothill grasslands, meadows, playas or riparian woodland. 0 - 480 meters RTRP: Suitable habitat is present in riparian areas. High likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.
Long-Spined Spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	CRPR: 1B.2	April-July	Occurs in primarily on clay soils within chaparral, coastal scrub, meadows, valley/foothill grasslands. RTRP: Suitable habitat is present in occurs areas of Altamont and Porterville clay soils. Moderate likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.
San Miguel <i>Clinopodium chandleri</i>	CRPR: 1B.1 MSHCP: NEPS	March - July	Restricted to gabbroic and metavolcanic soils within chaparral, coastal scrub, meadows, valley/foothill grasslands. RTRP: Suitable soils absent. Not likely to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.
Paniculate Tarplant <i>Deinandra paniculata</i>	CRPR: 4.2	March - November	Occurs in primarily on clay soils within chaparral, coastal scrub, meadows, valley/foothill grasslands. RTRP: Suitable habitat is present in occurs areas of Altamont and Porterville clay soils. Moderate likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.

Common and Scientific Names	Sensitivity Status	Blooming Period	Preferred Habitat, and Potential for Occurrence
Many-Stemmed Dudleya <i>Dudleya multicaulis</i>	CRPR: 1B.2 MSHCP: NEPS	April-July	Occurs in heavy clay soils or grassy slopes in barrens, rocky places, and ridgelines chaparral, sage scrub and, valley/foothill grasslands. 15 - 790 meters RTRP: Suitable habitat is present in occurs areas of Altamont and Porterville clay soils. Moderate likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.
Santa Ana River woollystar <i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i>	FE CE CRPR: 1B.1	April - September	Occurs on sandy and gravelly soils with riparian habitats and alluvial margins. Populations recorded within 4 miles of the study area (CNDDB PDPLMO3035). RTRP: Suitable habitat is present within in riparian areas and alluvial margins – notably in areas of recent <i>Arundo donax</i> removal. High likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.
Southern California black walnut <i>Juglans californica</i>	CRPR: 4.2 MSHCP: CAPS	March - August	Occurs in mixed woodland habitats. RTRP: The species is known to occur adjacent AX21. Species detected during site assessments surveys. Clay St. Marshalling Yard: Species does not occur. Not detected during site assessments surveys. Conspicuous species- detection would have been expected if present. Etiwanda Ave. Marshalling Yard: Species does not occur. Not detected during site assessments surveys. Conspicuous species- detection would have been expected if present.
Brand's star phacelia <i>Phacelia stellaris</i>	CRPR: 1B.1 MSHCP: NEPS	March - June	Occurs locally on sandy alluvial margins. Populations recorded within 2.5 miles of the study area (CNDDB PDHYDOC510). RTRP: Suitable habitat is present along alluvial margins of the Santa Ana River. High likelihood to occur. Clay St. Marshalling Yard: Not likely occur due to lack of suitable habitat. Etiwanda Ave. Marshalling Yard: Not likely occur due to lack of suitable habitat.

Table 2. Additional Species Considered Based on Nine-Quad CNPS Search but not Included due to Lack of Suitable Habitat within the Study Area or Known Range of Species

Scientific Name	Common Name	Sensitivity Status
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	1B.1
<i>Allium munzii</i>	Munz's onion	FE/CT/1B.1
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE/1B.1
<i>Atriplex coulteri</i>	Coulter's saltbush	1B.2
<i>Baccharis malibuensis</i>	Malibu baccharis	1B.1
<i>Berberis nevinii</i>	Nevin's barberry	FE/CE/1B.1
<i>Calandrinia breweri</i>	Brewer's calandrinia	4.2
<i>California macrophylla</i>	round-leaved filaree	1B.2
<i>Calochortus catalinae</i>	Catalina mariposa lily	4.2
<i>Calochortus plummerae</i>	Plummer's mariposa lily	4.2
<i>Calochortus weedii</i> var. <i>intermedius</i>	intermediate mariposa lily	1B.2
<i>Calystegia felix</i>	lucky morning-glory	3.1
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	3
<i>Caulanthus simulans</i>	Payson's jewelflower	4.2
<i>Chorizanthe leptotheca</i>	Peninsular spineflower	4.2
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC/CE/1B.1
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	1B.1
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	1B.2
<i>Cladium californicum</i>	California sawgrass	2B.2
<i>Convolvulus simulans</i>	small-flowered morning-glory	4.2
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE/CE/1B.1
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	4.2
<i>Hesperocyparis forbesii</i>	Tecate cypress	1B.1

Scientific Name	Common Name	Sensitivity Status
<i>Hordeum intercedens</i>	vernal barley	3.2
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	1B.1
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	1B.1
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	1B.2
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	4.3
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	4.2
<i>Microseris douglasii</i> ssp. <i>platycarpha</i>	small-flowered microseris	4.2
<i>Mimulus diffusus</i>	Palomar monkeyflower	4.3
<i>Monardella australis</i> ssp. <i>jokerstii</i>	Jokerst's monardella	1B.1
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	intermediate monardella	1B.3
<i>Monardella pringlei</i>	Pringle's monardella	1A
<i>Muhlenbergia californica</i>	California muhly	4.3
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	1B.1
<i>Nolina cismontana</i>	chaparral nolina	1B.2
<i>Penstemon californicus</i>	California beardtongue	1B.2
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's pentachaeta	1B.1
<i>Phacelia keckii</i>	Santiago Peak phacelia	1B.3
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	4.3
<i>Polygala cornuta</i> var. <i>fishiae</i>	Fish's milkwort	4.3
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	2B.2
<i>Romneya coulteri</i>	Coulter's matilija poppy	4.2
<i>Senecio aphanactis</i>	chaparral ragwort	2B.2
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	2B.2
<i>Sphenopholis obtusata</i>	prairie wedge grass	2B.2
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	1B.2

APPENDIX H

Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution



Burrowing Owl Survey for the Riverside Transmission Reliability Project

Panorama Environmental

September 12, 2016

Submitted by:

Parus Consulting
3278 Swetzer Road
Loomis, CA 95650

Burrowing Owl Survey Report for the Riverside Transmission Reliability Project

September 12, 2016

Prepared for:

Panorama Environmental Inc.

One Embarcadero Center, Suite 740

San Francisco, CA 94111

Prepared by:

Parus Consulting

3278 Swetzer Road

Loomis, CA 95650

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EXECUTIVE SUMMARY

The purpose of the proposed project is to provide the Riverside Public Utility and its customers with adequate transmission capacity to serve existing and projected electricity demands, to provide for long-term system capacity for load growth, and to provide system reliability. The focus area for these Burrowing Owl surveys was the project's 230-kV Transmission Line, an approximately 10-mile corridor through which a new 230-kV double-circuit transmission line will connect the existing Mira Loma and Vista Substations to the proposed Wildlife Substation. The overhead transmission line would be installed on approximately 17 new lattice steel towers and 60 new steel poles.

During protocol and other project-related surveys, including a project area vegetation assessment, no Burrowing Owls were observed or otherwise directly detected. Additionally, no indirect evidence of their presence was found, including Burrowing Owl feathers, prints, pellets, and whitewash.



1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Southern California Edison (SCE) filed an application (A.15-04-013) on April 30, 2015, for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) for its portion of the Riverside Transmission Reliability Project (RTRP), referred to herein as the proposed project. The CPUC, as lead agency under the California Environmental Quality Act (CEQA), will prepare a Subsequent Environmental Impact Report (SEIR) to analyze the effects of the proposed project to comply with CEQA.

The linear project site is approximately 10-miles in length extending from near Cantu-Galleano Ranch Road in Mira Loma at its northern extent southward into Norco and westward through the Hidden Valley Wildlife Area into the communities of Jurupa Valley & Riverside. This Riverside County project area includes portions of extreme southern Guasti as well as the Corona North and Riverside West USGS 7.5-minute series quadrangles. The proposed project area is bordered to the north by State Route 60 and SCE's existing Mira Loma – Vista transmission lines, to the west by Interstate 15, and to the south and east by State Route 91. The Santa Ana River roughly divides the proposed project area into northern and southern halves.

The purpose of the proposed project is to provide the Riverside Public Utility (RPU) and its customers with adequate transmission capacity to serve existing and projected load, to provide for long-term system capacity for load growth, and to provide needed system reliability. Component areas addressed by these surveys include:

- (1) **230-kV Transmission Line:** Construction of approximately 9.7 miles of new 230-kV double-circuit transmission line connecting the existing Mira Loma and Vista Substations to the proposed Wildlife Substation. The overhead transmission line would be installed on approximately 17 new lattice steel towers and 60 new steel poles;
- (2) **Wildlife Substation:** Construction and operation of a new 230-kV Substation. The proposed substation would accommodate the proposed double-circuit 230-kV transmission line from the SCE system and two outgoing lines connected to the proposed adjacent RPU Wilderness Substation. A fiber optic telecommunication line would be installed at the substation to provide the Supervisory Control and Data Acquisition circuit, data, and telephone services;
- (3) **Relocated Distribution Lines:** Existing distribution lines would be relocated in eight locations to accommodate the proposed 230-kV transmission line alignment. Relocated distribution lines would require the installation of approximately 14 new distribution poles and approximately 3,760 feet of underground duct bank;
- (4) **Telecommunication Facilities:** Construction and operation of approximately seven miles of new fiber optic cable lines between the new Wildlife Substation and existing Mira Loma Substation, between the Wildlife Substation and Vista Substation, and between the



Wildlife Substation and the Pedley Substation. Installation would include approximately six miles placed on existing overhead transmission and distribution poles and approximately 3,900 feet installed in new underground conduit, and

- (5) **Substation Modifications:** Line protection relays would be replaced at both Mira Loma and Vista Substations as part of the proposed project.

1.2 PURPOSE

The Western Burrowing Owl (*Athene cunicularia hypugaea*) is a California species of concern; protected under the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711); and is a covered species under the Western Riverside Multiple Species Habitat Conservation Plan. Burrowing Owl status under each of these regulatory categories trigger protocol surveys for its occurrence and, if present, mitigation strategies and/or Best Management Practices to minimize or eliminate adverse effects (i.e., threat or harm) to the local meta-population or the individuals that comprise it.

1.3 SURVEY AREA

This focused survey for the Burrowing Owl addressed all habitats within 600 feet of the centerline of the proposed 230kV power line. All open habitats within the defined project area were surveyed, including improved and unimproved parking lots, active construction sites, debris piles including those with construction and landscaping debris, and the Vanderham Dairy.

1.4 FOCUS SPECIES DESCRIPTION - WESTERN BURROWING OWL

In general, the Burrowing Owl is a comparatively small owl (approximately 8-10 inches in body length) that is distinguished by its long legs and ground-nesting behavior. The Burrowing Owl is crepuscular – primarily active in early daylight and again in evening hours - however, it will commonly perch during full daylight at a burrow entrance or on a sentry post where it can scan for predators (Poulin et al 2011). Burrowing Owls are typically insectivorous but will supplement their diets with reptiles, amphibians, small birds, and small mammals. Dietary make-up is typically dependent on seasonal availability of prey types (e.g., shifting from a diet of small mammals in spring to insects in summer – pers. obs.) and hunting focus may change significantly when adults are feeding young (e.g., to take advantage of late spring increases in lizard populations - pers. obs.). Burrowing Owls are often found in small colonies where there is sufficient habitat but may also be found as single pairs. Burrowing Owls typically adopt burrows created by other burrowing mammals (e.g., ground squirrels, kit foxes, American badgers) but will also utilize an assortment of anthropogenic features including culverts, undermined irrigation and brow-ditches, rip-rap, and structurally-sound debris piles (Menzel 2014). Burrowing Owls do not excavate their own burrow but they may improve on the burrows they adopt.



2.0 METHODS

To investigate the status of the Burrowing Owl within the project area Parus Consulting adhered to the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993) which included a review of local Burrowing Owl occurrences through published literature and on-line wildlife data bases; a project-wide habitat analysis; and focused protocol field surveys of the entire project site that included the area defined by the centerline of the linear project and the area within 600 linear feet from it.

2.1 LITERATURE REVIEW

Prior to conducting biological field surveys within the RTRP site, Parus Consulting performed a literature review to identify known current and historic Burrowing Owl occurrences in the general area of the project. The materials reviewed included a query of the California Natural Diversity Database (CNDDDB); historic ornithological references (e.g., Grinnell and Miller 1944, Garrett and Dunn 1981); recent ornithological references (e.g., Shuford and Gardali 2008; Poulin et al 2011); and current on-line data bases including the Cornell Ornithological Lab's eBird (<http://ebird.org/content/ebird/>) and iNature (<http://www.inaturalist.org/lists/inature>). These resources were used to identify documented occurrences within or in the vicinity of the Project area.

2.2 SURVEY PROTOCOL AND METHODS

The California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC 1993) recommends a four-phase process to assure a thorough search for and reporting of the occurrence – or potential for occurrence – of the Burrowing Owl within a project area:

- Phase I: Habitat assessment;
- Phase II: Pedestrian transect survey of the project site;
- Phase III: When Burrowing Owls are found, determination of Burrowing Owl use and recording of Burrowing Owl behavior(s) during three observation periods at the burrow location;
- Phase IV: Preparation of a survey report that presents the results of the protocol surveys.

2.2.1 PHASE I

A general assessment of the on-site habitats was conducted from 4 to 8 April 2016. All natural habitats within the defined project area were surveyed along with all other open habitats with potential to harbor Burrowing Owls including improved and unimproved parking lots, active drainage ditches, historic aqueducts, active construction sites, debris piles including those with construction and landscaping debris, and the Vanderham Dairy. Findings from the habitat assessment triggered Phase II surveys for the species.



2.2.2 PHASE II

Focused surveys for the Burrowing Owl and concurrent surveys for potential as well as occupied burrows were conducted on 13 to 15 April; 3 to 5 May; 24 to 26 May; and 21 to 23 June, 2016. The survey dates and times along with the weather conditions were recorded and are provided in Table 2.2.2.1.

Since most areas were open with a high degree of visibility (due to the nature and condition of vegetation within each transect), our typical transect width was 30 meters (100 feet). More complex locations – for example, deeply incised arroyos – were examined using a more focused approach. For larger, broader washes, the survey was conducted first by viewing each side wall from an opposite ridge and then each side wall was examined by walking a transect along the bottom of the wash. All burrows of sufficient size to harbor Burrowing Owls (3 inches in diameter or greater) were investigated for sign of the species, including presence of pellets, feathers, whitewash, or nearby individuals. Rock outcrops and canyon walls outside the survey area were investigated visually with binoculars or telescope as distance warranted.

2.2.3 PHASE III

Based on the results of Phase II surveys, Phase III of the protocol was not required.

3.0 SURVEY RESULTS

Results of Phase I of the survey protocol, habitat assessment triggered Phase II of the survey protocol. Phase II survey, a pedestrian transect survey of the project site, resulted in no Burrowing Owl signs found within the survey area or sufficiently close to suggest potential project impacts precluded the need to conduct Phase III of the protocol.

3.1 BIOLOGICAL SETTING

The project area (aka the “Western Route”) extends from the Mira Loma–Vista#1 230 kV station northwest of the intersection of Galena Street with Wineville Avenue and extend south along Wineville Avenue and Interstate 15 to 68th Street. Most of this north-south corridor includes industrial and agricultural lands (including one dairy) and passes near to one existing residential area. Native landscapes are missing from this corridor.

At 68th Street, the proposed transmission line will border several residential communities, one older and a cluster of several developments currently under construction. From near the eastern end of 68th Street, the line will cross from northwest to southeast over the Mira Loma Golf Course continuing over the willow-dominated Santa Ana River corridor. Once across the river, the line continues easterly, largely across the Hidden Valley Wildlife Area. The wildlife area includes a portion of the Santa Ana River channel; however, the transmission line will be set back from the river and instead be constructed over the (primarily non-native) grassland on the plateau above and south of the south bank of the river. At Tyler Street the transmission line will pass along the



top of a granitic bluff north of a residential development. Habitats on the bluff include non-native grassland but also Riversidian Sage Scrub of varying quality.

From the bluff, the transmission line will span Van Buren Boulevard - a modestly busy suburban transportation corridor – and extend along the south side of the Riverside Water Quality Control facility, eastward through industrial/commercial properties to the proposed Wildlife Substation. The total length of this alignment is approximately 10 miles with approximately 6.5 miles within or adjacent the Santa Ana River corridor.

3.1.1 TOPOGRAPHY

The natural topography of the proposed project area is valley lowland intersected by the Santa Ana River corridor, isolated bluffs, and rolling hills, and surrounded by mountain ranges. Elevations within the proposed project area range from 680 to over 1,900 feet above mean sea level (AMSL) in the nearby Jurupa Mountains; however, the project components would be located on relatively level terrain, avoiding especially the steep bluff that abuts the southern edge of the Santa Ana River channel.

3.1.2 SOILS

Project Area soils are derived from relatively local sources, for example underlying bedrock and alluvial deposits. The mosaic of soil types within the project corridor include a broad array of (primarily) sandy loams and loamy sands of several series. Soils throughout the area are mostly suitable, at least under appropriate conditions, to support both ground squirrels and, subsequently, Burrowing Owls. Areas where construction debris and other anthropogenic features exist are also suitable for burrowing owls not only by virtue of their suitability to serve as refugia but also in that they offer proximity to foraging habitats.

3.1.3 GEOGRAPHIC /GEOLOGIC CHARACTERISTICS

The 230 kV study corridor and Wildlife Substation are situated within the north central Peninsular Ranges Geomorphic Province of California. This geomorphic province is characterized by a series of mountain ranges separated by northwest trending valleys. The central portion of the Peninsular Ranges, east of the Santa Ana Mountain block and west of the San Jacinto fault zone, is the Perris Block. This roughly rectangular area has relatively low topographic relief characteristic of the project area. The dominant natural drainage course that crosses the study corridor area is the Santa Ana River channel. The channel and the several (relatively) deeply incised drainages that feed it lend the only significant geomorphological character to the otherwise mostly flat project area.



3.1.4 SURFACE HYDROLOGY

The 230kV project is located within the Santa Ana Region (Region 8) of the California Regional Water Quality Control Board (RWQCB) in its Middle Santa Ana River Watershed Management Area, Santa Ana Hydrologic Unit. Most of the project lies above the 100-year floodplain of the river and all surface waters within the area flow into the Santa Ana River basin.

3.1.5 LAND USE AND MANAGEMENT HISTORY

The project area including a buffer of 600 feet either side of the project centerline overlies a wide variety of habitats (see Section 3.2.1 Vegetation Communities and Cover Types) that occur within several distinct settings including:

- Residential
- Residential (under construction)
- Industrial
- Industrial (under construction)
- Agriculture (active, including one dairy)
- Agriculture (fallow)
- Parkland (specifically, a golf course)
- Urban Wildlands, including a designated wildlife area that includes several “natural” habitats
- A broad, meandering river corridor

One of two significant portion of the project (specifically, the N-S corridor) includes Interstate 15 with a virtually 100% “disturbed” surrounding environment (including industrial, agricultural, and residential components) while the other portion (the E-W corridor) is dominated by the Hidden Valley Nature Area, a river’s edge grassland and scrub environment. The E-W corridor also harbors a golf course, a nursery, a residential community, and industrial development.

In addition to common agricultural practices (mowing, tilling, planting, irrigating, etc.) on farm lands, large portions of the wildlife area are disked in order to control exotic-invasive grasses at least in part to minimize potential fire danger. The wildlife area provides motor vehicle access along a two-lane asphalt road, some of which intersects the project area and also horse trails and a bicycling/hiking path all of which are commonly used.

3.2 VEGETATION COMMUNITIES

Plant community nomenclature follows that of Holland (1986) and Sawyer and Keeler-Wolf (1995). Vegetation communities and cover types were examined and consequently described on a macro scale. Neither fine-scale vegetation nor soil mapping were conducted for this phase of the project. Rare plant searches and inventory were also not part of this assessment and therefore, a detailed component plant species list was not compiled. Each component habitat, though, is described in terms of its primary (i.e., most common) species composition.



In addition to areas developed for dairy, residential, or industrial use, seven vegetation communities were verified in the study area: Alluvial Fan Sage Scrub, Disturbed Alluvial Fan Sage Scrub, Non-native Annual Grassland, Southern Willow Scrub, Mule Fat Scrub, Riversidian Sage Scrub, and Southern Cottonwood-Willow Riparian Forest.

3.2.1 VEGETATION COMMUNITIES AND COVER TYPES

Agriculture-Dairy/Feedlot

Dairy/feedlot land is generally defined as land used primarily to support dairy-producing or food-producing livestock. These areas tend to be bare of all vegetation and are constantly disturbed from the activity of cattle or other livestock. One working dairy can be found in the northwestern portions of the project area along Wineville Avenue, east of Interstate 15.

Alluvial Fan Sage Scrub

Alluvial Fan Sage Scrub includes a broad set of vegetation communities that thrive in complex soil types that occur along riverbeds, on floodplains, and on delta outwash fans. They are generally outside of normal flow channels and typically experience infrequent scouring – for example during floods or heavy rainfall – which are also the primary causes of their deposition. A variety of evergreen woody and drought-deciduous shrubs with a significant component of larger evergreen shrubs typically found in chaparral (e.g., Lemonadeberry (*Rhus integrifolia*), Sugarbush (*Rhus ovata*), and Holly-leaved Cherry (*Prunus ilicifolia*) comprise these habitats (Smith 1980). Despite its overall diversity of component plant species, Scalebroom (*Lepidospartum squamatum*) is considered to be an indicator species of Alluvial Fan Sage Scrubs and is usually described as a dominant or subdominant shrub in alluvial community descriptions (e.g., the Sawyer and Keeler-Wolf (1995) Scalebroom Series). Alluvial Fan Sage Scrub occurs on alluvial deposits along the Santa Ana River in the eastern portion of the study area, especially along the northern edge of the Hidden Valley Wildlife Area and along the southern edge of the Santa Ana River. Dominant component species here include Scalebroom, California Buckwheat (*Eriogonum* spp.), California Croton (*Croton californicus*), Deerweed (*Acmispon glaber*) - especially in recently disturbed areas, Tarragon (*Artemisia dracunculus*), California Cholla (*Cylindropuntia californica*), and Mule Fat (*Baccharis salicifolia*).

Disturbed Alluvial Fan Sage Scrub

Much of the alluvial fan sage scrub along the Santa Ana River within the study area is disturbed. This is alluvial fan scrub that has lost much of its component native plant species due to altered flows within the river channel and anthropogenic landform changes compounded by physical disturbances that include hiking, horseback riding, and off-road vehicle use. Scattered remnant individuals of the native scrub can be found; however, the disturbed form of this alluvial fan scrub



is dominated by weedy species. Adjacent to the river channel and nearer the water table, species such as Giant Reed (*Arundo donax*) and Queen Anne's Lace (*Daucus carota*) dominate. In drier areas farther from the water table, species such as Horehound (*Marrubium vulgare*), mustards (e.g., Black mustard, *Brassica nigra*; Mediterranean Hoary Mustard, *Hirschfeldia incana*; *Sisymbrium* spp.; and Wild Radish, *Raphanus sativus*), and Tree Tobacco (*Nicotiana glauca*) are common. Disturbed alluvial fan sage scrub communities within the study area are patchily integrated with Southern Willow Scrubs and also amid stands of Southern Cottonwood/Willow Riparian Forest.

Developed Lands

Developed lands of several types occur within the project area:

- Developed (Industrial) - Developed industrial lands include roadways, parking lots, graded vacant lots, commercial buildings, and other private and public infrastructure. Typically, no native habitat occurs within these developed areas although ornamental (especially non-native) landscaping and man-made water features may be included. Landscaping may also include xeriscapes and occasionally a native plant complement. Industrial lands are located within the project area, especially along the I-15 corridor but also at the extreme eastern edge of the project east of Van Buren Boulevard.
- Developed (Residential) – Developed residential lands also include roadways, vacant lots, small commercial buildings, and other private and public infrastructure. However, they differ from developed industrial lands in that they typically exhibit lower building densities and support larger areas of native and non-native (typically ornamental) vegetation including a variety of grasses, including lawn grasses. These features often support much higher densities of native and introduced wildlife, especially species that are pre-adapted to or have behaviorally adapted to pseudo-natural anthropogenic conditions. Residential communities overlap the project area east of the I-15 corridor along Wineville Avenue, along the southern edge of 68th St. (where a new housing development is under construction) and near its eastern edge, south of the Santa Ana River and west of Van Buren Boulevard.
- Developed (Parkland and Landscape) – Developed parkland typically includes roadways and parking lots, although these may be unimproved; low-density commercial buildings (e.g., administrative offices, barns, and garages) with limited infrastructure. Open space lands, greenbelts and landcover; open space areas that have been landscaped simply by removing some percentage of native plant species; native plant gardens and forests that allow for human access; and/or ornamental landscaping, including man-made water



features meant to provide aesthetic value to visitors. Portions of the Hidden Valley Wildlife Area exhibit parkland character.

Landscaped areas are similar to parklands but are generally much smaller in scale and designed primarily for aesthetics. They are similarly planted with native and non-native trees, shrubs, flowering plants, and turf. Within and around industrial, residential, and park lands, they typically include residential yards, resorts, golf courses, roadsides, and freeway edges and are found throughout the study area. The Goose Creek Golf Course is a hybrid of the Developed parkland/landscape landcover.

Disturbed and Bare Ground

Disturbed areas, including areas of bare ground are typically the result of mechanical disruption or stochastic events such as wild fire. Disturbed areas are often maintained to limit regrowth or colonization by native plants including, for example, to limit the potential threat of wildfire or for future use that is incompatible with native species. Such lands, if populated, typically support hardy, invasive, fast-growing herbs and grasses. Typical herbaceous plants observed in disturbed areas within project area included mustards (including wild radish), filarees (*Erodium* spp.), Prickly Russian Thistle (*Salsola tragus*), and Common Sow Thistle (*Sonchus oleraceus*). Typical non-native, annual grasses, include bromes of several species (*Bromus* spp.), Farmer's Foxtail (*Hordeum murinum*), and oats (*Avena* spp.). Shrub and tree species often allowed to persist on disturbed lands include gum trees (*Eucalyptus* spp.) – especially at their periphery, Tree Tobacco, Castor Bean (*Ricinus communis*), and Peruvian Pepper Trees (*Schinus molle*). The majority of disturbed areas on undeveloped properties within the study area are seasonally mowed or disked. A mosaic of disturbed habitats occurs within the project area, especially along the I-15 corridor but also in portions of the Hidden Valley Wildlife Area including areas disturbed for fire control.

Field Cropland

Field cropland refers to land used primarily for commercial production of food, including livestock forage and silage but also for erosion control and production of green manure. Croplands within the study area at the time of this survey were either fallow or irrigated with Alfalfa (*Medicago sativa*) growing in the latter. Croplands occur in the western portions of the study area; in particular, along the I-15 corridor.

Non-native (Annual) Grassland

Non-native annual grassland is an upland habitat that consists of introduced Mediterranean annual grasses with minor contributions from a diverse assortment of native and non-native



herbs. Depending on several factors including soil type, rainfall total and distribution, and neighboring habitat contribution, dominant species and species composition as well as vegetation density and height may vary, from season to season, year to year, or over longer periods. The most common grasses observed within project area Non-native Grasslands include Bromegrass (*Bromus diandrus*) and other bromes (*Bromus* spp.), oats, and barleys (*Hordeum* spp.). Associated forbs include filarees, mustards, and Prickly Russian Thistle. Non-native annual grasslands are found throughout the survey area but are most extensive within its eastern reaches, especially within the Hidden Valley Wildlife Area.

Southern Willow Scrub

Southern Willow Scrub is a typically dense, winter-deciduous habitat that is associated with riverbeds and associated drainages but is virtually never associated with year-round surface water. Rather, Southern Willow Scrub species receive ephemeral moisture during floods and rain events while benefitting also from proximity to a water table. Thus, Southern Willow Scrub is a common feature of drainages that feed the Santa Ana River. These areas are typically dominated by their namesake tree species, willows (*Salix* spp.), often with scattered, emergent Fremont Cottonwood (*Populus fremontii*) and California Sycamore (*Platanus racemosa*). Understory components are typically poorly developed due to overstory density. However, habitat edges and openings within the habitat are typically populated by Mule Fat, Arrowweed (*Pluchea sericea*), and Willow Baccharis (*Baccharis salicina*). Depending on microclimate (including amount of shade, proximity to water table, etc.), California Rose (*Rosa californica*), Poison Oak (*Toxicodendron diversilobum*), California Blackberry (*Rubus ursinus*), and Stinging Nettle (*Urtica dioica*) may also be present. Blue Elderberry (*Sambucus Mexicana*) may be integrated within the habitat core or prevail along its edges.

A closely-related type of riparian scrub, Mule Fat Scrub - an early seral vegetation maintained by frequent flooding and scouring - consisting typically of an almost exclusive Mule Fat monoculture has developed patchily within the Santa Ana River riparian corridor as well as in small patches within its associated drainages. Along with Mule Fat Scrub, Southern Willow Scrub occurs within and along the edges of the Santa Ana River channel and along incised drainages that feed the river from the south.

Riversidian Sage Scrub

The dominant sage scrub community type in the project area is Riversidian sage scrub. This is a very xeric landcover type within the coastal sage scrub series. It is typically open and dominated by California Sagebrush (*Artemisia californica*) and California Buckwheat (*Eriogonum fasciculatum*). As invasive, non-native plants have become more common, especially invasive grasses, the relatively open character of this sage scrub has provided an open invitation for



colonization. Thus bromes and mustards have become integral components of its make-up. On site, Riversidian Sage Scrubs are dominated by California Buckwheat with lesser component percentages contributed by California Sagebrush, Black Sage (*Salvia mellifera*), White Sage (*Salvia apiana*), Brittlebush (*Encelia farinosa*), and Bush Sunflower (*Encelia californica*). Mexican elderberry occurs in some near-river patches of sage scrub as does desert thorn (*Lycium* spp.), and one notable patch of California Cholla (*Cylindropuntia californica*). Although a common local habitat, this plant community occurs primarily in extreme northeast corner of the study area adjacent the Santa Ana River channel.

Southern Cottonwood-Willow Riparian Forest

Southern Cottonwood-Willow Riparian Forest is the open, broadleaved, winter-deciduous habitat that is characteristic of Southern California riparian corridors. Two primary components of the mature forest canopy include Goodding's Black Willow (*Salix gooddingii*) and California Sycamore. The understory is often well-developed and typically dominated by small trees and shrubby species such as Narrow Leaved Willow (*Salix exigua*), Arroyo Willow (*Salix lasiolepis*), and Mule Fat. In recent history, invasive tamarisk of several species (*Tamarix* spp.) and Giant Reed, especially following incidents of disturbance, have become integral to this habitat type. The combination of perennially wet streams, sandy soils, and a proximate water table describes the typical situation for this habitat within California's Transverse and Peninsular ranges (Holland 1986). Southern Cottonwood-Willow Riparian Forest is the dominant habitat of the Santa Ana River along the northern edge of the RTRP project area along its east-west corridor.

3.3 WILDLIFE SPECIES

Focused surveys for other than the Burrowing Owl were not conducted during these field surveys. However, anecdotal species lists were compiled with emphasis on habitat of occurrence and relative numbers detected (Table 3.3.1).

3.3.1 PROTOCOL BURROWING OWL SURVEY RESULTS

Burrowing Owl habitat exists throughout the proposed project corridor including rock outcrops, non-native grasslands, fallow fields, deeply incised washes, road embankments, and vacant lots with potential makeshift burrows (e.g., rip-rap, culverts, concrete debris piles, etc.).

3.3.2 BURROWING OWL – VICINITY RECORDS

The historical range of the Burrowing Owl in California was described by Grinnell and Miller (1944) as "suitable areas (treeless and level) almost throughout the state, from the Oregon line east of the Siskiyou mountains south to the Mexican border, and from the Nevada border and Colorado River west to the ocean shore; includes practically all islands from the Farallones south." They described in general that the Burrowing Owl was a species of wide, lowland, interior valley bottoms and flat coastal lowlands (Grinnell and Miller 1944). However, by the early 1980s,



Garrett and Dunn (1981) described the Burrowing Owl as “common” in the Imperial Valley and along the Colorado River but “elsewhere generally scarce and declining” (p. 214). The status of the Burrowing Owl has continued to decline through ensuing years.

According to the Western Riverside County Multiple Species Habitat Conservation Plan (2004, Vol. 2), Burrowing Owl distribution is described as “. . . narrowly distributed at relatively few locations within the Plan Area in suitable habitat. Although the preferred habitat, grassland and some forms of agriculture land, is well distributed, the recent locations of the burrowing owl are clumped in only a few locations.” When preparing the species account for the Plan, records from the University of California, Riverside location database were examined and found to include “approximately 109 records for the western burrowing owl within the Area Plan dated from 1887 to 1999” (WRCMSHCP, 2004, Vol2), a relatively small number in consideration of the expanse of available, potential habitat. More recent records that we found included several from 1999 on to the present day and several from the area surrounding the project (Table 3.3.2.1).

3.3.3 BURROWING OWL PHASE I RESULTS (HABITAT ASSESSMENT)

The site’s geographic location, elevation, vegetation, topography, and soil characteristics were evaluated relative to the Burrowing Owl’s habitat requirements. The RTRP site is not only within the geographic range of the Burrowing Owl (Poulin et al 2011) but also:

1. Burrowing Owls have been reported (including recently) from nearby areas, and
2. Habitats (e.g., grasslands, sage scrubs, cut banks), soil types (e.g., sandy loams), and geomorphologic features (e.g., rock outcrops, incised washes) that occur within the survey area and their prevalence are conducive to supporting the Burrowing Owl (Figure 3.3.3.1).

Based on these two findings, surveys for the Burrowing Owl (Phase II of the protocol) were warranted.

3.3.4 BURROWING OWL PHASE II RESULTS

Despite their historic occurrence and the presence of habitat, including a number of suitable burrows, during focused surveys we did not find direct evidence (e.g., visual or aural contacts) of the species nor did we find any sign (e.g., feathers, tracks, pellets, etc.) of the species anywhere within the study area. At one outlying area where Burrowing Owl sign were detected during one survey, no additional evidence was found at that location during any subsequent visit.

During the Phase II transect survey, the overall density of animal burrows within the RTRP site was observed to be quite high. Occupied and unoccupied burrows of the California Ground Squirrel (*Otospermophilus beecheyi*) were the most frequently found burrows with potential to support Burrowing Owl use. Other mammalian burrows that were too small for use by Burrowing Owl were also numerous. The dominant burrow of this type throughout the project area were



those of the Botta's pocket gopher (*Thomomys bottae*). Observed less commonly and also unusable by Burrowing Owls were other small burrows with entranceways typical of heteromyid rodents (and usable by other small rodents) with the Dulzura Kangaroo Rat (*Dipodomys simulans*) being the expected heteromyid species on site. Lack of habitat and other requisite components exclude the presence of legally sensitive, more habitat and range-restricted species such as the Stephens' Kangaroo Rat (*D. stephensi*) and San Bernardino Kangaroo Rat (*D. merriami parvus*). Also found but to an even lesser extent were burrows of small murids such as deer mice (*Peromyscus* spp.). No Burrowing Owl whitewash, pellets, feathers, tracks, were observed at or in the vicinity of any burrow within the survey area.

3.3.5 BURROWING OWL PHASE III RESULTS

During the course of four focused surveys for the Burrowing Owl, we did not observe or find any indication of current occupancy of the project area (as defined by the centerline + 600 feet) by burrowing owls. We did find, outside the edge of the project area, just north of Bellegrave Avenue and east of I-15 (Latitude: 33.993995° N, Longitude: 117.546096° W) a very recent single burrowing owl pellet and feathers. Based on the amount of sign, it is almost certain that this was from a single owl, a probable migrant/transient. The recently occupied burrows were perfectly serviceable as a refugium for a migrant burrowing owl although not sufficiently deep or protective to support breeding.

4.0 ANALYSIS AND IMPACTS

Burrowing Owl habitats exist throughout the proposed project corridor including rock outcrops, non-native grasslands, fallow fields, deeply incised washes, road embankments, and vacant lots with potential makeshift burrows (e.g., rip-rap, culverts, concrete debris piles, etc.). Based on habitats present, nearby occurrences, and historic occupation by the species, the Burrowing Owl may occur within the project area as a winter visitor, migrant, vagrant, or breeding species; in the case of the latter, the species may occur as either a year-round resident or a seasonally occurring visitor. Records of the species in the project area and surrounding vicinity over the past quarter-century are few in number. Based on these 2016 surveys, no direct impacts to the Burrowing Owl are likely to occur.

Although no Burrowing Owls were detected during 2016 surveys, the potential for the Burrowing Owl to occur within the project area is quite high. Therefore, we make the following recommendations.

4.1 PRE-CONSTRUCTION BURROWING OWL SURVEYS

If construction or site preparation activities are scheduled during the non-nesting season of the Burrowing Owl (typically September through January), a biologist (the "Biological Monitor") knowledgeable of southern California Burrowing Owl Biology should conduct Burrowing Owl surveys



in all areas in the project footprint of disturbance, including lay down and staging areas as well as all other areas controlled by the Applicant that would be preserved within project control areas. The survey should be commenced no more than 21 days prior to onset of construction, including site preparation.

During the construction period, the results of the surveys, including graphics showing the locations of all active burrows along with proposed avoidance measures should be submitted weekly to the appropriate Riverside County department or representative. If active burrows are found, the following should be adhered to:

- If Burrowing Owls are observed using burrows during the non-breeding season, occupied burrows shall be left undisturbed, and no construction activity shall take place within 300 feet of the burrow where feasible (see below).
- If disturbance of owls and owl burrows is unavoidable, owls shall be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with California Department of Fish and Game protocols (California Department of Fish and Game 1995). Specifically, exclusion devices, utilizing one-way doors, shall be installed in the entrance of all active burrows. The devices shall be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows shall then be excavated by hand and refilled to prevent reoccupation. Exclusion shall continue until the owls have been successfully excluded from the disturbance area, as determined by a qualified biologist.
- If construction activities must be initiated in any area of the site during the Burrowing Owl breeding season (typically February through August), preconstruction surveys for Burrowing Owls shall be conducted. Any active Burrowing Owl burrows found at this season shall not be disturbed. Construction activities shall not be conducted within 300 feet of an active burrow during this season.

4.2 WORKER ENVIRONMENTAL AWARENESS PROGRAM

The Biological Monitor shall conduct an initial training for all construction workers on the biological resources that require protection during construction activities as well as the measures that must be implemented to protect those resources. The Biological Monitor shall maintain a list of personnel that have received the training and any new personnel shall receive the training prior to commencing construction activities.

4.3 BIOLOGICAL MONITORING

The Biological Monitor should be present during all ground disturbing construction to ensure that Burrowing Owls are not impacted by the project and, if necessary, to administer passive relocation of owls. If Burrowing Owls are observed within the project area or sufficiently near



that project activities may adversely affect them, the biological monitor shall have the authority to halt construction in order to develop and administer a County-approved plan of action that will preclude harm or take of this sensitive resource and avoid violation of applicable laws and agreements.



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6.0 TABLES

TABLE 2.2.2.1: 2016 BURROWING OWL SURVEY DATES & CONDITIONS

2016 Burrowing Owl Survey Dates & Conditions					
Riverside Transmission Reliability Project - 230kV Segment					
<u>Date</u>	<u>Start Time</u>	<u>End time</u>	<u>Start Temp (°F.)</u>	<u>End Temp (°F.)</u>	<u>Conditions</u>
4/13/2016	7:00:00 AM	4:00:00 PM	51	74	Clear, gusty afternoon winds (12 - 15 mph +)
4/14/2016	6:30:00 AM	5:00:00 PM	52	71	Clear, gusty afternoon winds (10 - 12 mph+)
4/15/2016	6:00:00 AM	4:00:00 PM	48	77	Clear, occasional gusty afternoon winds (12 - 15 mph+)
5/3/2016	6:00:00 AM	11:05:00 AM	53	80	Clear, calm
5/3/2016	3:00:00 PM	7:15:00 PM	86	74	Clear, winds 12 - 15 mph
5/4/2016	6:30:00 AM	10:55:00 AM	54	68	Overcast, light wind, 4 - 6 mph
5/4/2016	3:00:00 PM	7:15:00 PM	76	65	Clear, winds 12 - 15 mph
5/5/2016	6:00:00 AM	11:10:00 AM	59	66	Overcast, calm
5/5/2016	3:00:00 PM	6:30:00 PM	65	63	Overcast, winds steady @ 8 - 10 mph
5/24/2016	6:00:00 AM	11:05:00 AM	58	70	Overcast, calm w/ occasional light wind
5/24/2016	3:00:00 PM	7:05:00 PM	72	68	Dissipating clouds, winds building to 10 - 12 mph
5/25/2016	7:00:00 AM	11:15:00 AM	54	69	Cloudy to overcast, light winds 3 - 5 mph
5/25/2016	3:00:00 PM	6:30:00 PM	70	66	Cloudy to overcast, winds 8 - 12 mph
5/26/2016	6:45:00 AM	11:30:00 AM	50	69	Clear, calm
5/26/2016	3:00:00 PM	6:45:00 PM	76	68	Clear, winds 8 - 12 mph
6/21/2016	6:00:00 AM	11:15:00 AM	69	87	Clear, light winds, 3 - 5 mph
6/21/2016	3:30:00 PM	7:15:00 PM	91	83	Clear, winds 12 - 15 mph
6/22/2016	6:00:00 AM	11:00:00 AM	63	85	Clear, light winds, 3 - 5 mph
6/22/2016	3:30:00 PM	7:15:00 PM	91	76	Clear, winds 12 - 15 mph
6/23/2016	6:00:00 AM	10:45:00 AM	55	78	Clear, calm w/occasional light breeze
6/23/2016	3:00:00 PM	6:30:00 PM	88	81	Clear, winds steady @ 10 - 12 mph



TABLE 3.3.1: VERTEBRATE SPECIES LIST

VERTEBRATE SPECIES LISTS		
RIVERSIDE TRP 230KV TRANSMISSION LINE		
Survey Period: 15 April - 20 July, 2016		
Common Name	Scientific Name	Status*
GRASSLANDS AND AG LANDS (Incl. Dairy)		
<u>Birds</u>		
Mallard	<i>Anas platyrhynchos</i>	R
American Coot	<i>Fulica americana</i>	T,R
Killdeer	<i>Charadrius vociferus</i>	T,R
California Quail	<i>Callipepla californica</i>	R
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	R
Mourning Dove	<i>Zenaida macroura</i>	R
Common Ground Dove	<i>Columbina passerina</i>	R
Rock pigeon	<i>Columba livia</i>	R
Turkey Vulture	<i>Cathartes aura</i>	R
Red-tailed Hawk	<i>Buteo jamaicensis</i>	R
American Kestrel	<i>Falco sparverius</i>	M,R
Greater Roadrunner	<i>Geococcyx californianus</i>	R
White-throated Swift	<i>Aeronautes saxatalis</i>	M,R(?)
Western Kingbird	<i>Tyrannus verticalis</i>	M,B
Say's Phoebe	<i>Sayornis saya</i>	R
Horned Lark	<i>Eremophila alpestris</i>	M,W,T,B
Common Raven	<i>Corvus corax</i>	R
European Starling	<i>Sturnus vulgaris</i>	R
Western Meadowlark	<i>Sturnella neglecta</i>	R
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	R
House Finch	<i>Haemorhous mexicanus</i>	M,R
Lesser Goldfinch	<i>Spinus psaltria</i>	R
Savannah Sparrow	<i>Passerculus sandwichensis</i>	M,W,T
Lark Sparrow	<i>Chondestes grammacus</i>	M,T,R
Brewer's Sparrow	<i>Spizella breweri</i>	M,W,T
California Towhee	<i>Melospiza crissalis</i>	R
Barn Swallow	<i>Hirundo rustica</i>	M,B
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	M,B



Loggerhead Shrike	<i>Lanius ludovicianus</i>	R
American Pipit	<i>Anthus rubescens</i>	M,W,T
Northern Mockingbird	<i>Mimus polyglottos</i>	R
<u>Terrestrial Mammals</u>		
Botta's Pocket Gopher	<i>Thomomys bottae</i>	R
Deer Mouse	<i>Peromyscus maniculatus</i>	R
Dulzura Kangaroo Rat	<i>Dipodomys simulans</i>	R
Gray Fox	<i>Urocyon cinereoargenteus</i>	R
Coyote	<i>Canis latrans</i>	R
Bobcat	<i>Lynx rufus</i>	R
Cougar	<i>Puma concolor</i>	T,R
<u>Reptiles</u>		
San Diegan Tiger Whiptail	<i>Aspidoscelis tigris stejnegeri</i>	R
Great Basin Fence Lizard	<i>Sceloporus occidentalis longipes</i>	R
Western Side-blotched Lizard	<i>Uta stansburiana elegans</i>	R
Red Racer	<i>Coluber flagellum piceus</i>	R
California Kingsnake	<i>Lampropeltis californiae</i>	R
Gopher Snake	<i>Pituophis catenifer annectens</i>	R
<u>RIPARIAN INTERFACE</u>		
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	T,R
Mallard	<i>Anas platyrhynchos</i>	R
Great Blue Heron	<i>Ardea herodias</i>	T,R
Snowy Egret	<i>Egretta thula</i>	T,R
Killdeer	<i>Charadrius vociferus</i>	R
California Quail	<i>Callipepla californica</i>	R
Cooper's Hawk	<i>Accipiter cooperii</i>	R
Red-tailed Hawk	<i>Buteo jamaicensis</i>	R
Red-shouldered Hawk	<i>Buteo lineatus</i>	R
American Kestrel	<i>Falco sparverius</i>	M,R
Downy Woodpecker	<i>Picoides pubescens</i>	R
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	R
White-throated Swift	<i>Aeronautes saxatalis</i>	M,R(?)



Black-chinned Hummingbird	<i>Archilochus alexandri</i>	M,B
Anna's Hummingbird	<i>Calypte anna</i>	R
Allen's Hummingbird	<i>Selasphorus sasin</i>	M,B
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	M,B
Black Phoebe	<i>Sayornis nigricans</i>	R
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	M,B
California Scrub-jay	<i>Aphelocoma californica</i>	R
American Crow	<i>Corvus brachyrhynchus</i>	R
European Starling	<i>Sturnus vulgaris</i>	R
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	T,R
Hooded Oriole	<i>Icterus cucullatus</i>	M,B
Bullock's Oriole	<i>Icterus bullockii</i>	M,B
House Finch	<i>Haemorhous mexicanus</i>	M,R
American Goldfinch	<i>Spinus tristis</i>	R
Lesser Goldfinch	<i>Spinus psaltria</i>	R
Song Sparrow	<i>Melospiza melodia</i>	R
Spotted Towhee	<i>Pipilo maculatus</i>	R
California Towhee	<i>Melospiza crissalis</i>	R
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	M,B
Blue Grosbeak	<i>Passerina caerulea</i>	M,B
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	M,B
Barn Swallow	<i>Hirundo rustica</i>	M,B
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	M,B
Phainopepla	<i>Phainopepla nitens</i>	M (?), R (?)
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	M,B
Yellow Warbler	<i>Setophaga petechia</i>	M,B
Yellow-rumped Warbler	<i>Setophaga coronata</i>	M,W
Common Yellowthroat	<i>Geothlypis trichas</i>	M,T,B,R(?)
Yellow-breasted Chat	<i>Icteria virens</i>	M,B
California Thrasher	<i>Toxostoma redivivum</i>	R
Bewick's Wren	<i>Thryomanes bewickii</i>	R
House Wren	<i>Troglodytes aedon</i>	R
Bushtit	<i>Psaltiriparus minimus</i>	R
American Robin	<i>Turdus migratorius</i>	M,R(?)
Western Bluebird	<i>Sialia mexicana</i>	M,R(?)



<u>Terrestrial Mammals</u>		
Striped Skunk	<i>Mephitis mephitis</i>	R
Long-tailed Weasel	<i>Mustela frenata</i>	R
Raccoon	<i>Procyon lotor</i>	R
Gray Fox	<i>Urocyon cinereoargenteus</i>	R
Coyote	<i>Canis latrans</i>	R
<u>Mammals - Bats</u>		
Big Brown Bat	<i>Eptesicus fuscus</i>	R
Yuma Myotis	<i>Myotis yumanensis</i>	U/K
Mexican Free-tailed Bat	<i>Tadarida brasiliensis</i>	R
Canyon Bat	<i>Parastrellus hesperus</i>	U/K
Western Mastiff Bat	<i>Eumops perotis</i>	R
<u>Amphibians</u>		
Western Toad	<i>Anaxyrus boreas</i>	R
Baja California Treefrog	<i>Pseudacris hypochondriaca</i>	R
American Bullfrog	<i>Lithobates catesbeianus</i>	R
<u>*Key</u>		
B - Breeding Species		
M- Migrant		
R - Resident		
T - Transient		
W - Winter Visitor		



TABLE 3.3.2.1: RECENT BURROWING OWL OBSERVATIONS

Locations of Recent Burrowing Owl Observations						
<u>Date</u>	<u>Number Detected</u>	<u>Latitude° N</u>	<u>Longitude° W</u>	<u>Geographic Location</u>	<u>Observer</u>	<u>Source</u>
5/15/1999	1	33.980093	117.47491 8	North side of Santa Ana River/Hidden Valley Wildlife Area	Daniel Cooper	eBird, Pers. Com.
5/15/1999	1	33.980064	117.50548 5	North side of Santa Ana River/Hidden Valley Wildlife Area	Daniel Cooper	eBird, Pers. Com.
4/4/2007	1	33.965824	117.46729 1	North side of Santa Ana River/N of Wildlife SubStation	Unk	Essex
4/4/2008	4	33.972220	117.62342 7	The Preserve (Development)	Andrew Lazere	eBird
6/14/2008	5	33.949356	117.43149 6	Riverside Municipal Airport	Crispin Rendon	eBird
7/12/2009	2	34.021547	117.60141 3	Chris Basin	Sheri Petersen	eBird
4/9/2011	1	33.994656	117.57629 2	Haven Avenue Dairy	Howard King	eBird
5/10/2011	1	34.000331	117.65661 6	Ranchland NW of Chino Airport	Dan Maxwell	eBird
1/18/2012	1	33.927195	117.56802 3	NWS Seal Beach - Detachment Norco	Bob Schallmann	eBird
5/5/2012	4	33.980698	117.63619 4	Chino Airport	Norm Vargas	eBird
4/2/2013	2	33.995892	117.56589 9	Cleveland Avenue Dairy Ponds	Richard Norton	eBird
5/29/2013	1	33.947871	117.32412 7	Sycamore Canyon Wilderness Park	Bob Packard	eBird
9/25/2013	2	33.945833	117.32833 4	Sycamore Canyon Wilderness Park	Patrick Temple	eBird
2/22/2015	2	33.997306	117.63084 0	Edison Avenue Ag Field	Becky Turley	eBird
5/9/2015	3	34.028447	117.51649 4	Country Village NW Flood Control Channel	Barbara Lyer	eBird
2/13/2016	1	33.987339	117.62985 3	Chino Airport - Nearby Dairy Ponds	Michael Woodruff	eBird

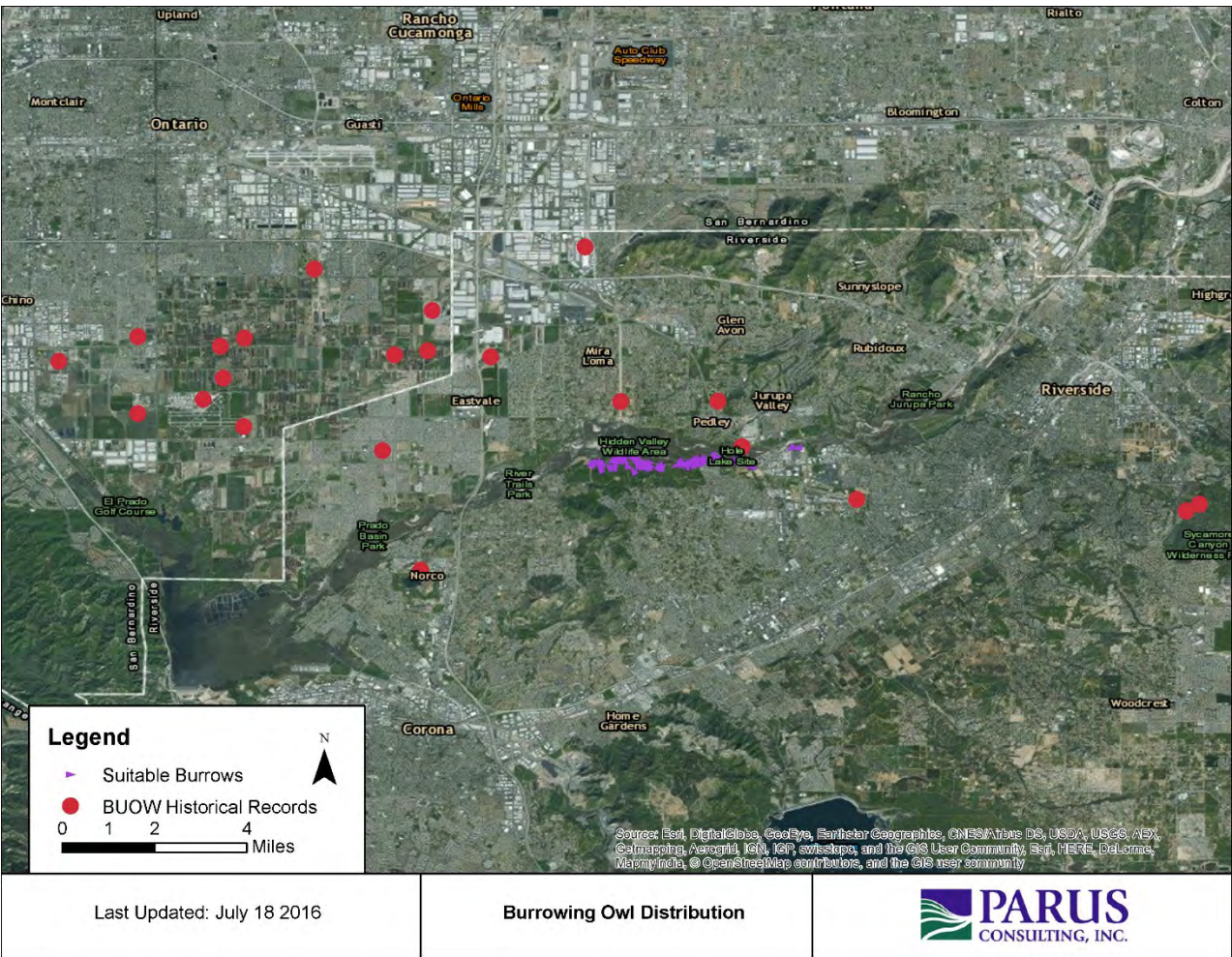


Locations of Recent Burrowing Owl Observations						
<u>Date</u>	<u>Number Detected</u>	<u>Latitude° N</u>	<u>Longitude° W</u>	<u>Geographic Location</u>	<u>Observer</u>	<u>Source</u>
3/4/2016	1	34.008469	117.56444 6	TRTP Mira Loma Substation	Kolby Olson	eBird
4/14/2016	(1) Sign only	33.993995	117.54609 6	Norco-Eastvale, I-15 Corridor	William Haas	Pers. Obs.
6/29/2016	25	33.976320	117.64021 2	Chino Airport	Carol Martin	eBird
6/30/2016	13	33.999873	117.62325 0	TRTP Segment 8 Dairy (Mira Loma, CA)	Jonathan Feenstra	eBird
7/1/2016	4	33.964748	117.58002 8	TRTP Segment 8 (Mira Loma, CA)	Jonathan Feenstra	eBird
7/4/2016	19	33.992608	117.68135 7	Ruben S. Ayala Park, Chino, CA	Brian Elliott	Inland County Bird Listserv



7.0 FIGURES

FIGURE 3.3.3.1: HISTORICAL BURROWING OWL OBSERVATIONS



APPENDIX H

Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution

October 26, 2016

Gary Busteed
Senior Environmental Project Manager
Bulk Power Projects Environmental Licensing
Environmental Services Division
Southern California Edison
6040 North Irwindale Ave. Suite A
Irwindale, CA 91702

**Subject: Riverside Transmission Reliability Project – Underground Alignment
Habitat Assessment Results**

Dear Mr. Busteed:

In response to a recent change to the configuration of the Riverside Transmission Reliability Project (RTRP) alignment (Project), Southern California Edison (SCE) contracted AECOM to conduct a habitat assessment in areas (gaps areas) not previously captured by the analysis of biological resources described in the 2016 *Riverside Transmission Reliability Project – Habitat Assessment Report* (HAR) (AECOM 2016). The following letter report identifies said gap areas and provides analyses of biological resources that are in line with the 2016 HAR.

At the request of SCE, this letter report summarizes the findings of a literature review and habitat assessment intended to identify suitable habitat, and areas needing focused surveys, for the following species:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*)
- San Diego ambrosia (*Ambrosia pumila*)
- Brand's phacelia (*Phacelia stellaris*)
- San Miguel savory (*Satureja chandleri*)
- Other Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Rare Plant Species (including Criteria Area and Narrow Endemic Plant Species), where relevant.

Mr. Gary Busteed
Southern California Edison
October 26, 2016
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1.0 INTRODUCTION

1.1 Project Location

The Project is located in the northwest portion of Riverside County, north of Norco and south and east of Mira Loma (Figure 1). The western (north-south) segment of the Project alignment is located just east of Interstate 15 (Figure 2). The northern terminus occurs just west of the intersection of Cantu Galleano Ranch Road and Wineville Avenue, while the southern terminus occurs northeast of the dead end at Wilderness Avenue, just south of the Santa Ana River (Figure 2).

Of the approximately 10 miles of proposed transmission line, SCE proposes to reroute and underground approximately 2.1 miles originally intended to be overhead. The underground portion of the Project connects to the proposed overhead alignment near the southwest corner of an agricultural field just north of Limonite Avenue and east of Interstate 15 (Figure 3). The proposed infrastructure then follows the northern shoulder of Limonite Avenue east for approximately 0.2 mile until it meets the intersection of Limonite Avenue and Pats Ranch Road (Figure 3). From there, the alignment heads south along the eastern shoulder of Pats Ranch Road for approximately 0.8 mile, then makes a 90-degree turn east and follows the northern shoulder of 68th Street for another 0.8 mile (Figure 3). Where 68th Street dead ends at Lucretia Avenue, the underground alignment makes another 90-degree turn and runs approximately 0.3 mile south where it reconnects to the proposed overhead alignment in the middle of Goose Creek Golf Course (Figure 3).

Although the majority of the underground alignment and 500-foot buffer were captured during the surveys of the original alignment, the slight shift in position, when accommodating the 500-foot buffer area, captures an additional 90 acres of land that was not surveyed. Figure 3 illustrates the location of the unsurveyed areas relative to the previously surveyed overhead alignment.

1.2 Project Description

The Project is a joint venture with Riverside Public Utilities (RPU) to provide a new 230-kilovolt (kV) transmission line connection to RPU's transmission system and increase the reliability of their grid. SCE's scope of work includes construction of the following:

- Approximately 7.9 miles of new 230kV transmission line (overhead)
- Approximately 2.1 miles of new 230kV transmission line (underground)
- Access roads
- Towers
- Telecom
- Two marshalling yards

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Southern California Edison
October 26, 2016
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2.0 METHODS

2.1 Historical Literature and Database Review

The 2010 *Riverside Transmission Reliability Project Biological Resources Technical Report* (BRTR) prepared by Power Engineers, Inc. (Power Engineers, Inc. 2010) and the 2016 HAR (AECOM 2016) were reviewed prior to conducting the fieldwork to understand the conditions of the gap areas and better prepare for the habitat assessment. Outside of Project-specific literature, select data pertaining to the natural resources of the region were also reviewed prior to conducting the field survey. The following sources were consulted to obtain public information relevant to the gap areas:

- Western Riverside County Multiple Species Habitat Conservation Plan (RCIP 2004);
- Riverside County Integrated Plan Online Conservation Report Generator (RCIP 2016);
- California Natural Diversity Database (CDFW 2016); and
- California Native Plant Society Online Rare Plant Inventory (CNPS 2016).

2.2 Vegetation Communities and Other Land Cover Types

Vegetation communities and other land cover types were mapped through photo-interpretation as informed by field reconnaissance. AECOM biologist Dallas Pugh was equipped with a portable geographic information system (GIS)-enabled field computer, which allowed for the notation of key features and species composition in the field. Photo-interpretation was conducted over National Agriculture Imagery Program imagery (NAIP 2014). Final feature creation and map attribution were completed in a controlled office environment. Feature digitization was conducted at a viewing scale no finer than 1:1,000 (approximately 1" = 100') to provide consistent results throughout the mapping area. The minimum mapping unit was 1 acre. All vegetation features were assigned to Manual of California Vegetation alliances.

2.3 Habitat Assessments

Habitat assessments of the gap areas were conducted simultaneously for all target species by AECOM biologist Dallas Pugh (senior biologist familiar with the habitat requirements of the target vertebrate species) and Ken Osbourne (Delhi Sands flower-loving fly [DSFLF] permitted biologist). The biologists walked through the gap areas to determine the location and extent of suitable habitat for the target species, and used Global Positioning System technology to delineate the limits of said habitat. Suitable habitat was to be later digitized and quantified using GIS software in a controlled office environment. The following sections provide a brief description of how habitat was classified as suitable for each target species/taxa.

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Southern California Edison
October 26, 2016
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2.3.1 Riparian Birds

The habitat assessment included an evaluation of any riparian habitat within the gap areas capable of supporting three listed avian species: the federal- and state-endangered least Bell's vireo, the federally and state-endangered southwestern willow flycatcher, and the federally and state-endangered western yellow-billed cuckoo. Prior to conducting the survey, the BRTR, HAR, and aerial photographs were consulted to determine areas previously identified as suitable, areas occupied by the species and areas where the habitat assessment survey should be focused. Areas of riparian habitat best suited to support the three target species would have included structure and composition similar to those suitable and occupied areas described in the BRTR and HAR. These included contiguous spans of primarily mature riparian habitat. Small patches of early seral riparian habitat or riparian scrub, which were disconnected from more mature riparian areas, were considered unsuitable due to the lack of cover and protection offered for nesting and roosting birds.

2.3.2 Small Mammals

A habitat assessment was conducted for three southern California heteromyid small mammals: the federally endangered San Bernardino kangaroo rat, the California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC) Los Angeles little pocket mouse, and the SSC San Diego pocket mouse. These three target small mammal species are typically associated with sage scrub communities in sandy loam and loamy sand soils in the region of the current Project (e.g., see RCIP 2002). The habitat types preferred by each species, as well as atypical but known occupied habitat types for each species and designated critical habitat, were used as guidelines in assessing the potential for these mammals to occur within the gap areas.

Using species-specific habitat requirements, all areas exhibiting potentially suitable conditions for one or more of the three target species were to be recorded as polygons on aerial maps and slated for subsequent trapping.

2.3.3 Delhi Sands Flower-loving Fly Habitat Assessment

DSFLF permitted biologist Ken Osborne completed the habitat assessment within the gap areas. The evaluation of suitable habitat for DSFLF involved a two-step or two-tiered process. First, because DSFLF is restricted to Aeolian Delhi sands soils (characterized as Delhi sands in Ballmer 1989 and USFWS 1996), soil survey maps (Knecht 1971) were first consulted to determine those undeveloped portions of the gap areas that fall within these mapped Delhi sands. The soils of particular interest are Delhi fine sand (DaD2; Knecht 1971) and Delhi loamy fine sand (DbA; Knecht 1971). Areas clearly outside of Delhi sands soils were deemed unsuitable for the DSFLF. Secondly, those portions of the gap areas that fall within mapped Delhi sands, and areas immediately adjacent to these mapped soils (boundaries between soil types are sometimes blended or blurred on lands that have long been subject to disking), were ground-proofed and investigated for suitable conditions. Habitat suitability for DSFLF was evaluated using indicators such as presence and

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abundance of loose, unconsolidated Delhi sands with low organic contamination; presence of sand-associated insects; degree of habitat disturbance indicated by plant species composition and disposition of soil surface; presence and abundance of native sand-associated plant species often associated with Delhi sands and indicative of relative disturbance regimens (i.e., conditions with lesser disturbance being of higher quality for DSFLF) such as California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), Thurber's buckwheat (*Eriogonum thurberi*), California buckwheat (*Eriogonum fasciculatum*), and golden crownbeard (*Verbesina encelioides*).

In the course of previous work (Osborne 2003; Osborne et al. 2003), Ken Osborne developed a means of rating habitat on a given site for its potential to support DSFLF. Areas were rated on a scale of 1 to 5, with 5 being the best quality and most suitable habitat based on the following scheme:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. Unsuitable.
2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). Very Low Quality.
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. Low Quality.
4. Abundant clean Delhi sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. Moderate Quality.
5. Sand dune habitat with clean Delhi sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. High Quality.

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. While investigating the gap

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areas, Ken Osborne implemented an analysis of this kind to provide a general estimate of overall habitat conditions relevant to DSFLF potential.

2.3.4 Rare Plant Habitat Assessment

The rare plant habitat assessment included an evaluation of the gap areas to support rare plants, including San Diego ambrosia, Brand's phacelia, San Miguel savory, and other special-status plant species. The gap areas are small extensions of the Rare Plant Survey Area defined in the HAR and were assessed for their potential to support rare plants following the same methods and criteria discussed in Sections 2.5.1 through 2.5.3 of the HAR. To summarize, these methods included a review of the resources listed in Section 2.1 and a pedestrian survey covering 100% of the gap areas that were not developed.

3.0 RESULTS AND DISCUSSION

3.1 Vegetation Communities and Other Land Cover Types

Four vegetation communities and other land cover types were mapped within the gap areas. Each community and cover type is listed and described below. Figure 4 depicts the extent of each community within the gap areas.

3.1.1 Annual Brome Grasslands

Bromus (diandrus, hordeaceus)-Brachypodium distachyon Semi-natural Herbaceous Stands

Extensive areas within 500 feet of the Project components have been impacted by historic agricultural activities and are dominated by a suite of nonnative grass and forb species, including ripgut brome (*Bromus diandrus*), foxtail (*Hordeum murinum*), Indian hedge mustard (*Sisymbrium orientale*), Russian thistle (*Salsola tragus*), and *Chenopodium* species. This highly disturbed habitat also supports scattered nonnative trees and shrubs, including Peruvian pepper tree (*Schinus molle*) and tree tobacco (*Nicotiana glauca*), and occasional fragments of *Artemisia californica-Eriogonum fasciculatum* Alliance smaller than a minimum mapping unit. Collectively, these habitats have been mapped as *Bromus (diandrus, hordeaceus)-Brachypodium distachyon* Semi-natural Herbaceous Stands.

3.1.2 Developed

This cover type includes roadways, homes, businesses, parks, cemeteries, and similar developed lands, including their associated landscape plantings.

3.1.3 Active Agriculture

This cover type includes dairies and livestock feed yards or areas that have been tilled and used as croplands or groves/orchards.

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3.1.4 Ornamental/Landscaped

This cover type includes vegetation planted and maintained for human aesthetic value, typically in proximity to developed areas.

3.2 Riparian Bird Habitat Assessment

No suitable habitat was found within the gap areas for the three target riparian bird species.

3.3 Small Mammal Habitat Assessment

No suitable habitat was found within the gap areas for the three target small mammal species.

3.4 Delhi Sands Flower-loving Fly Habitat Assessment

Two undeveloped areas containing Delhi Sands were evaluated for their potential to support DSFLF. The first is an approximately 1-acre area along the margin of an agricultural field just north of Limonite Avenue that supports annual brome grassland (Figure 5). This area is contiguous with Site 1 of the DSFLF Survey Area evaluated in the summer of 2016 and is considered very low quality (given a rating of 2 according to the scale in Section 2.3.3) due to heavy disking and mixing with organic materials such as manure. Additionally, the strip of habitat is small and narrow, and surrounded by unsuitable conditions (busy roads, active agricultural fields, and residential developments), thereby isolating the strip from other patches of suitable habitat in the area (Figure 5).

The second undeveloped area supporting Delhi Sands is a 1.8-acre vacant lot at the corner of 68th Street and Lucretia Avenue, which is denuded of vegetation and currently being used for stockpiling soils and other ornamental ground cover (Figure 5). Due to its current use and the presence of exotic soils, rubble, and trash, this area is considered unsuitable and was given a rating of 1 from the scale in Section 2.3.3.

3.5 Rare Plants Habitat Assessment

The habitat assessment for rare plants was conducted within the gap areas in early October 2016. The bulk of the gap areas fall within Narrow Endemic Plant Species Survey Area 7 of the MSHCP, which requires surveys for San Diego ambrosia, Brand's phacelia, and San Miguel savory. Most of the gap areas are developed or in active agriculture and do not support suitable habitat for these three species (Figure 4). The remaining undeveloped areas illustrated in Figure 4 were assessed for their potential to support the three target species as well as any other rare plants listed by the MSHCP or CNPS. The list of rare plants taken into consideration is included as Appendix A in the 2016 HAR.

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The habitat assessment determined that there is little to no potential for rare plants to occur within the undeveloped portions of the gap areas due to the anthropogenically degraded and disturbed conditions. Furthermore, the undeveloped gap areas are far enough away from the proposed ground disturbance that impacts to vegetation (including rare plants) are not expected.

4.0 RECOMMENDATIONS

4.1 Riparian Birds

No suitable riparian habitat occurs within the gap areas; therefore, no additional surveys are required.

4.2 Small Mammals

No suitable habitat occurs within the gap areas; therefore, no additional trapping sessions are required.

4.3 Delhi Sands Flower-loving Fly

It is recommended that surveys be conducted within the 1-acre area north of Limonite Avenue by a permitted biologist according to the *Guidelines for Conducting Presence/Absence Surveys for the Delhi Sands Flower-loving Fly* (USFWS 1996). However, in the course of the original survey of Site 1 in summer 2016, the biologists often contributed 10 to 15 minutes (or more) to this area, covering the majority of the 1-acre gap area. Considering that the 1-acre gap area is (1) well removed from project ground disturbance (approximately 475 feet); (2) poor quality habitat associated with an overall very thin strip of "suitable" habitat; and (3) associated with Site 1, which was surveyed with robust effort this past year as to far exceed protocol expectations, it is recommended that a request for a deviation from protocol be submitted to U.S. Fish and Wildlife Service. The deviation request would be worded such that this additional 1-acre portion of habitat would be added to the Project's entire second-year survey in summer 2017 (2-year survey according to protocol) with the caveat that, although the entire gap area was not surveyed according to protocol, the majority of the area was covered during the summer 2016 surveys and that the results should not be rejected based on failure to conduct the survey for the entire gap area in the first year.

4.4 Rare Plants

The habitat assessment determined that there is little to no potential for rare plants to occur within the gap areas. Furthermore, the undeveloped gap areas are far enough away from the proposed ground disturbance that impacts to vegetation are not expected. No focused surveys are recommended within the gap areas.

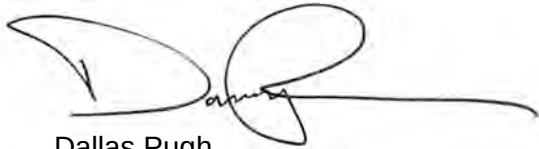
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4.5 Additional Notes

After investigating the new survey areas in the field, there was concern that the empty lot at the corner of 68th Street and Lucretia Avenue (same lot as DSFLF Unsuitable Habitat in Figure 5) could potentially support burrowing owl (*Athene cunicularia*). The Assessor's Parcel Number for the lot (157-202-016) was run through the Riverside County Online Conservation Report Generator to see if the property falls within a MSHCP-designated survey area for burrowing owl. The results of the query showed that no additional surveys are required for this property.

Please call me at (619) 610-7669 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dallas Pugh', with a long horizontal flourish extending to the right.

Dallas Pugh
Senior Biologist

Attachments: Figures

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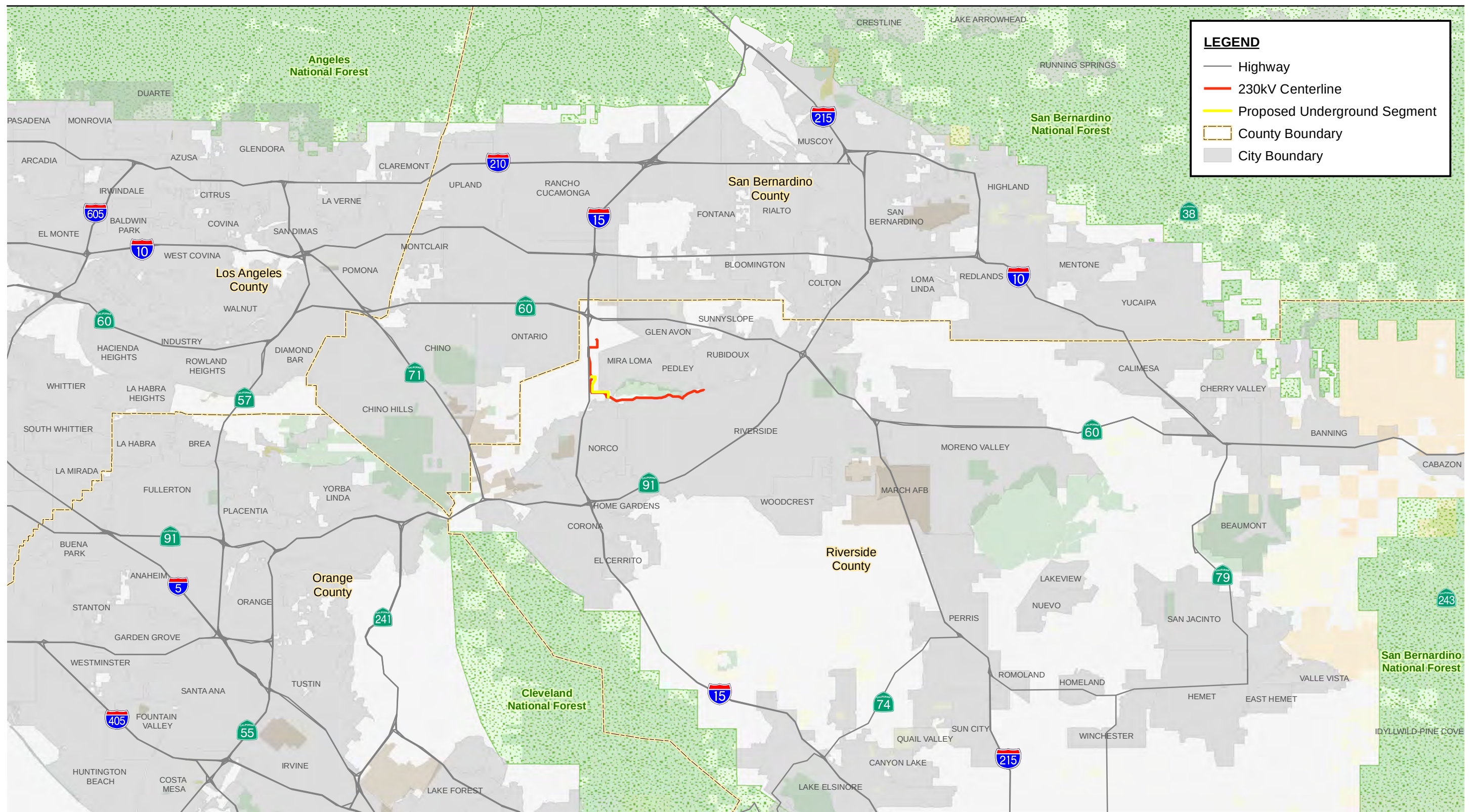
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FIGURES



Source: SCE; BLM; USFS; ESRI.

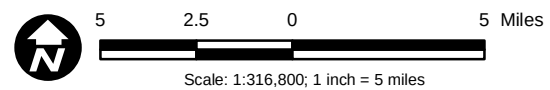


Figure 1 Regional Map

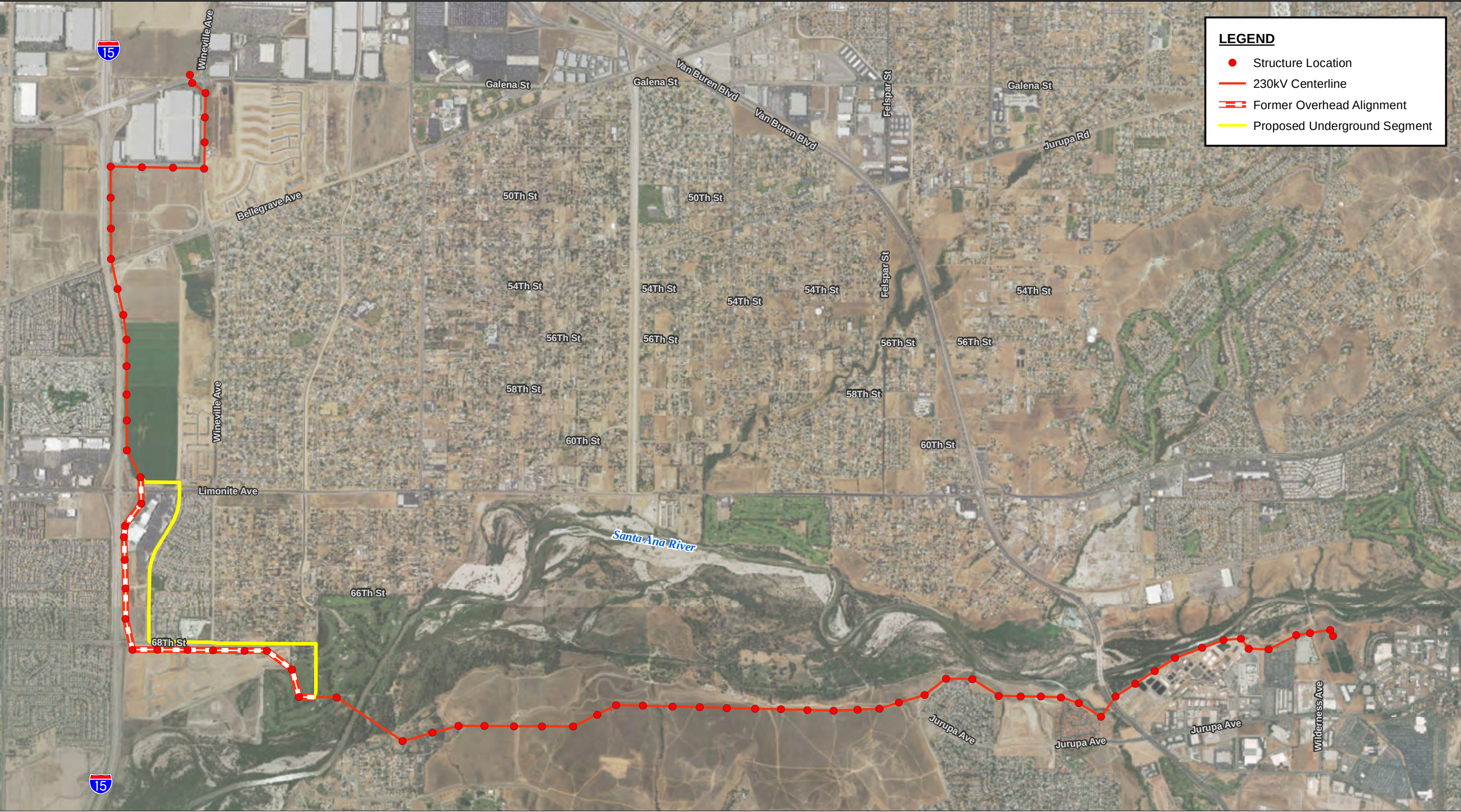
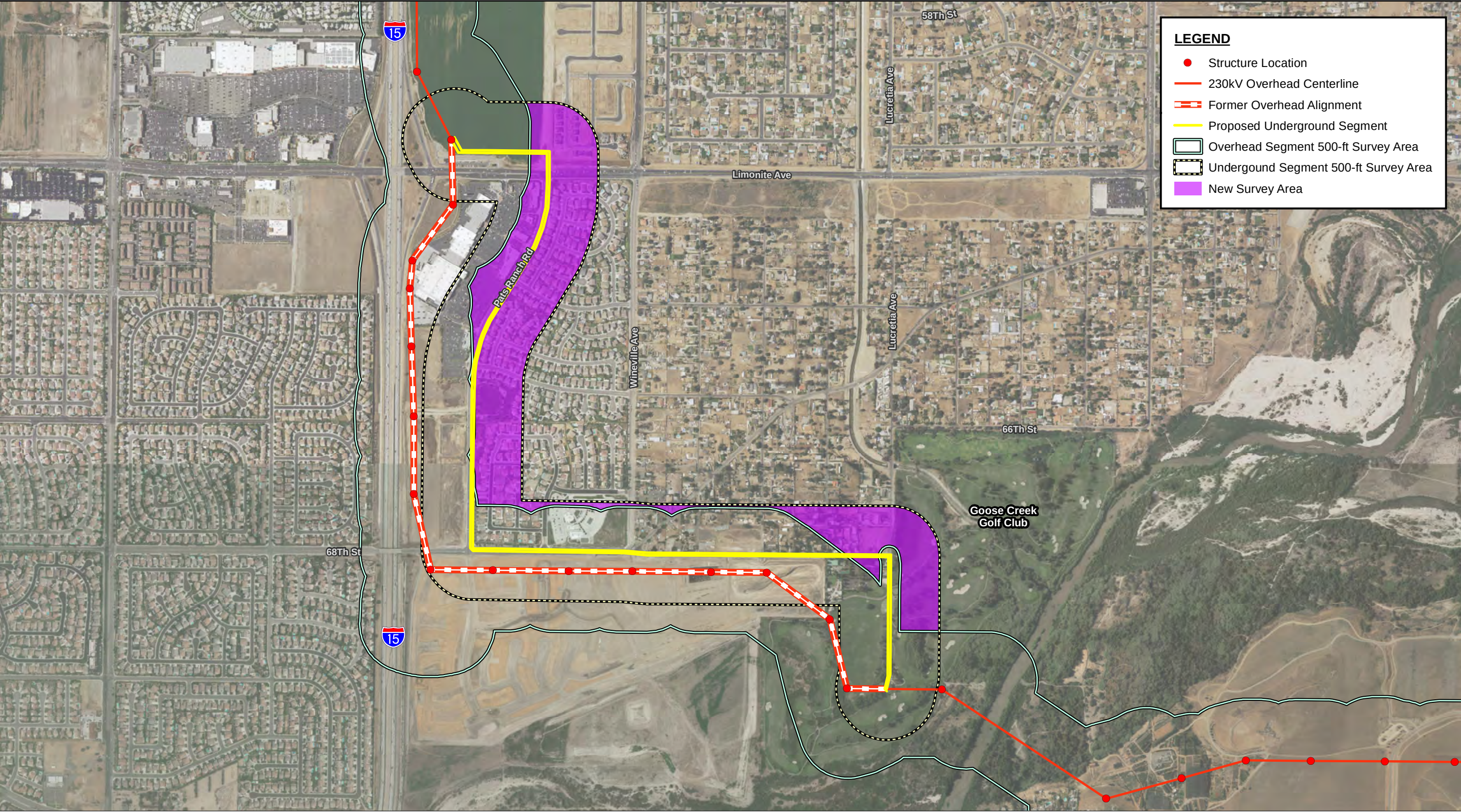


Figure 2
Vicinity Map



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

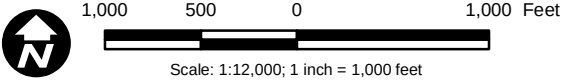
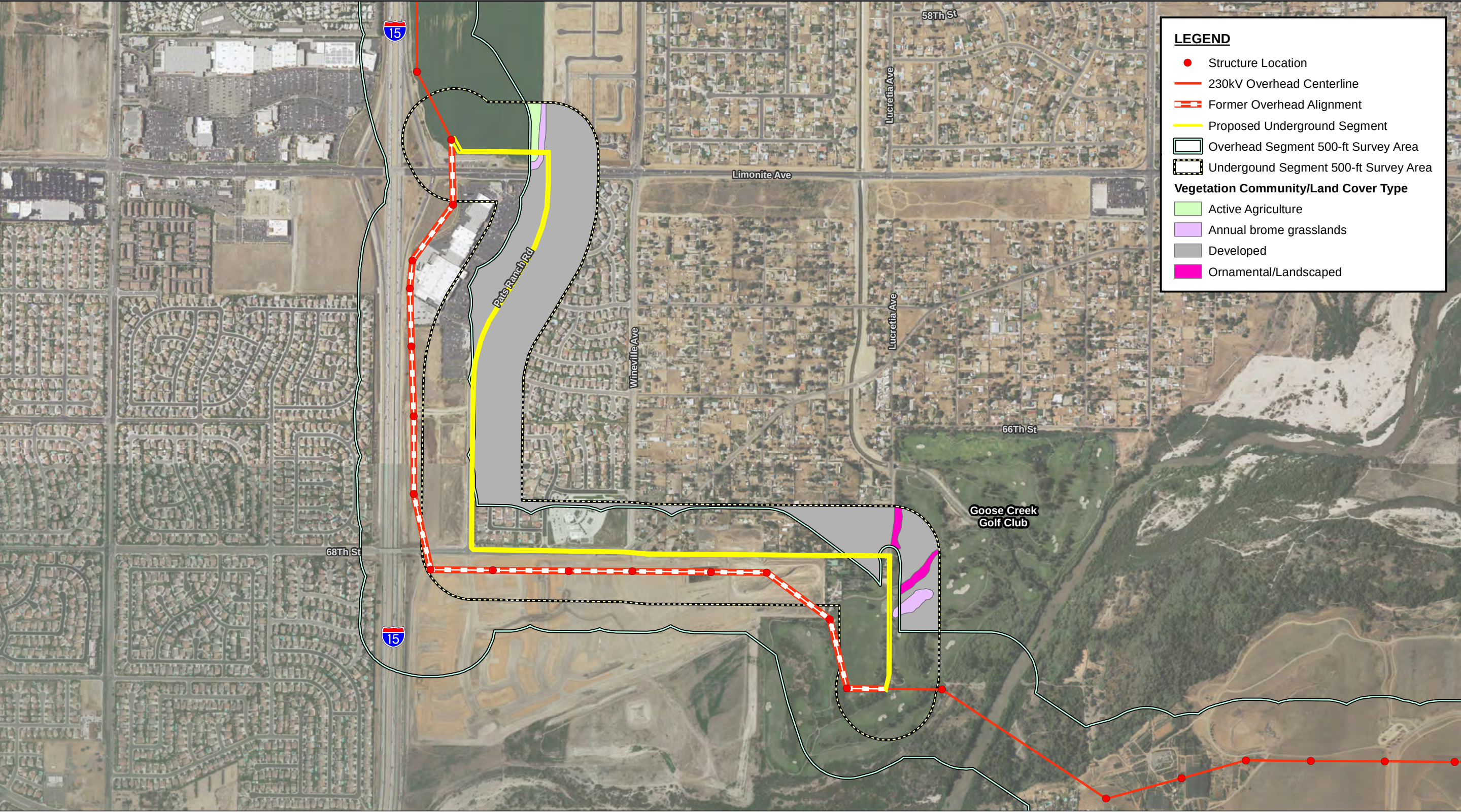


Figure 3
Overview of Underground Alignment



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

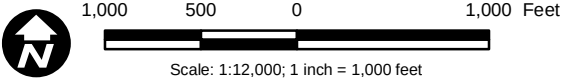


Figure 4
Vegetation Communities and
Other Land Cover Types

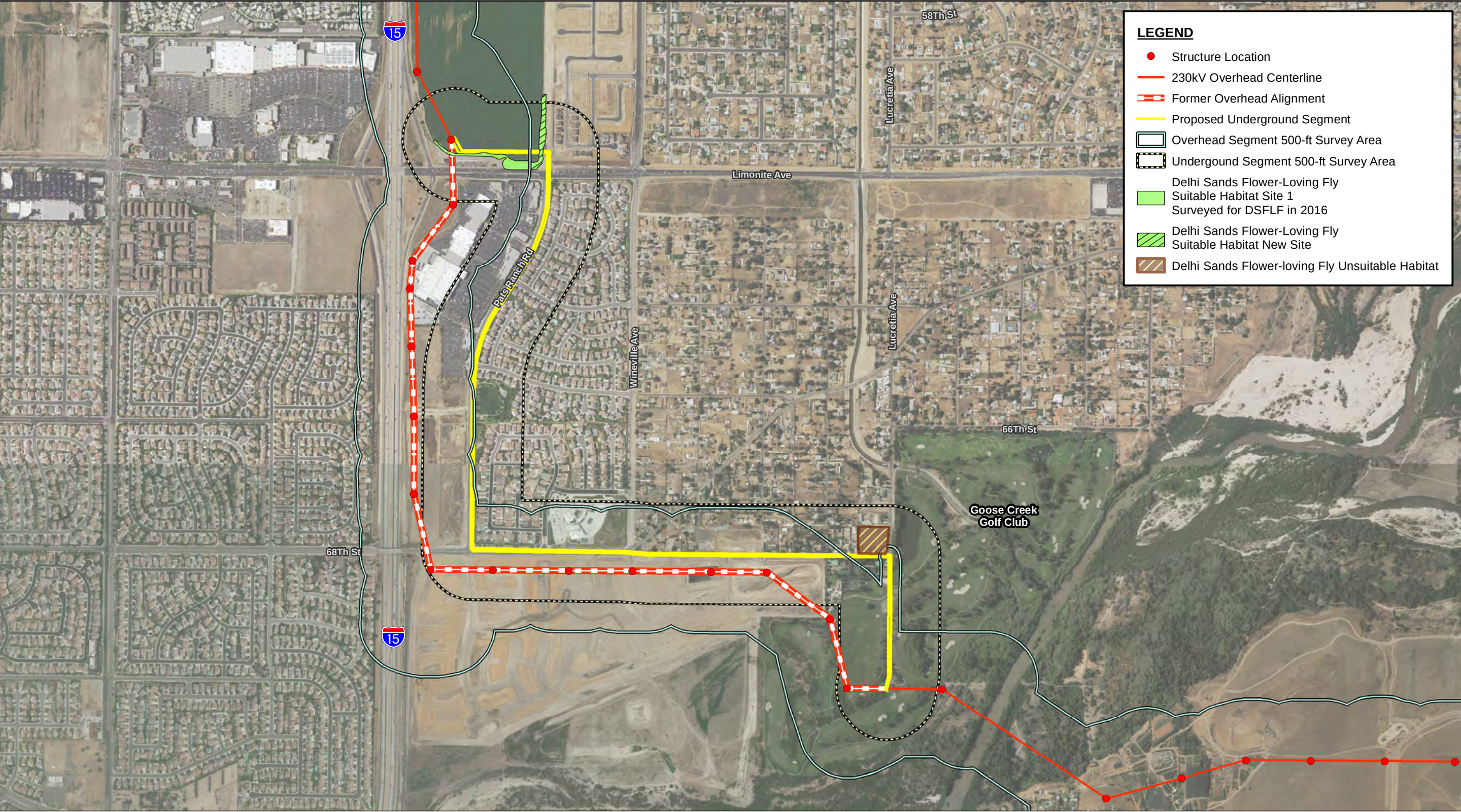


Figure 5
New Survey Areas (Excluding Developed Areas)

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Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution

**RIVERSIDE TRANSMISSION RELIABILITY PROJECT
FOCUSED/PROTOCOL SURVEY REPORT
RIVERSIDE COUNTY, CALIFORNIA**

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November 2016

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1.0 INTRODUCTION

Southern California Edison (SCE) contracted AECOM to conduct focused protocol surveys for a number of sensitive species along and adjacent to the Riverside Transmission Reliability Project (RTRP) alignment (Project). These surveys are in response to data requests received from the California Public Utilities Commission (CPUC) during their review of SCE's Application for a Certificate of Public Convenience and Necessity. At the request of SCE, this letter report summarizes the findings of focused surveys, for the following species:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; DSFLF)
- Least Bell's vireo (*Vireo bellii pusillus*; LBVI)
- Southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*; YBCU)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*; LAPM)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*; SDPM)
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*)

1.1 PROJECT DESCRIPTION

The Project is a joint venture with Riverside Public Utilities (RPU) to provide a new 230-kilovolt (kV) transmission line connection to RPU's transmission system and increase the reliability of their grid. SCE's scope of work includes construction of the following:

- Approximately 7.9 miles of new 230kV transmission line (overhead)
- Approximately 2.1 miles of new 230kV transmission line (underground)
- Access roads
- Towers
- Telecom
- Two marshalling yards

The focused/protocol surveys and survey report were completed as requested by CPUC.

1.2 PROJECT LOCATION

The Project is located in the northwest portion of Riverside County, north of Norco and south and east of Mira Loma (Figure 1; all figures are included in Appendix A). The western (north-

south) segment of the Project alignment is located just east of Interstate 15 (Figure 2). The northern terminus occurs just west of the intersection of Cantu Galleano Ranch Road and Wineville Avenue, while the southern terminus occurs northeast of the dead-end at Wilderness Avenue, just south of the Santa Ana River (Figure 2).

Of the approximately 10 miles of proposed transmission line, SCE proposes to reroute and underground approximately 2.1 miles that were originally intended to be overhead. This underground alignment was not included in the focused survey areas discussed in this report. Instead a habitat assessment was conducted along the underground alignment (plus a 500-foot buffer) in October of 2016 for the target species discussed in this report. The results of the habitat assessment are included in the RTRP Underground Alignment Habitat Assessment Report (AECOM 2016a).

The Project can also be described as occurring in Sections 24, 25, 26, 27, 28, 29, 32, 33, and 34 of Township 2 South, Ranges 5 and 6 West of the Riverside West and Corona North, California U.S. Geological Survey (USGS) Topographic Quadrangle. Elevation along the Project averages approximately 695 feet above mean sea level (amsl) with a maximum elevation of approximately 785 feet amsl at the Wilderness Substation.

The Project occurs within Roughstep Unit 1 (northwest corner) of the Western Riverside County Multiple Species Conservation Plan (MSHCP) and crosses three Criteria Cells: 610, 617 and 700 (Figure 3). Proposed conservation areas within these Cells are described in the MSHCP and regulated and monitored by the Western Riverside County Riverside Conservation Authority.

1.3 PURPOSE OF THE REPORT

During their review of SCE's Application for a Certificate of Public Convenience and Necessity, CPUC requested an update to the 2010 *RTRP Biological Resources Technical Report* (BRTR) prepared by Power Engineers, Inc. (Power Engineers, Inc. 2010), which included habitat assessments and focused surveys for the aforementioned regulated species. Because the data presented in the BRTR are more than 6 years old, the update was to ensure that the analysis of impacts to regulated resources described in the Certificate of Public Convenience and Necessity was supported by the most current data. Subsequently, habitat assessments were conducted for each species in the spring and summer of 2016 by respective species specialists and/or permit holders. Suitable habitat for each species was found to occur within or adjacent to several areas along the RTRP, depending on the presence of specific habitat requirements; therefore, subsequent focused surveys for each species was required. Descriptions and specific locations of

suitable habitat are summarized in Section 1.5 of this report. Full descriptions of suitable habitat are included in the 2016 RTRP Habitat Assessment Report (HAR) (AECOM 2016b) and the 2016 RTRP Underground Alignment Habitat Assessment Report (AECOM 2016a).

This report presents the findings of focused surveys for the DSFLF, LBVI, SWFL, YBCU, LAPM, SDPM, and SBKR in suitable habitat along the RTRP in western Riverside County, California.

1.4 SPECIES BACKGROUND

1.4.1 Delhi Sands Flower-loving Fly

The DSFLF belongs to the Dipteran (fly) family Mydidae. These flies are relatively large with size ranging from approximately 1.5 to 4 centimeters (0.6 to 1.6 inches). All species of Rhabdiomidas are associated with arid, sandy habitats, with most species living on dune systems of inland desert valleys, rivers, deltas, and beach strands. The DSFLF is generally found in areas containing Delhi fine sands soil type. The DSFLF is only known from Riverside and San Bernardino Counties, with most occupied DSFLF habitat located within a limited area of southwestern San Bernardino County (USFWS 2008). The unconsolidated sandy Delhi soils in suitable habitat support an open community of native and exotic plant species. Dominant plants are typically California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), and deerweed (*Acmespon glaber*) but many exotic species often dominate within DSFLF habitat as well (Kingsley 1996). DSFLF have been found in habitats that do not support these dominant plant species, and plant species composition may not be directly relevant to larval development (due to likely predatory or parasitic habit of DSFLF larvae). Adult DSFLF are thought rarely to nectar at flowers of California buckwheat and California croton. Many other plant species are common, including Thurber's eriogonum (*Eriogonum thurberi*), Autumn vinegar weed (*Lessingia glandulifera*), and sapphire eriastrum (*Eriastrum sapphirinum*). Non-native plant species also occur in DSFLF habitat (and incidentally, virtually everywhere). DSFLF habitat also supports other associated insects such as flies and wasps considered as indicator species: *Apiocera convergens*, *Apiocera chrysolasia*, *Ligyra gozophylax*, *Campsomeris tolteca*, *Trielis alcione*, and *Nemomydas pantherinus*.

The life history of the DSFLF is largely unknown. Oviposition (egg-laying) occurs within loose, sandy soils in late summer months and may primarily occur near telegraph weed (Rogers and Mattoni 1993; Kingsley 1996). Larval stages develop completely underground and emerge as

adults from July through September. Adults are most active during the warmest, sunniest parts of the day, and both males and females extract nectar from California buckwheat and other plants (Kingsley 1996; USFWS 2008).

1.4.2 Least Bell's Vireo

Historically, this subspecies was a common summer visitor to riparian habitat throughout much of California. Currently, LBVI is found only in riparian woodlands in southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside Counties.

LBVI is restricted to riparian woodland and is most frequent in areas that combine an understory of dense young willows or mulefat with a canopy of tall willows. Since LBVI build their nests in dense shrubbery 3 to 4 feet above the ground (Salata 1984), they require young successional riparian habitat or older habitat with a dense understory. Therefore, riparian plant succession is an important factor in maintaining LBVI habitat. Nests are also often placed along internal or external edges of riparian thickets (USFWS 1986).

LBVI arrives in Riverside County in late March and early April and leaves for its wintering ground in September.

The LBVI's decline was attributed to loss, degradation, and fragmentation of riparian habitat combined with nest parasitism by the brown-headed cowbird (*Molothrus ater*). Due to concerted programs focused on preserving, enhancing, and creating suitable nesting habitat, the LBVI population has steadily increased in population size along several of its breeding drainages in southern California. Significant increases in breeding populations have occurred along the Santa Ana River at Prado Basin, and on the Santa Margarita River on U.S. Marine Corps Base Camp Pendleton, as well as at several other sites throughout the region.

1.4.3 Southwestern Willow Flycatcher

This subspecies of willow flycatcher is a summer breeding resident in riparian habitats in southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and northwestern Mexico (USFWS 1995). It is restricted to dense riparian woodlands of willow, cottonwood, and other deciduous shrubs and trees. In general, the riparian habitat of this species tends to be rare, isolated, small, and/or in linear patches, separated by vast expanses of arid lands.

Spring migration of the endangered subspecies is relatively late, beginning in early May and extending through June (Unitt 2004). Another subspecies that breeds to the north in the northern Sierra Nevada Mountains and the Cascade Range, little willow flycatcher (*E. t. brewsteri*), migrates through southern California between mid-May and mid-June. There is a period of overlapping occurrence in Riverside County riparian habitats for these two very similar looking subspecies during spring and fall migration. Fall migration of both subspecies occurs rather early, from August through mid-October. Egg laying by the endangered southwestern willow flycatcher occurs in Riverside County from the end of May through the end of June. Dense willow thickets are required for nesting, and nests are often near standing water (CDFG 1990). Willow flycatchers hunt for insects from low exposed perches, flying out to catch the insects in mid-air.

The SWFL was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in February 1995 because of "extensive loss of riparian breeding habitat, brood parasitism by the brown-headed cowbird, and lack of adequate protective regulations" (USFWS 1995). This subspecies was previously listed as endangered by the California Department of Fish and Game (now California Department of Fish and Wildlife [CDFW]) in December 1990. The population of SWFL in southern California was estimated to be less than 80 pairs in the early 1980s (Unitt 2004).

1.4.4 Western Yellow-billed Cuckoo

The YBCU is a slim, long-tailed bird about 30 centimeters (12 inches) in length and weighs about 60 grams (2 ounces). Its broad curved bill is yellow at the base of the lower mandible and black on top. The grayish-brown color of its head and back contrasts with its white underparts. The long tail is grayish brown above and strikingly marked with six white spots against a black background below. They have zygodactyl feet (two toes forward and two toes backward) unlike the three forward and one backward pointing toe arrangement of most songbirds.

The YBCU is a riparian species and breeds in low- to moderate-elevation native forests lining the rivers and streams of the western United States (Daw 2014). Cottonwood-willow forests (*Populus* spp. - *Salix* spp.) are most often used, although other riparian tree species can be important components of breeding habitat as well, such as alder (*Alnus* spp.), box elder (*Acer negundo*), mesquite (*Prosopis* spp.), Arizona walnut (*Juglans major*), Arizona sycamore (*Platanus wrightii*), oak (*Quercus* spp.), netleaf hackberry (*Celtis reticulata*), velvet ash (*Fraxinus velutina*), Mexican elderberry (*Sambucus mexicanus*), seepwillow (*Baccharis glutinosa*), and occasionally tamarisk (*Tamarix* spp.) (Daw 2014). YBCU require relatively large

(>49 acres), contiguous patches of multilayered riparian habitat for nesting. The multilayered canopy provides shade and traps moisture to create the relatively cooler and more humid streamside conditions which are believed to be important for nesting success. They are also known to nest in early to mid-successional native riparian habitat (Daw 2014).

Migration and wintering habitat needs are not well known, although they appear to include a relatively wide variety of conditions. Migrating YBCU have been found in coastal scrub, second-growth forests and woodlands, hedgerows, forest edges, and in smaller riparian patches than those used for breeding. Wintering YBCU generally use woody lowland vegetation near fresh water (Daw 2014).

The YBCU was listed as threatened by USFWS in November 2014 because of loss, degradation, and fragmentation of riparian habitat combined with nest parasitism by the brown-headed cowbird.

1.4.5 Los Angeles Pocket Mouse

The LAPM is a minute heteromyid, the smallest of the three targeted species and averaging between 8 to 12 grams. LAPM is one of eight subspecies of the little pocket mouse (*Perognathus longimembris*) (Brylski et al. 1998). The LAPM is generally rare, its distribution being similar to the historic range of SBKR within San Bernardino and Riverside Counties (Brylski et al. 1998; RCIP 2002). Detection of LAPM can be challenging due to its typical limited presence above ground between late March and early September, and its ability to enter into torpor (a quiescent physiological condition) at times of low temperatures and/or low food supplies (RCIP 2002). As a result, trapping must be conducted during the warmer months of the year to maximize the potential for capture of this species.

LAPM are most likely to inhabit areas containing fine sandy soils, which is an excellent medium for burrow excavation by this diminutive animal. Like many heteromyids, LAPM dig burrow systems along the base of shrubs or amidst other vegetation, and position themselves within the burrow as environmental conditions change (Kenagy 1973; RCIP 2002). Habitat preferences suggest that LAPM forage under the protection of a vegetative canopy and are rarely found in exposed open areas (RCIP 2002). Thus, targeting scrub vegetation communities and the bases of shrubs or other vegetation types in fine sandy soils along the Santa Ana River would be expected to maximize the likelihood of discovering this species during field surveys (Brylski et al. 1993, RCIP 2002).

1.4.6 Northwestern San Diego Pocket Mouse

The SDPM is a medium-sized heteromyid that prefers scrub communities, rock outcroppings, and grasslands adjacent to scrub habitat (RCIP 2002). Of the three target heteromyid target species, the SDPM is considered well distributed in the region. Although relatively common in occupied habitats, SDPM can be negatively affected by habitat fragmentation and disturbance (RCIP 2002). However, when present in a location this species is usually readily trapped. SDPM was considered potentially present in multiple locations along the transmission line where patches of remnant sage scrub vegetation occurred in association with rocky areas and suitable sandy-loam soils. Thus, if present in the Project area, this species would likely be captured during standard trapping surveys at one or more of the proposed trapping locations (RCIP 2002).

1.4.7 San Bernardino Kangaroo Rat

The SBKR, a member of the rodent family Heteromyidae, is endemic to southwestern California. It is one of 19 subspecies of the Merriam's kangaroo rat (*Dipodomys merriami*), which is widely distributed throughout the western United States and northwestern Mexico. Populations of SBKR historically ranged throughout alluvial floodplains and adjacent upland habitats, from the San Bernardino Valley in San Bernardino County to Menifee and San Jacinto Valleys in Riverside County. Twenty-five separate locations were identified by McKernan (1997) in San Bernardino and Riverside Counties, four of which (City Creek, Etiwanda, Reche Canyon, and South Bloomington) supported only small remnant populations. The Santa Ana River, Lytle and Cajon washes, and the San Jacinto River support the largest extant concentrations of SBKR and suitable habitat for this species (approximately 13,697 acres of potentially suitable habitat); however, all but 3,215 occupied acres are currently more mature than the open, early successional habitat type preferred by SBKR (USFWS 1998; USFWS 2009).

SBKR prefer sparse vegetative cover and are primarily associated with Riversidean alluvial fan sage scrub (now termed scalebroom scrub). The species typically occurs in large river-wash systems such as the Santa Ana River, San Jacinto River, Cajon Wash and Lytle Creek (Brylski et al. 1998; RCIP 2002). However, it has been found in stands of chaparral, dense Riversidean and alluvial fan sage scrub, grasslands associated with Riversidean scrub, and even a heavily disturbed former orange grove in Redlands, California (RCIP 2002; Montgomery 2016). Low-elevation sandy terraces (also called benches) at varying elevations adjacent to and outside of the immediate main flood zones are an important aspect of SBKR habitat in natural alluvial systems. Such terraces serve as refuges for SBKR during heavier flood events, and the soft loamy soils allow SBKR to excavate burrows with ease (Brylski et al. 1998).

1.5 DESCRIPTION OF SURVEY AREAS

Habitat assessments were conducted separately for each taxa/species by a respective specialist(s). The habitat assessments generally included areas within 500 feet of each Project component (including two marshalling yards) as well as 100 feet on either side of Project-related access roads identified by SCE. During the habitat assessments, the biologists determined the location and extent of suitable habitat for the target species and delineated the limits of said habitat in the field using orthorectified aerial maps depicting the Project components and survey buffers. All suitable habitat was later digitized and quantified using geographic information system (GIS) software and provided to the biologists conducting the focused/protocol surveys. Detailed methodologies for each habitat assessment survey are included in Sections 2.2.1 through 2.2.7 of the 2016 HAR (AECOM 2016b). The resulting suitable habitat mapping defined the survey areas in which the focused/protocol surveys were carried out. Each survey area is described below with respect to species/taxa.

1.5.1 Delhi Sands Flower-loving Fly

The distribution of Delhi sands soils on undeveloped lands within the Project area (including a buffer area) is restricted to a few discontinuous areas extending from the north side of the Santa Ana River to immediately north of Cantu-Galleano Ranch Road (Figure 4a). Much of the Project passes through extensive areas of undeveloped lands along the Santa Ana River. Though these riverine soils are often sandy, they are alluvial sands, often flooded and with an associated high water table supporting riparian vegetation and representing conditions unsuitable for DSFLF.

Knecht (1971) indicated the suitable habitat areas along the Project consist of Delhi fine sands and were observed to have high silt content. Appendix B provides a list of plant species encountered within the survey areas.

The distribution of Delhi sands soils on undeveloped lands within the Project area (i.e., habitat ratings 2 through 5 described in Section 2.4 of the HAR) are restricted to a few discontinuous areas extending from the north side of Limonite Avenue to immediately north of Cantu-Galleano Ranch Road (Figure 4a). For reference, each of these discontinuous, discrete areas identified as representing suitable habitat for DSFLF is numbered 1 through 4 (with subparts of Area 2) as follows with their approximate acreages: Area 1 of 0.9 acre is located on the north side of Limonite Avenue; Area 2a of 4.63 acres is located on the south side of Landon Drive; Area 2b of 1.5 acres is located at the southwestern intersection of Landon Drive and Wineville Avenue; Area 3 of 35.69 acres is located on the northwestern intersection of Wineville Avenue and

Cantu-Galleano Ranch Road; and Area 4 (the southernmost marshalling yard) of 5.42 acres is located northwest of the intersection of Cantu-Galleano Ranch Road and Etiwanda Avenue. The total combined acreage of these areas is 48.14 acres.

Area 1

Area 1 is located north of and adjacent to Limonite Avenue (just east of Interstate 15). This area has rolling topography with a prominent sandy ridge (overlying a high-pressure natural gas line) at elevations ranging from 648 to 666 feet amsl. The majority of this undeveloped site (northerly portions) is situated in an active agricultural field, in previous use for decades (at least since 1994, Google Earth). These agricultural portions of the site are unsuitable for DSFLF. A small southern edge of this site exhibits abundant Delhi sands, sand-associated insects (*Bembix* are abundant) and plants (golden crownbeard [*Verbesina encelioides*]) and is sufficiently undisturbed to constitute suitable DSFLF habitat of moderate to low quality. Most western portions of this survey site are mapped with soils other than Delhi sands. However, due to a history of excavations (an underground pipeline) and agricultural tilling, the soils have been mixed with the Delhi sands present on eastern portions of the survey area, and so these western portions of the site are liberally included as potential habitat for DSFLF. Vegetation in Area 1 consists of partially irrigated ruderal vegetation adjacent to an agricultural field. Dominant species include golden crownbeard, common sunflower (*Helianthus annua*), tumbleweed (*Amaranthus albus*), Palmer's amaranth (*Amaranthus palmeri*), Russian thistle (*Salsola tragus*), and London rocket (*Sisymbrium irio*). Lands to the north of Area 1 were found to be highly disturbed, agricultural fields. Other surrounding areas are developed to roads.

Area 2

Area 2 consists of two discontinuous patches of sand deposits, fallow in recent years after a long history in agricultural use, located along the south side of Landon Drive. This area has gently rolling topography with elevations ranging from 703 to 717 feet amsl. Small patches of soils mapped as with Delhi sands (Knecht 1971) constitute the portions representing DSFLF habitat (Areas 2a and 2b) mapped by Knecht. Current conditions through these areas range from low to high quality DSFLF habitat. Area 2 is composed of exotic grassland and forbland dominated with mustard (*Sisymbrium* spp.) and golden crownbeard. Commercial-industrial development occurs to the north (across Landon Drive) while residential development and an operational dairy occur to the northeast. Disturbed agricultural and annual grasslands extend to the south and west from Area 2 on mostly non-Delhi sand soils.

Area 3

Area 3 on the northwest of intersection of Wineville Avenue and Cantu-Galleano Ranch Road also represents a site fallow in recent years after a long history in agricultural use. Area 3 has gently rolling topography with elevations ranging from 738 to 757 amsl.

Though portions appear to be disked on an annual basis, a small fragment of remnant dune along the roadside remains essentially unchanged since the previous DSFLF surveys undertaken in 2010 and 2011 (Osborne 2011). Conditions on the site rate as moderate quality DSFLF habitat. Area 3 contains vegetation dominated by very dense Russian thistle, lamb's quarters (*Chenopodium album*), Kochia (*Kochia scoparia*), and mustard with smaller areas of dense golden crownbeard. Lands to the north and west of Area 3 are similar to the survey area as they also support exotic grasslands and dense stands of Kochia, Russian thistle, and tumbleweed. To the south, across Cantu-Galleano Ranch Road and east across Wineville Avenue, commercial-industrial developments occur. Southeast of Area 3, across the Cantu-Galleano Ranch/Wineville intersection, is an operational dairy with conditions unsuitable for DSFLF.

Area 4

Area 4 on the west side of Etiwanda Avenue is an open field without any recent agricultural use, mapped (Knecht 1971) with Tujunga soils. However, this site is part of a larger field with Delhi sands on its southern portions and, due to a history of disking on the site, soils are mixed. Area 4 is essentially flat with an elevation ranging between 743 and 753 feet amsl. The area is dominated by Russian thistle and lamb's quarters with some sand-associated plant species present. The site is rated as low to moderate quality DSFLF habitat and included for focused survey in spite of its being mapped as alluvial Tujunga soils. Adjacent lands have similar open fields adjacent to surveyed portions of this vacant lot to the south and west. Beyond these, all surrounding lands are developed to roads or commercial buildings.

Table 1 provides the ratings of habitats on-site as they relate to potential to support DSFLF, along with brief explanations of conditions driving the rating.

Table 1
Rating of DSFLF Habitat Quality within Project Area

Survey Area	Habitat for DSF	Explanation
1	Low Quality	A small area with relatively undisturbed Delhi sands with ruderal vegetation dominated by annual grasses, <i>Verbesina</i> , <i>Helianthus</i> , and <i>Amaranthus</i> . Very small area in extent, and long surrounded by unsuitable agricultural conditions, renders the site as low quality habitat. Site includes other soils mixed with Delhi sands.
2a	Low to High Quality	History of disking, vegetation of exotic annual grasslands. Sands appear overly fine and semi-alkaline.
2b	Low to Moderate Quality	History of disking, vegetation of exotic annual grasslands and forblands with <i>Verbesina</i> in some areas.
3	Moderate Quality	History of disking, vegetation of exotic annual forbs (<i>Salsola</i> , <i>Kochia</i>) with <i>Verbesina</i> prominent on a limited sandy portion. Portions of relictual dune.
4	Low to Moderate Quality	Large field with extensive sandy soils mapped with Tujunga soils, but disking has mixed soils with Delhi sands. Sand-associated plants.
Dairy	Unsuitable	Heavily disturbed, wet, irrigated pastures, cattle pens, developed, and landscaping.
Corn field	Unsuitable	North of and adjacent to Area 1, in active agriculture (currently corn) commonly sorghum for years.
68th St. lot	Unsuitable	Northwest corner of Lucretia Ave. and 68th St. Northwest half of lot mapped with sands, but contaminated by storage of exotic soils, mulches, gravel.
Santa Ana River	Unsuitable	Alluvial sands supporting riparian woodlands, high water table, often flooded.

1.5.2 Least Bell's Vireo, Southwestern Willow Flycatcher, and Yellow-Billed Cuckoo

The surveys for the LBVI, SWFL, and YBCU were divided into three distinct survey areas (Figure 4b). These are described in more specific detail below.

Area 1 – Golf Course

This survey area is the most artificial of the three segments. The northern half consists of pockets of riparian vegetation in the midst of a golf course (Figure 4b). This riparian vegetation is largely black willow (*Salix goodingii*) and various exotic trees (e.g., ash, mulberry, eucalyptus) with some tangled understory of sandbar willow (*Salix exigua*), mulefat (*Baccharis salicifolia*), and nettles (*Urtica dioica*). South of the golf course on both sides of the Santa Ana River, the vegetation is wild with a canopy of cottonwood (*Populus fremontii*) and black willow with an understory of mulefat, nettles, giant reed (*Arundo donax*), and various annuals (mostly dry

during the survey period). The presence of healthy riparian vegetation and a permanent water supply suggest that this area could be suitable for nesting southwestern willow flycatchers. An active trapping cage for brown-headed cowbirds was present just south of the golf course on all survey visits. This area was surveyed in two parts: the golf course and northern floodplain of the river were covered first. The survey then continued with biologists driving around to the south side through the entrance to Hidden Valley wildlife area and walking from there.

Area 2 – Hidden Valley

This survey segment mostly runs along the south bank of the Santa Ana River roughly from the nature center at Hidden Valley Wildlife Area east to Van Buren Drive (Figure 4b). There are also a few parts of the north shore included in the survey area, as well as a small arroyo and other detached pockets of riparian vegetation to the south. The survey area is well wooded and the canopy throughout consists largely of cottonwood and black willow with an understory of mulefat, nettles, sandbar willow, and blackberry (*Rubus ursinus*). The presence of healthy riparian vegetation and a permanent water supply suggest that this area could be suitable for nesting LBVI, SWFL, and YBCU. Access to the entire survey area is along the bike path and trails that pass through or parallel to the suitable habitat along the river (Figure 4b).

Area 3 – East of Van Buren

This survey segment includes portions of the north and south banks of the Santa Ana River east of Van Buren Drive for approximately 2 kilometers (Figure 4b). The survey area is thickly vegetated and well wooded: the canopy throughout consists largely of cottonwood and black willow with an understory of mulefat, nettles, sandbar willow, and blackberry (*Rubus ursinus*). Cattail (*Typha* sp.) and bulrush (*Scirpus* sp.) reeds are present along the river bank in slower moving shallow areas. There are also various exotic trees (palms, eucalyptus, and tamarisk) scattered throughout. The presence of healthy riparian vegetation and a permanent water supply suggest that this area could be suitable for nesting LBVI, SWFL, and YBCU. This survey area has a high homeless population and footpaths pass through much of the core parts of the survey area. Access is best from the bike path of the south bank, the homeless footpaths, and a dirt road on the north shore (Figure 4b).

1.5.3 Los Angeles Pocket Mouse, Northwestern San Diego Pocket Mouse, and San Bernardino Kangaroo Rat

The overall Project alignment encompasses a complex array of more natural habitats, as well as expansive areas of different types of human disturbances exemplified by cultivated fields, dairies, graded lands, residential housing developments, areas in the process of being developed into residences, a golf course, highways and heavily used local roads, and bridges. Within array of natural habitats, there are pockets of small mammal habitat along the southern (east-west) portion of the alignment (Figure 4c). Numerous homeless encampments also occur in the eastern portion of the Project alignment. Natural habitats remaining in the Project area occur in the southern segment of the Project alignment and primarily include the expansive mature riparian woodland and riparian scrub communities along the Santa Ana River and in small side drainages, the expansive disturbed annual grasslands in the Project area, and small patches of native sage scrub in scattered locations away from the river (Figure 5). The effect of the various land disturbances in the area has been to fragment existing natural scrub and grassland habitat types into patches of varying size and configurations. In contrast, the riparian communities along the Santa Ana River have largely remained intact over time and represent a contiguous block of native habitat that is generally of high value to numerous species of wildlife.

The western (north-south) segment of the Project area (Figure 5) is entirely disturbed by cultivated fields, abandoned (and one active) dairies, and residential and commercial developments. No habitats suitable for the three target species occur in this part of the Project alignment. In contrast, the southern (east-west) segment (Figure 5) exhibits extensive areas of development (residential, golf course) at its western end. Large easterly expanses of undeveloped land encompass the well-developed stands of mature riparian woodland and riparian scrub vegetation along and in small side drainages of the Santa Ana River, and large areas of disturbed annual grassland and scattered typically very small isolated patches of low quality scrub vegetation away from the river. The abundant large homeless camps in the easternmost part of the Project alignment, the corresponding constant presence of human traffic in this area and in some cases, the presence of camper's dogs, function to disturb the extant natural habitats in this part of the alignment. Such disturbances would naturally degrade habitat conditions as well as have a tendency to negatively affect native rodent species that might inhabit (or have inhabited) this area. Depending on their intensity and regularity, such disturbances could result in the extirpation of certain species, or reduce numbers per species in these areas. Soil conditions in the southern segment vary from pure sand in the Santa Ana River floodplain to sandy loams away from the river floodplain.

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2.0 METHODS

2.1 HABITAT ASSESSMENTS

Habitat assessments were conducted separately for each taxa/species by a respective specialist(s). The habitat assessments generally included areas within 500 feet of each Project component (including two marshalling yards) as well as 100 feet on either side of Project-related access roads identified by SCE. The only instance where this standard buffer was not implemented was the focused survey for San Diego ambrosia—surveys were conducted within and adjacent to the proposed impact areas. Detailed methodologies for each habitat assessment survey are included in the 2016 HAR (AECOM 2016b).

The biologists determined the location and extent of suitable habitat for the target species and delineated the limits of said habitat in the field using orthorectified aerial maps depicting the Project components and survey buffers. Suitable habitat was later digitized and quantified using GIS software. To gain knowledge of the existing conditions within the Project area and vicinity, a historical literature and database review were first implemented before going in the field.

The suitable habitat delineated during the habitat assessments is described in Section 1.5 and provided the survey areas for the focused/protocol surveys described below.

2.2 HISTORICAL LITERATURE AND DATABASE REVIEW

To understand the conditions of the Project area and see what sensitive species had been previously observed or detected, the BRTR prepared by Power Engineers, Inc. (Power Engineers, Inc. 2010), and the protocol survey reports included within, were reviewed prior to conducting the fieldwork. Outside of Project-specific literature, select data pertaining to the natural resources of the region were also reviewed prior to conducting the field survey. The following sources were consulted to obtain public information relevant to the gap areas:

- Western Riverside County Multiple Species Habitat Conservation Plan (RCIP 2004);
- Riverside County Integrated Plan Online Conservation Report Generator (RCIP 2016);
- California Natural Diversity Database (CDFW 2016); and
- USFWS Carlsbad Fish and Wildlife Office GIS data (USFWS 2016).

2.3 FOCUSED/PROTOCOL SURVEYS

Focused/Protocol surveys were conducted separately for each taxa/species by a respective specialist(s). The focused surveys included areas within 500 feet of each Project component (including two marshalling yards) that were deemed suitable during the 2016 habitat assessments (AECOM 2016b; see Sections 1.5 and 2.1 of this report). Detailed methodologies for each focused survey are included in Sections 2.3.1 through 2.3.5 below.

2.3.1 Delhi Sands Flower-loving Fly

From July 3 through September 20, 2016, USFWS-permitted biologists Kendall H. Osborne, (TE-837760-10), Jeremiah George (TE-837760-10), Rick Rogers (TE-844465-1), David K. Faulkner (TE-838743-6), and Eric S. Renfro (TE-142436-2) performed DSFLF protocol surveys in areas of suitable habitat along the Project area. Surveys followed the protocol outlined in the *Interim General Survey Guidelines for the DSFLF* (USFWS 1996). The guidelines indicate that focused DSFLF surveys should be conducted wherever Delhi sands are present within the presumed range of DSFLF, twice weekly (2 days per week) during the single annual flight period (usually from July 1 through September 20). Weather conditions must be suitable for DSFLF activity at the times survey work is pursued. The DSFLF is generally active when daytime temperatures exceed 80 degrees Fahrenheit (°F), but may fly with slightly cooler temperatures in bright sunlight.

Table 2 summarizes the dates, times, survey personnel, and weather conditions of all protocol presence/absence surveys for SWFL.

Several survey sites across the Project, comprising a total of 42.7 acres, were identified as having habitat conditions suitable for the DSFLF. In keeping with the recommended USFWS protocol, each site was surveyed at least 22 times. The level of survey effort at each site was determined by acreage (Table 3).

Table 2
DSFLF Survey Conditions and Personnel

Survey Areas	Personnel*	Date	Time	Weather Conditions
1-4	ER	7/3/2016	1000-1356	clear, winds 4-7 mph, 77-87°F.
1-4	RR	7/7/2016	1000-1346	10-0% clouds, patchy/clear, 2-4 mph, 79-98°F.
1-4	DF	7/11/2016	1000-1400	clear, 0-3 mph, 75-91°F.
1-4	JG	7/13/2016	1000-1400	clear to haze, 0-4 mph, 74-88°F.
1-4	RR	7/14/2016	1000-1348	clear, winds 1-7 mph, 83-98°F.
1-4	JG	7/16/2016	1000-1400	clear, 0-4 mph, 74-88°F.
1-4	RR	7/21/2016	1000-1348	clear, winds 0-11 mph, 89-104°F.
1-4	ER	7/23/2016	1000-1344	clear, winds 2-3 mph, 94-109°F.
1-4	DF	7/25/2016	1000-1400	30% clouds/patchy/smoke, 1-3 mph, 89-101°F.
1-4	KO	7/29/2016	1137-1400	clear, winds 0-10 mph, 94-100°F.
2-3	KO	7/30/2016	1000-1112	5-50% clouds, clear/patchy, 0-5 mph, 82-91°F.
1-4	RR	8/4/2016	1000-1348	5-15% clouds, patchy, 3-6 mph, 82-93°F.
2	KO	8/5/2016	1024-1035	clear, 0-2 mph, 83°F.
1-4	RR	8/9/2016	1000-1348	5-15% clouds, patchy, clear, 3-7 mph, 77-90°F.
1-2	KO	8/11/2016	1004-1021	clear, 3-5 mph, 78-79°F.
1-4	RR	8/11/2016	1015-1348	clear, 1-8 mph, 77-89°F.
1-4	RR	8/16/2016	1000-1348	clear, 2-8 mph, 84-93°F.
1-4	RR	8/14/2016	1000-1352	clear, 2-8 mph, 94-108°F.
1-4	RR	8/24/2016	1005-1351	clear, 3-8 mph, 81-94°F.
2-4	RR	8/26/2016	1035-1354	5-85% clouds, patchy, 1-5 mph, 75-80°F.
1-2	KO	8/27/2016	1115-1135	25-75% clouds/patchy/clear, 0-2 mph, 76-78°F.
1-4	RR	8/29/2016	1000-1356	clear, 2-7 mph, 80-103°F.
1-4	DF	9/1/2016	1000-1400	clear, 1-7 mph, 83-98°F.
1-4	RR	9/5/2016	1035-1400	50-90% clouds, patchy, clear, 1-8 mph, 75-83°F.
3	RR	9/7/2016	1225-1400	clear, 7-10 mph, 86-87°F.
1	KO	9/8/2016	1220-1240	clear, 0-5 mph, 83-84°F.
1-4	RR	9/8/2016	1000-1225	clear, 2-6 mph, 75-80°F.
1, 3, 4	KO	9/10/2016	1251-1400	clear, 0-5 mph, 91-95°F.
1-4	JG	9/12/2016	1000-1400	20-60% clouds, clear/overcast, 4-7 mph, 79-97°F. humid
1-4	RR	9/14/2016	1015-1400	5-10% clouds, patchy, clear, 3-8 mph, 82-86°F.
1-4	DF	9/18/2016	1000-1400	clear, 0-2 mph, 85-101°F.
1-4	KO	9/20/2016	1000-1341	75-100% clouds, overcast, 0-6 mph, 81-86°F. Humid

* KH = Kendall H. Osborne; JG = Jeremiah George; RR = Rick Rogers; DF = David K. Faulkner; ER = Eric S. Renfro

Table 3
Survey Areas, Acreages, and Calculated Minimal Survey Time (Effort)*

Survey Area	Acres	Hours / Day	Season Hours
1	0.9	0.07	1.58
2a	9.04	0.72	15.91
2b	1.5	0.12	2.64
3	25.84	2.07	45.48
4	5.42	0.43	9.54
Totals	42.7	3.41	75.15

*Assumes 22 visits total for the season (July 1 to September 20, two visits per week)

Survey efforts were conducted from July 3 through September 20, 2016, with the overall minimal survey effort totaling 75.15 hours (Table 3). Actual times of the surveys were recorded on the field data sheets presented in Appendix C.

Some undeveloped portions of the Project mapped with Delhi sands (Knecht 1971) were deemed unsuitable for DSFLF due to contaminated soils, active agricultural areas, or active dairies.

The study areas were photographed from several perspectives to document existing conditions. Notes were taken on vegetative cover and plant species composition, abundance and diversity and species composition of insects and other animals, soil types, degree and nature of disturbance, surface cover, organic content, compaction, current land management practices, existing development, condition of surrounding vicinity, and proximity of other DSFLF populations.

2.3.2 Least Bell's Vireo

Presence/absence surveys were conducted by Kidd Biological, Inc. according to the January 19, 2001, USFWS *Least Bell's Vireo Survey Guidelines* (USFWS 2001). All potential LBVI habitat and riparian areas within the study sites were surveyed eight times between April 10 and July 31 with at least 10 days between survey visits for each site. The surveys were conducted during the morning hours between 0530 and 1140. To adequately cover the three aforementioned survey sites, the biologists conducted surveys on 24 days between May 8 and July 31, 2016 (Table 4). Based on the level of effort and environmental conditions, all surveys were considered valid as they followed published protocols.

Table 4 summarizes the dates, times, survey personnel, and weather conditions of all protocol presence/absence surveys for LBVI.

Table 4
Least Bell's Vireo Survey Conditions and Personnel

Survey Pass	Personnel *	Survey Date	Start Time	End Time	Start Temp (°F)	End Temp (°F)	Start Weather	End Weather
Survey Area 1 – Golf Course								
1	BK, YL	5/9/2016	545	1215	58	71	100% CC, wind 1-4 mph	90% CC, wind 3-5 mph
2	BK, YL	5/18/2016	540	1240	60	78	Wind 1-4, 100% CC	Wind 3-6, 0% CC
3	BK, YL	5/29/2016	530	1215	60	72	Wind 0-3 mph, 100% CC	Wind 1-4 mph, 30% CC
4	BK, JF	6/8/2016	630	2315	65	80	Wind 1-4 mph, 100% CCC	Wind 3-6 mph, 0% CC
5	BK, KM	6/20/2016	545	1110	65	88	0% CC, wind 0-1 mph	0% CC, wind 3-6 mph
6	BK	6/30/2016	545	1130	56	83	0% CC, wind 0-1 mph	0% CC, wind 0-1 MPH
7	BK, KM	7/16/2016	556	1133	60	85	0% CC, wind 0-1 mph	0% CC, wind 3-6 mph
8	BK, KM	7/30/2016	555	1120	70	88	100% CC, wind 0-1 mph	0% CC, wind 3-6 mph
Survey Area 2 – Hidden Valley								
1	BK, YL	5/8/2016	545	1215	58	71	100% CC, wind 1-4 mph	90% CC, wind 3-5 mph
2	BK, NK	5/19/2016	600	1215	60	75	Wind 1-4 mph, 100% CC	Wind 3-7 mph, 0% CC
3	BK, YL	5/27/2016	515	1200	57	70	Wind 0-3 mph, 100% CC	Wind 0 mph, 0% CC
4	BK, MT	6/7/2016	547	1145	65	78	Wind 1-3 mph, 100% CC	Wind 1-6 mph, 0% CC
5	BK, TS	6/16/2016	545	1130	50	80	0% CC, wind 0-1 mph	0% CC, wind 3-6 mph
6	BK, KM	7/1/2016	551	1144	53	80	0% CC, wind 0-1 mph	0% CC, wind 0-1 mph
7	BK, KM	7/17/2016	550	1131	59	88	100% CC, wind 0-1 mph	0% CC, wind 3-6 mph
8	BK, KM	7/31/2016	600	1123	61	88	40% CC, wind 0-1 mph	0% CC, wind 3-6 mph
Survey Area 3 – East of Van Buren								
1	BK, YL	5/9/2016	545	1231	57	70	100% CC, wind 1-3 mph,	90% CC, wind 2-6 mph,
2	BK, NK	5/17/2016	600	1240	58	75	Wind 1-4, 100% CC	Wind 3-6, 0% CC
3	BK, YL	5/28/2016	530	1218	54	70	Wind 0 mph, 100% CC	Wind 2-4 mph, 0% CC
4	BK, YL	6/6/2016	545	1220	56	70	Wind 1-3 mph, 100% CC	Wind 1-3 mph, 0% CC
5	BK, JF	6/17/2016	530	1145	52	83	0% CC, wind 0-1 mph	0% CC, wind 2-4 mph

Survey Pass	Personnel *	Survey Date	Start Time	End Time	Start Temp (°F)	End Temp (°F)	Start Weather	End Weather
6	BK, KM	7/3/2016	550	1100	58	83	0% CC, wind 0-1 mph	0% CC, wind 0-1 mph
7	BK, TS	7/18/2016	545	1130	60	89	0% CC, wind 0-1 mph	0% CC, wind 3-6 mph
8	BK, AJ	7/29/2016	600	1127	70	88	40% CC, wind 0-1 mph	0% CC, wind 3-6 mph

* BK= Brian Karpman, YL= Yajaira Lechuga, NK= Nina Kidd, JF= Jonathon Feenstra, MT= Michelle Thomas, KM= Karly Moore, TS= Tim Searl, AJ= Angela Johnson

Less than 1.9 miles of habitat were surveyed per day. LBVI surveys were conducted passively, listening for vireo songs, calls, whisper songs, and scolds and visually looking for adults and juveniles. Any nesting behavior was also noted.

LBVI observations were recorded in a field notebook, and global positioning system readings of the locations were taken during the surveys. Numbers and locations of paired or unpaired territorial males, and the ages and sexes of encountered vireos (when discernible) were noted. Individual LBVI were also checked for colored leg bands. Due to the density of LBVI in the area and the extent of habitat, prolonged efforts to determine territories was limited. Estimates of territory numbers were made once all the data were collected and a map was created where the data points could be more easily distinguished as territories.

2.3.3 Southwestern Willow Flycatcher

The surveys for SWFL were conducted by USFWS-permitted biologists Jonathan Feenstra (TE 128462-2) and Angela Johnson (TE 59592B-1) of Kidd Biological, Inc. following A *Southwestern Willow Flycatcher Natural History and Survey Protocol* (Sogge et al. 1997).

Suitable breeding habitat for SWFL was surveyed until 10:30 a.m. Following the USFWS survey guidance of spring 2016, SWFL surveys were conducted on a separate pass from surveys for other species (i.e., LBVI and YBCU). Some additional time after the 10:30 a.m. SWFL protocol cut-off was used to walk out of the survey area, or to revisit areas of the best habitat if climate conditions were satisfactory and there was no discernible reduction in bird activity, implying consistent potential detection of the focus species. Survey areas are shown in Figure 4b.

Five focused survey visits for SWFL were conducted in suitable habitat, one within the first survey period (May 15–31), and two each within the second and third survey periods (June 1–24

and June 25–July 17, respectively). Each survey visit was conducted at least 5 days apart with careful and thorough coverage of all suitable habitats.

All surveys were conducted between 1 hour before sunrise and 10:30 a.m., when willow flycatchers are most active, except as noted above. Playing of recorded vocalizations was performed in suitable habitat and discontinued if the bird showed undue disturbance or potential predators were present.

Table 5 summarizes the dates, times, survey personnel, and weather conditions of all protocol presence/absence surveys for SWFL.

Table 5
Southwestern Willow Flycatcher Survey Conditions and Personnel

Survey Pass	Personnel*	Survey Date	Start Time	End Time	Air Temp. (°F)	Cloud Cover	Wind Speed (mph)
Survey Area 1 – Golf Course							
1	AJ	5/29/2016	0540	0900	60	Cloudy	4-7
2	JF	6/8/2016	0530	1045	63-84	Partly	0-5
3	JF	6/15/2016	0530	1045	65-70	Cloudy	1-2
4	AJ	6/30/2016	0540	1000	66-81	0	2
5	AJ	7/12/2016	0540	1030	64-73	Cloudy-Partly	2-4
Survey Area 2 – Hidden Valley							
1	JF	5/21/2016	0545	1030	58-72	Partly-cloudy	0-6
2	JF	6/9/2016	0535	1045	61-79	Partly	0-3
3	JF	6/16/2016	0535	0950	60-77	Partly-0	1-4
4	JF	7/5/2016	0530	1000	66-78	Cloudy	1-5
5	JF	7/13/2016	0535	1040	64-89	0	0-3
Survey Area 3 – East of Van Buren							
1	AJ	5/28/2016	0540	1040	56-67	Cloudy	1-3
2	JF	6/10/2016	0545	1110	67-80	Cloudy	1-4
3	AJ	6/17/2016	0550	1030	59-81	0	2-4
4	JF	7/6/2016	0525	0940	64-70	Cloudy	0-5
5	JF	7/14/2016	0530	1040	68-89	0	0-3

* AJ = Amanda Johnson; JF = Jonathan Feenstra

2.3.4 Western Yellow-billed Cuckoo

The surveys for YBCU were conducted by USFWS-permitted biologist Angela Johnson (TE 59592B-1) of Kidd Biological, Inc. following *A Natural History Summary and Survey Protocol*

for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods(Halterman et al. 2015).

Suitable breeding habitat for YBCU was surveyed until 11:00 a.m. Following the survey protocol, YBCU surveys were conducted on a separate pass from surveys for other species (i.e., LBVI and SWFL). Some additional time after the 11:00 a.m. protocol cut-off was used to walk out of the survey area, or to revisit areas of the best habitat if climate conditions were satisfactory and there was no discernible reduction in bird activity, implying consistent potential detection of the focus species. Survey areas are shown in Figure 4b.

Four focused survey visits for YBCU were conducted in suitable habitat, one within the first survey period (June 15–July 1), two within the second survey period (July 1–31), and one within the third survey period (July 1–August 15). Each survey visit was conducted at least 12 days apart with careful and thorough coverage of all suitable habitats. All surveys were conducted early in the morning just before or at sunrise and ending no later than 11:00 a.m., when YBCU are most active. Playing of recorded vocalizations was performed in suitable habitat.

Table 6 summarizes the dates, times, survey personnel, and weather conditions of all protocol presence/absence surveys for YBCU.

Table 6
Yellow-Billed Cuckoo Survey Conditions and Personnel

Survey Pass	Personnel*	Survey Date	Protocol Survey Times		Atmospheric Conditions		
			Start Survey Times	End Survey Times	Air Temp (°F)	Percent Cloud Cover (%)	Wind Speed (mph)
Survey Area 1 – Golf Course							
1	AJ	6/23/2016	0535	1105	63-80	0	2
2	AJ	7/12/2016	0540	1030	64-73	30-100	2-4
3	AJ	7/27/2016	0550	1020	77-88	0-5	0-3
4	AJ	8/11/2016	0600	1015	61-73	0	0-3
Survey Area 2 – Hidden Valley							
1	AJ	6/24/2016	0535	1100	62-81	0	2-4
2	AJ	7/13/2016	0540	1040	64-89	0	0-3
3	AJ	7/28/2016	0550	1030	66-87	5	1-2
4	AJ	8/9/2016	0600	1100	65-77	0-100	2-3
Survey Area 3 – East of Van Buren							
1	AJ	6/25/2016	0535	1105	60-83	0	1-4
2	AJ	7/14/2016	0535	1050	68-89	0	0-3
3	AJ	7/29/2016	0550	1045	71-91	0	0-4
4	AJ	8/10/2016	0600	1030	62-75	0	0

* AJ = Amanda Johnson

2.3.5 Los Angeles Pocket Mouse, Northwestern San Diego Pocket Mouse, and San Bernardino Kangaroo Rat

Selected areas along the southern segment of the Project alignment were trapped by Dana H. McLaughlin (Sessions 1, 2, and 3) and Dan Grout (Session 4), both of whom are permitted to trap and handle SBKR under authority of USFWS 10(a)(1)(a) endangered species permits, as summarized below. McLaughlin holds a USFWS Permit (TE 43597A-1) and/or CDFW Memorandum of Understanding (MOU) for the three species, while Grout is a sub-permittee to Stephen J. Montgomery (TE 745541-11 for SBKR and holds a CDFW MOU for LAPM and SDPM).

Four trapping sessions in the summer of 2016 targeted the three species within suitable microhabitats along the southernmost leg of the proposed transmission line. Session 1 commenced on July 10, Session 2 commenced on July 25, and Sessions 3 and 4 commenced on August 28. Trapping was completed on September 2.

Most traps were set in transects covering larger habitat patches and spaced at approximately 7-meter intervals. Smaller patches of suitable habitat were set with small groups of traps at 7-meter spacing in sufficient numbers to ensure adequate coverage of these areas. All traps were placed in microhabitats considered to be those most likely to yield the three target species. Since trapping areas were separated by varying distances, and/or required walking to access trap lines, the time required to travel between areas limited the number of traps that could be covered by each biologist each night.

Sessions 1, 2, and 3 were trapped following standard small mammal protocols established for trapping and handling of SBKR and other sensitive species, which included the following general requirements: (a) trap selected areas for a maximum of 5 consecutive nights unless a target species is captured prior to the fifth night; (b) trap when air temperatures are above 50°F; (c) check traps twice/night, near midnight and each following early morning. Session 4 trapping initially followed the same protocols but was suspended after trap-night 2 for safety reasons (see Section 3.6.1, Special Trapping Conditions). In addition, midnight trap checks were not conducted in the easternmost trapping areas located in proximity to homeless encampments. Additionally, as illustrated in Figure 4c, one area of suitable habitat near the Santa Ana River was not trapped in 2016 due to recent sightings of an active, aggressive mountain lion.

At most locations, trap lines were run for 5 consecutive nights with traps remaining in the same locations all 5 nights. Traps were set at dusk each day and baited with a mixture of bird seed,

then checked near midnight and again the following morning, at which time they were closed for the day. During trap checks, all animals were identified to species and released at the point of capture. Field notes and photographs were taken to document habitat conditions in trapping areas. Representative weather conditions at the time of the trapping study also were noted. As mentioned, midnight trap checks were not part of the trapping protocol during the trapping in the eastern area of the homeless encampments, due to concerns for the safety of the trappers (see Section 3.6.1, Special Trapping Conditions).

Session 4 traps were run, as described above, for only 2 consecutive nights. Traps located in the area east of Van Buren Blvd, where homeless encampments were abundant, were checked and then picked up the morning of day 2, thereby truncating that survey effort. Safety was a serious concern during Session 4 due to the proximity of homeless encampments; the unpredictable behavioral patterns of some camp residents; and, in some cases; the presence of campers' dogs along the trapping transects.

Weather conditions during the trapping survey were generally mild and suitable for small mammal trapping. Data collected included air temperatures (which ranged from 62 to 72° F), cloud cover (between 0 and 100%) and variable wind speeds (Table 7). Nighttime temperatures during the trapping effort were warm and no harm came to trapped animals during the four trapping sessions.

Table 7 summarizes the dates, times, survey personnel, and weather conditions of all protocol presence/absence surveys for YBCU. Table 8 lists the number of traps set per night during each session.

Table 7
Small Mammal Trapping Conditions and Personnel

Date	Trapping Session	Personnel*	Temperature (F)	Cloud Cover %	Wind (mph)
7/10/2016	1	DM	62	0	0-1
7/11/2016			63	0	0-1
7/12/2016			67	100	0-2
7/13/2016			62	0	0-1
7/14/2016			65	0	0-0.5
7/15/2016			64	0	0-0.5
7/26/2016	2	DM	69	0	0-0.5
7/27/2016			71	0	0-0.5
7/28/2016			70	0	0-0.5
7/29/2016			71	0	0
7/30/2016			72	100	0-1
8/29/2016	3, 4	DM, DG	65	0	0-0.5
8/30/2016			66	0	1-2
8/31/2016	3	DM	64	0	0
9/1/2016			66	0	0
9/2/2016			68	100	0-1

* DM = Dana H. McLaughlin; DG = Dan Grout

Table 8
Number of Traps Set During Sessions 1 through 4

Session	Total traps set per night	Total Trap-Nights
1	174 x 5	870
2	190 x 5	950
3	145 x 5	725
4	140 x 2	280
Total trap nights		2,825

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3.0 RESULTS

3.1 HISTORICAL LITERATURE AND DATABASE REVIEW

3.1.1 CNDDDB and USFWS Database

Appendix D tabulates the results of the CNDDDB and USFWS database queries and provides a discussion of each species' habitat requirements, sensitivity status, and potential to occur within the Project alignment. The database query for the CNDDDB included the Riverside West and Corona North, California USGS Topographic Quadrangles, plus the Quadrangles immediately adjacent. The USFWS query extended out 5 miles from the Project alignment; however, to avoid a cluttered figure only the data points and polygons in the immediate vicinity of the Project alignment were shown in Figure 6.

3.1.2 Critical Habitat

As illustrated in Figure 7, the only USFWS-designated Critical Habitats that occur within or directly adjacent to the Project alignment are those delineated for LBVI and Santa Ana sucker (*Catostomus santaanae*) (USFWS 2016).

3.2 DELHI SANDS FLOWER-LOVING FLY

DSFLF was not observed during the focused surveys. During surveys, at least 112 insect species (counting only large and conspicuous insects) were observed. A list of insect species observed during the surveys is presented in Appendix E. None of the observed insects commonly occur with DSFLF.

3.3 LEAST BELL'S VIREO

A total of 308 LBVI were detected during the course of the surveys (Figure 8a). These observations culminated in an estimated consolidated total of 62 LBVI territories (Figure 8b). Willow flycatchers (*Empidonax traillii*) were detected during a few of the surveys in 2016; however, these did not appear to breed within the survey area in 2016 (see Section 3.4 for further details). Other sensitive species detected during the LBVI surveys include yellow warbler (*Setophaga petechia*) and yellow-breasted chat (*Icteria virens*) (see Section 3.7).

The results of the LBVI surveys within each survey area are described in detail below.

Area 1 – Golf Course

Although this area is heavily used as a public golf course, there are patches of high quality riparian habitat interspersed throughout. It was found that there were approximately 12 distinct territories within this survey area; however, it is estimated that only 10 of these territories were active through the entire season (Figure 8b). Fledglings were detected within the majority of the territories early in the season.

Area 2 – Hidden Valley

This survey area is part of the Hidden Valley Nature Reserve and a trail runs along the southern edge of the riparian corridor. There are also smaller trails interspersed throughout the habitat. These trails are used by pedestrians, bicyclists, and equestrian riders. Evidence of wild boars was seen in many areas. The habitat is quite dense and the territories of LBVI were also very dense. It was estimated that there were 26 territories within this survey area (Figure 8b). Although fledglings were detected throughout the survey area, it was difficult to determine which pairs were successful due to the proximity of the pairs and the mobility of the fledglings.

Area 3 – East of Van Buren

This survey area provides good foraging and nesting habitat for LBVI; however, there was substantial evidence of homeless activity within the habitat. Trails in this area are regularly used by homeless campers. Several stray dogs were also encountered. In total, it was estimated that there were 24 LBVI territories within survey Area 3 – East of Van Buren (Figure 8b). Fledglings were detected in half of the territories during the last several surveys.

Table 9 includes the total number of individuals detected or observed during each pass through the Project area.

Brown-headed cowbirds were detected only during the fourth survey of Area 3 – East of Van Buren. Cowbird traps were noted within Area 1 – Golf Course.

The only non-native wildlife species detected within the survey areas were rock pigeons (*Columba livia*) and European starlings (*Sternus vulgaris*). Neither of these birds poses a significant threat to the conservation of the LBVI.

Table 9
Number of LBVI Observed During Each Survey Pass

Survey Pass	Number of LBVI Detected
1	38
2	53
3	47
4	39
5	44
6	30
7	27
8	30
Total LBVI Detections	308

There were two conspicuous invasive plant species within the survey area: giant reed and salt cedar (*Tamarix* spp.). Large patches of giant reed were noted in all three survey areas, with a very large patch in Area 1 – Golf Course. Although an invasive plant, salt cedar is regularly used by riparian birds for foraging and nesting. Although this species outcompetes native plant species, the small extent of salt cedar in this area does not likely have a significant impact on the population of sensitive birds in the area.

Giant reed was found in great density in all three survey areas, but most notably in Area 1 – Golf Course. The presence of giant reed has a greater effect on ecosystem health as the diversity and abundance of leaf/aerial insects are significantly decreased in areas overrun by giant reed (Dudley and Dudley 2003). For insect-eating birds such as the LBVI, the spread of giant reed could cause a significant decrease in food availability and has already reduced suitable foraging and breeding habitat for the LBVI in large areas of the Santa Ana River.

Castor bean (*Ricinus communis*) was also observed in many areas, but it was most prevalent in survey area 3.

3.4 SOUTHWESTERN WILLOW FLYCATCHER

Willow flycatchers were detected in all three of the contiguous areas surveyed. It's important to note that the willow flycatchers detected during the focused SWFL surveys were not identified to the subspecies that is listed as endangered by USFWS (i.e., *E.t. extimus*); however, the willow flycatcher is listed as endangered by CDFW. The number of individuals observed at each survey area during the presence/absence surveys is summarized below and mapped in Figure 8c. Further details of these sightings are listed in Table 10.

A single willow flycatcher was observed on May 21, 2016, during the first survey pass of Area 2 – Hidden Valley. The bird was outside of the mapped survey area, but was detected from within due to spontaneous singing. It was not detected on subsequent visits to the survey area.

During the second pass, willow flycatchers were detected in all three survey areas. Six were found in or near Area 1 – Golf Course on June 8, 2016. Four of these birds were singing in response to the played vocalizations, and two were silent and unresponsive. One of the six was outside of the survey area but was heard singing from within. All were present within riparian habitat. Single willow flycatchers were found in Area 2 – Hidden Valley (June 9, 2016) and Area 3 – East of Van Buren (June 10, 2016). Both birds were calling from within riparian habitat. The flycatcher found in Area 3 – East of Van Buren was detected as the surveyor was walking out of the survey area; however, the detection came after the 10:30 a.m. protocol cut-off.

No breeding behavior was observed. The flycatcher occurrences coincide with the peak of this species' spring migration through the area. No willow flycatchers were detected or observed during the final two survey passes. Table 10 provides the data for each willow flycatcher detected.

Table 10
Willow Flycatcher Observations

Species	Date	# of Individuals	Latitude	Longitude	Survey Area	Notes
Willow Flycatcher	5/21/2016	1	33.962675	-117.503685	2 – Hidden Valley	Singing. Spontaneous.
Willow Flycatcher	6/8/2016	1	33.960384	-117.529615	1 – Golf Course	Singing and calling in response.
Willow Flycatcher	6/8/2016	1	33.959655	-117.530772	1 – Golf Course	Singing and calling in response.
Willow Flycatcher	6/8/2016	1	33.958782	-117.531549	1 – Golf Course	Silent, unresponsive. Not too far from previous, possibly same bird.
Willow Flycatcher	6/8/2016	1	33.957781	-117.532994	1 – Golf Course	Singing in response.
Willow Flycatcher	6/8/2016	1	33.959449	-117.534422	1 – Golf Course	Silent, unresponsive.
Willow Flycatcher	6/8/2016	1	33.96165	-117.534584	1 – Golf Course	Singing and calling in response.
Willow Flycatcher	6/9/2016	1	33.96256	-117.470518	2 – Hidden Valley	Spontaneously calling.
Willow Flycatcher	6/10/2016	1	33.966345	-117.457138	3 – East of Van Buren	Called in response.

Brown-headed cowbirds, both males and females, were detected during the surveys. Three were heard in Area 2 – Hidden Valley on June 9, 2016, and another three were heard on June 10, 2016 in Area 3 – East of Van Buren. Individuals were detected in Area 3 – East of Van Buren during subsequent surveys on June 25, July 6, and July 14, 2016. No free-flying brown-headed cowbirds were observed in Area 1 – Golf Course, though active cowbird trapping is occurring there. There was no confirmation of local breeding.

3.5 WESTERN YELLOW-BILLED CUCKOO

Although the two survey areas most suitable for occupancy by YBCU (Hidden Valley and East of Van Buren), no YBCU were detected in any of the three contiguous areas surveyed.

Brown-headed cowbirds, both males and females, were detected during the surveys (see Section 3.4 above for details).

3.6 LOS ANGELES POCKET MOUSE, NORTHWESTERN SAN DIEGO POCKET MOUSE, AND SAN BERNARDINO KANGAROO RAT

A total of five rodent species, represented by 459 captures, were recorded during 2,825 trap-night survey (Tables 11 through 14). Although the potential for SBKR and LAPM was high in the sandy Santa Ana River floodplain habitats, and SDPM had a high potential to occur along the edges of the Santa Ana River in adjacent scrub and scrub-grassland habitats, none of the target species were captured during the four trapping sessions.

The ubiquitous deer mouse (*Peromyscus maniculatus*) and western harvest mouse (*Reithrodontomys megalotis*) were by far the most abundant captured species. The common California ground squirrel (*Spermophilus beecheyi*) was captured at three locations and is indicative of disturbed conditions. Two non-native (Old World) species, the house mouse (*Mus musculus*) and black rat (*Rattus rattus*), also were captured during the survey, reflecting the disturbed condition of the trapped habitats and the proximity of the Project alignment to older human developments. None of the species captured during the four sessions are considered sensitive.

Table 11
Summary of Small Mammal Capture Results

Trapping Session 1-4	July 2016 to September 2016	Trapping Locations 1-19	Species Captured							
			SBKR	LAPM	CHFA	PEMA	REME	MUMU	RARA	SPBE
Total captures			0	0	0	286	154	10	5	4
SBKR = San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)										
LAPM = Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)										
CHFA = San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)										
PEMA = Deer mouse (<i>Peromyscus maniculatus</i>)										
REME = Western harvest mouse (<i>Reithrodontomys megalotis</i>)										
MUMU = House mouse (<i>Mus musculus</i>)										
RARA = Black rat (<i>Rattus rattus</i>)										
SPBE = California ground squirrel (<i>Spermophilus beecheyi</i>)										

Table 12
Capture Data, Session 1

Trapping Session	Date	Trapping Location	Species Captured							
			SBKR	LAPM	CHFA	PEMA	REME	MUMU	RARA	SPBE
1	7/10/2015*	1A	-	-	-	4	2			
	7/11/2015	1A	-	-	-	6	4			
		1B	-	-	-	5	4			
		2A	-	-	-	2				
		2B	-	-	-	2				
		3	-	-	-	2				
		4	-	-	-	3				
		5	-	-	-	1				
	7/12/2015	1A	-	-	-	7	8	1		
		1B	-	-	-	2	5		1	
		2A	-	-	-	3	1			
		2B	-	-	-	1				
		3	-	-	-	2				
		4	-	-	-	4				
		5	-	-	-	2				
	7/13/2015	1A	-	-	-	14	8	2		
		1B	-	-	-	3	14			
		2A	-	-	-	3				
		2B	-	-	-	2				
		3	-	-	-	3				
		4	-	-	-	4				
		5	-	-	-	1				
	7/14/2015	1A	-	-	-	15	6	3		
		1B	-	-	-	2	7			
		2A	-	-	-	5				
		2B	-	-	-	1				
		3	-	-	-	3				
		4	-	-	-	4				
		5	-	-	-	3				1
	7/15/2015	1B	-	-	-	3	10			
		2A	-	-	-	3				
		2B	-	-	-	1				
		3	-	-	-	4				
		4	-	-	-	3				
		5	-	-	-					1
	*Only 1A trapping began on 7/10/2016									
SBKR = San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)										
LAPM = Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)										
CHFA = San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)										
PEMA = Deer mouse (<i>Peromyscus maniculatus</i>)										
REME = Western harvest mouse (<i>Reithrodontomys megalotis</i>)										
MUMU = House mouse (<i>Mus musculus</i>)										
RARA = Black rat (<i>Rattus rattus</i>)										
SPBE = California ground squirrel (<i>Spermophilus beecheyi</i>)										

Table 13
Capture Data, Session 2

Trapping Session	Date	Trapping Location	Species Captured							
			SBKR	LAPM	CHFA	PEMA	REME	MUMU	RARA	SPBE
2	7/26/2016	6	-	-	-	15	2			
		7	-	-	-	3	1			
		8	-	-	-	1				
		9	-	-	-	2	4			
		10	-	-	-	3	1			
	7/27/2016	6	-	-	-	14	5			
		7	-	-	-	3	2			
		8	-	-	-	1				
		9	-	-	-	2	2			
		10	-	-	-	1				
	7/28/2016	6	-	-	-	18	5			
		7	-	-	-	2	1			1
		8	-	-	-	1	5			
		9	-	-	-	1				
		10	-	-	-	2	6			
	7/29/2016	6	-	-	-	15	4	1		
		7	-	-	-	2				
		8	-	-	-	2	2			
		9	-	-	-	1				
		10	-	-	-	3	2			
	7/30/2016	6	-	-	-	11	2			
		7	-	-	-	2				
		8	-	-	-	1	1			
		9	-	-	-	2				
		10	-	-	-	2	3			
SBKR = San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)										
LAPM = Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)										
CHFA = San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)										
PEMA = Deer mouse (<i>Peromyscus maniculatus</i>)										
REME = Western harvest mouse (<i>Reithrodontomys megalotis</i>)										
MUMU = House mouse (<i>Mus musculus</i>)										
RARA = Black rat (<i>Rattus rattus</i>)										
SPBE = California ground squirrel (<i>Spermophilus beecheyi</i>)										

Table 14
Capture Data, Sessions 3 and 4

Trapping Session	Date	Trapping Location	Species Captured							
			SBKR	LAPM	CHFA	PEMA	REME	MUMU	RARA	SPBE
3	8/29/2016	11B	-	-	-	5				
		12	-	-	-	-	-	-	-	-
		14**	-	-	-	1	4			
		15B**	-	-	-		1			
		16**	-	-	-	1	1			
		18B**	-	-	-		1		1	
		19B**	-	-	-	-	-	-	-	-
	8/30/2016	11B	-	-	-	5	1			
		12	-	-	-	-	-	-	-	-
		14**	-	-	-	1	6			
		15B**	-	-	-	-	-	-	-	-
		16**	-	-	-	1	1			
		18B**	-	-	-		3	1	3	
	8/31/2016	19B**	-	-	-	-	-	-	-	-
		11A	-	-	-	1	2			
		11 B				4	2			
	9/1/2016	12	-	-	-	4				
		11A	-	-	-	1	2			
		11 B				4	2	1		1
	9/2/2016	12	-	-	-	3				
		11A	-	-	-	2	2	1		
		11 B				6				
	4	8/29/2016	12	-	-	-	3			
13**			-	-	-	-	-	-	-	-
15A**			-	-	-	-	-	-	-	-
17**			-	-	-		2			
18A**			-	-	-		2			
19A**			-	-	-					
8/30/2016			11A	-	-	-	1	1		
		12	-	-	-	3				
		13**	-	-	-	2				
		15A**	-	-	-	-	-	-	-	-
		17**	-	-	-					
		18A**	-	-	-		1			
		19A**	-	-	-		1			
**Traps pulled day 2 due to homeless encampment encounters and lack of security										
SBKR = San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)										
LAPM = Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)										
CHFA = San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)										
PEMA = Deer mouse (<i>Peromyscus maniculatus</i>)										
REME = Western harvest mouse (<i>Reithrodontomys megalotis</i>)										
MUMU = House mouse (<i>Mus musculus</i>)										
RARA = Black rat (<i>Rattus rattus</i>)										
SPBE = California ground squirrel (<i>Spermophilus beecheyi</i>)										

3.6.1 Special Trapping Conditions

A number of large homeless encampments were observed in the well-developed riparian woodland along the Santa Ana River during the initial habitat assessment, primarily in the far eastern part of the Project alignment. At least three areas of interest relative to sensitive small mammals coincided with these homeless camps. These areas exhibited deep pure sandy soils that, at least superficially, appeared suitable for SBKR and/or LAPM. Nonetheless, the Riverside County Sheriff's Department recommended that trap checks not be conducted in this area during the night, especially in the vicinity of homeless encampments, due to the inability of the Sheriff to guarantee the safety of the biologists. It was also recommended that two trappers be in close physical proximity to one another during each baiting, check, and trap closure every day. Due to these general admonitions by the Sheriff's Department, it was determined that nighttime checks would not be conducted during the proposed trapping effort. However, due to the mild environmental conditions prevailing during the trapping survey, no harm came to trapped animals sequestered in traps during the full nighttime period.

3.7 OTHER SENSITIVE SPECIES OBSERVED OR DETECTED

The following section includes a brief summary of the non-targeted sensitive species that were incidentally observed during the aforementioned focused surveys. "Sensitive" includes not only those species listed as threatened or endangered by USFWS and CDFW, but also those species listed as Species of Special Concern by CDFW.

Two sensitive bird species were detected during the focused riparian bird surveys: yellow warbler and yellow-breasted chat. The willow flycatchers detected during the focused SWFL surveys were not identified to the subspecies listed as endangered by USFWS; however, the willow flycatcher is listed as endangered by CDFW.

3.7.1 Yellow Warbler

Yellow warbler, a CDFW Species of Special Concern, was found in all three riparian bird survey areas during every survey. On June 24, 2016, breeding was confirmed for this species as the biologists observed recently fledged young in riparian bird survey Area 2 – Hidden Valley. As many as 26 singing males were detected in this area. Figure 8c illustrates the locations of the detected individuals.

3.7.2 **Yellow-breasted Chat**

Yellow-breasted chat is a CDFW Species of Special Concern, and was found in all three riparian bird survey areas during every visit. On July 12, 2016, breeding was confirmed for this species as the biologists observed two fledged juveniles in riparian bird survey Area 1 – Golf Course. Breeding was suspected but not confirmed in the other riparian bird survey areas, which are also highly suited for this species. As many as 16 singing males were detected in riparian bird survey Area 2 – Hidden Valley. Figure 8c illustrates the locations of the detected individuals.

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APPENDIX A

FIGURES

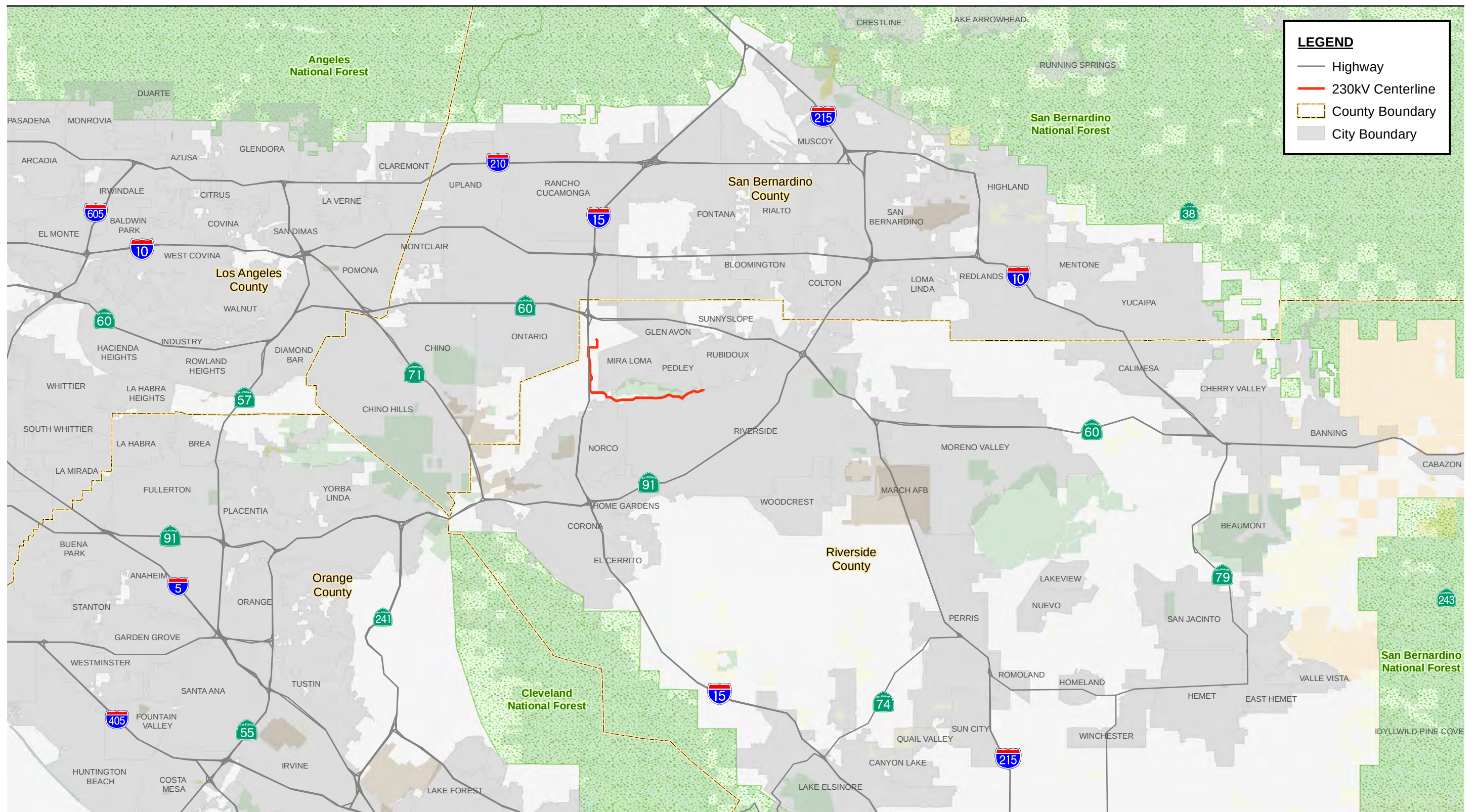
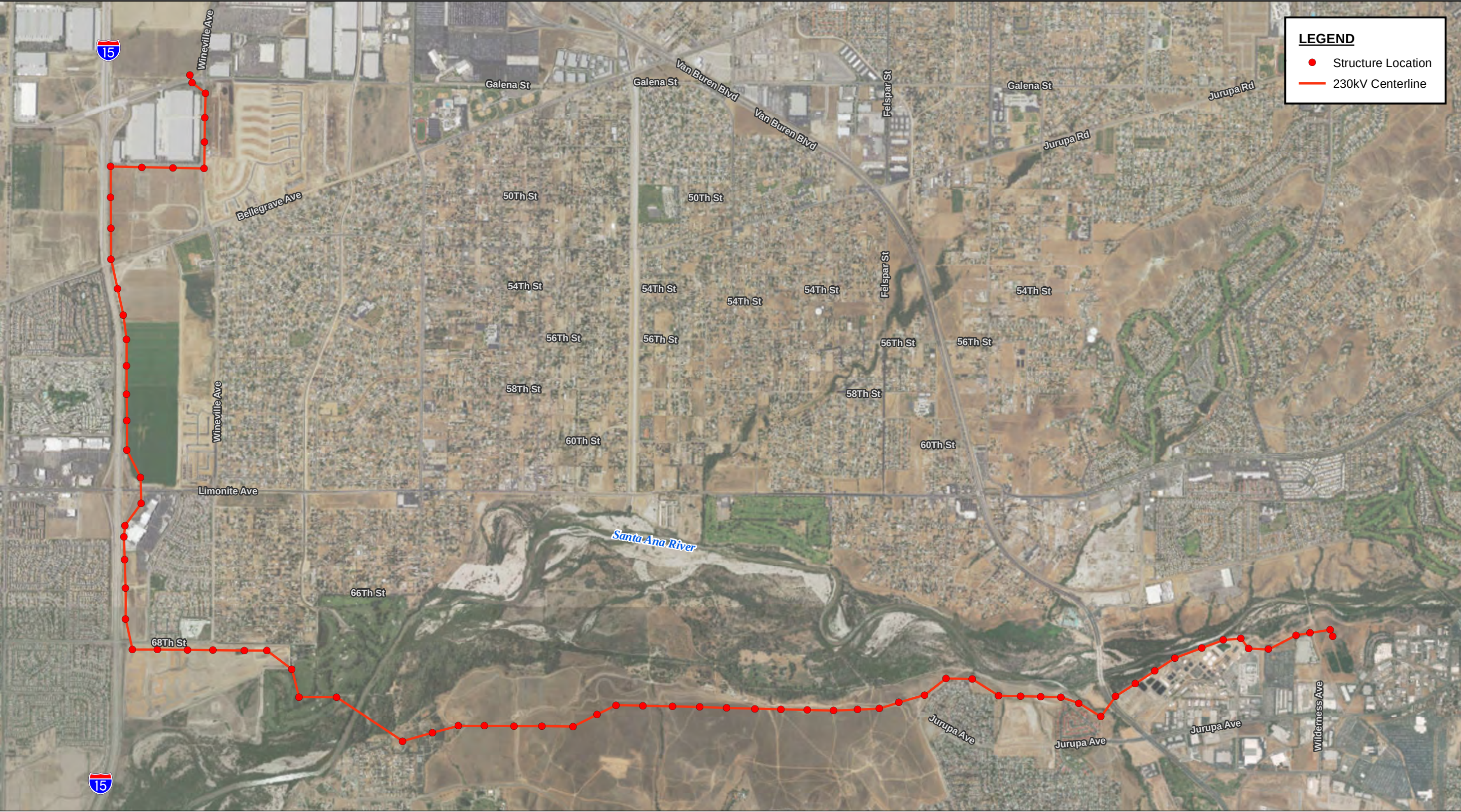


Figure 1
Regional Map



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

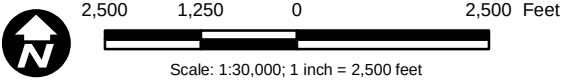
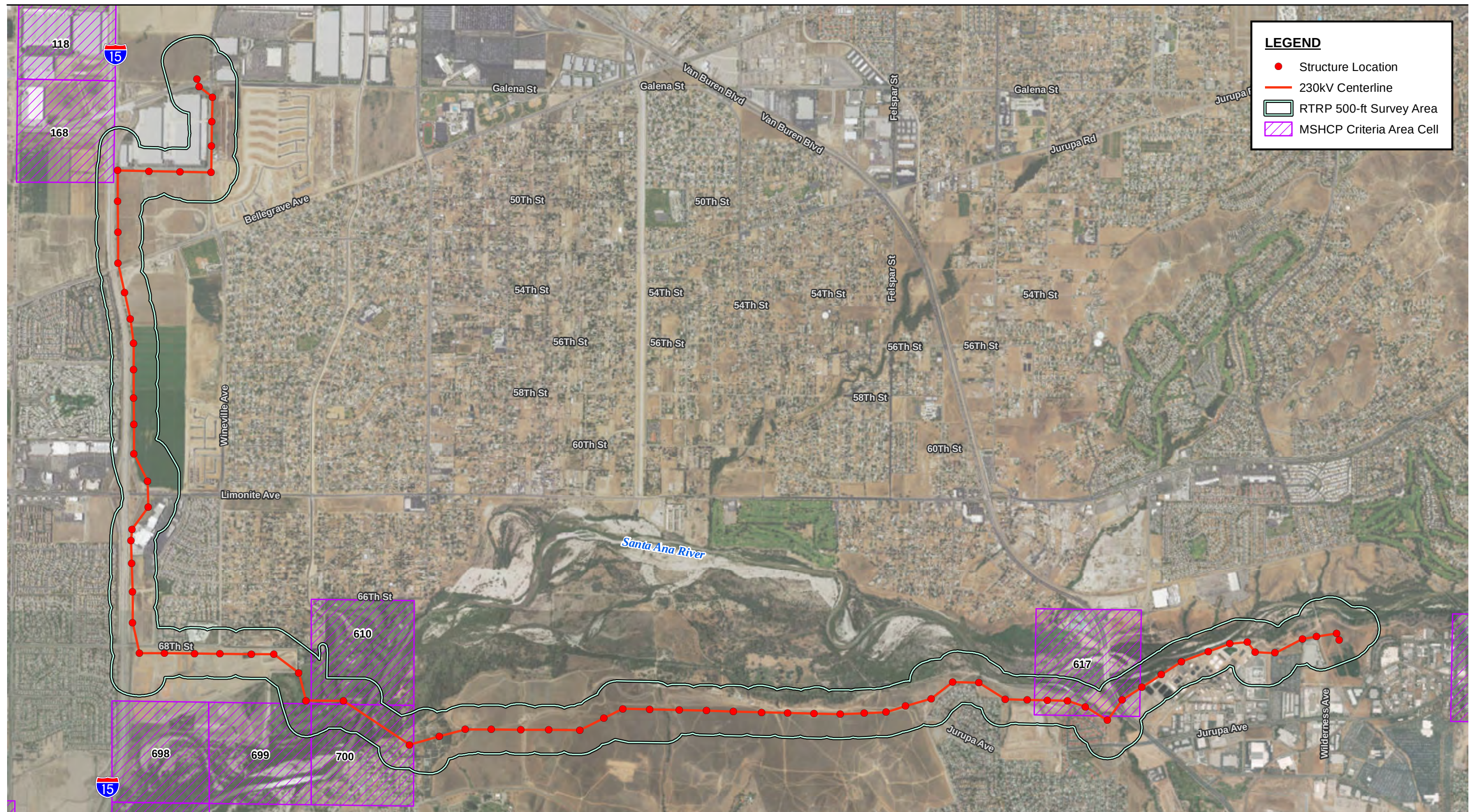


Figure 2
Vicinity Map



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009; County of Riverside 2016.

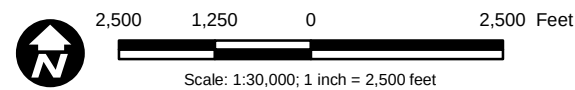
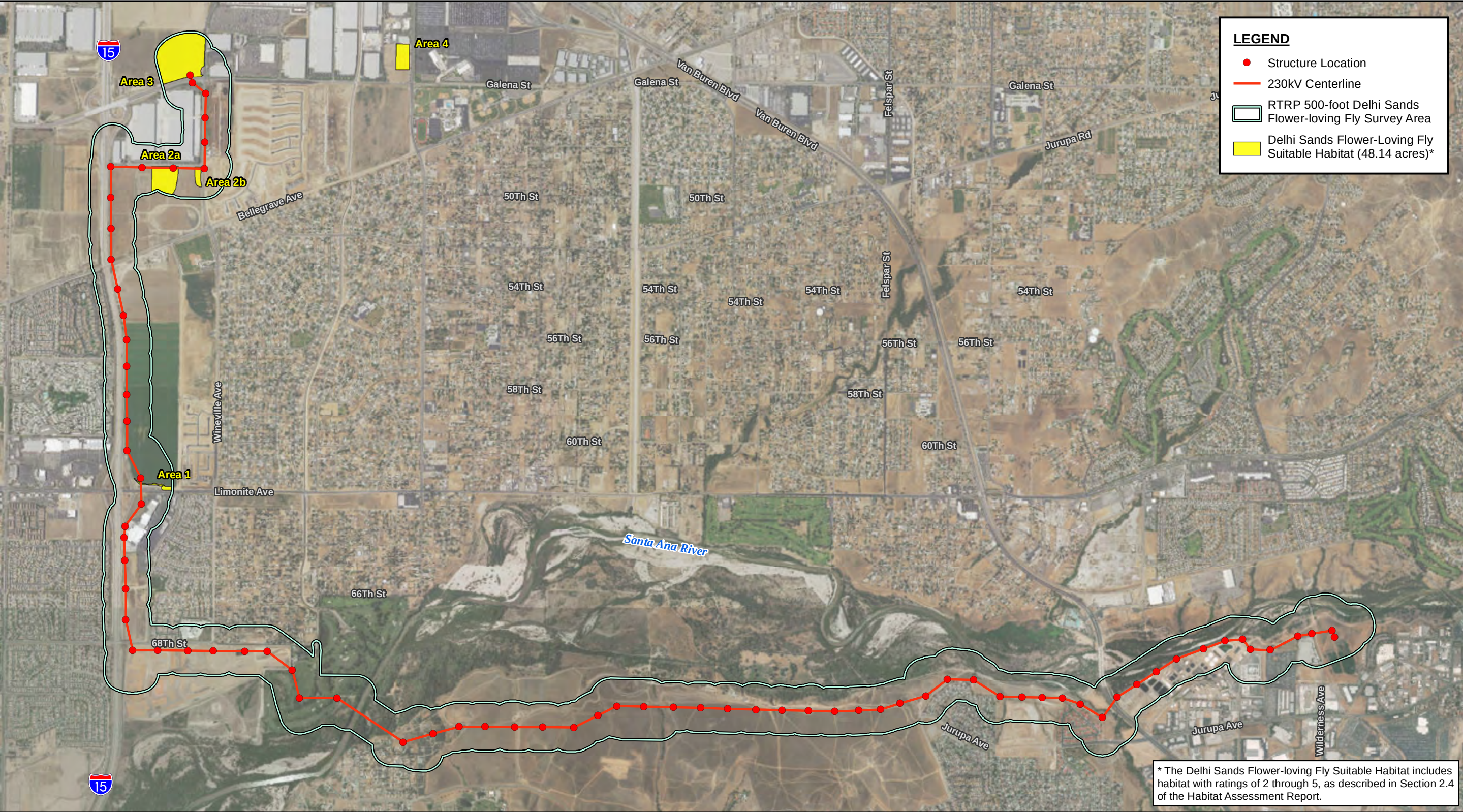


Figure 3
MSHCP and Publically Owned Lands



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

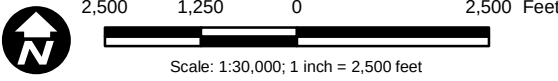


Figure 4a
Delhi Sands Flower-loving Fly Survey Area

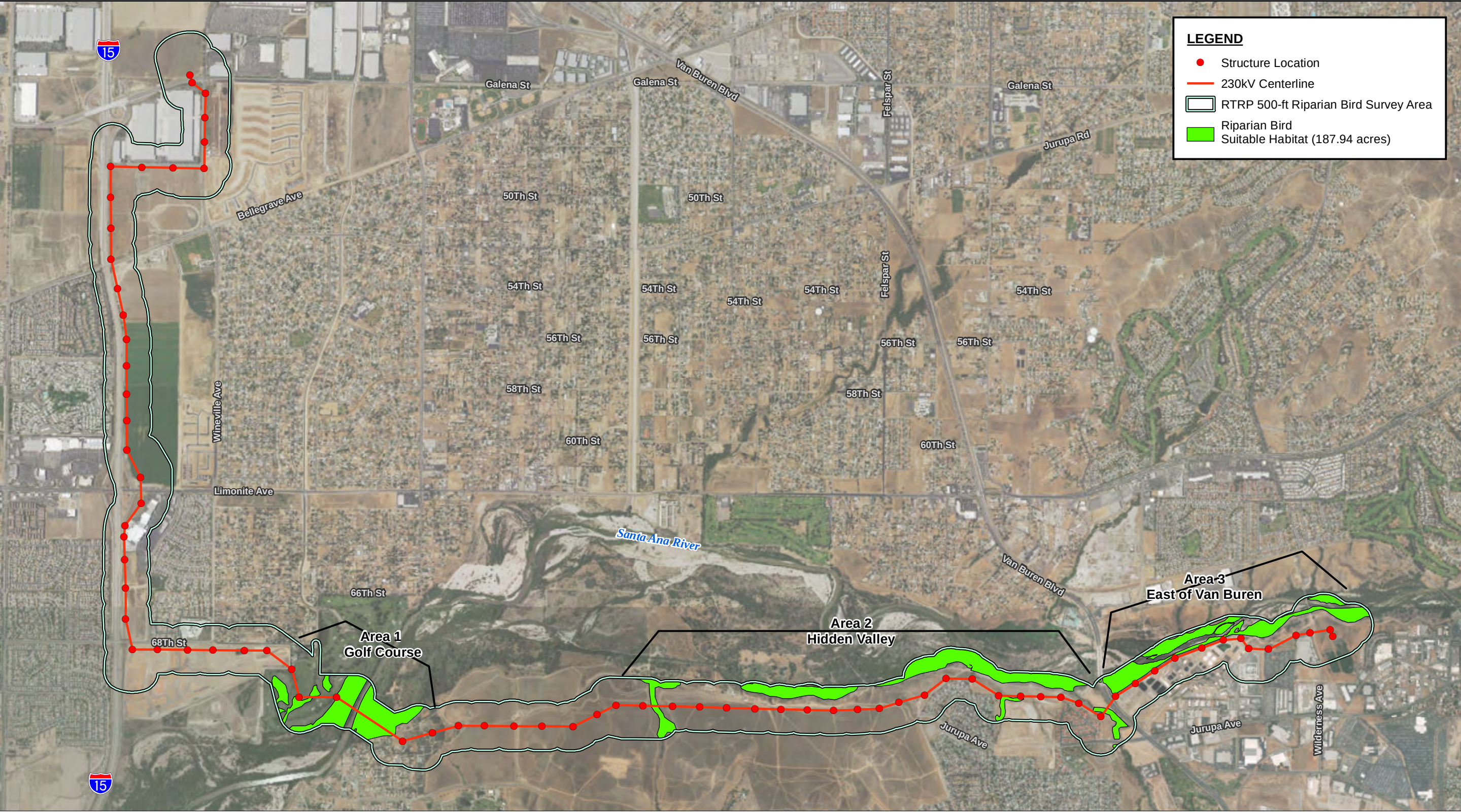
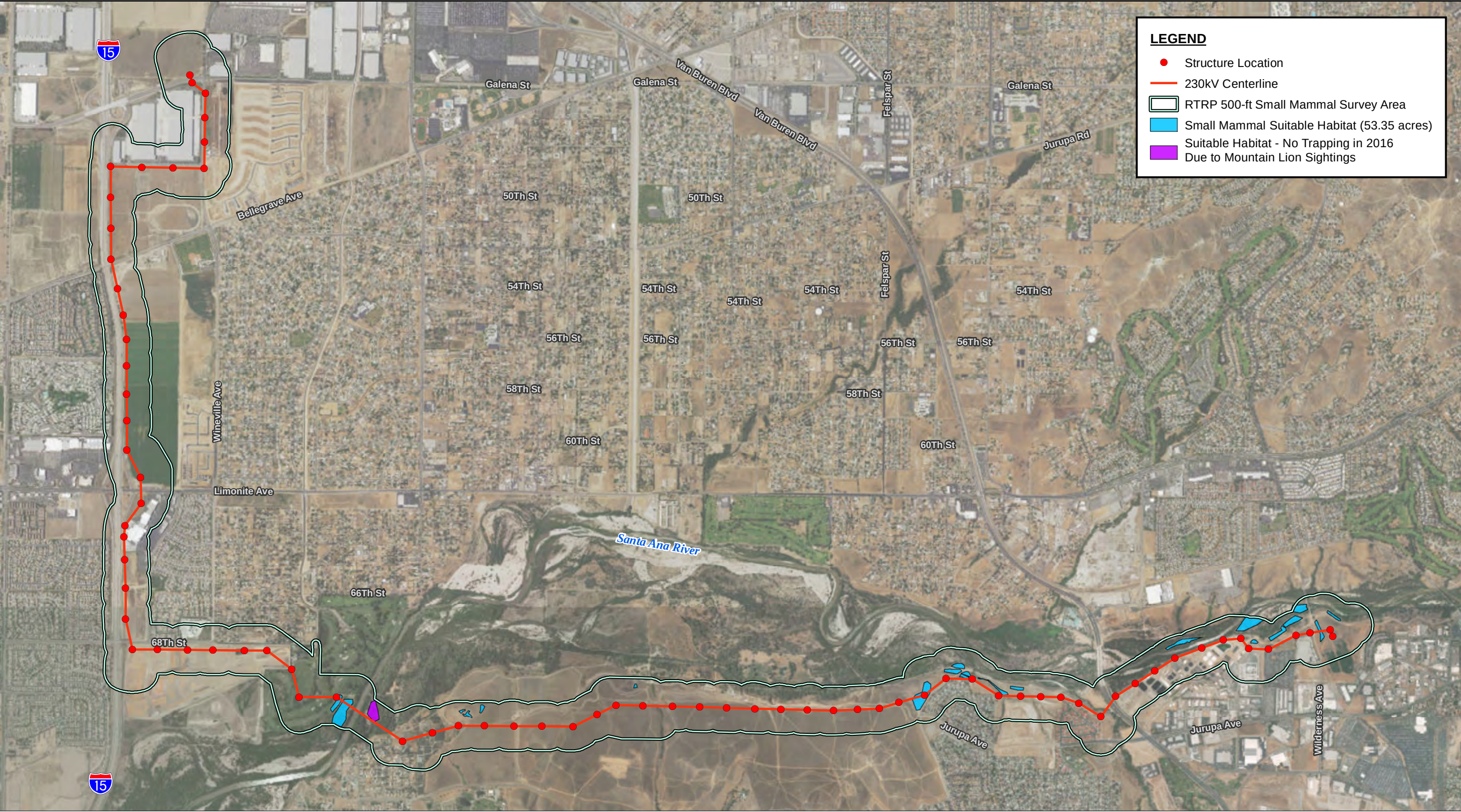


Figure 4b
Riparian Bird Survey Area



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

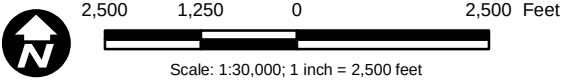
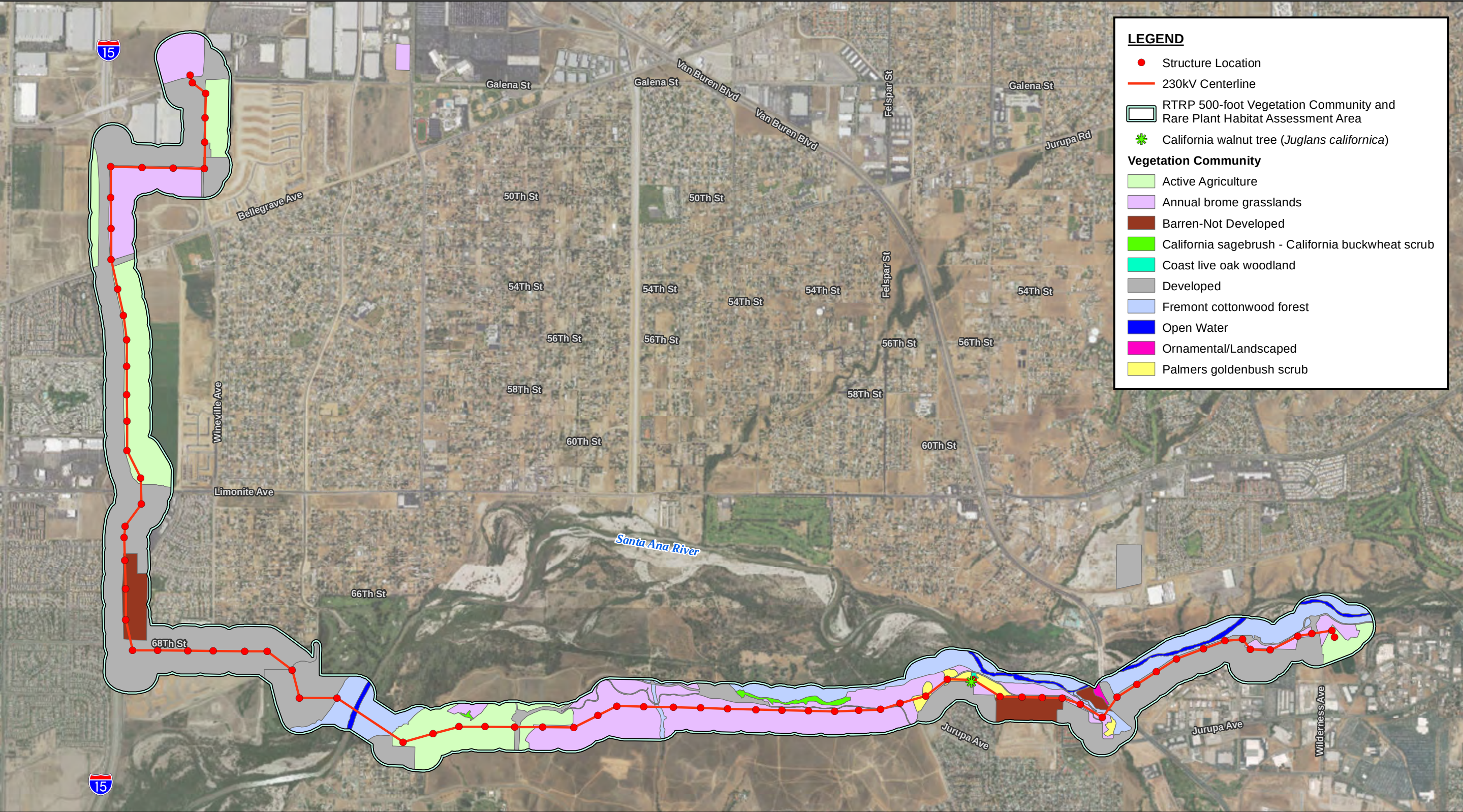
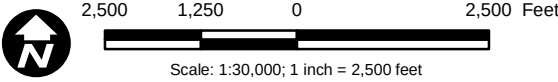


Figure 4c
Small Mammal Survey Area



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.



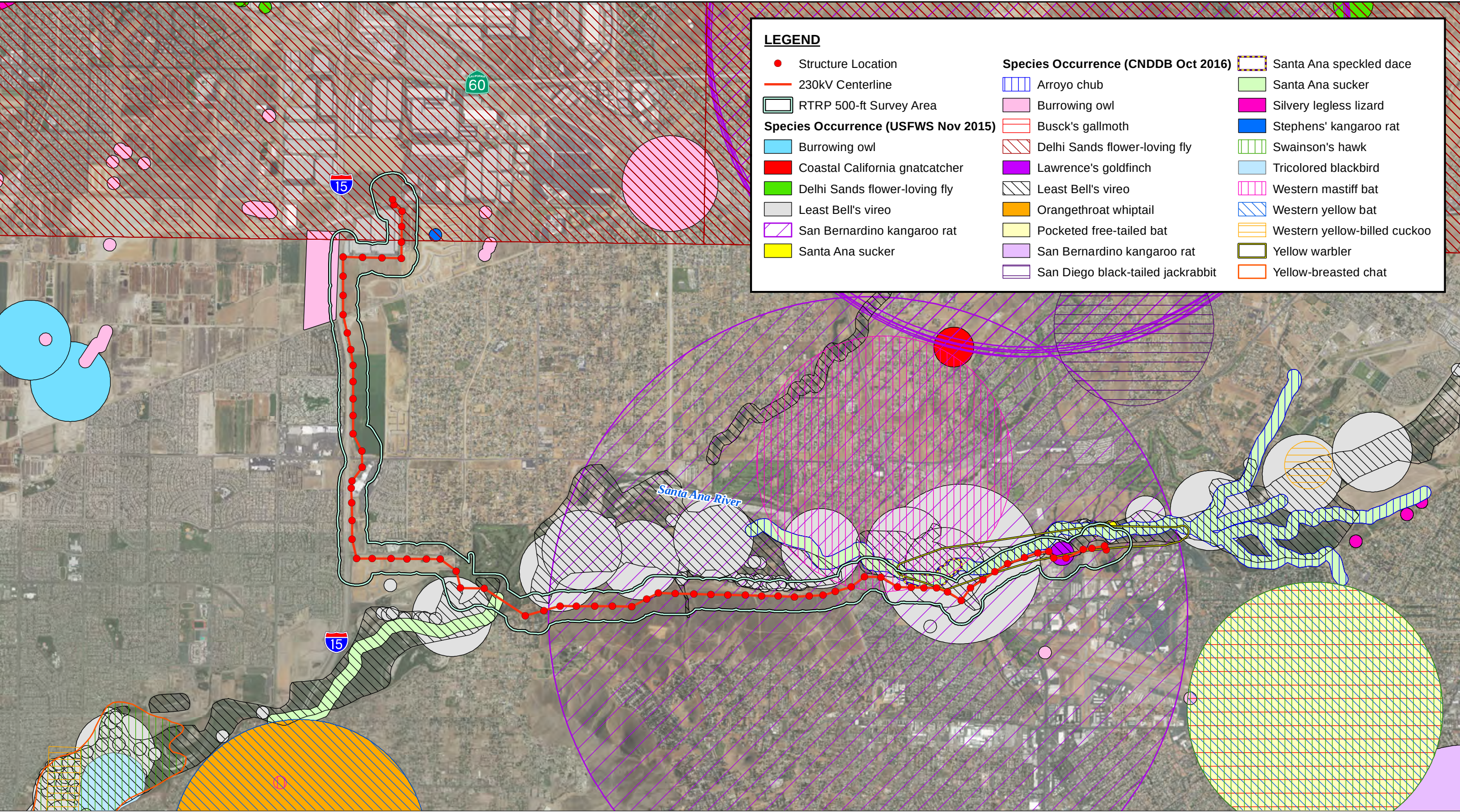
LEGEND

- Structure Location
- 230kV Centerline
- ▭ RTRP 500-foot Vegetation Community and Rare Plant Habitat Assessment Area
- ✱ California walnut tree (*Juglans californica*)

Vegetation Community

- Active Agriculture
- Annual brome grasslands
- Barren-Not Developed
- California sagebrush - California buckwheat scrub
- Coast live oak woodland
- Developed
- Fremont cottonwood forest
- Open Water
- Ornamental/Landscaped
- Palmers goldenbush scrub

Figure 5
Vegetation Community and Other Land Cover Types



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009; USFWS 2015; CNDDDB 2016.

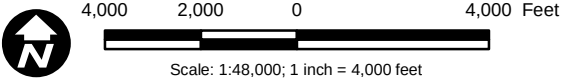


Figure 6
Historical Species Occurrences



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009; USFWS 2015.

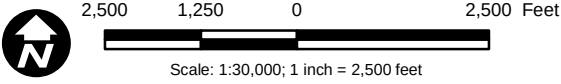
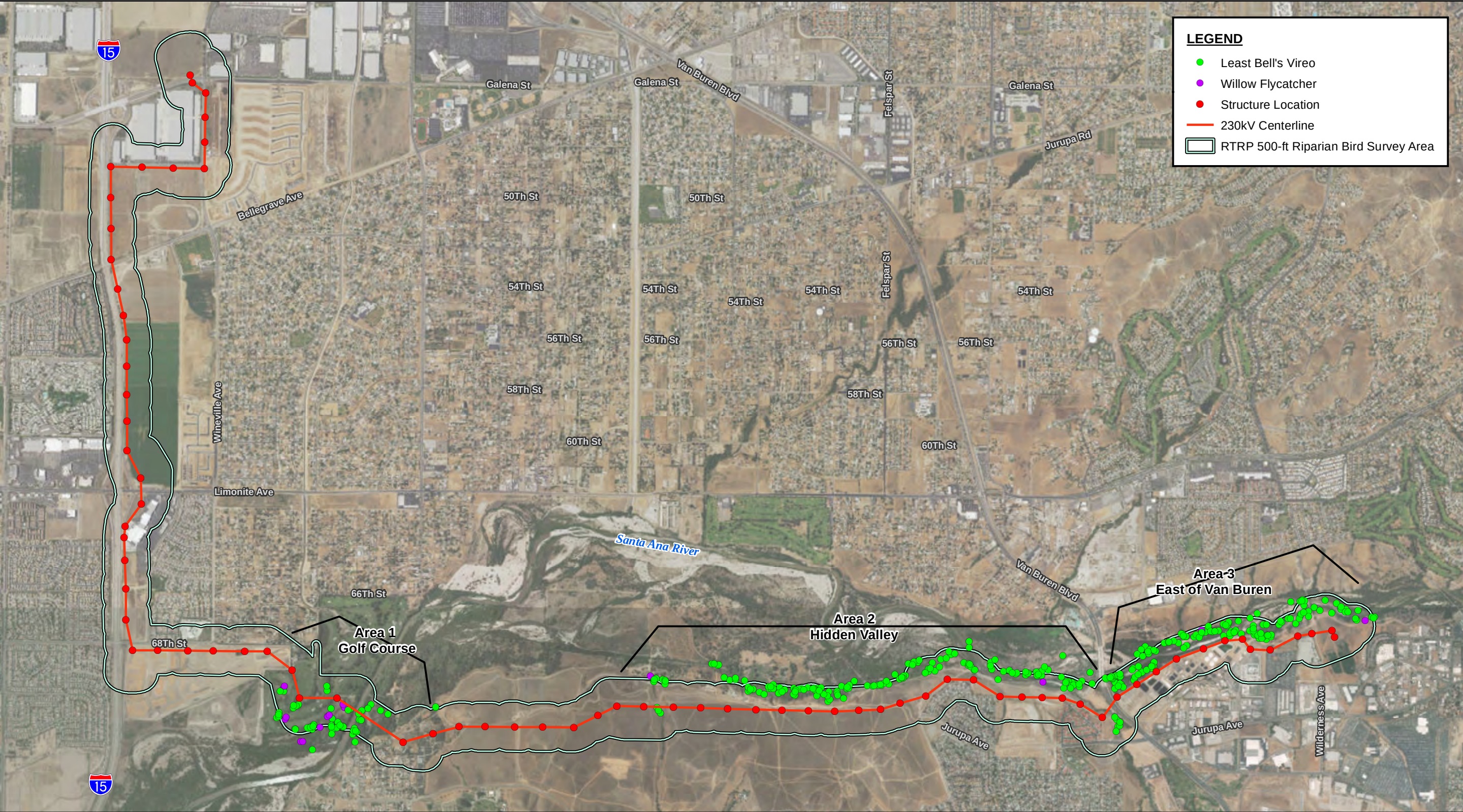


Figure 7
USFWS Designated Critical Habitat



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

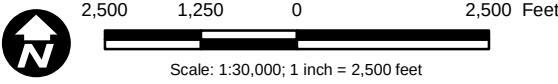
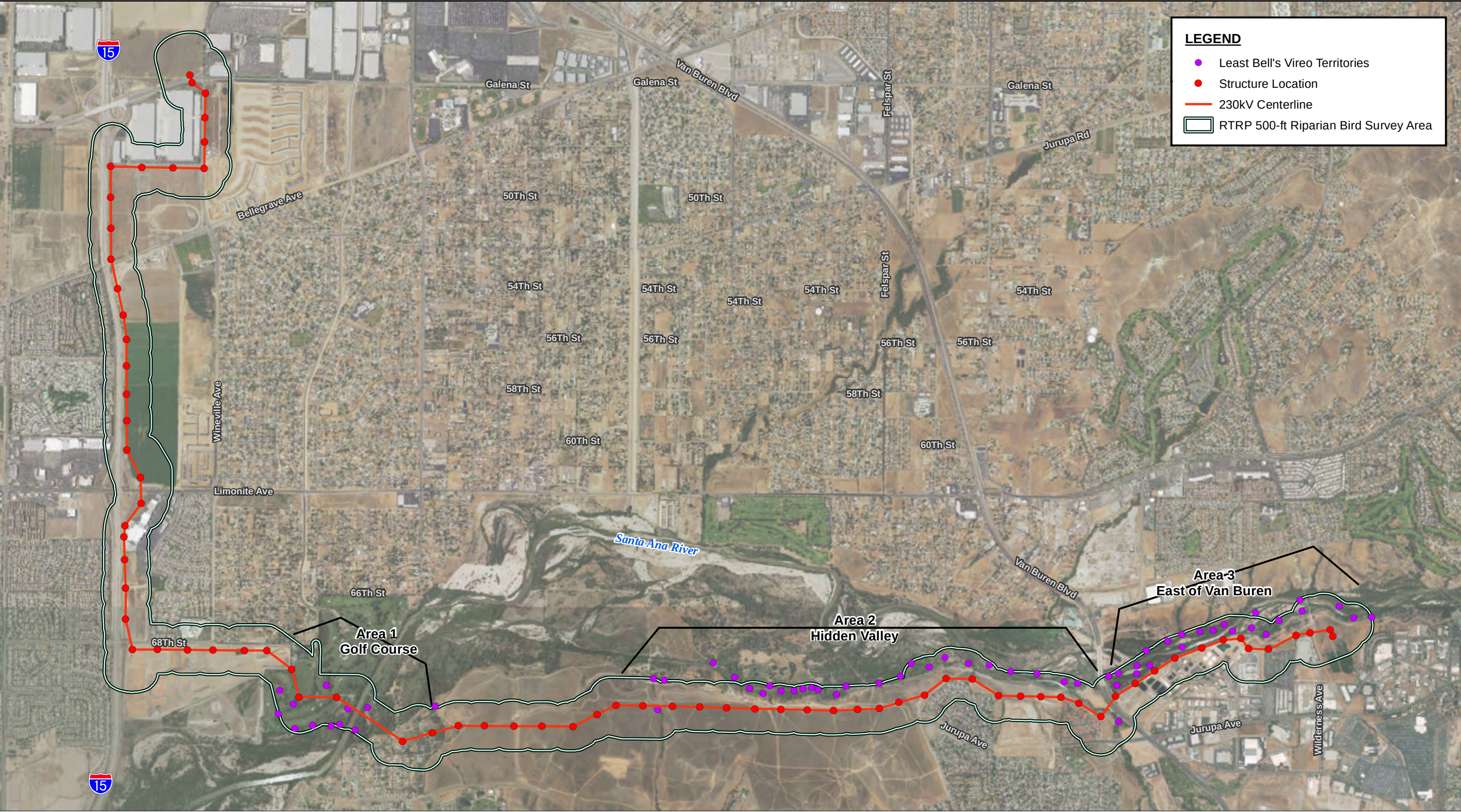


Figure 8a
Least Bell's Vireo and Willow Flycatcher Individual Locations
Riparian Bird Survey Results



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

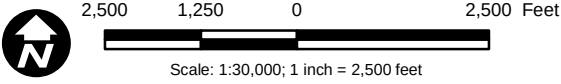
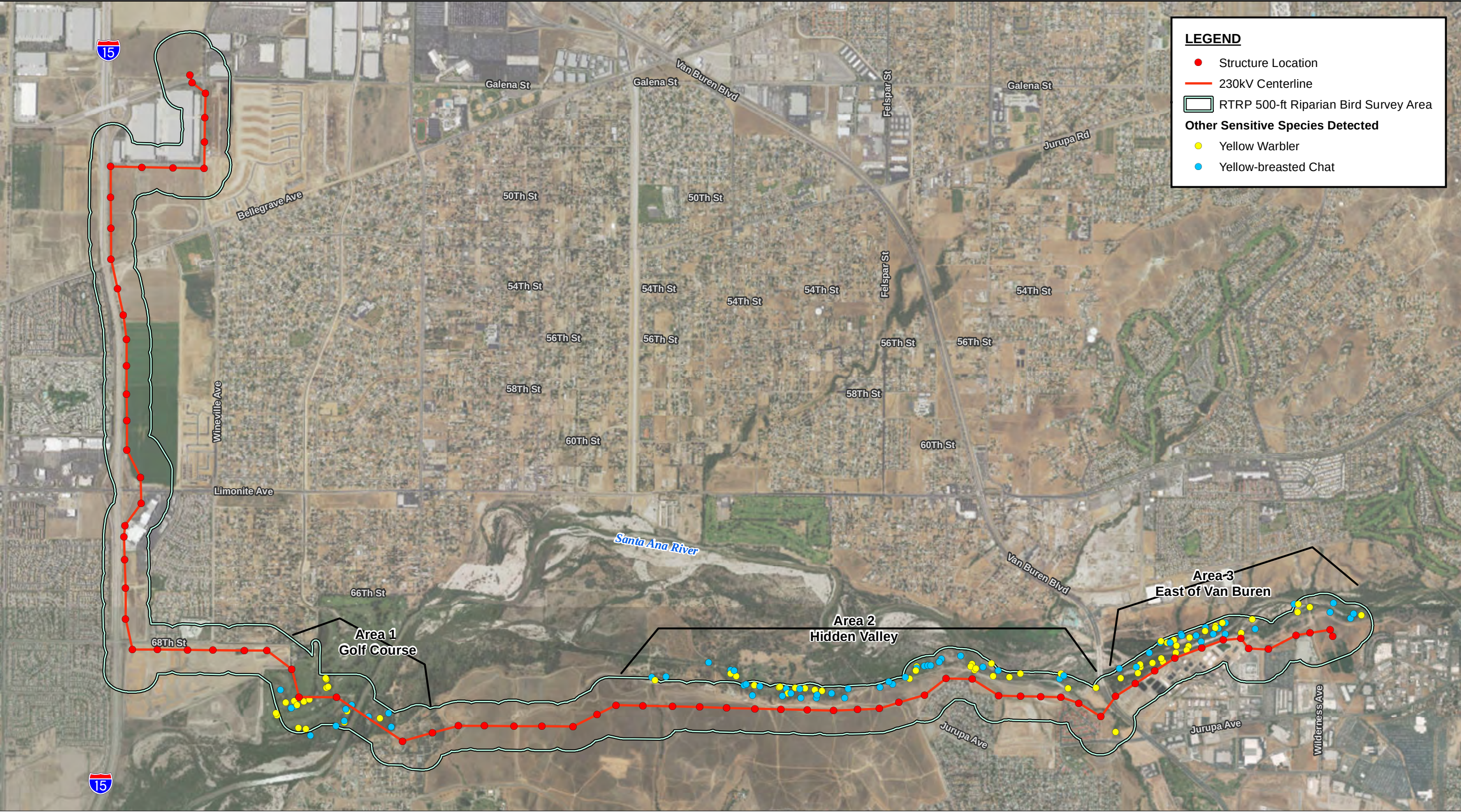


Figure 8b
Least Bell's Vireo Territories
Riparian Bird Survey Results



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

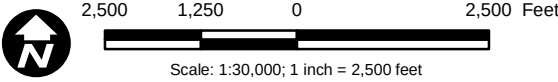


Figure 8c
Other Sensitive Species Detected
Riparian Bird Survey Results

APPENDIX B

PLANT SPECIES COMPENDIUM

Scientific Name	Common Name	Special Status
EUDICOTS		
Adoxaceae - Muskroot family		
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry	
Amaranthaceae - Amaranth family		
* <i>Amaranthus albus</i>	Tumbleweed	
<i>Amaranthus palmeri</i>	Palmer's amaranth	
Anacardiaceae - Sumac Or Cashew family		
<i>Malosma laurina</i>	Laurel sumac	
* <i>Schinus molle</i>	Pepper tree	
<i>Toxicodendron diversilobum</i>	Western poison oak	
Asteraceae - Sunflower family		
<i>Ambrosia acanthicarpa</i>	Annual bur-sage	
<i>Artemisia californica</i>	California sagebrush	
<i>Baccharis salicifolia ssp. salicifolia</i>	Mule fat	
* <i>Centaurea melitensis</i>	Tocalote	
<i>Ericameria palmeri var. pachylepis</i>	Thickbracted goldenbush	
* <i>Erigeron bonariensis</i>	Flax-leaved horseweed	
<i>Erigeron canadensis</i>	Horseweed	
<i>Hazardia squarrosa</i>	Saw-toothed goldenbush	
<i>Helianthus annuus</i>	Common sunflower	
<i>Heterotheca grandiflora</i>	Telegraph weed	
* <i>Verbesina encelioides ssp. exauriculata</i>	Golden crownbeard	
Boraginaceae - Borage family		
<i>Amsinckia intermedia</i>	Common fiddleneck	
Brassicaceae - Mustard family		
* <i>Hirschfeldia incana</i>	Shortpod mustard	
* <i>Raphanus sativus</i>	Radish	
* <i>Sisymbrium irio</i>	London rocket	
* <i>Sisymbrium orientale</i>	Indian hedgemustard	
Cactaceae - Cactus family		
<i>Cylindropuntia californica</i>	California cholla	
Chenopodiaceae - Goosefoot family		
* <i>Atriplex rosea</i>	Tumbling orach	
* <i>Chenopodium album</i>	Lamb's quarters	
<i>Chenopodium sp.</i>	Goosefoot	
* <i>Kochia scoparia ssp. scoparia</i>	Kochia	

Scientific Name	Common Name	Special Status
* <i>Salsola tragus</i>	Russian thistle, tumbleweed	
Euphorbiaceae - Spurge family		
* <i>Ricinus communis</i>	Castorbean	
Fagaceae - Oak family		
<i>Quercus agrifolia</i>	Coast live oak, encina	
Geraniaceae - Geranium family		
* <i>Erodium cicutarium</i>	Redstem filaree	
Juglandaceae - Walnut family		
<i>Juglans californica</i>	Southern California black walnut	CRPR 4.2
Malvaceae - Mallow family		
* <i>Malva parviflora</i>	Cheeseweed, little mallow	
Myrtaceae - Myrtle family		
<i>Eucalyptus sp.</i>	Gum	
Platanaceae - Plane Tree, Sycamore family		
<i>Platanus racemosa</i>	Western sycamore	
Polygonaceae - Buckwheat family		
<i>Eriogonum fasciculatum</i>	California buckwheat	
Portulacaceae - Purslane family		
* <i>Portulaca oleracea</i>	Purslane	
Rosaceae - Rose family		
<i>Rubus ursinus</i>	California blackberry	
Salicaceae - Willow family		
<i>Populus fremontii ssp. fremontii</i>	Alamo or fremont cottonwood	
<i>Salix exigua</i>	Narrowleaf willow	
<i>Salix gooddingii</i>	Goodding's black willow	
<i>Salix laevigata</i>	Red willow	
<i>Salix lasiolepis</i>	Arroyo willow	
Solanaceae - Nightshade family		
* <i>Datura stramonium</i>	Jimsonweed	
<i>Datura wrightii</i>	Sacred thorn-apple	
* <i>Nicotiana glauca</i>	Tree tobacco	
<i>Solanum americanum</i>	American black nightshade	
Tamaricaceae - Tamarisk family		
* <i>Tamarix ramosissima</i>	Saltcedar	
Urticaceae - Nettle family		
<i>Urtica dioica</i>	Stinging nettle	
Vitaceae - Grape family		
<i>Vitis californica</i>	California wild grape	

Scientific Name	Common Name	Special Status
Zygophyllaceae - Caltrop family		
* <i>Tribulus terrestris</i>	Puncturevine	
MONOCOTS		
Poaceae - Grass family		
* <i>Arundo donax</i>	Giant reed	
* <i>Avena barbata</i>	Slender wild oat	
* <i>Avena fatua</i>	Wild oat	
* <i>Bromus diandrus</i>	Ripgut grass	
* <i>Bromus madritensis</i>	Compact brome	
* <i>Cynodon dactylon</i>	Bermuda grass	
* <i>Eleusine indica</i>	Goose grass, india goose grass	
* <i>Hordeum murinum</i>	Wall barley	
* <i>Sorghum bicolor</i>	Sorghum	
Typhaceae - Cattail family		
<i>Typha latifolia</i>	Broad-leaved cattail	

Legend

*= Non-native or invasive species

Special Status:

Federal:

FE = Endangered

FT = Threatened

State:

SE = Endangered

ST =Threatened

CRPR – California Rare Plant Rank

1A. Presumed extinct in California

1B. Rare or Endangered in California and elsewhere

2. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

Threat Ranks

.1 - Seriously endangered in California

.2 – Fairly endangered in California

APPENDIX C

DATA SHEETS

Project: SCE RTRP bird survey

Survey area: East, Santa Ana

Biologist: Brian Karpman, Yajaira

Survey #: 1

Species: LBVI

Survey date: May 9, 2016

Start 🕒: 5:45 PM

End 🕒: 12:31 PM

Start temp (f): 57

End temp (f): 70

Start weather: 100% cloud cover, wind 1-3 mph,

End weather: 90% cloud cover, wind 2-6 mph,

Species detected:

Use 4-letter AOU code

Notes:

Due to the large survey area and the high number of individule within the survey it was not possible to spend any time with the detected individule to determine their breeding status.

Project: SCE RTRP bird survey

Survey area: West, Santa Ana

Biologist: Brian Karpman

Survey #: 1

Species: LBVI

Survey date: May 8, 2016

Start 🕒: 5:45 AM

End 🕒: 12:15 PM

Start temp (f): 58

End temp (f): 71

Start weather: 100% cloud cover, wind 1-4 mph

End weather: 90% cloud cover, wind 3-5 mph

Species detected:

Use 4-letter AOU code

Notes:

The farthest west section of the survey area was separated from the rest of the survey by a large River 150 feet wide. The depth of the river was a few feet on the sides but unknown in the center. The other side might be accessible form the golf course.

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman, Nina Kidd

Survey #: 2

Species: LBVI

Survey date: May 19, 2016

Start 🕒: 6:00 PM

End 🕒: 12:15 PM

Start temp (f): 60

End temp (f): 75

Start weather: Wind 1-4 mph, 100% cloudcover

End weather: Wind 3-7 mph, 0% cloudcover

Species detected:

Use 4-letter AOU code

Notes: Two new vireos were detected in comparison to survey 1.

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman, Nina Kidd

Survey #: 2

Species: LBVI

Survey date: May 17, 2016

Start 🕒: 6:00 AM

End 🕒: 12:40 PM

Start temp (f): 58

End temp (f): 75

Start weather: Wind 1-4, 100% cloud cover

End weather: Wind 3-6, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes:

Several vireos were detected within the survey area

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman, Yajaira

Survey #: 2

Species: LBVI

Survey date: May 18, 2016

Start 🕒: 5:40 AM

End 🕒: 12:40 PM

Start temp (f): 60

End temp (f): 78

Start weather: Wind 1-4, 100% cloudcover

End weather: Wind 3-6, 0% cloudcover

Species detected:

Use 4-letter AOU code

Notes: 10 vireos were detected during the survey. Four were detected on the golf course.

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman and Yajaira

Survey #: 3

Species: LBVI

Survey date: May 27, 2016

Start 🕒: 5:15 AM

End 🕒: 12:00 PM

Start temp (f): 57

End temp (f): 70

Start weather: Wind 0-3 mph, 100% cloud cover

End weather: Wind 0 mph, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman and Yajaira

Survey #: 3

Species: LBVI

Survey date: May 28, 2016

Start 🕒: 5:30 AM

End 🕒: 12:18 PM

Start temp (f): 54

End temp (f): 70

Start weather: Wind 0 mph, 100% cloud cover

End weather: Wind 2-4 mph, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman and Yajaira

Survey #: 3

Species: LBVI

Survey date: May 29, 2016

Start 🕒: 5:30 AM

End 🕒: 12:15 PM

Start temp (f): 60

End temp (f): 72

Start weather: Wind 0-3 mph, 100% cloud cover

End weather: Wind 1-4 mph, 30% cloud cover

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman and Yajaira

Survey #: 4

Species: LBVI

Survey date: June 6, 2016

Start 🕒: 5:45 AM

End 🕒: 12:20 PM

Start temp (f): 56

End temp (f): 70

Start weather: Wind 1-3 mph, 100% cloud cover

End weather: Wind 1-3 mph, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes: Most to all of the same birds were detected singing. One pair was detected feeding fledglings.

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian karpman and Jon

Survey #: 4

Species: LBVI

Survey date: June 8, 2016

Start 🕒: 6:30 AM

End 🕒: 11:15 PM

Start temp (f): 65

End temp (f): 80

Start weather: Wind 1-4 mph, 100% cloud cover

End weather: Wind 3-6 mph, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes: There were five wifl detected during the survey with Jon Feenstra.

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman and Michelle

Survey #: 4

Species: LBVI

Survey date: June 7, 2016

Start 🕒: 7:30 PM

End 🕒: 12:45 AM

Start temp (f): 65

End temp (f): 78

Start weather: Wind 1-3 mph, 100% cloud cover

End weather: Wind 1-6 mph, 0% cloud cover

Species detected:

Use 4-letter AOU code

Notes: Many of the same individule were detected in the same location. One new territory was detected where there haven't been one in the previous weeks.

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman

Survey #: 5

Species: LBVI

Survey date: June 16, 2016

Start 🕒: 5:45 AM

End 🕒: 11:30 AM

Start temp (f): 50

End temp (f): 80

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes: John Feenstra and jim were on site. 18 LBVI were observed.

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman

Survey #: 5

Species: LBVI

Survey date: June 17, 2016

Start 🕒: 5:30 AM

End 🕒: 11:45 AM

Start temp (f): 52

End temp (f): 83

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 2-4 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman and Marley

Survey #: 5

Species: LBVI

Survey date: June 20, 2016

Start 🕒: 5:45 AM

End 🕒: 11:10 AM

Start temp (f): 65

End temp (f): 88

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman

Survey #: 6

Species: LBVI

Survey date: June 30, 2016

Start 🕒: 5:45 AM

End 🕒: 11:30 AM

Start temp (f): 56

End temp (f): 83

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 0-1 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman

Survey #: 6

Species: LBVI

Survey date: July 2, 2016

Start 🕒: 5:50 PM

End 🕒: 11:00 AM

Start temp (f): 58

End temp (f): 83

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 0-1 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman

Survey #: 6

Species: LBVI

Survey date: July 1, 2016

Start 🕒: 5:51 AM

End 🕒: 11:44 AM

Start temp (f): 53

End temp (f): 80

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 0-1 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman

Survey #: 7

Species: LBVI

Survey date: July 16, 2016

Start 🕒: 5:56 PM

End 🕒: 11:33 AM

Start temp (f): 60

End temp (f): 85

Start weather: 100% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman

Survey #: 7

Species: LBVI

Survey date: July 17, 2016

Start 🕒: 5:50 AM

End 🕒: 11:31 AM

Start temp (f): 59

End temp (f): 88

Start weather: 100% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman

Survey #: 7

Species: LBVI

Survey date: July 18, 2016

Start 🕒: 5:45 AM

End 🕒: 11:30 AM

Start temp (f): 60

End temp (f): 89

Start weather: 0% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 3

Biologist: Brian Karpman

Survey #: 8

Species: LBVI

Survey date: July 29, 2016

Start 🕒: 6:00 AM

End 🕒: 11:27 AM

Start temp (f): 70

End temp (f): 88

Start weather: 40% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 1

Biologist: Brian Karpman

Survey #: 8

Species: LBVI

Survey date: July 30, 2016

Start 🕒: 5:55 AM

End 🕒: 11:20 AM

Start temp (f): 70

End temp (f): 88

Start weather: 100% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

Project: SCE RTRP bird survey

Survey area: 2

Biologist: Brian Karpman

Survey #: 8

Species: LBVI

Survey date: July 31, 2016

Start 🕒: 6:00 AM

End 🕒: 11:23 AM

Start temp (f): 61

End temp (f): 88

Start weather: 40% cloud cover, wind 0-1 mph

End weather: 0% cloud cover, wind 3-6 mph

Species detected:

Use 4-letter AOU code

Notes:

TRAP RESULTS - SCE Riverside SBKR/LAPM/SDPM field sheet

Date Traps Checked	Area (1-19)	No. Traps Set	Animals Captured*											Notes
			SBKR	DKR	LAPM	CHFA	PEMA	PEFR	NEBR	REME	MUMU	RARA	SPBE	
8/29/16	18B	25								I		I		
	19B	25												No caps
8/30/16	11B						II			I				60.2°F, 0% pulled traps, 1-2 mph
	14						I			III I				pulled traps No caps
	15													pulled traps
	16						I			I				pulled traps
	18B									III	I	III		pulled traps
	19B													No caps Pulled traps
8/31/16	12	20					IIII							63.6°F 0% omf
	11A	25					I			II				
	11B	25					IIII			II				
9/1/16	11A	25					I			II				65.9°F, 0%, omf
	11B	25					IIII				I	II	I	
	12	50 20					IIII							
9/2/16	12	20					IIII							67.6°F, 100%, 0-1m
	11A	25					II			II	I			
	11B	25					IIII							

Misc. Notes

Misc. Notes
Dandrad 15 traps stolen 2 on grid 15A and 15 traps on grid 17. Weird afternoon. During baiting on 8/29/16 Dan noticed traps stolen on 2 grids. One homeless guy was promising to get traps back while younger guy stood by swinging machette (sp?) Encountered REALLY scary guy while leaving site 19. May pull traps tomorrow (30th). Safety is a concern around traps/homeless encampments.

DMS

TRAP RESULTS - SCE Riverside SBKR/LAPM/SDPM field sheet

(mid - morning)	Date Traps Checked	Area (1-19)	No. Traps Set	Animals Captured*										Temp/cloud/wind cover (mph)	Notes
				SBKR	DKR	LAPM	CHFA	PEMA	PEFR	NEBR	REME	MUMU	RARA	SPBE	
	7/9-7/10/16	1A	40												61.7°F, CC=0, 0-1 mph
	7/10-7/11/16	4	20												62.6°F CC=0, 0-1 mph
		2A	4												No habitat site is scraped across of scrub
		2B	16												
		3	20												Site has bedrock millings site gps # = 465
		5	10												
		1A	40												
		1B	40												
	7/11-7/12/16	4	20												66.7°F, CC=100%, 0-2 mph
		2A	4								1				
		2B	16												
		3	20												
		5	10												
		1A	40									1			
		1B	40										1		longtail
	7/12/16-7/13	4	20												62.3°F, 0% 0-1 mph
		2A	4												
		2B	16												
		3	20												
		5	10												
		1A	40												
		1B	40												

Misc. Notes

1A/B Soft sandy soils / bamboo / small patch of CSS in SW area of 1B / horse trails. 1A adjacent to golfing fairway / tee-off
 4 = Trash, disturbed scrub - rocks / boulder (SDPM??)
 2A/B = site is heavily disturbed - surrounded by newly planted opuntia. Area is scraped.
 3 = non-native bromes & disturbed scrub - Milling site in bedrock - cool!

5 = small isolated scrub patch - dominated by buck wheat (CHFA??) very disturbed areas.

- Didn't trap site adjacent to SAR due to mountain lion sighting by Ranger (spoke w/ female ranger).

- Checked in w/ Ranger on day 1 and last day

(7/9)

7/15

Lower

only set 1A - Return to hotel to check on mom.

TRAP RESULTS - SCE Riverside SBKR/LAPM/SDPM field sheet

Date Traps Checked	Area (1-19)	No. Traps Set	Animals Captured*											Notes
			SBKR	DKR	LAPM	CHFA	PEMA	PEFR	NEBR	REME	MUMU	RARA	SPBE	
Session 1 7/13-7/14/16	4													64.6°F, 0% ₀ , 0-.5mph
	2A													
	2B													
	3													
	5												1	
	1A													Grid picked up Day 5 for site
	1B													
	7/14-7/15/16	4												
	2A													
	2B													
Session 2 7/25-7/26/16	3													
	5												1	
	1B													All traps pulled
	7/25/16-7/26/16	6	100											69°F, 0% ₀ , 0-.5mph
	8	30												
	7	30												
	9	3												
	10	30												
	7/26-7/27/16	6												71.2°F, 0% ₀ , 0-.5mph
	10													

Misc. Notes

No scrub in majority of area 9. Squirrel burrows are abundant, concentrating higher trap densities in areas suitable to target species. Soils / scrub may yield CHFA, very disturbed scrub. Isolated patches - no connectivity.

Dmc

TRAP RESULTS - SCE Riverside SBKR/LAPM/SDPM field sheet

Date Traps Checked	Area (1-19)	No. Traps Set	Animals Captured*											Notes	
			SBKR	DKR	LAPM	CHFA	PEMA	PEFR	NEBR	REME	MUMU	RARA	SPBE		
7/26-7/27/16	8						I								lower gate locked brown ch Windy while baiting
	7						III			"					
7/27-7/28/16	6						ZE			7					70.0°F, 0%, 0-5mph
	9						I								
	10						"			7					
	8						I			7					
	7						"			I			I		
7/28-7/29/16	6						ZE			IIII	I				71.1, 0%, 0
	9						I								
	10						III			"					
	8						"			"					
	7						"								
7/29-7/30/16	6						ZE			"					72.2°F, 100%, 0-1mph
	8						I			I					
	7						"								
	9						"								
	10						II			III					
/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /	/ / / / /
8/28-8/29	11B	25						ZE							Set traps No midnight check safety harness
	14	20						I		IIII					65.2°F, 0%, 0-5mph
	15B	25								I					
	16	15						I		I					
Misc. Notes															

TRAP RESULTS - SCE Riverside SBKR/LAPM/SDPM field sheet

[illegible]

APPENDIX D

SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR

Appendix E
Sensitive Wildlife Species Potential for Occurrence Table

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, <i>POTENTIAL FOR OCCURRENCE</i>
INVERTEBRATES			
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Fully Covered	Found at scattered locations throughout southern California, although known only from Riverside and San Diego counties in southern California. Restricted to cool-water vernal pools, often early in the rainy season. <i>Moderate potential to occur along portions of the 250-kV alignment and the Etiwanda Avenue marshalling yard supporting flat open areas with impermeable soils below the ground surface. Unlikely to occur in the Clay Street marshalling yard.</i>
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE	-	Known range limited to southern California, in Orange and San Diego counties, and adjacent northwestern Baja California. Occurs in vernal pools and similar ephemeral wetland habitats, including artificial habitats. All known localities below 2,300' elevation and within 40 miles of the Pacific Ocean. <i>Moderate potential to occur along portions of the 250-kV alignment and the Etiwanda Avenue marshalling yard supporting flat open areas with impermeable soils below the ground surface. Unlikely to occur in the Clay Street marshalling yard.</i>
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	FE	Fully Covered	Range restricted to limited areas of southern California and northern Baja California; currently known in southern California only from relatively small populations within Riverside and San Diego counties. Inhabits openings within Riversidean sage scrub and chaparral; also found in grasslands, and vernal pool and lake margins. <i>Moderate potential to occur along portions of the 250-kV alignment supporting grassland and native scrub communities. Unlikely to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
Delhi Sands flower-loving fly <i>Rhaphiomidas terminatus abdominalis</i>	FE	Fully Covered	Known from a very small range in southern California, southwestern San Bernardino and northwestern Riverside counties; currently known only from a range encompassing an 8-mile radius, though presumed to have once occurred throughout the Colton Dunes formation, a 40-square-mile area. Its habitat is restricted to fine, sandy soils, often with wholly or partly consolidated dunes, and a particular soil type classified as the “Delhi” formation. <i>High potential to occur along the westernmost (north-south running) portion of the 250-kV alignment and on the Etiwanda Avenue marshalling yard. Unlikely to occur on the Clay Street marshalling yards.</i>
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE	Fully Covered	Endemic to western Riverside County, as well as southern California coastal counties, from Ventura to San Diego. Restricted to relatively deep vernal pools in grasslands or in openings within coastal sage scrub and chaparral. Hatch in warm water later in season. <i>No potential to occur within 500 feet of the 250-kV alignment. Unlikely to occur in the two marshalling yards.</i>
FISH			
Santa Ana sucker <i>Catostomus santaanae</i>	FT SSC	Fully Covered	Endemic to southern California, known historically only from the San Gabriel, Los Angeles, and Santa Ana river systems of Los Angeles, Orange, Riverside, and San Bernardino counties. Prefers permanent streams and small to medium-sized rivers with cool temperatures. Riparian habitat is typically to provide cover and refuge from floods. Can inhabit reservoirs. <i>High potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
arroyo chub <i>Gila orcuttii</i>	SSC	Fully Covered	The arroyo chub is native to the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita rivers and to Malibu and San Juan creeks. They prefer slow-moving mud or sand-bottomed sections of streams and are abundant only in portions of the Santa Margarita River and Trabuco, San Juan, and Malibu creeks. <i>High potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
southern steelhead (southern California) <i>Oncorhynchus mykiss irideus</i>	FE SSC	-	Range is from the Santa Maria River, San Luis Obispo County, south to the larger remaining streams in San Diego County. Southern steelhead currently occurs in only four large river systems in their range: the Santa Maria, Santa Ynez, Ventura, and Santa Clara rivers. Adults migrate from the ocean into freshwater streams to spawn between December and April. Juveniles remain in freshwater streams for two to three years before migrating to the ocean. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
Santa Ana speckled dace <i>Rhinichthys osculus</i>	SSC	-	The “Santa Ana” population of speckled dace is restricted to the headwaters of the Santa Ana and San Gabriel river drainages. Prefers shallow, gravel and cobble riffles of permanent flowing streams, with overhanging riparian vegetation for cover. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
AMPHIBIANS			
arroyo toad <i>Anaxyrus californicus</i>	FE SSC	Partially Covered	Uncommon and local in primarily cismontane southern California from Santa Barbara County south into Baja California. Inhabits washes, streams, arroyos and adjacent uplands, generally where riparian woodlands (willow, cottonwood, sycamore, and/or coast live oak) are present. Typically requires shallow, gravelly pools adjacent to sandy terraces, with little or no emergent vegetation. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
California red-legged frog <i>Rana aurora draytonii</i>	FT SSC	Partially Covered	Usually occurs in or near permanent water of low gradient streams, marshes, ponds, lakes, and other quiet bodies of water. Breeding occurs in permanent or seasonal pools. The only known location for this species to still occur in Riverside County is the Santa Rosa Plateau. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
Mountain yellow-legged frog <i>Rana muscosa</i>	FE SSC	Partially Covered	Now rare and extremely localized in southern California. They inhabit perennial, cool mountain streams with steep gradients. Typically in the chaparral belt, but may occur at higher elevations (e.g., most records between 1,500 and 7,500 feet elevation). <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
western spadefoot toad <i>Spea hammondi</i>	SSC	Fully Covered	Occurs in a variety of habitats, from lowlands to foothills, in grasslands, open chaparral and sage scrub, and open woodland. Most often prefers short-grass plains, with sandy or gravelly soils (e.g., alkali flats, washes, alluvial fans). Known to breed in stock tanks and other artificial water bodies. In upland habitats to avoid desiccation, becomes inactive and burrows underground. Active again in late winter and spring after the first rains. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
Coast Range newt <i>Taricha torosa torosa</i>	SSC	Fully Covered	Occurs along the coast and coast ranges of California from Mendocino County to San Diego County. Breeding occurs in ponds, reservoirs, and streams. Outside breeding season found in terrestrial habitats (e.g., grasslands, moist oak woodlands and chaparral); can migrate over 0.5 mile to find breeding ponds or slow-moving streams. Will spend drier periods burrowing in soil or under fallen logs and debris. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
REPTILES			
southwestern pond turtle <i>Actinemys (Clemmys) marmorata pallida</i>	SSC	Fully Covered	Occurs along the coastal slope of southern California, from the San Francisco Bay area south into Baja California, from sea level to over 5,900 feet elevation. Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation and either rocky or muddy bottoms. Generally requires permanent (or nearly permanent) water. Can also be found in woodland and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra</i> (<i>Cnemidophorus hyperythrus beldingi</i>)	SSC	Fully Covered	Occurs in a limited range within the coastal slope of southern California, from the Santa Ana River area portions of Orange, Riverside and San Bernardino counties, and south into Baja California. From sea level to approximately 2,000 feet elevation. Prefers semi-arid brushy areas, typically with loose soil and rocks, including coastal sage scrub, chaparral, rocky hillsides, washes and streamsides. <i>Moderate potential to occur within the undeveloped portions of the 250-kV alignment and in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	-	Fully Covered	Found in coastal southern California habitats which have been altered and fragmented by development. Chaparral, woodland, and riparian areas. Inhabits a variety of ecosystems, primarily hot and dry open areas with sparse foliage. <i>Moderate potential to occur within the undeveloped portions of the 250-kV alignment and in the two marshalling yards.</i>
rosy boa <i>Charina trivirgata</i>	FSS	-	Occurs widely but sparsely distributed in the desert and chaparral habitats throughout southern California, south of Los Angeles, from the coast to the Mojave and Colorado deserts. In coastal areas it inhabits rocky chaparral-covered hillsides and canyons, while in the desert it is found on scrub flats with good cover and in the mountains. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
southern rubber boa <i>Charina umbratica</i>	ST FSS	Fully Covered	Found in only a few disjunct montane regions of southern California: the San Bernardino, San Jacinto and Tehachapi mountains. Inhabits oak-conifer and mixed-conifer forests at elevations between roughly 5,000 and 8,200 feet, where rocks, logs, or other debris provide shelter. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
northern red-diamond rattlesnake <i>Crotalus ruber ruber</i>	SSC	Fully Covered	Occurs in southern California from the Morongo Valley area of San Bernardino County west to the coast and south along the Peninsular Ranges to Baja California. Inhabits arid, rocky, brushy areas, including coastal sage scrub and chaparral, as well as oak and other woodlands and grasslands. <i>Moderate potential to occur within the undeveloped portions of the 250-kV alignment and in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
San Bernardino mountain kingsnake <i>Lampropeltis zonata (parvirubra)</i>	SSC FSS	Fully Covered	Limited range includes the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel mountains of southern California. Can be found in diverse habitats, including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, and coastal sage scrub. Preferred areas include wooded areas near a stream with rock outcrops, talus, or rotting logs. Found as high as 9,000 feet on Mt. San Jacinto. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
California (San Diego) mountain kingsnake <i>Lampropeltis zonata (pulchra)</i>	SSC FSS	Fully Covered	Found in three restricted areas in southern California: 1) in the central San Diego County Peninsular Ranges (the Laguna, Palomar, Volcan, and Hot Springs mountains); 2) the Santa Ana Mountains; and 3) the Hollywood Hills and Santa Monica Mountains. Has similar habitat preferences to the San Bernardino Mountain kingsnake (see above). From near sea level along the south coast to above 6,500 feet in the Cuyamaca Mountains. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
Coast (San Diego) horned lizard <i>Phrynosoma coronatum</i>	SSC FSS	Fully Covered	Found along the coastal slope of southern California from the San Francisco Bay area south into Baja California. Inhabits open areas of sandy soil, sandy ridges, and low vegetation in valleys, foothills, and semiarid mountains from sea level to 8,000 feet in elevation. Found in grasslands, woodlands, sage scrub, and chaparral in openings with areas of friable soil. Frequently found near harvester ant mounds, its preferred prey. <i>High potential to occur within the undeveloped portions of the 250-kV alignment and in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	SSC	-	Occurs in southern California from the Carrizo Plains in San Luis Obispo County south through the coastal zone, west of the deserts, into coastal northern Baja California. Inhabits semi-arid brushy areas, including sage scrub and chaparral, in canyons, rocky hillsides, and mesas. <i>Low potential to occur within the undeveloped portions of the 250-kV. Unlikely to occur in the two marshalling yards.</i>
two-striped garter snake <i>Thamnophis hammondi</i>	SSC FSS	-	In southern California, ranges along the coast and east through the Transverse Ranges into limited portions of the western desert; then south through the Peninsular Ranges into northern Baja California. Can be found at elevations from sea level to 6,988 feet. Found in or near permanent fresh water, often along streams with rocky beds and riparian growth. <i>Moderate potential to occur along the southernmost (east-west running) portion of the 250-kV alignment that crosses or lies directly adjacent to the Santa Ana River. No potential to occur in the two marshalling yards.</i>
BIRDS			
Cooper's hawk <i>Accipiter cooperii</i>	-	Fully Covered	An uncommon, though increasing, breeding resident species in cismontane southern California, with an influx of birds during the winter months. Forages over a broad variety of woodland and shrub communities, especially wherever concentrations of birds (their preferred prey) may be found. Nests within a variety of woodland habitats, such as riparian or oak woodlands, but in recent years has shown a tolerance for developed areas and has begun nesting in suburban and urban "woodlands." <i>Moderate potential to nest in trees within 500 feet of the 250-kV alignment. Unlikely to nest on or directly adjacent to the marshalling yards. Moderate potential to forage along 250 kV alignment and in the two marshalling yards.</i>
northern goshawk <i>Accipiter gentiles</i>	SSC FSS	Fully Covered	Very rare, and extremely local, resident in a few southern California mountain ranges (e.g., the San Jacinto Mountains). Most records have been during the breeding season and have generally occurred in dense coniferous or mixed coniferous-deciduous woodlands. A rare winter visitor to the northern deserts. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
sharp-shinned hawk <i>Accipiter striatus</i>	-	Fully Covered	An uncommon winter visitor to southern California. Occurs in a variety of woodland and shrubland communities (native and nonnative), wherever concentrations of small birds (their preferred prey) may be found. <i>Moderate potential to nest in trees within 500 feet of the 250-kV alignment. Unlikely to nest on or directly adjacent to the marshalling yards. Moderate potential to forage along 250 kV alignment and in the two marshalling yards.</i>
tri-colored blackbird <i>Agelaius tricolor</i>	SSC BCC	Fully Covered	A resident breeder in cismontane southern California. When present, can often occur in large numbers, as a highly colonial species. However, has significantly declined in the region and is becoming somewhat rare and localized. Often more common and widespread in winter. For breeding, requires open water, protected nest sites (flooded or spiny/thorny vegetation), and suitable foraging sites within a mile or two of the nesting colony. Dense beds of freshwater emergent vegetation (cattails and/or bulrush) are often used by colonies for nest placement, with foraging occurring in nearby grasslands, agricultural fields, fallow fields, dairies, and feedlots. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	WL	-	A fairly common resident and breeder in cismontane southern California. Prefers relatively steep, often rocky hillsides, with dominant vegetation ranging from grasses and forbs to a moderate shrub cover (including coastal sage scrub or sparse chaparral communities). <i>Moderate potential to nest and forage in the upland habitats within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
grasshopper sparrow <i>Ammodramus</i> <i>savannarum</i>	SSC	Fully Covered	An uncommon, localized summer resident (March through August), and breeder, in cismontane southern California. Declining throughout much of its former range. Nests and forages in areas of relatively expansive grasslands (both native and nonnative), including grasslands interspersed with occasional shrubs (e.g., sage scrub species) or taller weeds (e.g., wild artichoke). Can occur on level or sloping terrain; generally found in lower elevations. <i>Moderate potential to nest and forage in the grassland habitats within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>
Bell's sage sparrow <i>Amphispiza belli belli</i>	BCC	Fully Covered	An uncommon, localized resident and breeder in cismontane southern California. Preferred habitat includes low, dense chaparral (typically chamise dominant) in interior foothills, as well as coastal sage scrub (often with white sage). <i>Moderate potential to nest and forage in the upland habitats within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>
golden eagle <i>Aquila chrysaetos</i>	FP BCC	Fully Covered	A fairly rare resident, and breeder, in more remote regions of southern California, with generally some influx occurring into the region during winter. Forages over a variety of habitats and terrain, including grasslands, brushlands, and open woodland and savannah. This species is primarily restricted to rugged, mountainous terrain for nesting, generally well away from human disturbance. <i>Moderate potential to nest and forage in the undeveloped areas within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
great blue heron <i>Ardea herodias</i>	-	-	Fairly common year-round in southern California, though somewhat smaller numbers during the breeding season. Breeds very locally, especially away from the coast. Forages at a wide variety of wetland habitats, including ponds, marshes, creeks, flood control channels, etc. Also will forage for rodents in fallow agricultural fields and vacant lots. Clusters of tall trees (e.g., eucalyptus) are often used for nesting. <i>High potential to nest and forage in the undeveloped areas within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>
long-eared owl <i>Asio otus</i>	SSC	-	A fairly rare resident, and very localized breeder, in cismontane southern California, although somewhat more widespread and common as a winter visitor here. Prefers dense riparian communities (including coast live oak, willows, and cottonwoods) or occasionally other types of cover (e.g., dense olive groves) for roosting and nesting. Generally, grasslands or other open habitats for foraging are adjacent to roosting/nesting sites. <i>Moderate potential to roost and nest in the riparian habitats associated with the Santa Ana River; also to forage within the upland habitats along the 250 kV alignment. Unlikely to roost, nest or forage in the two marshalling yards. substation and 500-kV study areas as a winter visitor and as a breeder.</i>
burrowing owl <i>Athene cunicularia hypugaea</i>	SSC BCC	Partially Covered	Now a fairly rare, and decreasing, resident breeder in southern California, away from the Imperial Valley. A small influx of nonbreeding birds often occurs during the winter. Prefers open, low-growing grasslands, fallow fields, agricultural areas, earth-lined flood control channels/ditches, and dairies. Relies on the presence of burrowing rodents (especially California ground squirrel) for roost and nest sites. <i>Moderate potential to nest and forage in the undeveloped areas within 500 feet of the 250-kV alignment and the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
American bittern <i>Botaurus lentiginosus</i>		Fully Covered	A fairly rare winter visitor to southern California; formerly a regular breeder throughout the coastal slope. Generally restricted to fairly extensive freshwater marsh habitats with dense patches of cattails and rushes. <i>No potential to occur within 500 feet of the 250-kV alignment or the two marshalling yards.</i>
ferruginous hawk <i>Buteo regalis</i>	BCC	Fully Covered	A rare to uncommon transient and winter visitor in southern California. Typically requires extensive grasslands, sparsely vegetated rolling hills, and agricultural fields for foraging habitat. Roosts in open areas, usually in a lone tree or utility pole. <i>No potential to nest within 500 feet of the 250-kV alignment or the two marshalling yards; low potential to roost and forage.</i>
Swainson's hawk <i>Buteo swainsoni</i>	ST FSS BCC	Fully Covered	A fairly rare, though increasing, spring and fall transient in southern California. Has been extirpated for years (from most of the region as a breeder. Forages over a variety of open habitats, including grasslands, rangeland, agricultural fields, etc. <i>No potential to nest within 500 feet of the 250-kV alignment or the two marshalling yards; low potential to roost and forage.</i>
coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	SSC FSS BCC	Fully Covered	This population of cactus wren is an uncommon and declining resident breeder along the coastal slope of southern California. It occurs in coastal sage scrub, although it requires mature patches of tall prickly pear or cholla cactus for nesting and roosting. <i>No potential to nest within 500 feet of the 250-kV alignment or the two marshalling yards; low potential to roost and forage.</i>
Vaux's swift <i>Chaetura vauxi</i>	SSC	-	In southern California, the Vaux's swift occurs only as a spring and fall migrant. <i>Moderate potential to occur (as a transient) within 500 feet of the 250-kV alignment and the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
western snowy plover <i>Charadrius alexandrius nivosus</i>	FT SSC BCC	-	In southern California, an uncommon, declining breeding resident along the immediate coast and very rare, local breeder in the interior (away from the Salton Sea). In the interior, will opportunistically colonize receding lakeshores, sinks, and alkaline lakes, generally where devoid of any significant vegetation. Nests on sandy shorelines, salt flats, etc. <i>No potential to nest within 500 feet of the 250-kV alignment or the two marshalling yards; low potential to roost and forage.</i>
mountain plover <i>Charadrius montanus</i>	FT SSC BCC	Fully Covered	An uncommon and localized winter visitor to California (primarily Oct. to Feb.), with most populations occurring in the Central, San Joaquin and Imperial valleys. Flocks typically forage in short grasslands and agricultural fields. <i>No potential to nest within 500 feet of the 250-kV alignment or the two marshalling yards; low potential to roost and forage.</i>
northern harrier <i>Circus cyaneus</i>	SSC	Fully Covered	A generally uncommon winter visitor to southern California, with a few nonbreeders occasionally remaining through the summer. Now a rare and localized breeder in the region. Forages over a variety of open habitat (e.g., marshes, vegetated shorelines, grasslands, agricultural fields) and occasionally open coastal sage scrub and brushy fields. Nests on the ground in open areas, where patches of taller vegetation are protected from disturbance. <i>High potential to nest and forage in the undeveloped areas within 500 feet of the 250-kV alignment. Unlikely to nest or forage on the two marshalling yards.</i>
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	SE FSS BCC	Fully Covered	An extremely rare and localized summer resident (May to Aug.) and breeder, with breeding now restricted to only a few southern California sites. Requires relatively expansive tracts of mature floodplain riparian forest, generally consisting of dense cottonwoods and willows, with a well developed understory component. <i>High potential to nest and forage in the riparian habitats associated with the Santa Ana River. Unlikely to nest or forage on the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
black swift <i>Cypseloides niger</i>	SSC BCC	Fully Covered	A rare spring and fall transient and very local breeder (primarily May to Sept.) in southern California. In Riverside County it is known to breed in the San Jacinto Mountains. Nesting in this region is generally restricted to waterfalls in steep canyons. <i>Moderate potential to occur as a rare transient along the 250 kV alignment. Unlikely to breed.</i>
yellow warbler <i>Dendroica petechia brewsteri</i>	SSC BCC	Fully Covered	A common spring and fall transient throughout southern California and an uncommon, though increasing summer visitor (Apr. to Aug.) and breeder, primarily along the coastal slope. For breeding, requires mature riparian woodland, primarily consisting of tall cottonwoods, willows, or alders. <i>Occurs within the riparian habitats associated with the Santa Ana River. Unlikely to nest or forage on the two marshalling yards.</i>
white-tailed kite <i>Elanus leucurus</i>	FP	Fully Covered	An uncommon, resident breeder in cismontane southern California. A cyclic species, it has undergone fairly significant population fluctuations, although currently appears to be declining in the region due to habitat loss. Winter roost site concentrations occasionally form during winter. Occurs in a variety of open habitats, foraging over valley and foothill grasslands, meadows, open marshy bottomlands, and agricultural fields; requires scattered large trees or mature riparian groves for nesting and winter roost sites. <i>Moderate potential to nest within the woodland habitats associated with the Santa Ana River and forage in the undeveloped areas along the 250 kV alignment. Unlikely to forage or nest in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE SE BCC	Fully Covered	A very rare, localized, and declining summer resident/breeder in southern California. Occurs from early to mid May to late Aug. Restricted as a breeder to moist riparian communities, with breeding documented from sea level to over 5,000 feet. In southern California, nesting habitat typically is dominated by willows, but may also be dominated by alders and (very locally) salt cedar and coast live oak. Nesting habitat nearly always includes areas with surface water, or at least saturated soils, and therefore the understory generally supports a variety of hydrophytic vegetation. <i>High potential to nest and forage in the riparian habitats associated with the Santa Ana River. Willow flycatchers detected within the Santa Ana River. Unlikely to nest or forage on the two marshalling yards.</i>
California horned lark <i>Eremophila alpestris actia</i>	-	Fully Covered	In southern California, a fairly common winter visitor, and uncommon, localized summer resident/breeder. Occurs in winter, and as a breeder in sparse grasslands, large vacant lots, fallow agricultural fields, rangeland, typically on relatively level terrain. <i>Moderate potential to occur in most undeveloped cover types along the 250 kV alignment and two marshalling yards.</i>
peregrine falcon <i>Falco peregrinus</i>	FD SD FP BCC	Fully Covered	A fairly rare perennial visitor throughout cismontane southern California, with most occurring along the coast, such as at estuaries and coastal bluffs and promontories. A very rare and local breeder along the coast; more widespread during migration and as a winter visitor. Locally, has adapted to breeding in urban environments, especially where high-rise buildings and concentrations of rock pigeons, as a reliable food source, are present. In more natural settings, foraging habitat typically includes a variety of coastal and interior wetland communities as well as open areas such as airports and farmland. <i>Low potential to forage or nest along the 250 kV alignment and two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
bald eagle <i>Haliaeetus leucocephalus</i>	FD SE FP FSS BCC	Fully Covered	Occurs primarily as a fairly rare, localized winter visitor to southern California, preferring ocean shore, estuaries, lake margins, and riverine habitats. Nesting has recently been documented in southern California mountain lakes (e.g., Lake Hemet). Nests and roosts in large, old-growth trees as well as tall snags, especially where near open water or other open wetland habitats and available sources of food. <i>Unlikely to nest along the 250 kV alignment and two marshalling yards; low potential to forage.</i>
yellow-breasted chat <i>Icteria virens</i>	SSC	Fully Covered	Summer resident in southern California (April to August), inhabiting willow riparian thickets and other brushy tangles near water courses. Typically nests in riparian-associated understory vegetation, including young willows, mule fat, blackberry, wild grape, etc. Generally forages and nests within 10 feet of the ground. <i>Occurs within the riparian habitats associated with the Santa Ana River. Unlikely to nest or forage on the two marshalling yards.</i>
loggerhead shrike <i>Lanius ludovicianus</i>	SSC BCC	Fully Covered	A rare to uncommon breeding resident in southern California, with an influx into the region during winter. Prefers open terrain with short vegetation, including rangeland, agricultural fields, open brushlands, etc. Was once more common and widely distributed in North America. <i>Moderate potential to nest and forage along the 250 kV alignment; low potential to forage in two marshalling yards.</i>
black-crowned night heron <i>Nycticorax nycticorax</i>	-	Fully Covered	An uncommon to fairly common resident in southern California, being most common near the coast; breeds locally. Foraging habitat includes a variety of coastal and interior wetland communities, riparian woodlands, and waterways. Roosts and breeds in dense marshes or groves of dense trees (native or nonnative) near water bodies or other foraging areas. <i>Moderate potential to nest and forage within the riparian habitats associated with the Santa Ana River. Unlikely to forage or nest in two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
mountain quail <i>Oreortyx pictus</i>	-	Fully Covered	A generally uncommon breeding resident in the mountains of southern California. Rarely comes down to the foothills on the coastal slopes of the mountains. Prefer montane chaparral and a variety of montane woodlands where a brushy understory is also present. <i>Unlikely to nest or forage along the 250 kV alignment or two marshalling yards.</i>
osprey <i>Pandion haliaetus</i>	-	Fully Covered	An uncommon, primarily nonbreeding visitor to southern California, with largest numbers occurring outside the breeding season. Nesting has been on the increase in recent years, especially near the coast. Most frequent along the immediate coast, although occurs also at larger inland bodies of water (e.g., lakes, reservoirs, rivers). <i>Low potential to occur as a nester in the Santa Ana River; moderate potential to forage. Unlikely to forage or nest in the two marshalling yards.</i>
double-crested cormorant <i>Phalacrocorax auritus</i>	-	Fully Covered	Fairly common, year-round in southern California, with largest numbers during the nonbreeding season. Breeding occurs locally, though is increasing, primarily along the coast. Preferred foraging areas typically include larger lakes, reservoirs, and rivers with tall trees and snags used for roosting. <i>Low potential to occur as a nester in the Santa Ana River; moderate potential to forage. Unlikely to forage or nest in the two marshalling yards.</i>
downy woodpecker <i>Picoides pubescens</i>	-	Fully Covered	An uncommon to fairly common breeding resident in cismontane southern California, being more common to the north and west of Riverside Co. Inhabits a variety of woodland communities, including urban settings, though is most typical in a variety of riparian communities. <i>Moderate potential to nest and forage in the Santa Ana River. Unlikely to forage or nest in the two marshalling yards.</i>

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white-faced ibis <i>Plegadis chihi</i>	-	Fully Covered	Generally an uncommon, though increasing, transient and winter visitor to southern California; also occurs as a very local summer resident and breeder. Foraging birds occur in flooded agricultural fields, marshes, flood control ditches, etc.; breeders typically require fairly extensive and undisturbed marshes with cattails, bulrush. <i>Low potential to forage in the Santa Ana River and agricultural fields; unlikely to nest. Unlikely to forage or nest in the two marshalling yards.</i>
coastal california gnatcatcher <i>Poliophtila californica californica</i>	FT SSC BCC	Fully Covered	An uncommon resident species and breeder in cismontane southern California from southeastern Ventura County to western San Diego County. Restricted to Riversidean, Diegan, and Venturan sage scrub communities in arid washes and mesas and on mild to moderate slopes. Habitat typically dominated or codominated by California sagebrush, California buckwheat, and brittlebush. Most populations occur below 1,500 feet elevation. Breeding typically occurs between March and August. <i>Low potential to nest and forage in sage scrub communities. Unlikely to nest or forage in two marshalling yards.</i>
purple martin <i>Progne subis</i>	SSC	Fully Covered	A rare spring/fall transient throughout southern California, and a very rare, declining, and localized summer resident and breeder in the mountains and foothills of southern California. For nesting, they typically prefer old, tall sycamores, pines, etc., often where these trees occur in open oak woodland or coniferous forest. The availability of suitable nesting cavities and competition with European starlings over potential nest sites are factors which limit breeding opportunities for this species. <i>Unlikely to occur along the 250 kV alignment or the two marshalling yards.</i>
California spotted owl <i>Strix occidentalis occidentalis</i>	SSC FSS BCC	Fully Covered	A fairly rare to uncommon resident and breeder in the mountains and higher foothill canyons of southern California. Preferred habitat includes steep-walled canyons that are densely wooded with mixtures of mature live oaks and conifers. Other key components include a multi-layered forest canopy; large, old trees and snags; and woody debris on the forest floor. <i>No potential to occur along the 250 kV alignment or the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
tree swallow <i>Tachycineta bicolor</i>	-	Fully Covered	A common spring and fall transient throughout southern California, and an uncommon, localized summer resident and breeder. For nesting, typically prefers open bodies of water, including rivers and marshy areas, with scattered trees and/or snags, or artificial nest boxes. Availability of nest sites (natural cavities or nest boxes) and competition with European starlings over potential nest sites are factors which limit the breeding success of this species in southern California. <i>Moderate potential to nest and forage within the riparian habitats along the Santa Ana River. Unlikely to forage or nest within the two marshalling yards.</i>
least Bell's vireo <i>Vireo bellii pusillus</i>	FE SE BCC	Fully Covered	A fairly rare to locally uncommon summer resident (late March to early Sept.) and breeder in southern California in relatively low elevation riparian floodplain habitat. Prefers willow riparian communities, which may be in the vicinity of water or along dry river bottoms. Nesting habitat generally includes a well-developed understory, which is necessary for nest concealment. Nests usually placed in <i>Baccharis</i> or young willows adjacent to or in openings within the riparian community. <i>Occurs within the riparian habitats associated with the Santa Ana River. Unlikely to nest or forage on the two marshalling yards.</i>
MAMMALS			
pallid bat <i>Antrozous pallidus</i>	SSC FSS	-	Found over a broad range in southern California. Recorded in arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevice or building, less often in caves, under bridges, tree hollows, mines, etc. <i>Moderate potential to occur along 250 kV alignment. Unlikely to occur in the two marshalling yards.</i>
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	SSC	-	Known to occur only from extreme southwestern Riverside County south through western and central San Diego County and into Baja California. Found from sea level to 4,600 feet elevation. Preferred habitat includes chaparral, coastal sage scrub, and, especially, shrub/grassland ecotones. <i>Low potential to occur along 250 kV alignment and two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	SSC	Fully Covered	Occurs on the coast slope of southern California from Los Angeles and San Bernardino counties south to San Diego County. It inhabits coastal sage scrub, scrub/grassland ecotones, and chaparral communities, often in rocky areas. <i>High potential to occur within sandy habitats along the 250kV alignment; however, trapping in 2016 yielded negative results. Unlikely to occur within the two marshalling yards.</i>
Aguanga kangaroo rat <i>Dipodomys merriami collinus</i>		Partially Covered	Found within a limited range from southwestern Riverside to northeastern San Diego counties. Appears to be associated with Riversidean sage scrub, chaparral, redshank chaparral, and nonnative grassland, where sandy-loam soils allow for ease of digging. Avoids rocky substrates. <i>No potential to occur along the 250kV alignment or two marshalling yards.</i>
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	FE SSC	Partially Covered	Occurs over a very limited range within western Riverside and southwest San Bernardino counties. Alluvial sage scrub on alluvial fans, flood plains, along washes, in adjacent upland areas, and in areas with historic braided stream channels. Prefers the more open early and intermediate stages of alluvial sage scrub, but mature scrub provides important habitat for animals to take refuge during floods. <i>High potential to occur within sandy habitats along the 250kV alignment; however, trapping in 2016 yielded negative results. Unlikely to occur within the two marshalling yards.</i>
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE ST	Fully Covered	This species has a small range limited to western Riverside County and north-western and north-central San Diego County. Restricted to annual grassland and open Riversidean sage scrub with a shrub cover of less than 30%. Prefers loose, friable, well-drained soil (generally at least 1.5 feet deep) and flat or gently rolling terrain. This species may recolonize abandoned agricultural land. It is most abundant where stands of native vegetation remain. <i>No potential to occur along the 250kV alignment or two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
western mastiff bat <i>Eumops perotis californicus</i>	SSC	-	An uncommon bat that inhabits arid and semi-arid lowlands in southern California, including deciduous and coniferous woodlands, coastal sage scrub, chaparral, and grasslands. Is known to be active year-round. They primarily roost in crevices in vertical cliffs and rock faces; occasionally are found roosting in high buildings, trees, and tunnels, although it needs vertical faces to drop from in order to take flight. <i>Moderate potential to occur along 250 kV alignment. Unlikely to occur in the two marshalling yards.</i>
San Bernardino flying squirrel <i>Glaucomys sabrinus californicus</i>	SSC FSS	Fully Covered	A nocturnal resident of the San Bernardino and San Jacinto mountain ranges of southern California. An isolated, and the southern-most, subspecies of the wide-ranging northern flying squirrel. Typically inhabits old-growth forest comprised of nearly closed-canopy mixed coniferous woodland with some oak (especially black oak) usually present. <i>No potential to occur along the 250kV alignment or two marshalling yards.</i>
western red bat <i>Lasiurus blossevillii</i>	SSC FSS	-	Occurs over a large area of California but not found in the deserts. Can be locally common in some areas of California. Displays migratory movements between summer and winter, and transients may be outside their normal range. They prefer riparian areas for roosting, including areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores. Feeds over a wide variety of habitats, including grasslands, shrublands, open woodlands, and croplands. <i>Moderate potential to occur along 250 kV alignment. Unlikely to occur in the two marshalling yards.</i>
western yellow bat <i>Lasiurus xanthinus</i>	SSC	-	An uncommon species in California restricted primarily to the southern counties of Riverside, San Diego and Imperial. It has been recorded in valley foothill riparian, desert riparian, and palm oasis communities. Considered to be migratory and is known to be in California only during spring, summer, and fall. Roosts in trees and appears to especially favor palms. <i>Moderate potential to occur along 250 kV alignment. Unlikely to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC	Fully Covered	Occurs west of the mountains in southern California, from Ventura to San Diego counties. A generalist that prefers a variety of open and semi-open habitats including grasslands, agricultural fields, sparse coastal sage scrub, open alluvial washes. Typically avoids dense chaparral and woodland habitats. <i>Moderate potential to occur along the 250 kV alignment; low potential to occur in the two marshalling yards.</i>
bobcat <i>Lynx rufus</i>	-	Fully Covered	Occurs throughout most of southern California, inhabiting a wide range of habitats including mixed woodlands and forest edge, marsh, riparian, and various brushland communities (such as sage scrub and chaparral). Large tracts of habitat are most often favored. Rests and/or dens in rocky clefts, caves/rock shelters, hollow logs, under fallen trees, etc. <i>High potential to occur within the Santa Ana River corridor. Unlikely to occur within the two marshalling yards.</i>
long-tailed weasel <i>Mustela frenata</i>	-	Fully Covered	A fairly common, though rarely seen, resident of southern California west of the deserts in a variety of habitats and elevations. Often near water. Favored habitats include brushlands, open woodlands, agricultural field edges, riparian communities, and marshlands. Tolerant of close proximity to humans. <i>High potential to occur within the Santa Ana River corridor. Unlikely to occur within the two marshalling yards.</i>
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	SSC	Fully Covered	Occurs in coastal California from San Luis Obispo County south through the Transverse and Peninsular ranges into Baja California. Occurs in a variety of habitats and elevations. Prefers pinyon-juniper woodland, chaparral, and sage scrub communities and most desert habitats. Most abundant in rocky outcrops and on rocky slopes, building a stick nest typically in cracks within rocky outcrops and boulder piles. <i>Low potential to occur within the grassland and scrub communities along the 250kV alignment. Unlikely to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, POTENTIAL FOR OCCURRENCE
pocketed free-tail bat <i>Nyctinomops femerosaccus</i>	SSC	-	Has been found in southern California in Riverside, San Diego and Imperial counties, though records are few. Occurs in a variety of arid habitats, mostly in desert regions, such as pinyon-juniper woodland, desert scrub, palm oasis, desert washes, and riparian. Prefers rocky areas with high cliffs. <i>Unlikely to occur along the 250 kV alignment or the two marshalling yards.</i>
southern grasshopper mouse <i>Onychomys torridus ramona</i>	SSC	-	Common in arid desert habitats of the Mojave Desert and southern Central Valley of California. Alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats. Uncommon in valley foothill and montane riparian and in a variety of other habitats. <i>Unlikely to occur along the 250 kV alignment or the two marshalling yards.</i>
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	SSC FSS	Partially Covered	Ranges historically from Los Angeles and San Bernardino counties south to portions of western Riverside County. Occurs in relatively arid, lower elevations with fine, sandy soils, typically in grassland or coastal sage scrub habitats. <i>High potential to occur within sandy habitats along the 250kV alignment; however, trapping in 2016 yielded negative results. Unlikely to occur within the two marshalling yards.</i>
mountain lion <i>Puma concolor</i>	SSC	Fully Covered	Associated generally with mountainous or remote high desert areas of southern California but also occurs on the coastal slope, closer to towns and human-altered landscapes. Occupies a wide variety of habitats, including brushlands and woodlands with good cover, wetlands, riparian communities, and occasionally more open habitats. Studies have determined that habitat areas of at least 750 square miles are needed to ensure long-term population persistence (e.g., individual territories average well over 100 sq. miles per male, less for females). Protection of viable wildlife movement areas is considered very important for healthy lion populations. <i>Occurs within the Santa Ana River corridor. Unlike to occur in the two marshalling yards.</i>

COMMON AND SCIENTIFIC NAMES	SENSITIVITY STATUS	MSHCP COVERED SPECIES	PREFERRED HABITAT, SEASONAL STATUS AND DISTRIBUTION, <i>POTENTIAL FOR OCCURRENCE</i>
American badger <i>Taxidea taxus</i>	SSC	-	Badgers are uncommon throughout southern California. They are generally associated with dry, open, treeless regions, including grasslands, rangeland and high deserts. In southern California they have been found in grassy openings within coastal sage scrub. The badger's altitudinal range extends from below sea level to over 12,000 feet. <i>Moderate potential to occur in the undisturbed areas along the 250kV alignment. Unlikely to occur in the two marshalling yards.</i>

Sources: Bond 1977; Unitt 1987, 2004; McKernan 1993, 1997; Yosef 1996; Beedy and Hamilton 1999; Collins 1999; Hughes 1999; Atwood et al. 2001; AECOM 2008a; Shuford and Gardali 2009; CDFW 2009b

Federal Status Designations:

FE – Federally Listed Endangered
FT – Federally Listed Threatened
FC – Federal Candidate Species for Listing
FD – Federally Delisted
BCC – U.S. Fish and Wildlife Service Birds of Conservation Concern
FSS – U.S. Department of Agriculture Forest Service Sensitive

State Status Designations:

SE – State-listed as Endangered
ST – State-listed as Threatened
SC – State Candidate Species for Listing
SSC – California Department of Fish and Wildlife Species of Special Concern
FP – California Department of Fish and Wildlife Fully Protected Species
WL – California Department of Fish and Wildlife Watch List Species

Notes:

Gray highlighted cells contain species that are listed (i.e., federal and/or state threatened and endangered).

Partially Covered Species under the MSHCP require additional mitigation if 90% avoidance cannot be demonstrated and a DBESP is required.

APPENDIX E

INVERTEBRATE/VERTEBRATE WILDLIFE SPECIES COMPENDIUM

Appendix F Invertebrate Species List

Order	Family	Genus / species
DIPTERA		
	Mydidae	<i>Nemomydas pantherinus</i>
	Asilidae	<i>Efferia albibarbis</i> <i>Eristalis tenax</i> <i>Mallophora fautrix</i> <i>Stenopogon brevisculus</i>
	Tephritidae	<i>Ceratitis capitata</i>
	Therevidae	<i>Ozodiceromyia</i> sp.
	Bombyliidae	<i>Aphoebantus</i> sp. <i>Exoprosopa butleri</i> <i>Geron</i> sp. <i>Neodiplocampta mira</i> <i>Poecilognathus</i> <i>Thyridanthrax atrata</i> <i>Villa lateralis</i> <i>Villa molitor</i>
	Calophoridae	<i>Lucilia sericata</i>
	Muscidae	<i>Musca domestica</i>
	Sarcophagidae	<i>Sarcophaga</i> sp
	Tachinidae	<i>Exorista mella</i> <i>Leschenaultia grossa</i>
	Syrphidae	<i>Copostylum marginatum</i> <i>Copostylum mexicana</i> <i>Copostylum quadratus</i> <i>Eristalis aenea</i> <i>Eristalis stipator</i> <i>Eristalis tenax</i> <i>Paragus tibialis</i>
	Dolichopodidae	<i>Condylostylus pilicornis</i>
	Ulidiidae	<i>Chaetopsis</i> sp. <i>Euxesta</i> sp.
HYMENOPTERA		
	Anthophoridae	<i>Diadasia</i> sp. <i>Nomada</i> sp. <i>Svastra texana</i>
	Apidae	<i>Apis mellifera</i>
	Halictidae	<i>Agapostemon</i> <i>Lasioglossum</i> sp.
	Megachilidae	<i>Chalicodoma</i> sp.

Order	Family	Genus / species
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HYMENOPTERA

Formicidae

Iridomyrmex humilis

Pogonomyrmex californicus

Chrysididae

Parnopes edwardsii

Mutillidae

Dasymutilla californica

Dasymutilla coccineohirta

Pompilidae

Ageniella

Crabionidae

Cerceris sextoides

Gastrosericina sp.

Tachysphex

Bembix comate

Sphecidae

Ammophila aberti

Ammophila azteca

Cerceris femurrubrum

Chlorion aerarium

Haplomelinus albitomentosus

Hoplisoides semipunctatus

Prionyx foxi

Prionyx thomae

Sceliphron caementarium

Vespidae

Euodynerus annulatum

Polistes apachus

Polistes exclamans

COLEOPTERA

Chrysomelidae

Diabrotica balteata

Coccinellidae

Coccinella septempunctata

Scarabaeidae

Cotinus mutabilis

Tenebrionidae

Elodes gracilis

NEUROPTERA

Chrysopidae

Chrysopa

Mymerliontidae

Brachynemurus (small grey)

Mymerliontidae

Brachynemurus ferox

LEPIDOPTERA

Pyralidae

Hellula rogatalis

Crambidae

Spoladea recurvalis

Arctiidae

Estigmene acrea

Noctuidae

Spodoptera exigua

Danaidae

Danaus plexippus

Order	Family	Genus / species
LEPIDOPTERA		
	Nymphalidae	<i>Agraulis vanillae</i>
	Pieridae	<i>Colias eurytheme</i> <i>Eurema nicippe</i> <i>Phoebis agarithe</i>
	Lycaenidae	<i>Brephidium exilis</i> <i>Strymon melinus</i>
	Hesperiidae	<i>Heliopetes ericitorum</i> <i>Hylephila phyleus</i> <i>Lerodia eufala</i> <i>Pyrgus albescens</i>
HEMIPTERA		
	Lygaeidae	<i>Lygaeus kalmii</i>
	Miridae	<i>Lygus</i>
	Pentatomidae	<i>Bagrada hilaris</i>
	Pentatomidae	<i>Chlorochroa sayi</i>
	Reduviidae	<i>Sinea diadema</i> <i>Zelus</i> <i>Zelus renardii</i>
	Cicadellidae	
	Membracidae	
	Unidentified	
ORTHOPTERA		
	Acrididae	<i>Derotmema saussuraenum</i> <i>Melanoplus</i> <i>Psoloessa thamnogaea</i> <i>Schistocerca nitens</i> <i>Trimerotropis californica</i> <i>Trimerotropis pallidipennis</i>
	Gryllidae	<i>Gryllus</i>
MANTODEA		
	Mantidae	<i>Iris oratoria</i> <i>Stagmomantis</i>
ODONATA		
	Aeshnidae	<i>Aeshna multicolor</i> <i>Anax junius</i>
	Libellulidae	<i>Libellula saturate</i> <i>Pantala flavescens</i> <i>Pantala hymenaea</i> <i>Sympetrum corruptum</i> <i>Tramea onusta</i>

Order	Family	Genus / species
ARANEAE		
	Araneidae	<i>Neoscona oxacensis</i>
	Oxyopidae	<i>Peucetia viridans</i>
	Salticidae	<i>Phidippus sp.</i>
	Theridiidae	<i>Latrodectus Hesperus</i>
	Thomisidae	<i>Mecaphesa sp.</i>

Scientific Name	Common Name	Special Status
VERTEBRATES		
Birds		
<i>Anas platyrhynchos</i>	Mallard	
<i>Callipepla californica</i>	California Quail	
<i>Ardea herodias</i>	Great Blue Heron	
<i>Ardea alba</i>	Great Egret	
<i>Egretta thula</i>	Snowy Egret	
<i>Accipiter cooperii</i>	Cooper's Hawk	
<i>Buteo lineatus</i>	Red-shouldered Hawk	
<i>Buteo jamaicensis</i>	Red-tailed Hawk	
<i>Falco sparverius</i>	American Kestrel	
<i>Fulica americana</i>	American Coot	
<i>Charadrius vociferus</i>	Killdeer	
<i>Larus delawarensis</i>	Ring-billed Gull	
* <i>Columba livia</i>	Rock Pigeon	
<i>Zenaida macroura</i>	Mourning Dove	
<i>Columbina passerina</i>	Common Ground-Dove	
<i>Geococcyx californianus</i>	Greater Roadrunner	
<i>Tyto alba</i>	Barn Owl	
<i>Bubo virginianus</i>	Great Horned Owl	
<i>Aeronautes saxatalis</i>	White-throated Swift	
<i>Archilochus alexandri</i>	Black-chinned Hummingbird	
<i>Calypte anna</i>	Anna's Hummingbird	
<i>Melanerpes formicivorus</i>	Acorn Woodpecker	
<i>Colaptes auratus</i>	Northern Flicker	
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	FE, SE
<i>Empidonax difficilis</i>	Pacific-slope Flycatcher	
<i>Sayornis nigricans</i>	Black Phoebe	
<i>Sayornis saya</i>	Say's Phoebe	
<i>Myiarchus cinerascens</i>	Ash-throated Flycatcher	
<i>Tyrannus verticalis</i>	Western Kingbird	
<i>Vireo bellii pusillus</i>	Least Bell's Vireo	FE, SE

Scientific Name	Common Name	Special Status
<i>Vireo huttoni</i>	Hutton's Vireo	
<i>Aphelocoma californica</i>	Western Scrub-Jay	
<i>Corvus brachyrhynchos</i>	American Crow	
<i>Corvus corax</i>	Common Raven	
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	
<i>Psaltiriparus minimus</i>	Bushtit	
<i>Thryomanes bewickii</i>	Bewick's Wren	
<i>Troglodytes aedon</i>	House Wren	
<i>Regulus calendula</i>	Ruby-crowned Kinglet	
<i>Chamaea fasciata</i>	Wrentit	
<i>Sialia mexicana</i>	Western Bluebird	
<i>Catharus ustulatus</i>	Swainson's Thrush	
<i>Turdus migratorius</i>	American Robin	
<i>Mimus polyglottos</i>	Northern Mockingbird	
<i>Toxostoma redivivum</i>	California Thrasher	
* <i>Sturnus vulgaris</i>	European Starling	
<i>Dendroica petechia</i>	Yellow Warbler	CSC
<i>Dendroica coronata</i>	Yellow-rumped Warbler	
<i>Geothlypis trichas</i>	Common Yellowthroat	
<i>Icteria virens</i>	Yellow-breasted Chat	CSC
<i>Pipilo maculatus</i>	Spotted Towhee	
<i>Melospiza crissalis</i>	California Towhee	
<i>Chondestes grammacus</i>	Lark Sparrow	
<i>Melospiza melodia</i>	Song Sparrow	
<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak	
<i>Passerina caerulea</i>	Blue Grosbeak	
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	
<i>Sturnella neglecta</i>	Western Meadowlark	
<i>Quiscalus mexicanus</i>	Great-tailed Grackle	
* <i>Molothrus ater</i>	Brown-headed Cowbird	
<i>Icterus cucullatus</i>	Hooded Oriole	
<i>Icterus bullockii</i>	Bullock's Oriole	

Scientific Name	Common Name	Special Status
<i>Carpodacus mexicanus</i>	House Finch	
<i>Carduelis psaltria</i>	Lesser Goldfinch	
Mammals		
<i>Spermophilus beecheyi</i>	California Ground Squirrel	
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	
<i>Peromyscus maniculatus</i>	Deer Mouse	
* <i>Rattus rattus</i>	Black Rat	
* <i>Mus musculus</i>	House Mouse	

Legend

*= Non-native or invasive species

Special Status:

Federal:

FE = Endangered

FT = Threatened

State:

SE = Endangered

ST =Threatened

CSC = California Species of Special Concern

CFP = California Fully Protected Species

APPENDIX H

Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

2017 Rare Plant Memo Report

Biological Resources Supporting Maps

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution

August 8, 2017

Mr. Gary Busteed
Senior Environmental Project Manager
Bulk Power Projects Environmental Licensing
Environmental Services Division
Southern California Edison
6040 North Irwindale Ave., Suite A
Irwindale, California 91702

**RE: 2017 Rare Plant Memo Report for the Southern California Edison Riverside
Transmission Reliability Project (RTRP)**

Dear Mr. Busteed,

Southern California Edison (SCE) contracted AECOM to conduct habitat assessments and subsequent focused surveys for a number of special-status species along and adjacent to the Riverside Transmission Reliability Project (RTRP) alignment (Project). The purpose of this letter report is to summarize findings of rare plant surveys conducted during the spring of 2017 for the proposed Project. These surveys are in response to data requests received from the California Public Utilities Commission (CPUC) during their review of SCE's Application for a Certificate of Public Convenience and Necessity. The purpose of these surveys was to identify the presence of rare (special-status) plant species that may occur in the Project area, and if found, map their distribution.

Project Location and Description

The Project is located in the northwest portion of Riverside County, north of Norco and south and east of Mira Loma (Figure 1). The Project is a joint venture with Riverside Public Utilities (RPU) to provide a new 230-kilovolt (kV) transmission line connection to RPU's transmission system and increase the reliability of their grid. The majority of the Project consists of developed areas and lands highly disturbed by historical agricultural use, however portions of the site support remnant fragments of native plant habitat and intact soils. For the purpose of this report the rare plant survey report, survey area is referred to as the Biological Study Area (BSA). The BSA is defined as areas of potential rare plant habitat based on existing vegetation and soils within project construction disturbance features provided by SCE (GDADs) and a 50-foot buffer around these features.

Survey Methodology

Prior to the rare plant surveys, AECOM initiated literature research to prepare a list of potentially occurring species for the geography and conditions of the RTRP and conducted field studies to refine the survey extents to areas of potential habitat for these species. The results of this pre-survey analysis are described in detail in the Habitat Assessment Report prepared for SCE by AECOM, dated August 29, 2017 (AECOM 2017).

Mr. Gary Busteed
Southern California Edison
August 8, 2017
Page 2

Two floristic-level rare plant surveys were performed within the BSA on March 30 and May 22, 2017. These surveys were timed to coincide with the periods of most likely detection and identification of rare species, based on visitation of rare plant reference populations, and were conducted in accordance with survey protocols set forth by *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000); *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009)¹; and *CNPS Botanical Survey Guidelines* (CNPS 2001).

Surveys were conducted using meandering transects through all areas with suitable habitat. Data was collected using the ArcGIS Collector mobile application and was synced into ArcGIS for analysis. At each rare plant species location recorded, the botanist recorded the phenology of the rare plant species as vegetative, flowering, blooming or senescent and estimated the number of individuals present. Scientific nomenclature of plant species in this rare plants survey report follows the Jepson eFlora (Jepson Flora Project 2017) or, when CRPR listed species are not recognized in Jepson, the CNPS Rare and Endangered Plant Inventory (CNPS 2017). Common names of plant species follow the CNPS Rare and Endangered Plant Inventory (CNPS 2017) for CRPR listed species and Calflora (Calflora 2017) for all other species.

The March 30, 2017 survey was conducted by Jonathan Dunn of AECOM and David Bramlet of Kidd Biological, Inc. The May 22, 2017 survey was conducted by David Bramlet and Nina Kidd of Kidd Biological, Inc. These surveys were conducted during a spring season characterized by above-normal precipitation.

Results

A total of 122 plant taxa (70 native and 52 nonnative) were observed within the BSA (Appendix A). One plant species included in the California Department of Fish and Wildlife California Natural Diversity Database (CNDDB) *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017), *Deinandra paniculata* (Paniculate Tarplant), was detected during these surveys. Approximately 150 individuals of this species were recorded across three locations within the BSA (Figure 2).

Discussion

No listed or sensitive rare plant species were observed within the BSA, except for *D. paniculata* discussed in detail below. Local reference populations were also viewed to assess species' phenologies at the time of the surveys; all were observed to be flowering and identifiable at reference populations at the time of site surveys.

Presence/absence surveys have to answer two questions: 1) Is the species able to be detected and 2) is the species present. In answering the first question:

¹ This document replaced the CDFG document *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities*.

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Page 3

A) The plants were observed at reference populations, meaning they should have also been observed onsite.

B) Two separate surveys were scheduled during optimal viewing and identification periods for rare species with potential to occur—to account for differences in bloom cycle between the site and reference populations.

C) The surveys were conducted during historically favorable annual conditions (i.e., above average rainfall totals for the 2016-2017 rainy season).

D) The qualification of the surveyor and methods were addressed by using qualified botanists and approved CDFW survey protocol.

E) When considered together, all four points above indicate there is no issues with being able to detect rare plants on site and that the lack of observation is more supportive of absence onsite rather than an inability to detect the species

Therefore it was concluded that the lack of observations on the project site compared to observations at reference populations cannot be attributed to 1) poor annual conditions leading to minimal flowers in high quality habitat but little or no growth in marginal or lower quality habitats, 2) slight differences in bloom cycle between the site and reference populations, or 3) the observer simply missing finding a plant because it would be expected that it would have been detected in one of the two surveys. Therefore, all the listed and sensitive plants surveyed were not detected and are not expected to occur except for *D. paniculata*.

Deinandra paniculata is an annual plant in the Asteraceae that ranges from the central coast of California to northern Baja California, with the core of its population occurring in western Riverside County (Jepson Flora Project, 2017). This species is classified by the California Native Plant Society as “California Rare Plant Rank 4.2: Plants of Limited Distribution – Moderately threatened in California” (CRPR 4.2). Although considered rare by CNPS, it is not a sensitive species under the California Environmental Quality Act (CEQA) within the BSA because:

- 1) *Deinandra paniculata* is not federally listed pursuant to the federal Endangered Species Act (ESA) nor listed within Section 670.2 or 670.5, Title 14, of the California Code of Regulations (§15380 of CEQA).
- 2) *Deinandra paniculata* is not on California Native Plant Society (CNPS) List 1B or 2B. CDFW rare plant survey protocol provides criteria for determining whether a species should be considered “rare.” Rare plants are defined by CDFW protocol those that are considered by the CNPS to be “rare, threatened or endangered in California” (Lists 1B and 2B).

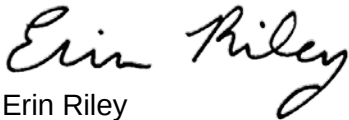
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Page 4

- 3) *Deinandra paniculata* is not a locally significant species. CDFW protocol accounts for species on Lists 3 and 4 and considered them rare when it is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)). The project is within the core range of *D. paniculata* and found on soils typical for the species, meaning the location and substrate cannot be used to call this species a locally significant species.
- 4) *Deinandra paniculata* is not listed as rare in local or regional plans, policies or ordinances. CDFW protocol also considers a species rare when it is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). It is not considered as rare or uncommon in a local context as it not one of the 146 special-status species covered under the Western Riverside County Multiple Species Conservation Plan.
- 5) *Deinandra paniculata* commonly occurs in western Riverside County. CNPS also notes that considering List 4 during CEQA is particularly appropriate when the location is a type locality, at the edge/periphery of the range, in an area where it is uncommon or has sustained heavy loss in the area, or a unique morphology or unusual substrate. It does not warrant consideration on the basis of local significance, as it occurs commonly in western Riverside County, within the core of its range, on typical soils and is not a type locality or sustaining heavy population loss in the area.

Impacts to individuals of *Deinandra paniculata* are therefore not considered a “substantial adverse effect” to Biological Resources pursuant to Appendix G of the CEQA Guidelines. As a result, there are no species-specific botanical concerns with the BSA.

If you have any questions or comments regarding this letter report, please contact me at (619) 610-7654.

Sincerely,



Erin Riley
Senior Biologist/Project Manager
erin.riley@aecom.com

Attachments:

Figure 1 – Project Location

Figure 2 – Special Status Plant Species Detected within Biological Study Area

Appendix A – List of Plant Species Observed within the BSA

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Literature Cited

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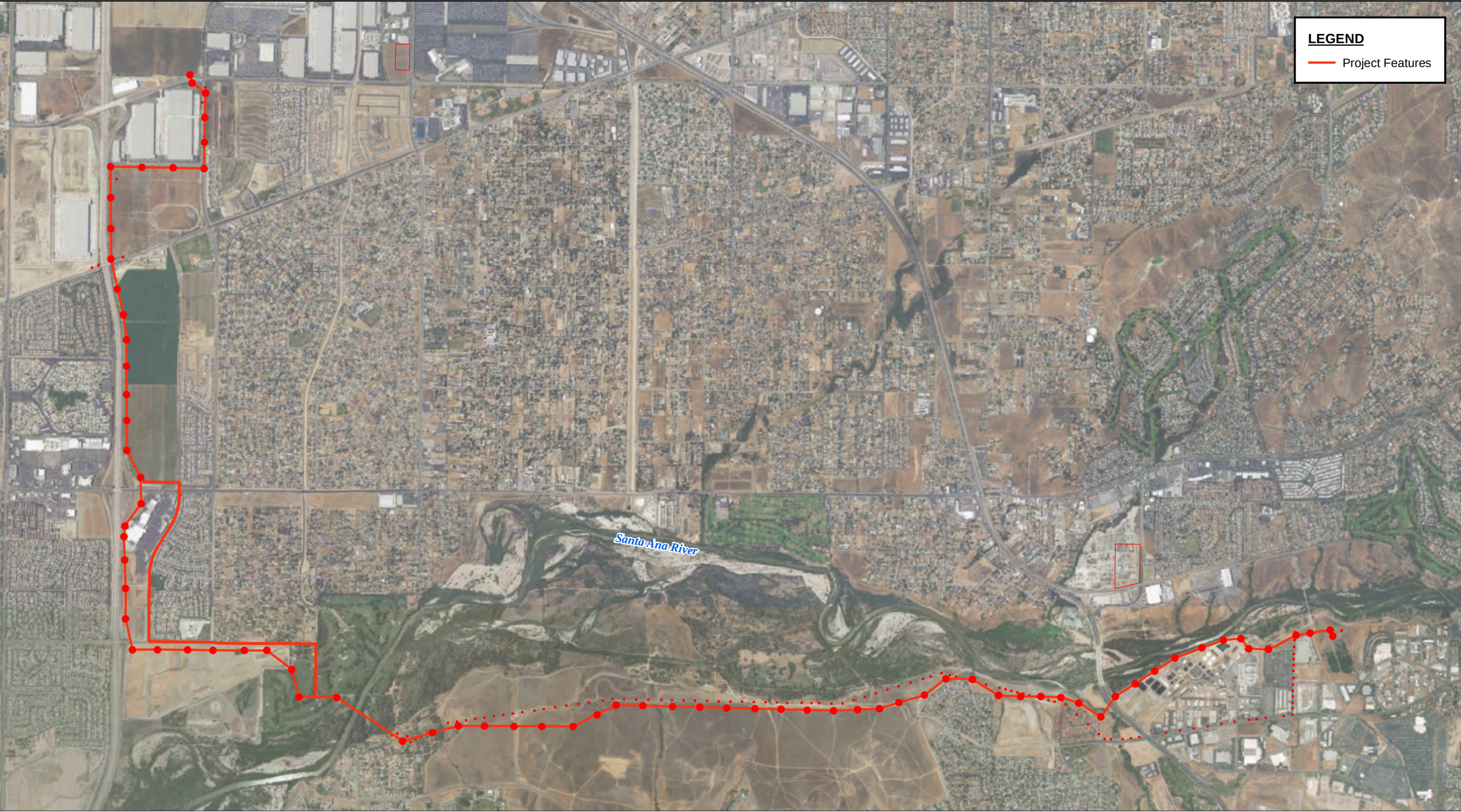
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FIGURES



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

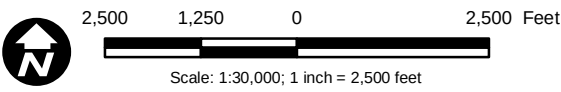
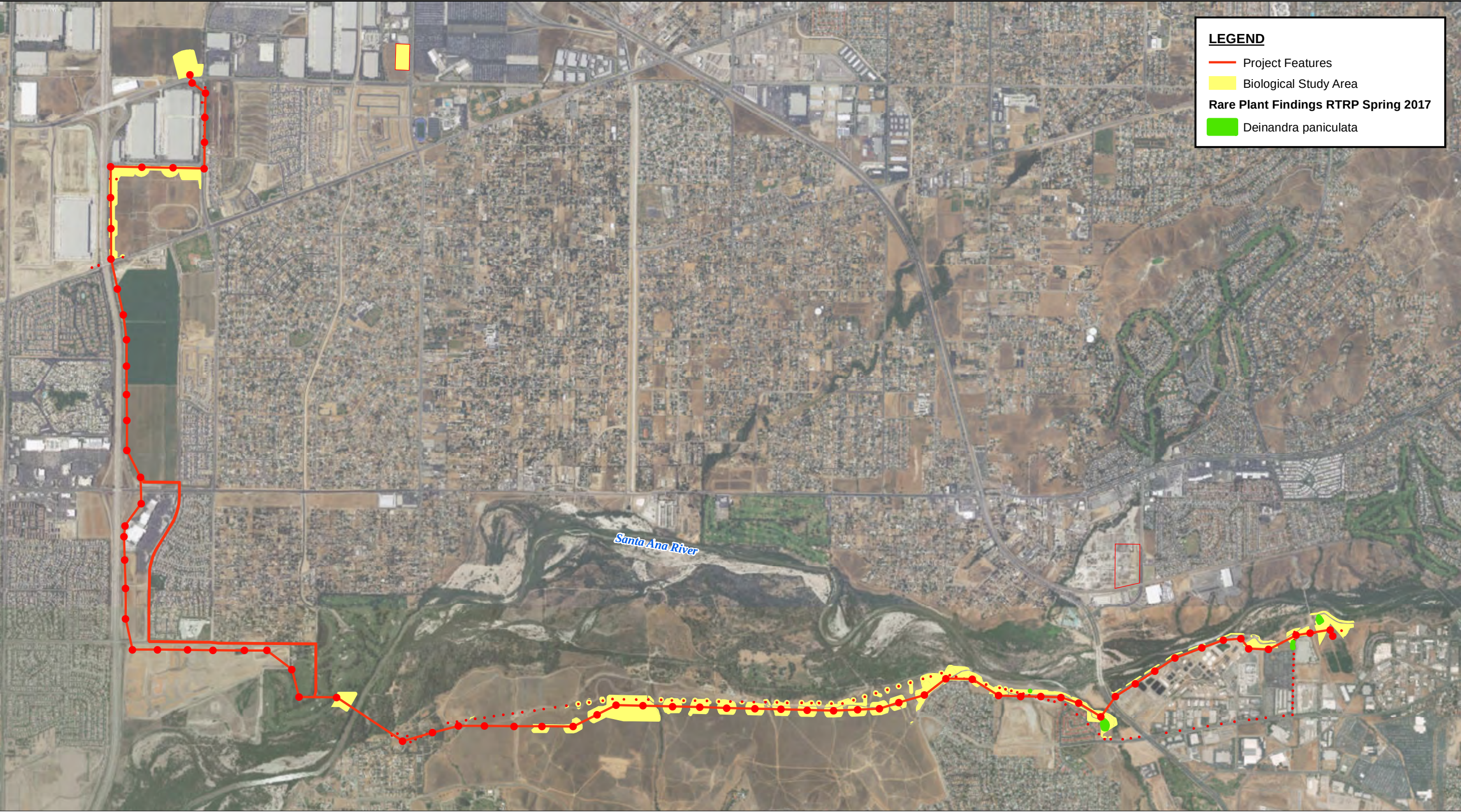


Figure 1
Project Location



Source: NAIP 2014; Essex 2010; SCE 2016; Esri 2009.

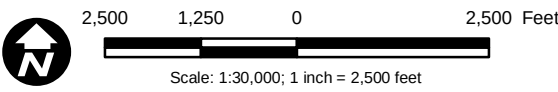


Figure 2
Rare Plant Findings 2017

APPENDIX A

PLANT SPECIES OBSERVED ON THE RIVERSIDE TRANSMISSION RELIABILITY PROJECT Spring 2017

LEGEND

- * Non-native species
- † Special status plant species
- [] W Riverside County Checklist equivalents

Note: Taxonomy of scientific and common names generally follows the Jepson manual (Baldwin et al. 2012), with some recent name changes following the checklist of vascular plants of western Riverside County (Roberts et al. 2004). Common names follow Roberts et al. 2004.

MAGNOLIOPHYTA - FLOWERING PLANTS

MAGNOLIIDS - MAGNOLIID CLADE

ADOXACEAE

ELDERBERRY FAMILY

Sambucus nigra

Mexican elderberry

AMARANTHACEAE

AMARANTH FAMILY

**Amaranthus albus*

Tumbling pigweed

**Amaranthus blitoides*

Prostrate pigweed

ANACARDIACEAE

SUMAC FAMILY

**Schinus molle*

Peruvian pepper

Toxicodendron diversilobum

Poison oak

APIACEAE

CARROT FAMILY

**Conium maculatum*

Poison hemlock

ASTERACEAE

SUNFLOWER FAMILY

Ambrosia acanthicarpa

Annual bur weed

Ambrosia psilostachya

Western ragweed

Artemisia californica

California sagebrush

Artemisia douglasiana

Mugwort

Artemisia dracuncululus

Tarragon

Baccharis salicifolia

Mulefat

**Centaurea melitensis*

Tocalote

**Cirsium vulgare*

Bull thistle

**Cnicus benedictus*

Blessed thistle

Conyza canadensis

Common horsetail

Corethrogyne filaginifolia

Common sand aster

**Cotula australis*

Australian brass buttons

Deinandra fasciculata

Fascicled tarweed

† *Deinandra paniculata*

Paniculate tarplant

Encelia farinosa

Brittlebush

Ericameria palmeri var. *pachylepis*

Grassland goldenbush

Helianthus annuus

Annual sunflower

Heterotheca grandiflora

Telegraph weed

**Hypochaeris glabra*
Isocoma menziesii
**Lactuca serriola*
Logfia californica
**Logfia gallica*
**Oncosiphon piluliferum*
**Pilularia hispanica*
Pseudognaphalium californicum
**Senecio vulgaris*
**Sonchus asper*
**Sonchus oleraceus*
**Verbesina encelioides*
Xanthium strumarium

Smooth cat's ear
 Coastal goldenbush
 Prickly lettuce
 California filago
 Narrow-leaved filago
 Stink net
 Spanish sunflower
 California everlasting
 Common groundsel
 Prickly sow thistle
 Common sow thistle
 Earless crownbeard
 Cocklebur

BORAGINACEAE
FORGET-ME-NOT FAMILY

Amsinckia intermedia
Heliotropium curassavicum
Pectocarya linearis
Pectocarya penicillata
Phacelia distans
Phacelia cicutaria
Phacelia minor
Phacelia ramosissima
Plagiobothrys canescens

Common fiddleneck
 Alkali heliotrope
 Slender pectocarya
 Winged pectocarya
 Common phacelia
 Caterpillar phacelia
 Canterbury bells
 Branching phacelia
 Valley popcorn flower

BRASSICACEAE
MUSTARD FAMILY

**Brassica nigra*
**Brassica tournefortii*
**Capsella bursa-pastoris*
**Coronopus didymocarpus*
**Hirschfeldia incana*
Lepidium nitidum
**Raphanus sativa*
**Sisymbrium irio*

Black mustard
 Sahara mustard
 Shepherd's purse
 Swine cress
 Summer mustard
 Shiny peppergrass
 Wild radish
 London rocket

CACTACEAE
CACTUS FAMILY

Cylindropuntia californica var. *parkeri*
**Opuntia ficus-indica*
Opuntia Xvaseyi

Valley cholla
 Mission cactus
 Vasey's prickly pear

CARYOPHYLLACEAE**PINK FAMILY**

**Spergularia bocconeii*

Boccone's sand spurry

CHENOPODIACEAE**GOOSEFOOT FAMILY**

Atriplex canescens

Four-wing saltbush

Atriplex lentiformis

Quail bush

**Atriplex suberecta*

Serrate-leaved saltbush

**Bassia hyssopifolia*

Five-hook bassia

Chenopodium berlandieri

Pitseed goosefoot

**Salsola tragus*

Russian thistle

CONVOLVULACEAE**MORNING GLORY FAMILY**

Calystegia macrostegia

Finger-leaved morning glory

Cressa truxillensis

Alkali weed

CRASSULACEAE**STONECROP FAMILY**

Crassula connata

Sand pigmy stonecrop

Dudleya lanceolata

Lance-leaved dudleya

CUCURBITACEAE**GOURD FAMILY**

Cucurbita foetidissima

Coyote melon

EUPHORBIACEAE**SPURGE FAMILY**

Croton setiger

Dove weed

**Ricinus communis*

Castor bean

FABACEAE**PEA FAMILY**

Acmispon brachycarpus

Hill lotus

[*Lotus humistratus*]

Acmispon glaber

Deerweed

[*Lotus scoparius*]

Acmispon micranthus

Grab lotus

[*Lotus hamatus*]

Acmispon strigosus

Strigose lotus

[*Lotus strigosus*]

Lupinus bicolor

Miniature lupine

Lupinus succulentus

Arroyo lupine

**Medicago polymorpha*
**Melilotus indicus*

Bur clover
Yellow sweet clover

GERANIACEAE

GERANIUM FAMILY

**Erodium cicutarium*
**Erodium moschatum*

Red-stemmed filaree
White-stemmed filaree

JUGLANDACEAE

WALNUT FAMILY

† *Juglans californica*

Southern California black
walnut

LAMIACEAE

MINT FAMILY

**Marrubium vulgare*
Tricostema lanceolatum

Horehound
Vinegar weed

MALVACEAE

MALLOW FAMILY

**Malva parviflora*

Cheeseweed

MYRTACEAE

MYRTLE FAMILY

**Eucalyptus camaldulensis*

River red gum

OLEACEAE

OLIVE FAMILY

**Fraxinus udehi*

Shamel ash

ONAGRACEAE

EVENING PRIMROSE FAMILY

Camissonia californica
Camissoniopsis micrantha

California false mustard
Small primrose

PLATANACEAE

SYCAMORE FAMILY

**Platanus racemosa*

Western sycamore

POLEMONIACEAE

PHLOX FAMILY

Gilia angelensis

Los Angeles gilia

POLYGONACEAE

BUCKWHEAT FAMILY

Eriogonum fasciculatum ssp. foliolosum

Interior flat-topped buckwheat

Eriogonum fasciculatum ssp. polifolium

Rosemary California
buckwheat

**Rumex pulcher*

Fiddle dock

PORTULACACEAE

PURSLANE FAMILY

Calandrinia ciliata

Red maids

ROSACEAE

ROSE FAMILY

Rubus ursinus

California blackberry

RUBIACEAE

MADDER FAMILY

Galium angustifolium

Narrow-leaved bedstraw

SALICACEAE

WILLOW FAMILY

Populus fremontii

Fremont cottonwood

Salix gooddingii

Black willow

Salix laevigata

Red willow

Salix lasiolepis

Arroyo willow

Salix exigua

Sandbar willow

SCROPHULARIACEAE

FIGWORT FAMILY

**Veronica anagallis-aquatica*

Great water speedwell

SOLANACEAE

NIGHTSHADE FAMILY

Datura wrightii

Jimson weed

**Nicotiana glauca*

Tree tobacco

TAMARICACEAE

TAMARISK FAMILY

**Tamarix ramosissima*

Mediterranean tamarisk

URTICACEAE

NETTLE FAMILY

Urtica dioica ssp. *holosericea*

Hoary nettle

**Urtica urens*

Dwarf nettle

VITACEAE

GRAPE FAMILY

Vitis girdiana

Desert wild grape

ZYGOPHYLLACEAE

CALTROP FAMILY

**Tribulus terrestris*

Puncture vine

CYPERACEAE

SEDGE FAMILY

Schoenoplectus americanus

Oleny's three square

Schoenoplectus californicus

California bulrush

POACEAE

GRASS FAMILY

**Arundo donax*

Giant reed

**Avena barbata*

Slender wild oat

**Avena fatua*

Wild oat

**Bromus diandrus*

Ripgut brome

**Bromus madritensis ssp. rubens*

Red brome

**Bromus tectorum*

Cheat grass

**Hordeum murinum ssp. leporinum*

Foxtail barley

Melica imperfecta

Small-flowered melic grass

**Schismus barbatus*

Mediterranean schismus

APPENDIX H

Biological Resources Supporting Information

Special-Status Species List

2016 Habitat Assessment Report

2016 Burrowing Owl Survey

2016 Underground Alignment Habitat Assessment Report

2016 Focused/Protocol Survey Report

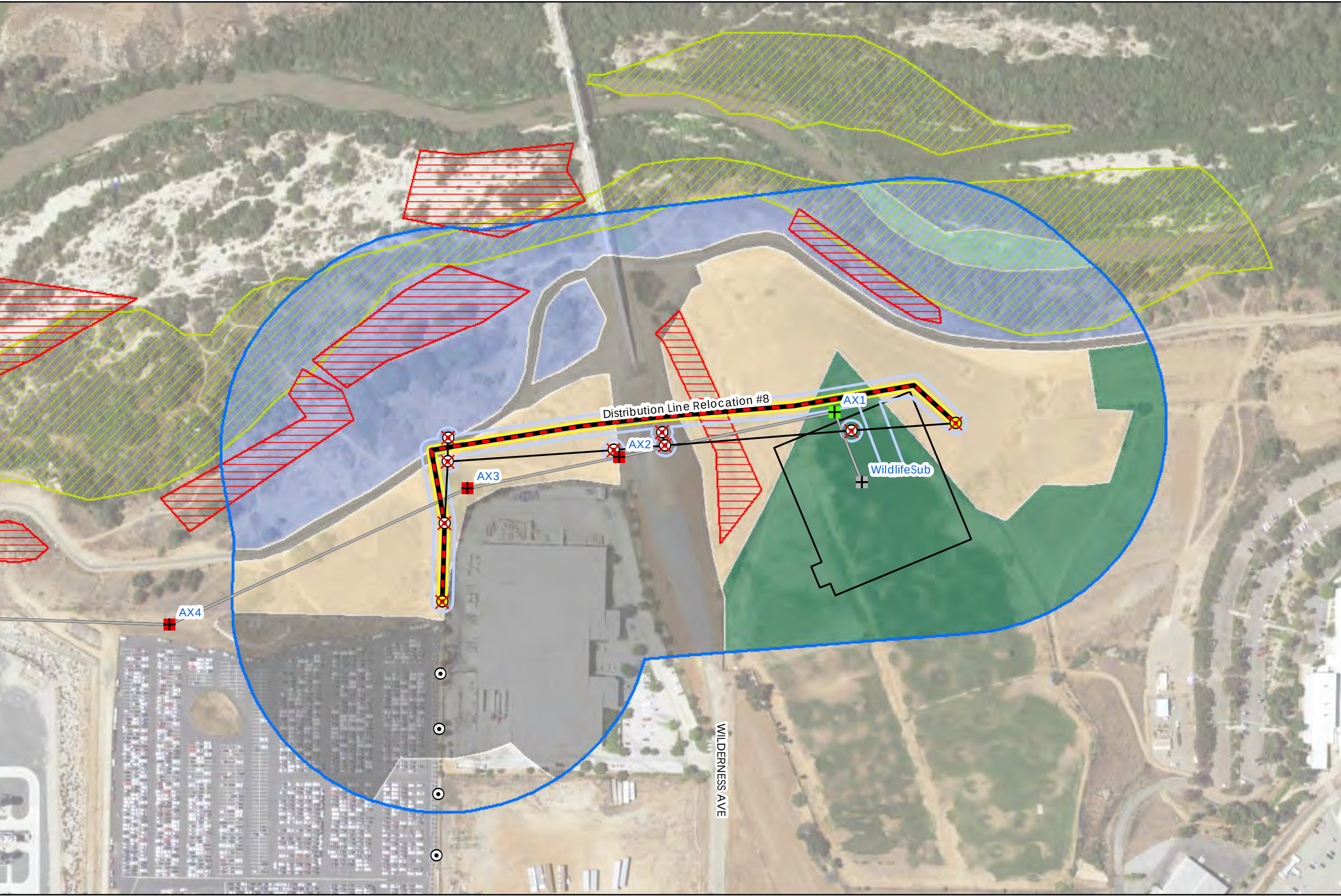
2017 Rare Plant Memo Report

Biological Resources Supporting Map

MSHCP Compliance Documentation

Hydro Survey

Hydro Survey Distribution



Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook

Map 1 of 11

Legend

- Tubular Steel Pole (TSP)
- Lattice Steel Tower (LST)
- Rack
- Existing Pole
- Existing Pole to be Removed
- Existing Pole to be Replaced with New Riser Pole
- Existing Distribution Alignment (Overhead)
- Revised Distribution Alignment (Underground)
- Proposed 2013 Alignment (Overhead)
- Permanent Impact Area
- GDAD
- Wildlife Substation Area
- Biological Survey Area
- Riparian Bird Habitat
- Small Mammal Habitat
- Active Agriculture
- Annual brome grasslands
- Developed
- Fremont cottonwood forest
- Open Water

Map Extent Indicator

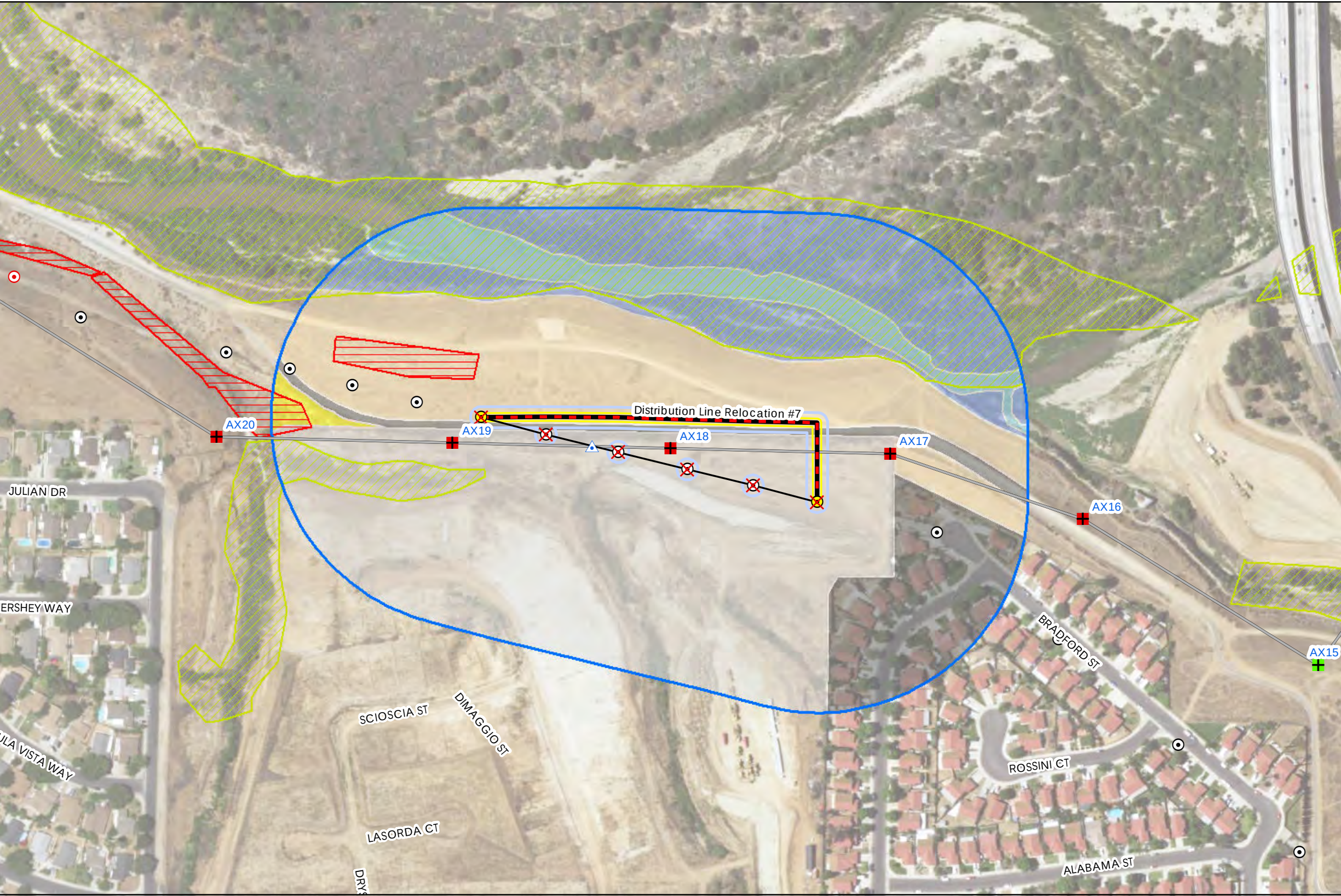
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Aerial Imagery: 6/14/2016

Date Created: 3/6/2018

PANORAMA



Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 2 of 11

Legend

- Tubular Steel Pole (TSP)
- Lattice Steel Tower (LST)
- Guard Structure
- Existing Pole
- Existing Pole to be Removed
- Existing Pole to be Replaced with New Riser Pole
- New Pole
- Existing Distribution Alignment (Overhead)
- Revised Distribution Alignment (Underground)
- Proposed 2013 Alignment (Overhead)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Riparian Bird Habitat
- Small Mammal Habitat
- Annual brome grasslands
- Barren-Not Developed
- Developed
- Fremont cottonwood forest
- Open Water
- Palmer's goldenbush scrub

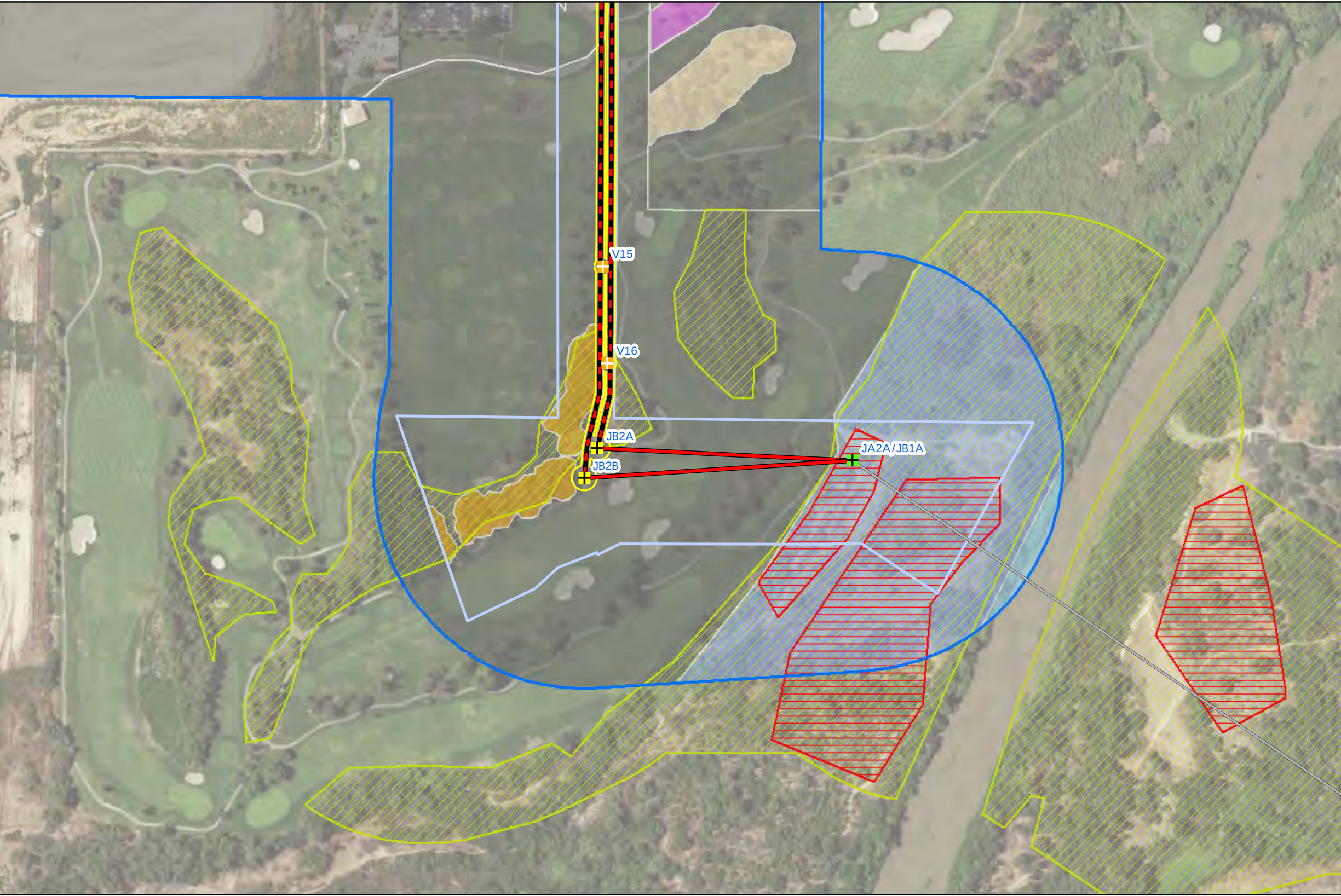
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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook

Map 3 of 11

Legend

Lattice Steel Tower (LST)

Riser pole (TSP)

Vault

Proposed 230-kV Transmission Line (Overhead)

Proposed 230-kV Transmission Line (Underground)

Proposed 2013 Alignment (Overhead)

Permanent Impact Area

GDAD

Biological Survey Area

Riparian Bird Habitat

Small Mammal Habitat

Annual brome grasslands

Developed

Fremont cottonwood forest

Open Water

Ornamental/Landscaped

Riparian Vegetation

Map Extent Indicator

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25

50

100

150

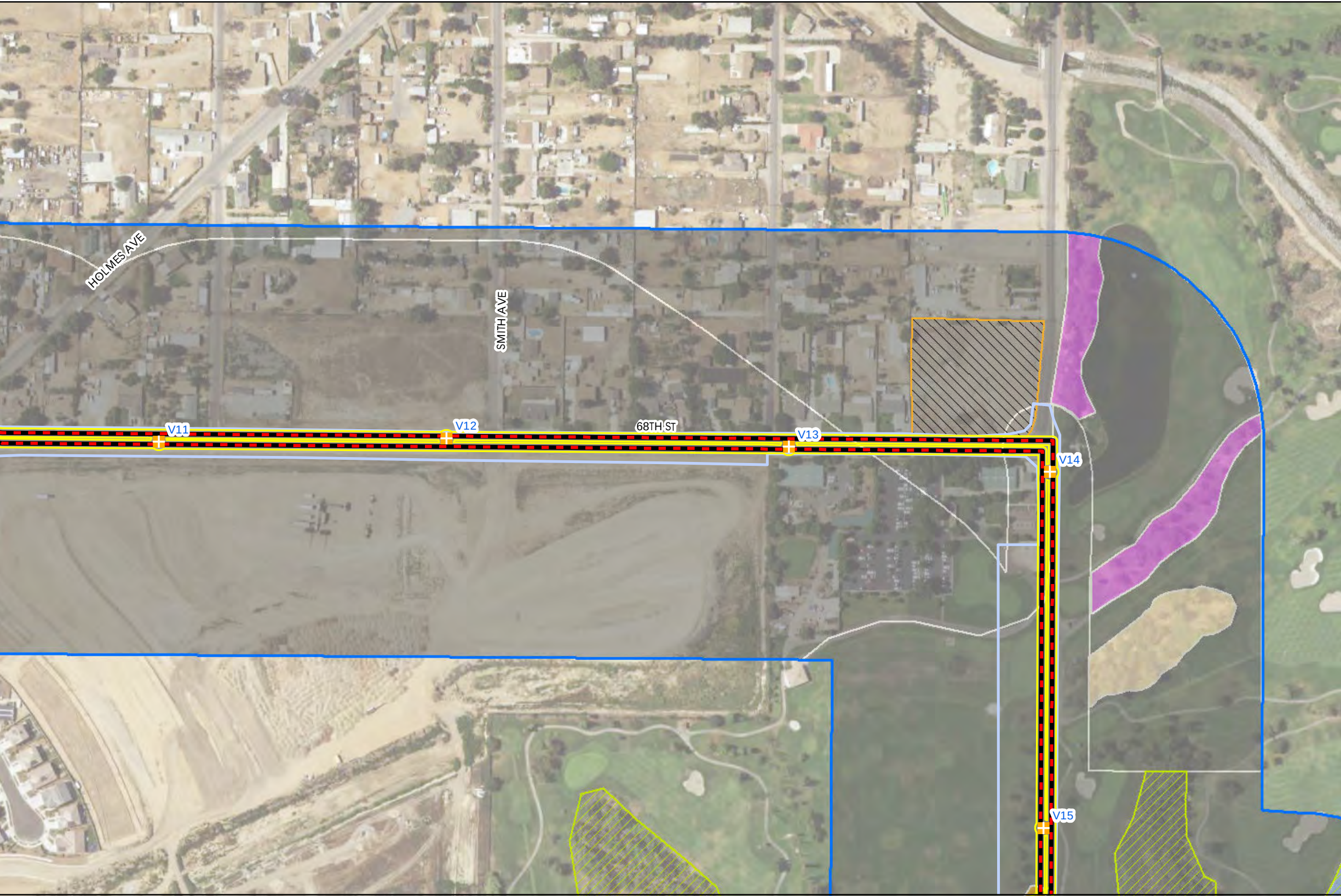
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Feet

Aerial Imagery: 6/14/2016

Date Created: 3/6/2018

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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 4 of 11

Legend

- Vault
- Proposed 230-kV Transmission Line (Underground)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Delhi Sands Flower Loving Fly Habitat
- Riparian Bird Habitat
- Annual brome grasslands
- Developed
- Fremont cottonwood forest
- Ornamental/Landscaped
- Riparian Vegetation

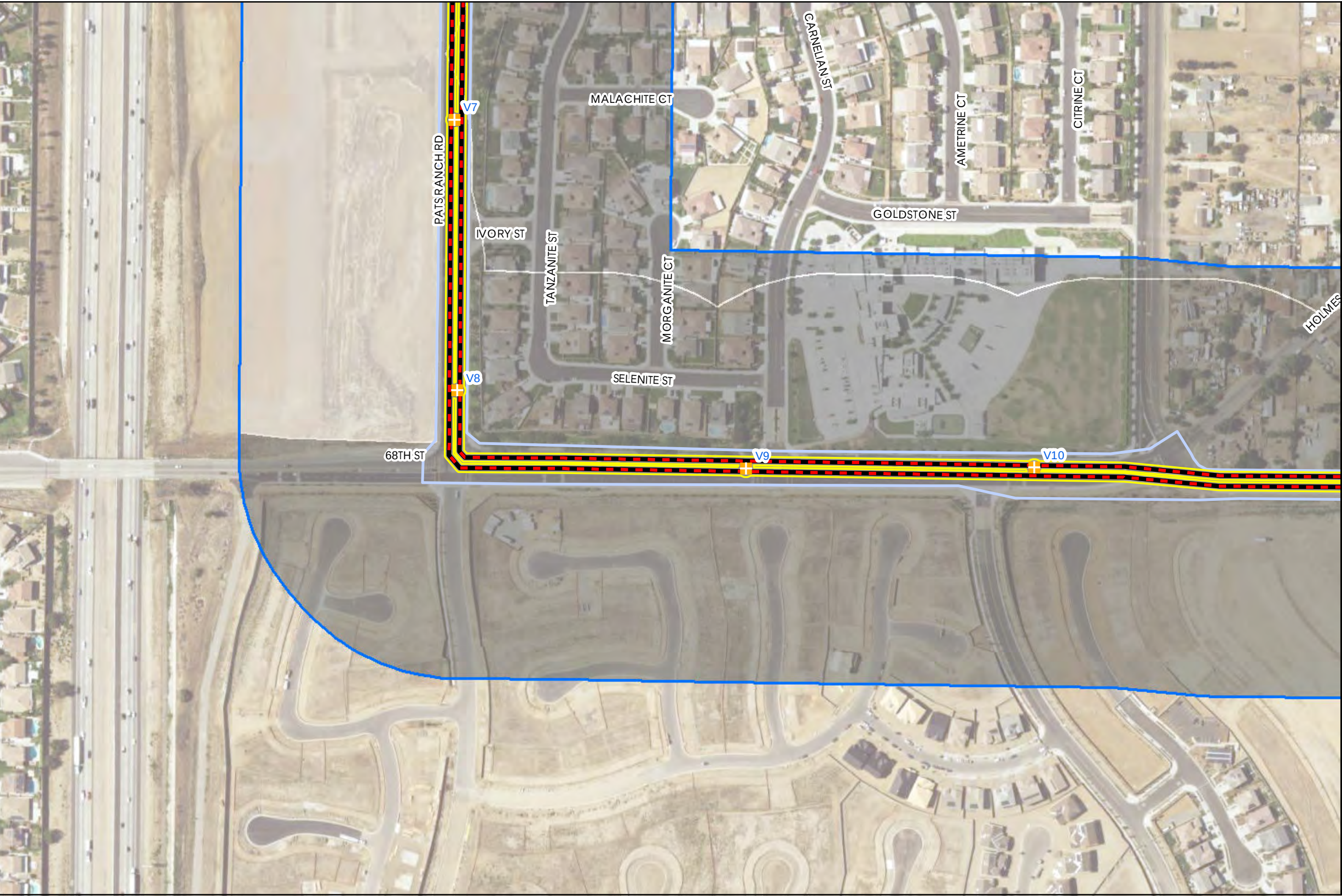
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Date Created: 3/6/2018

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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook

Map 5 of 11

Legend

- Vault
- Proposed 230-kV Transmission Line (Underground)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Barren-Not Developed
- Developed

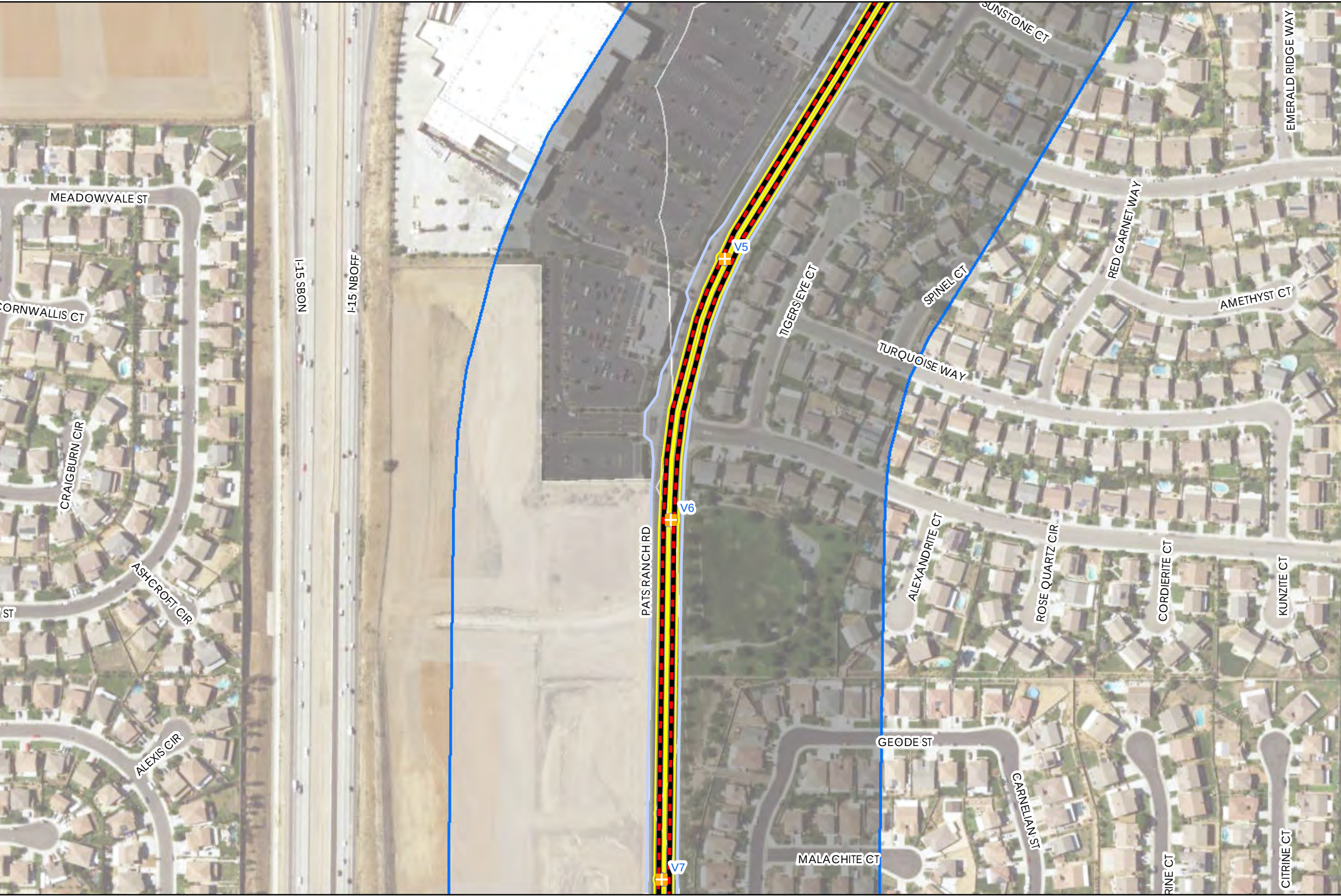
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Aerial Imagery: 6/14/2016
Date Created: 3/6/2018

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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook

Map 6 of 11

Legend

- Vault
- Proposed 230-kV Transmission Line (Underground)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Barren-Not Developed
- Developed

Map Extent Indicator

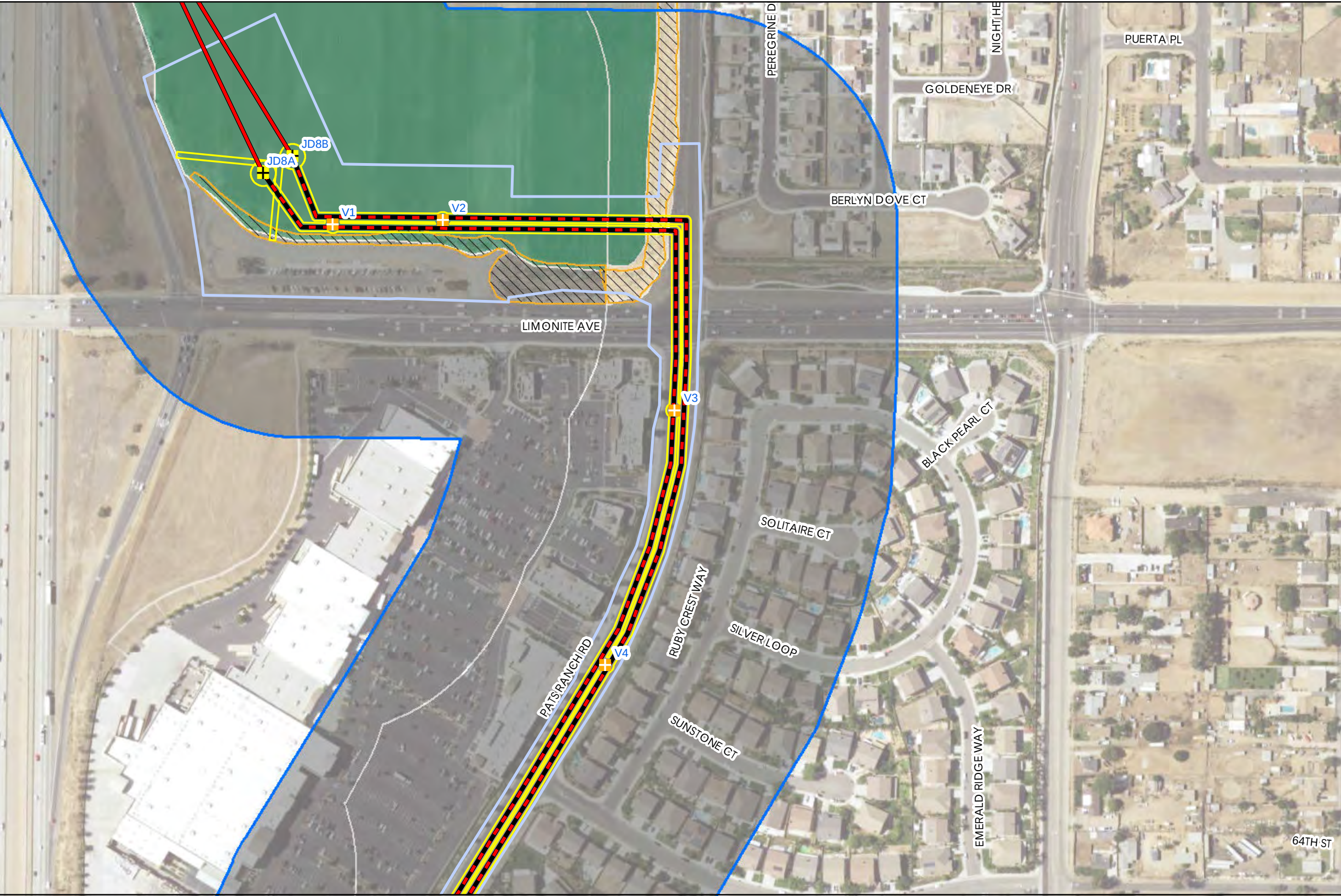
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Aerial Imagery: 6/14/2016

Date Created: 3/6/2018

PANORAMA



Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 7 of 11

Legend

- Riser pole (TSP)
- Vault
- Proposed 230-kV Transmission Line (Overhead)
- Proposed 230-kV Transmission Line (Underground)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Delhi Sands Flower Loving Fly Habitat
- Active Agriculture
- Annual brome grasslands
- Developed

Map Extent Indicator

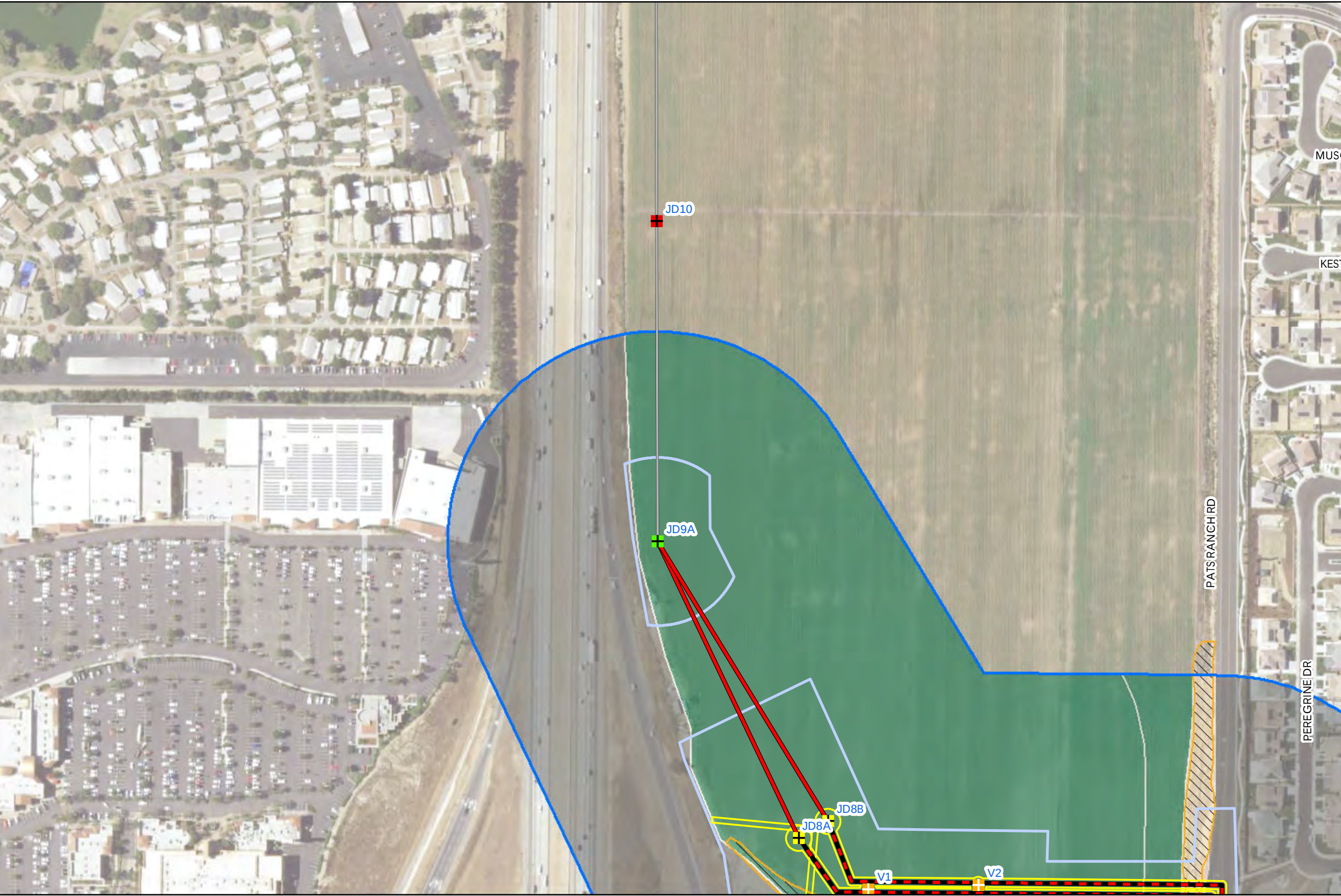
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Aerial Imagery: 6/14/2016

Date Created: 3/6/2018

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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 8 of 11

Legend

- Tubular Steel Pole (TSP)
- Lattice Steel Tower (LST)
- Riser pole (TSP)
- Vault
- Proposed 230-kV Transmission Line (Overhead)
- Proposed 230-kV Transmission Line (Underground)
- Proposed 2013 Alignment (Overhead)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Delhi Sands Flower Loving Fly Habitat
- Active Agriculture
- Annual brome grasslands
- Developed

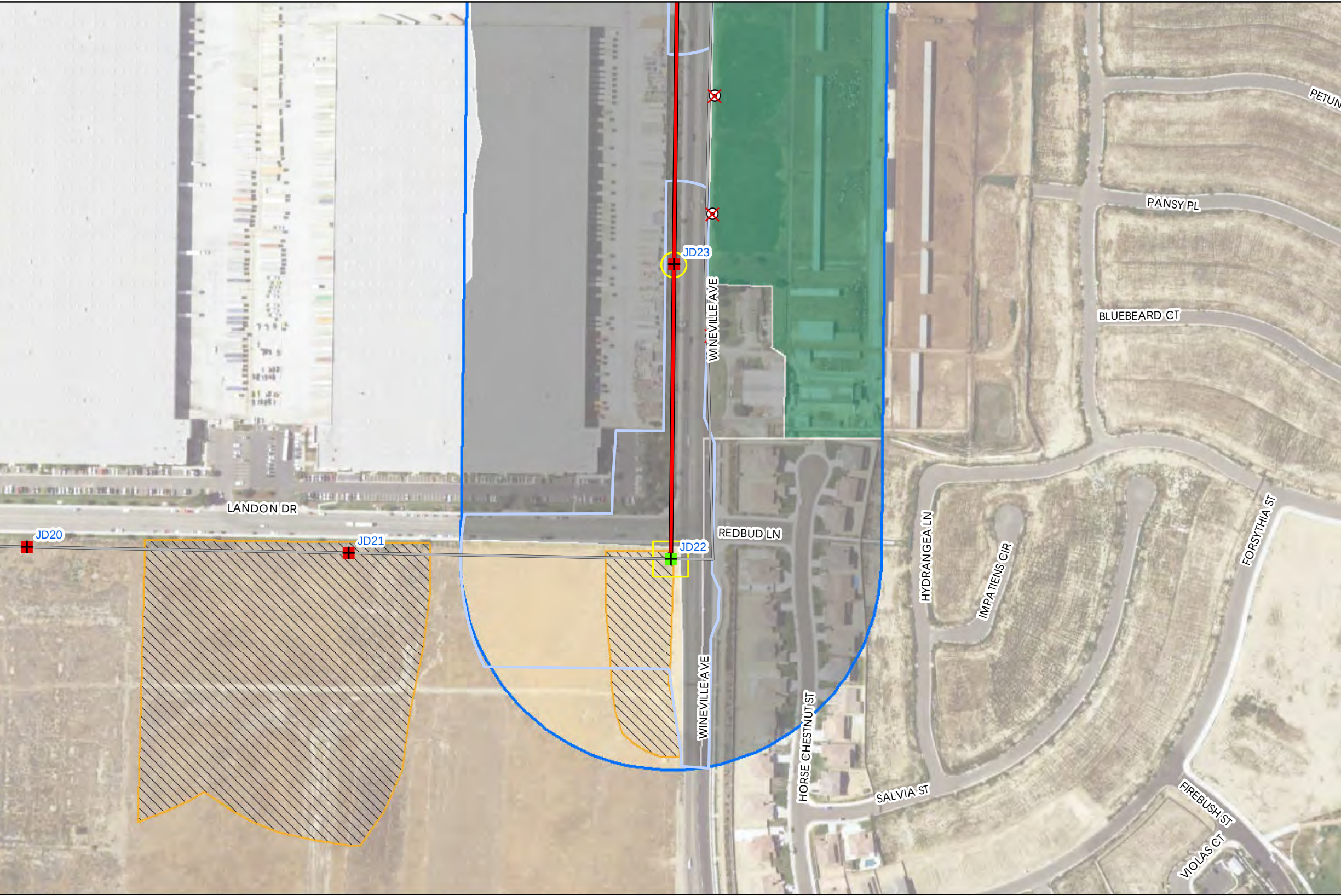
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Aerial Imagery: 6/14/2016
Date Created: 3/6/2018

PANORAMA



Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 9 of 11

Legend

- Tubular Steel Pole (TSP)
- Lattice Steel Tower (LST)
- Existing Pole to be Removed
- Proposed 230-kV Transmission Line (Overhead)
- Proposed 2013 Alignment (Overhead)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Delhi Sands Flower Loving Fly Habitat
- Active Agriculture
- Annual brome grasslands
- Developed

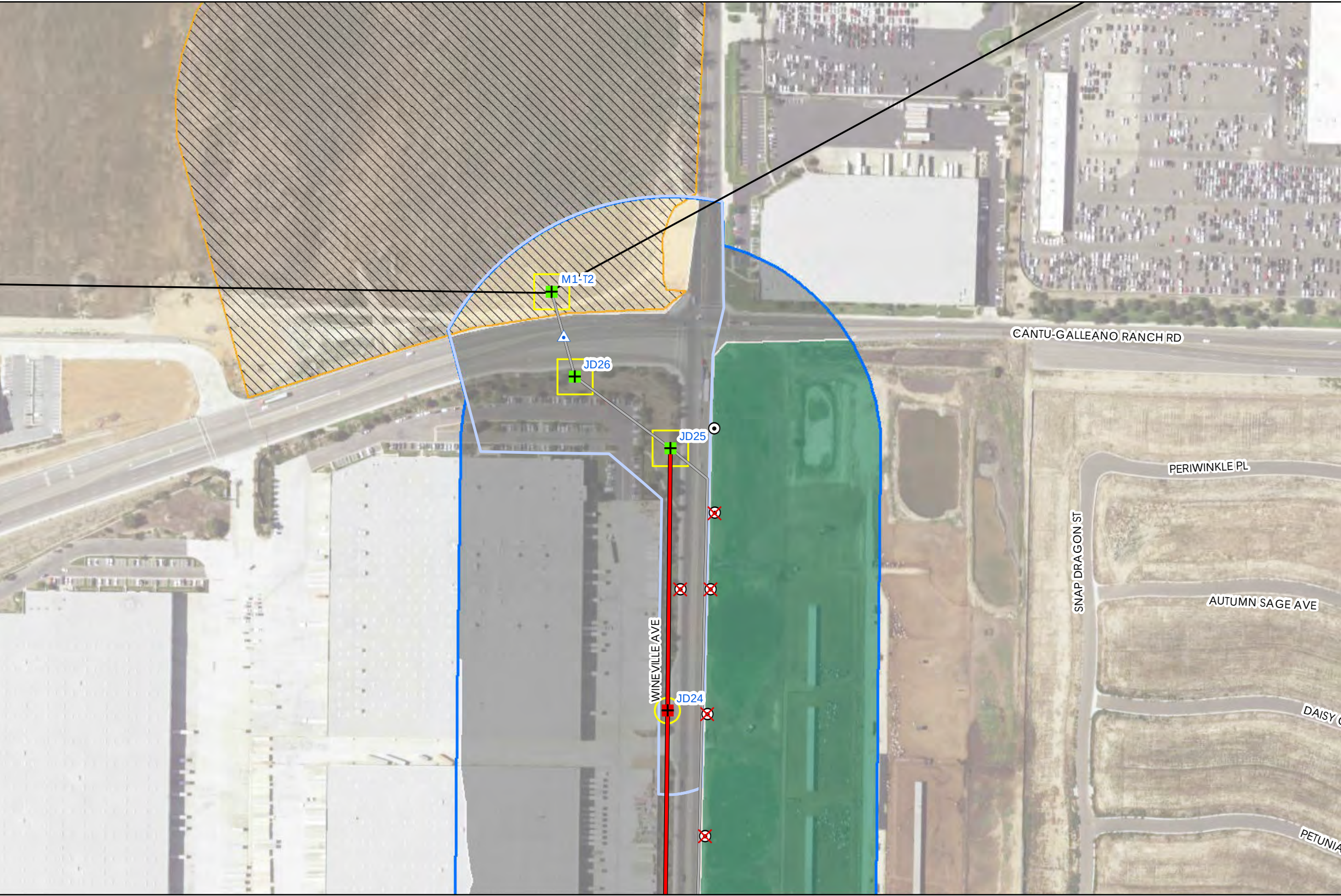
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Aerial Imagery: 6/14/2016
Date Created: 3/6/2018

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Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 10 of 11

Legend

- Tubular Steel Pole (TSP)
- Lattice Steel Tower (LST)
- Guard Structure
- Existing Pole
- Existing Pole to be Removed
- Proposed 230-kV Transmission Line (Overhead)
- Existing Mira Loma - Vista #1 230-kV Transmission Line Alignment
- Proposed 2013 Alignment (Overhead)
- Permanent Impact Area
- GDAD
- Biological Survey Area
- Delhi Sands Flower Loving Fly Habitat
- Active Agriculture
- Annual brome grasslands
- Developed

Map Extent Indicator

Scale = 1:3,000

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Aerial Imagery: 6/14/2016
Date Created: 3/6/2018

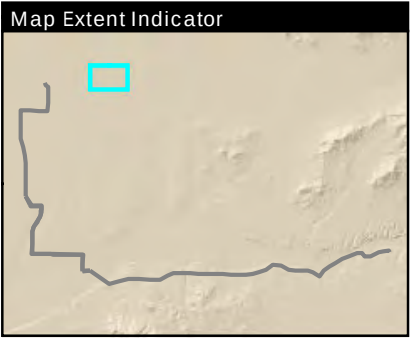
PANORAMA



Riverside Transmission Reliability Project

Project Elements and Biological Resources Mapbook Map 11 of 11

- Legend
-  Etiwanda Marshalling Yard
 -  Biological Survey Area
 -  Delhi Sands Flower Loving Fly Habitat
 -  Small Mammal Habitat



Scale = 1:3,000

0 25 50 100 150 200 Feet

Aerial Imagery: 6/14/2016

Date Created: 3/6/2018

PANORAMA

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Applicable MSHCP Compliance and Mitigation Requirements

Requirement	Requirement Detail
Riparian/Riverine and Vernal Pool Area Impact Assessment	Assess potentially significant effects on riparian and riverine areas using available information and project-specific mapping and consider species composition, topography, hydrology, and soil analysis, where appropriate.
Riparian Bird Focused Surveys	Conduct focused surveys for least bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, Riverside fairy shrimp, Santa Rosa plateau fairy shrimp, and vernal pool fairy shrimp.
Impact Minimization through Project Design	Develop project alternatives demonstrating efforts that first avoid, and then minimize direct and indirect effects to riparian areas.
Determination of a Biologically Equivalent or Superior Preservation (DBESP)	If an avoidance alternative is not feasible and a practicable alternative is instead selected, determination of biologically equivalent or superior preservation shall be made by SCE to ensure replacement of any lost functions and values of habitat as it relates to MSCHP covered species. The determination of Biologically Equivalent or Superior Preservation shall include the following information to be supplied by the applicant and reviewed by the Permittee: • Definition of the project area. • A written project description, demonstrating why an avoidance alternative is not possible. • A written description of biological information available for the project site including the results of resource mapping. • Quantification of unavoidable impacts to riparian/riverine areas and vernal pools associated with the project, including direct and indirect effects. • A written description of project design features and mitigation measures that reduce indirect effects, such as edge treatments, landscaping, elevation difference, minimization and/or compensation through restoration or enhancement. • A finding demonstrating that although the proposed project would not avoid impacts, with proposed design and compensation measures, the project would be biologically equivalent or superior to that which would occur under an avoidance alternative without these measures, based on one or more of the following factors: - Effects on Conserved Habitats - Effects on the species listed above under the heading, "Purpose" - Effects on riparian linkages and function of the MSHCP Conservation Area

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Narrow Endemic Plant Focused Surveys	The MSHCP also requires that mitigation be implemented when construction occurs within the area classified as the “Narrow Endemic Species Survey Area.” The revised project is located within the “Narrow Endemic Species Survey Area.” Mitigation for narrow endemic plant species includes the following: • Conduct a habitat suitability assessment to determine whether focused surveys for individual species are required. Upon completion of the habitat assessment, submit a report to the Permittee for review and approval. • Based on the habitat suitability assessment, conduct site-specific surveys for narrow endemic plant species and submit the results to the Permittee. • Prepare an equivalency finding if it is determined that construction would avoid impacting 90 percent of areas that provide long-term value of the narrow endemic plant species and if the 90 percent threshold cannot be met prepare a Determination of Biologically Equivalent or Superior Preservation.
Facilities Siting Criteria	• In addition to meeting the requirements addressed in Section 6.1.6 and 6.6.2 E(2) of [the MSHCP], future facilities will be located in the least environmentally sensitive Feasible location, and use existing roads, trails and other disturbed areas to the greatest extent Feasible. Facilities will be routed through developed or developing areas where Feasible. If no other routing is Feasible, alignments will follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation. • In addition to the Facilities Siting Criteria, construction activities for future facilities within the Criteria Area will proceed in accordance with the BMPs contained in Appendix C of [the MSHCP].
Requirements for Participating Special Entities	• In addition to the requirements set forth in MSHCP Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2, Participating Special Entities shall also contribute to Plan implementation through payment of a fee based upon the type of proposed activity, which shall be applicable to all activities in the Plan Area. For Regional Utility Projects that will be constructed to serve Development, such as major trunk lines, Participating Special Entities shall pay a fee in the amount of 5 percent (5%) of total capital costs or take such other actions as may be agreed to by the RCA and the Wildlife Agencies. For such activities that will result in only temporary impacts and disturbance, Participating Special Entities shall pay a fee in the amount of three percent (3%) of total capital costs or other appropriate measures as may be agreed to by the RCA and the Wildlife Agencies. Public district or agency projects that will be constructed to serve Development, such as new schools and treatment plants, inside the Criteria Area shall be designed and implemented pursuant to the Criteria as described in Sections 3.0 and 7.0 of the MSHCP and all other requirements of the MSHCP, including payment of Local Development Mitigation Fees as adopted for commercial and industrial Development. For such activities outside the Criteria Area, contribution shall consist of payment of Local Development Mitigation Fees as adopted for commercial and industrial Development. All fees shall be either collected by, or submitted to, the RCA. All obligations must be satisfied prior to impacts to Covered Species and their Habitats.

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Construction Guidelines

- Plans for water pollution and erosion control will be prepared for all Discretionary Projects involving the movement of earth in excess of 50 cubic yards. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, use of plant material for erosion control. Plans will be reviewed and approved by the County of Riverside and participating jurisdiction prior to construction.
 - Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season defined as March 1 to June 30.
 - Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
 - Short-term stream diversions will be accomplished by use of sand bags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
 - Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off-site.
 - Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from re-entering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where sediment cannot re-enter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.
 - No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
 - The footprint of disturbance will be minimized to the maximum extent Feasible. Access to sites will occur on pre-existing access routes to the greatest extent possible.
 - Equipment storage, fueling and staging areas will be sited on non-sensitive upland Habitat types with minimal risk of direct discharge into riparian areas or other sensitive Habitat types.
 - The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
 - During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland Habitats occupied by Covered Species that are outside of the project footprint will be avoided.
 - Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
 - Training of construction personnel will be provided.
 - Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.
 - When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing
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	activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities. • Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation. • All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain run-off. • Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.
Standard Best Management Practices	• A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. • Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements. • The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible. • The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work. • Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern. • Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian identified in MSHCP Global Species Objective No. 7. • When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments offsite. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream. • Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project

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	related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, [US]FWS, and CDFG, RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas. • Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks. • The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint. • The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species. • Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible. • To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s). • Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas. • The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

Source: (County of Riverside, n.d.; USFWS, 2004)

References

County of Riverside. (2017, January 5). Ordinance No.348. *Providing for Land Use Planning and Zoning Regulations and Related Functions of the County of Riverside*. Riverside County Clerk of the Board. Retrieved from http://planning.rctlma.org/Portals/0/zoning/ordnance/Ord_348_clean_version.pdf?ver=2016-07-20-122327-493

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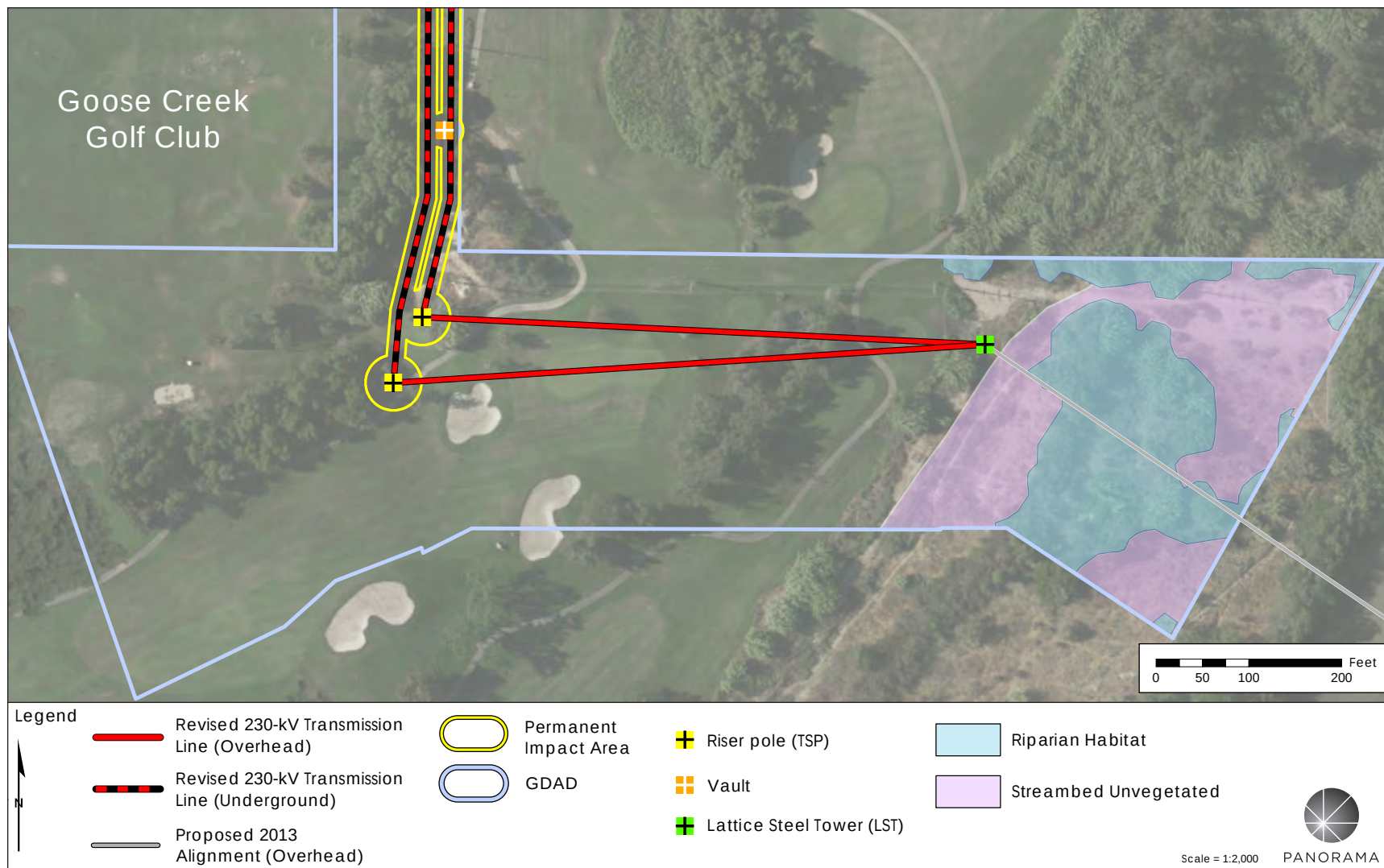
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