SOURCE: NAIP 2016; Hunsaker 2017

Figure 4-1aa
Biological Resources

DUDEK

Otay Ranch Village 14 and Planning Areas 16/19

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SOURCE: NAIP 2016; Hunsaker 2017

DUDEK

Figure 4-1bb
Biological Resources

Otay Ranch Village 14 and Planning Areas 16/19

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SOURCE: NAIP 2016; Hunsaker 2017

Figure 4-1cc
Biological Resources

Otay Ranch Village 14 and Planning Areas 16/19

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Within the Project Area, granitic chamise chaparral is typically characterized by a relatively monotypic stand of chamise, with some diversity of other shrubs and herbaceous cover. Areas where native species were co-dominant with non-native grasses were mapped as disturbed granitic chamise chaparral. Granitic chamise chaparral totals 308.6 acres within the Project Area (this includes 0.8 acres of disturbed form). It is the most dominant vegetation community within the Village 14 Development Footprint. This vegetation community also occurs within the off-site improvement areas along Proctor Valley Road Central and Proctor Valley Road North (Figure 4-1 and Figures 4-1a through 4-1cc).

Granitic Southern Mixed Chaparral (37121)

Granitic southern mixed chaparral (37121) is characterized by broad-leaved sclerophyll shrubs ranging from 5 to 10 feet in height (Oberbauer et al. 2008). Granitic southern mixed chaparral is characterized by chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), white fairy-lantern (*Calochortus albus*), ceanothus (*Ceanothus* spp.), and other chaparral species with patches of bare soil. This habitat often occurs on dry, rocky, often steep slopes with little soil and moderate temperatures. Areas mapped as southern mixed chaparral are dominated by chamise. The *Adenostoma fasciculatum* (chamise) alliance has a rank of G5S5 by CDFW (CDFG 2010; NatureServe 2014), meaning it is globally secure and secure in the state.

Within the Project Area, areas mapped as southern mixed chaparral are dominated by chamise, laurel sumac (*Malosma laurina*), woolyleaf ceanothus (*Ceanothus tomentosus*), scrub oak (*Quercus berberidifolia*), and toyon (*Heteromeles arbutifolia*). A total of 99.2 acres of granitic southern mixed chaparral occurs within the Project Area. Almost all of this vegetation community occurs within Planning Areas 16/19, with 4.3 acres occurring within the off-site improvement area along Proctor Valley Road South (Figure 4-1 and Figures 4-1a through 4-1cc).

Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is the most widespread coastal sage scrub in coastal Southern California, extending from Los Angeles into Baja California (Oberbauer et al. 2008). The community mostly consists of drought-deciduous species such as California sagebrush (i.e., coastal sagebrush), Eastern Mojave buckwheat, white sage (*Salvia apiana*), laurel sumac, and black sage (*Salvia mellifera*). Diegan coastal sage scrub is typical on low-moisture-available sites, such as steep, xeric slopes or clay-rich soils that release stored water slowly. This community integrates with types of chaparral at higher elevations. The *Artemisia californica* (California sagebrush scrub) alliance has a rank of G5S5 by CDFW (CDFG 2010; NatureServe 2014), meaning it is globally secure and secure in the state. Diegan coastal sage scrub is also the

habitat preferred by coastal California gnatcatcher, which is federally threatened (FT), a state Species of Special Concern (SSC), and an MSCP Covered Species.

Areas mapped as Diegan coastal sage scrub within the Project Area are dominated by coastal sagebrush, San Diego County viguiera (*Viguiera laciniata*), laurel sumac, sage (*Salvia* spp.), and Eastern Mojave buckwheat. Areas where native species were co-dominant with non-native grasses were mapped as disturbed Diegan coastal sage scrub. Diegan coastal sage scrub is the most dominant vegetation community within the Project Area, totaling 804.1 acres (includes disturbed forms). Of this total, approximately 380.8 acres is located within Village 14 and 384.9 acres is located within Planning Areas 16/19, with the remainder located in the off-site improvement areas. The majority of this vegetation community occurs within the Development Footprint in Planning Areas 16/19 and within the Otay Ranch RMP Preserve in Village 14 (see Figure 4-1 and Figures 4-1a through 4-1cc).

Diegan Coastal Sage Scrub – *Baccharis* Dominated (32530)

Diegan coastal sage scrub – *Baccharis* dominated is similar to Diegan coastal sage scrub except that it is dominated by *Baccharis* species (desert broom (*B. sarothroides*) and/or coyotebrush (*B. pilularis*)) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils, and is often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys. This community is distributed along coastal and foothill areas in San Diego County. The *Artemisia californica* (California sagebrush scrub) alliance and *Baccharis pilularis* (coyotebrush scrub) alliance have a rank of G5S5 by CDFW (CDFG 2010; NatureServe 2014), meaning it is globally secure and secure in the state. Diegan coastal sage scrub – *Baccharis* dominated is not considered special status by CDFW.

Areas mapped as coastal sage scrub – *Baccharis* within the Project Area are dominated by either coyotebrush or desert baccharis, but have other coastal sage species such as Menzies' goldenbush (*Isocoma menziesii*), Eastern Mojave buckwheat, or sage (*Salvia* spp.) present. Areas where native species were co-dominant with non-native grasses were mapped as disturbed coastal sage scrub – *Baccharis* dominated. A total of 1.3 acres of coastal sage scrub – *Baccharis* (includes disturbed forms) occurs within the Project Area; it is located in the off-site improvement areas along Proctor Valley Road in the southern portion of the Project Area (City of San Diego Cornerstone Lands) (Figures 4-1 and 4-1a through 4-1cc).

Non-Native Grasslands (42200)

Non-native grasslands consist of dense to sparse cover of annual grasses with flowering culms between 0.5 to 3 feet in height (Oberbauer et al. 2008). Non-native grassland has a rank of G4S4

by CDFW (CDFG 2010), meaning it is apparently secure globally and in the state. Within the Project Area, oats (*Avena* spp.), bromes (*Bromus* spp.), stork's bill (*Erodium* spp.), and mustard (*Brassica* spp.) are the more dominant species in this community. Non-native grassland generally occurs in the flatter portions of the valley throughout the Project Area (Figures 4-1 and 4-1a through 4-1cc). A total of 112.2 acres of non-native grassland occurs within the Project Area; of this total, 62.4 acres occurs within Planning Areas 16/19 (Table 4-1).

Cismontane Alkali Marsh (52310)

Cismontane alkali marsh is a wetland community dominated by low, perennial, herbaceous plants adapted to places where standing water or saturated soils are present for a considerable portion of the year. High evaporation and low input of freshwater render these marshes somewhat alkaline, especially during the summer. Plant species composition within this community tends to consist of halophytes such as San Diego marsh-elder (*Iva hayesiana*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and certain sedges over the typical cattail–bulrush mix of freshwater marsh. The cismontane alkali marsh alliance is ranked by CDFW (CDFG 2010) as a G1S1 alliance. This ranking indicates that the alliance is critically imperiled globally and within California (CDFG 2010; NatureServe 2014).

Cismontane alkali marsh was mapped intermittently in many of the drainages in the Project Area. The intermittent nature of its occurrence presumably is due to changes in topography that cause rapid draining in some areas and seasonal inundation in others. Areas supporting cismontane alkali marsh are evidenced by the presence of San Diego marsh-elder and occasionally southwestern spiny rush. Saltgrass (*Distichlis spicata*) was sometimes present along the edges of the cismontane alkali marsh. Areas where native species were co-dominant with non-native grasses were mapped as disturbed cismontane alkali marsh. A total of 7.8 acres of cismontane alkali marsh occurs within the Project Area. Of this total, 6.7 acres is mapped along various drainages occurring primarily in the northern and southern portions of the Planning Areas 16/19 Otay Ranch RMP Preserve. A small portion of this community occurs within the central portion of the Village 14 Otay Ranch RMP Preserve. This community does not occur within the off-site improvement areas (Figures 4-1a through 4-1cc).

Mulefat Scrub (63310)

Mulefat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat (*Baccharis salicifolia*). This early seral community is maintained by frequent flooding. Project Area factors include intermittent stream channels with fairly coarse substrate and moderate depth to the water table (Oberbauer et al. 2008). This community type is widely scattered along intermittent streams and near larger rivers. The *Baccharis salicifolia* (mulefat thickets) alliance

has a rank of G5S4 (CDFG 2010; NatureServe 2014), meaning it is globally secure and apparently secure in the state. Mulefat scrub is considered special status by the CDFW.

Areas mapped as mulefat scrub within the Project Area are dominated by mulefat and are typically found along drainages that receive intermittent water throughout the year. There are small patches of mulefat scrub mapped along the northern and southern portions of the Project Area (Figures 4-1 and 4-1a through 4-1cc). A total of 1 acre of mulefat scrub occurs within the Project Area. Of that total, 0.7 acres occurs within areas designated as Otay Ranch RMP Preserve (Village 14 and Planning Areas 16/19), and small patches occur within the off-site improvement areas along the southern portion of Proctor Valley Road (Table 4-1).

Coastal and Valley Freshwater Marsh (52410)

According to Holland (1986), coastal and valley freshwater marsh is a wetland habitat type that develops where the water table is or just above the ground surface, such as around the margins of lakes, ponds, slow-moving streams, ditches, and seepages. Because it is permanently flooded by fresh water, there is an accumulation of deep, peaty soils. It typically is dominated by species such as cattail (*Typha* spp.), sedge (*Carex* spp.), yellow nutsedge (*Cyperus esculentus*), and bulrushes (*Scirpus* spp.). The coastal and valley freshwater marsh alliance has a rank of G3S2 (CDFG 2010; NatureServe 2014), meaning it is vulnerable to extirpation or extinction globally and in the state.

Areas within the Project Area mapped as freshwater marsh are dominated by southern cattail (*Typha domingensis*) and indicate areas where water is present for longer periods of time. A total of 0.4 acres of coastal and valley freshwater marsh occurs within the Project Area in the off-site improvement areas. Three areas of freshwater marsh are mapped along Proctor Valley Road in the very southern portion of the Project Area (Figures 4-1 and 4-1a through 4-1cc). These areas are within off-site improvement areas associated with the realignment of Project Valley Road South.

Open Water (64100)

According to Oberbauer et al. (2008), the open water designation is primarily used to describe areas of open ocean water. One area mapped as open water is more accurately described by the Oberbauer et al. description for non-vegetated floodplain (see Non-Vegetated Floodplain or Channel (64200)). Open water does not have a global or state rank.

Previous aerial photographs from 1994 through 2016 of the Project Area show one area within the easternmost parcel in Planning Area 16 as inundated with water at various times; therefore, this location was mapped as open water (Google Earth 2017) (Figures 4-1 and 4-1a through 4-

1cc). During the 2014 surveys, this location did not contain water and was vegetated with non-native grassland and some shrubs indicative of coastal sage scrub. During 2017 surveys, this area was observed to be inundated with water and, therefore, the open water designation is retained.

Southern Coast Live Oak Riparian Forest (61310)

Southern coast live oak riparian forest is a dense riparian forest dominated by coast live oak (*Quercus agrifolia*), often with an herbaceous understory. This community occurs along the bottom or outer slopes of larger streams (Oberbauer et al. 2008). Areas mapped as oak riparian forest are dominated by coast live oak. The *Quercus agrifolia* (coast live oak woodland) alliance has a rank of G5S4 by CDFW (CDFG 2010), meaning it is globally secure and apparently secure in the state.

A total of 0.7 acres of southern coast live oak riparian forest occurs within the Project Area. One area of southern coast live oak riparian forest is mapped along the eastern edge of the Village 14 Development Footprint and Otay Ranch RMP Preserve boundary in a drainage that flows in an east/west direction to the Proctor Valley drainage (Figures 4-1 and 4-1a through 4-1cc). This is the only instance of this vegetation community, and it is contained within the Otay Ranch RMP Preserve.

Southern Willow Scrub (63320)

Southern willow scrub is a dense, broad-leafed, winter-deciduous riparian thicket dominated by several willow species (*Salix* spp.), with scattered emergent Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*). This community was formerly extensive along the major rivers of coastal Southern California, but is now much reduced (Oberbauer et al. 2008). The *Salix lasiolepis* (arroyo willow thickets) alliance has a rank of G3S4 by CDFW (CDFG 2010; NatureServe 2014), meaning it is vulnerable to extirpation or extinction globally and secure in the state.

A total of 0.3 acres of southern willow scrub occurs within the Project Area. Areas mapped as southern willow scrub are dominated by arroyo willow (*Salix lasiolepis*). Two small polygons of southern willow scrub are mapped in the northern portion of the Project Area within the Otay Ranch RMP Preserve in Planning Area 16 (Figures 4-1 and 4-1a through 4-1cc).

Non-Vegetated Floodplain or Channel (64200)

Non-vegetated floodplain or channel is not recognized by Holland (1986) but is recognized by Oberbauer et al. (2008). According to Oberbauer et al. (2008), non-vegetated floodplain or channel is the sandy, gravelly, or rocky fringe of waterways or flood channels that is unvegetated

on a relatively permanent basis. Vegetation may be present but is usually less than 10% total cover and grows on the outer edge of the channel. One mapped non-vegetated channel occurs along Proctor Valley Road South, which connects to the large unnamed wash that feeds into Lower Otay Reservoir. Other non-vegetated channels occur throughout the Project Area but have been mapped as overlays within vegetation communities. These resources are discussed more in Section 4.7, Jurisdictional Aquatic Resources. Non-vegetated floodplain or channel does not have a global or state rank.

Eucalyptus Woodland (79100)

Eucalyptus woodland is not recognized by Holland (1986), but is recognized by Oberbauer et al. (2008). This "naturalized" vegetation community is fairly widespread in Southern California and is considered a woodland habitat. It typically consists of monotypic stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either depauperate (i.e., lacking species variety) or absent, owing to high leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they frequently provide nesting and perching sites for several raptor species. The *Eucalyptus* (*globulus*, *camaldulensis*) (eucalyptus groves) semi-natural stand does not have a global or state rank (CDFG 2010; NatureServe 2014). A total of 2.9 acres of eucalyptus woodland occurs within the Project Area. There are five small separate areas mapped as eucalyptus woodland throughout the Project Area, including several patches in the northern portion of the Planning Areas 16/19 Otay Ranch RMP Preserve, and one patch off site along Proctor Valley Road South (Figures 4-1 and 4-1a through 4-1cc).

Urban/Developed (12000)

Urban/developed refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials (Oberbauer et al. 2008). Within the Project Area, the majority of urban/developed areas is associated with Proctor Valley Road (Figure 4-1 and Figures 4-1a through 4-1cc).

Disturbed Habitat (11300)

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction

staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years). Within the Project Area, dirt roads, prominent dirt trails, and off-highway-vehicle areas are mapped as disturbed habitat (Figures 4-1 and 4-1a through 4-1cc).

4.3 Floral Diversity

A total of 352 vascular plant species, consisting of 254 native species (72%) and 98 non-native species (28%), were recorded within the Project Area during the 2014, 2015, 2016, and 2017 focused surveys. Of the total species observed, 22 of these species are considered special status (nine of which are MSCP Covered Species) and are discussed in further detail in Section 4.5, Sensitive Plant Species. In addition, although it was not observed, there is critical habitat for spreading navarretia within the Project Area. Appendix G includes a cumulative list of plant species, including special-status species that have been observed within the Project Area.

4.4 Wildlife Diversity

The Project Area supports habitat for common upland and riparian species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the Project Area provide foraging and nesting habitat for migratory and resident birds and other wildlife species. Rock outcroppings, chaparral, coastal scrub, and woodlands within the Project Area provide cover and foraging opportunities for wildlife species, including reptiles and mammals.

There were 156 wildlife species observed in the Project Area during the 2014, 2015, 2016, and 2017 surveys. Of the ~~total~~ 156 species observed, 28 (18%) of these are considered special status (11 of which are MSCP Covered Species). Species observed within the Project Area were recorded during focused surveys, habitat assessments, vegetation mapping, and sensitive plant surveys. Given the resource management context of the Project Area (i.e., level of study for MSCP County Subarea Plan and Otay Ranch GDP/SRP), this level of wildlife survey information is adequate to evaluate significant Proposed Project impacts to biological resources. A cumulative list of wildlife species observed during these surveys is provided in Appendix H, List of Wildlife Species Observed. Species richness in the Project Area is moderate due to the property size, amount of undeveloped land, and the limited number of native upland habitats. Species richness is generally increased with the presence of more habitat types and ecotones. The Project Area is dominated by two habitat types: Coastal sage scrub comprises 59% and chamise chaparral comprises 23% of the Project Area. Although species richness is moderate, the number of species and the wildlife population levels (i.e., number of individuals) is typical for undeveloped areas in this region, particularly those areas that support multiple upland habitat

types. The Project Area supports numerous special-status wildlife species, which are addressed in Section 4.6, Sensitive Wildlife Species.

4.4.1 Reptiles and Amphibians

Eleven common reptile species were observed within and adjacent to the Project Area during surveys. Commonly observed reptiles included western fence lizard (*Sceloporus occidentalis*) and common side-blotched lizard (*Uta stansburiana*).

Special-status reptiles observed included San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), red diamondback rattlesnake (*Crotalus ruber*), rosy boa (*Lichanura trivirgata*), and Blainville's horned lizard (*Phrynosoma blainvillii*). Only Blainville's horned lizard is an MSCP Covered Species. One special-status amphibian species was documented within the Project Area during surveys: western spadefoot[9], which is not an MSCP Covered Species. Special-status species are discussed further in Section 4.6.

4.4.2 Birds

Seventy-five bird species were observed within the Project Area. Commonly observed birds included western meadowlark (*Sturnella neglecta*), western scrub-jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), turkey vulture (*Cathartes aura*), wrentit (*Chamaea fasciata*), common raven (*Corvus corax*), greater roadrunner (*Geococcyx californianus*), California towhee (*Melozone crissalis*), northern mockingbird (*Mimus polyglottos*), ash-throated flycatcher (*Myiarchus cinerascens*), phainopepla (*Phainopepla nitens*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), and Bewick's wren (*Thryomanes bewickii*).

Special-status birds observed included Cooper's hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle, burrowing owl (sign), red-shouldered hawk (*Buteo lineatus*), turkey vulture, northern harrier (*Circus cyaneus*), California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), coastal California gnatcatcher, western bluebird (*Sialia mexicana*), and common barn-owl (*Tyto alba*). Seven of the bird species observed are MSCP Covered Species: Cooper's hawk, southern California rufous-crowned sparrow, golden eagle, burrowing owl (sign), northern harrier, coastal California gnatcatcher, and western bluebird. Special-status species are discussed further in Section 4.6.

[9] USFWS received a petition to list western spadefoot in 2012.

4.4.3 Mammals

Fourteen mammal species were detected (directly or indirectly) during biological surveys within and adjacent to the Project Area. Commonly observed mammals included desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), California ground squirrel (*Spermophilus (Otospermophilus) beecheyi*), and coyote (*Canis latrans*).

Special-status mammals observed included San Diego black-tailed jackrabbit (*Lepus californica bennettii*), mule deer (*Odocoileus hemionus*), cougar (*Puma concolor*), and American badger (sign; *Taxidea taxus*). Special-status species are discussed further in Section 4.6. Three of the mammal species observed are MSCP Covered Species: mule deer, cougar, and American badger.

Bats occur throughout most of Southern California and may use any portion of the Project Area as foraging habitat. There is high potential for bat species to day roost within the eucalyptus trees within the Otay Ranch RMP Preserve in Planning Area 16, in the small rock outcrops in non-graded LDA and adjacent to Conserved Open Space along the eastern edge of Planning Area 16, and in the oak riparian forest in the Otay Ranch RMP Preserve within Village 14. ~~These~~ Potential special-status bat species include pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), and big free-tailed bat (*Nyctinomops macrotis*). Maternity roosts may occur in the large trees located within the Otay Ranch RMP Preserve, but have not been observed during several years of various surveys conducted in the area. Because the majority of the surveys were conducted during daylight hours and surveys did not include focused efforts to locate roosting bats, no bats were detected within the Project Area. Since the potential roosting habitat for these bat species occurs outside of the Development Footprint and would not be impacted by the Proposed Project, focused surveys for bats were not conducted. This document analyzes the potential for bat species to occur within the Project Area based on available habitat, known occurrences, and ranges of the various species (see Section 4.6). Impacts to bats are based on impacts to potential foraging habitat.

4.4.4 Invertebrates

Fifty-five invertebrate species were observed within and adjacent to the Project Area during biological surveys. Commonly observed species included painted lady (*Vanessa cardui*), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*), checkered white (*Pontia protodice*), Sara orangetip (*Anthocharis sara*), and tarantula hawk (*Pepsis* sp.). Two fairy shrimp species were observed in some of the features in the Project Area: versatile fairy shrimp and the federally endangered San Diego fairy shrimp (see Figures 3-6a through 3-6i) (see Section 4.6).

4.4.5 Fish

No fish species were documented during the numerous surveys within the Project Area. There are no large areas of open water or perennial water sources within the Project Area that would support fish species.

4.5 Sensitive Plant Species

Endangered, rare, or threatened plant species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status plant species" in this report and include (1) endangered or threatened plant species recognized in the context of CESA and FESA (CDFW 2016b), (2) plant species with a CRPR 1 through 4 (CDFW 2016c; CNPS 2016), and (3) plant species considered "sensitive" by the County of San Diego (Table 2 in County of San Diego 2010a).

In considering rarity, the CNPS inventory of rare and endangered vascular plants of California was the primary reference (CNPS 2016). Use of the CNPS inventory is helpful because it clearly defines levels of endangerment and rarity for all of the species addressed in the CNPS inventory. The CNPS inventory divides its subject taxa into four ranks: CRPR 1 (which is further divided into 1A and 1B), CRPR 2 (which is further divided into 2A and 2B), CRPR 3, and CRPR 4. Plants with a CRPR of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. Plants with a CRPR of 1B are rare throughout their range, with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. Plants with a CRPR of 2A are presumed extirpated because they have not been observed or documented in California for many years. Except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. Plants with a CRPR of 3 have not had sufficient information collected to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting CRPR 3 are taxonomically problematic. All of the plants constituting CRPR 1A, 1B, 2A, 2B, and 3 meet the definitions of CESA of the California Fish and Game Code and are eligible for state listing. Plants with a CRPR of 4 are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, they are transferred to a more appropriate rank.

Some of the plants constituting CRPR 4 meet the definitions of CESA of the California Fish and Game Code, and few, if any, are eligible for state listing; this rank is considered to be a watch list. Nevertheless, many of them are significant locally, and it is strongly recommended that CRPR 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, based

on CEQA Guidelines Section 15125(c) and/or 15380. This may be particularly appropriate for the following:

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

In addition to CRPR 1–4 species, plant species listed on County Lists A through D (County of San Diego 2010a) also were included in the consideration of sensitive plant species for this analysis.

Focused plant surveys were conducted in the Project Area to determine the presence or absence of special-status plant species that are considered endangered, rare, or threatened under CEQA Guidelines Section 15380 (14 CCR 15000 et seq.). Special-status plant species directly observed during focused surveys or known to occur in the surrounding region are described in Appendix I1, Special-Status Plant Species Detected or Potentially Occurring in the Project Area, which describes their known occurrences or potential to occur within the Project Area based on their general biology (primary habitat associations, life form, blooming period, and known elevation range).

Sensitive plant species directly observed within the Project Area include the following MSCP Covered Species and County List A species: Otay manzanita (*Arctostaphylos otayensis*), San Diego goldenstar (*Bloomeria clevelandii*), Orcutt's brodiaea (*Brodiaea orcuttii*), Dunn's mariposa-lily (*Calochortus dunnii*; narrow endemic), San Miguel savory (*Clinopodium [=Satureja] chandleri*), Otay tarplant, variegated dudleya (narrow endemic), San Diego barrel cactus (*Ferocactus viridescens*), and Gander's pitcher sage (*Lepechinia gander*; narrow endemic). Special-status species not covered by the MSCP observed within the Project Area include San Diego sagewort (*Artemisia palmeri*; County List D), delicate clarkia (*Clarkia delicata*; County List A), western dichondra (*Dichondra occidentalis*; County List D), Palmer's grapplinghook (*Harpagonella palmeri*; County List D), graceful tarplant (*Holocarpha virgata* ssp. *elongata*; County List D), San Diego marsh-elder (County List B), southwestern spiny rush (County List D), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsoni*; County List A), golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*; County List D), Munz's sage (*Salvia munzii*; County List B), ashy spike-moss (*Selaginella cinerascens*; County List D), San Diego County viguiera; (County List D), and San Diego County needle grass (*Stipa [=Achnatherum] diegoensis*; County List D).

Additional plant species with a high or moderate potential to occur are included in Appendix I1. Plants that are not expected to occur or have low potential to occur are included in Appendix I2, Special-Status Plant Species with Low Potential or Not Expected to Occur in the Project Area. The appendices include all MSCP Covered Species and County Lists A–D species (County of San Diego 2010a), as well as species recorded in the Jamul Mountains quadrangle and the surrounding eight quadrangles (CDFW 2016c, 2017; CNPS 2017; SDNHM 2017; USFWS 2016). The potential-to-occur determination is based on elevation, habitat, and soils present within the Project Area, and Dudek biologists' knowledge of biological resources in the area and regional distribution of each species.

4.5.1 County List A and B Species

Plants categorized as County List A species are plants that are rare, threatened, or endangered in California and elsewhere. Plants categorized as County List B are rare, threatened, or endangered in California, but more common elsewhere (County of San Diego 2010a). County List A and B species that have been observed in the Project Area are described below and included in Appendix I1. The location of the populations within the Otay Ranch RMP Preserve, the Development Footprint (including graded LDA), LDA (no grading), or Conserved Open Space is described for each species and shown in Figure 4-1 and Figures 4-1a through 1cc. Additional species that have moderate potential to occur are described in more detail in Appendix I1. Many of the List A species observed within the Project Area are also MSCP Covered Species. Impacts to plants that are MSCP Covered Species are considered mitigated upon conveyance of the prescribed amount of land to the Otay Ranch RMP Preserve.

Otay Manzanita (*Arctostaphylos otayensis*), List A, MSCP Covered Species

Otay manzanita is a CRPR 1B.1, MSCP Covered Species, and County List A species. This evergreen shrub typically blooms December through June, and occurs in maritime chaparral at elevations less than 1,200 feet amsl. Several populations totaling approximately 627 Otay manzanita shrubs was observed within the Otay Ranch RMP Preserve in Planning Area 16 (Figures 4-1 and 4-1a through 4-1cc).

San Diego Goldenstar (*Bloomeria clevelandii*), List A, MSCP Covered Species

San Diego goldenstar is a CRPR 1B.1, MSCP Covered Species, and County List A species. This species occurs on clay soils in chaparral, coastal scrub, and valley and foothill grasslands, as well as in vernal pools. This perennial herb typically blooms April through May and occurs at elevations ranging from 164 to 1,526 feet amsl. San Diego goldenstar was recorded at several locations, totaling approximately 4,952 individuals. Approximately 2,807 plants are located

within Village 14; of this total, 742 individuals were identified within the Development Footprint and 2,065 individuals within the Otay Ranch RMP Preserve. Approximately 2,145 plants are in Planning Area 16; of this total, 33 individuals were identified within the Development Footprint, 836 individuals within the Otay Ranch RMP Preserve, 588 individuals within the LDA, and 688 individuals within Conserved Open Space (Figures 4-1 and 4-1a through 4-1cc).

Orcutt's brodiaea (*Brodiaea orcuttii*), List A, MSCP Covered Species, 1B.1

Orcutt's brodiaea is a CRPR 1B.1, MSCP Covered Species, and County List A species. This perennial herb is found at elevations below 5,250 feet amsl in creosote bush scrub and wetland-riparian habitat. This species typically blooms May through July. Approximately 83 individuals were observed within the Planning Area 16 Development Footprint (Figures 4-1 and 4-1a through 4-1cc).

Dunn's Mariposa-Lily (*Calochortus dunnii*), List A, MSCP Covered Species, Narrow Endemic

Dunn's mariposa-lily is state listed as rare, and is also a CRPR 1B.2, MSCP Covered Species, narrow endemic, and County List A species. This species occurs within a variety of vegetation communities, such as coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grasslands. This annual herb typically blooms March through May, but can bloom into June, and occurs at an elevation range less than 1,000 feet amsl. Several occurrences of Dunn's mariposa-lily, totaling about 453 individuals, were observed within the Project Area. This species was mapped within Planning Area 16 (443 individuals within the Otay Ranch RMP Preserve) and Village 14 (one individual within Conserved Open Space and nine individuals within the Otay Ranch RMP Preserve) (Figures 4-1 and 4-1a through 4-1cc).

Delicate Clarkia (*Clarkia delicata*), List A

Delicate clarkia is an annual herb listed as a CRPR 1B.2 and County List A species. This plant is often found within chaparral and cismontane woodland vegetation communities at elevations ranging from 770 to 3,300 feet amsl. Delicate clarkia blooms April through June. One individual was observed within the Otay Ranch RMP Preserve within Planning Area 16, and four individuals were observed within the Planning Areas 16/19 off-site road improvements area (Figures 4-1 and 4-1a through 4-1cc).

San Miguel Savory (*Clinopodium chandleri*), List A, MSCP Covered Species

San Miguel savory is a perennial shrub listed as CRPR 1B.2, MSCP Covered Species, and County List A species. This shrub is often found in chaparral, cismontane woodland, coastal

scrub, riparian woodland, and valley and foothill grassland. San Miguel savory typically blooms March through July and occurs at elevations ranging from 394 to 3,527 feet amsl. One occurrence was observed within the Otay Ranch RMP Preserve in Planning Area 16 (Figures 4-1 and 4-1a through 4-1cc).

Otay Tarplant (*Deinandra conjugens*), Federally Threatened, State Endangered, List A, MSCP Covered Species

Otay tarplant is federally listed as threatened, state endangered, CRPR 1B.1, MSCP Covered Species, and County List A species. This annual herb is often found in coastal scrub and valley and foothill grassland on clay soils. Its typical bloom period is May and June, and it occurs on elevations ranging from 82 to 984 feet amsl. Approximately 25 individuals were recorded in the Proctor Valley Road South off-site improvement area within lands owned by the City of Chula Vista (Figures 4-1 and 4-1a through 4-1cc). USFWS designated critical habitat for Otay tarplant exists on portions of Proctor Valley Road (Village 14) and areas located in the Development Footprint within the southwestern portion of the Project Area (Figure 2-2, Critical Habitat).

Variegated Dudleya (*Dudleya variegata*), List A, MSCP Covered Species, Narrow Endemic

Variegated dudleya is a CRPR 1B.2, MSCP Covered Species, narrow endemic, and County List A species. This perennial herb is found within chaparral, cismontane woodland, coastal scrub, and valley foothill grassland, as well as in vernal pools on clay soils. Variegated dudleya is found at elevation ranges less than 1,900 feet and generally blooms April through June. Two occurrences totaling approximately 35 individuals were observed in the southern Development Footprint of Village 14. There is potential for this species to occur within the Otay Ranch RMP Preserve, but it has not been observed during focused surveys conducted within the Otay Ranch RMP Preserve.

Gander's Pitcher Sage (*Lepechinia ganderi*), List A, MSCP Covered Species, Narrow Endemic

Gander's pitcher sage is a CRPR 1B.3, MSCP Covered Species, narrow endemic, and County List A species. Gander's pitcher sage is a perennial shrub that occurs within a variety of vegetation communities, including closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grasslands. This species is found at elevations ranging from 1,001 to 3,297 feet amsl, and blooms June and July. Several populations of a total of 168 individuals were observed in the portion of Planning Area 16 that lies within the Otay Ranch RMP Preserve (Figures 4-1 and 4-1a through 4-1cc).

Robinson's Pepper-Grass (*Lepidium virginicum* var. *robinsonii*), List A

Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*) is a CRPR 4.3 (CNPS 2016) and County List A species (County of San Diego 2010a). This annual herb blooms January through July. It occurs in chaparral and coastal scrub at elevations below 2,900 feet (CNPS 2016). Fourteen occurrences were observed in two concentrated areas within Village 14, including 168 individuals within the Development Footprint and six individuals within the Otay Ranch RMP Preserve. The southern occurrences total approximately 112 individuals and the northern occurrences total approximately 62 individuals.

Spreading Navarretia (*Navarretia fossalis*), Federally Threatened, List A, MSCP Covered Species

Spreading navarretia is federally listed as threatened, state endangered, CRPR 1B.1, MSCP Covered Species, and County List A species. This annual herb is often found in ditches and other artificial depressions, which often occur in degraded vernal pool habitat. Its typical bloom period is April through June, and it occurs on elevations ranging from sea level to 4,250 feet amsl. There is no spreading navarretia found within the Project Area; however, there are 32.5 acres of USFWS designated critical habitat for this species in the southwest portion (Village 14) of the Project Area within the Development Footprint (Figure 2-2). Impacts to critical habitat are discussed in Section 5.2.1, Direct Impacts to Special-Status Plant Species.

San Diego Barrel Cactus (*Ferocactus viridescens*), List B, MSCP Covered Species

San Diego barrel cactus is a CRPR 2B.1, MSCP Covered Species, and County List B species. This succulent is located at elevations less than 1,500 feet amsl within chaparral, coastal scrub, valley and foothill grasslands, and sometimes vernal pools. This species blooms May through July. Approximately 50 San Diego barrel cacti were recorded in the Project Area. Approximately 12 San Diego barrel cacti were observed primarily along Proctor Valley Road in the southern portion of the Project Area. This species was also recorded within the Village 14 Development Footprint (36 individuals) and Otay Ranch RMP Preserve (two individuals) (Figures 4-1 and 4-1a through 4-1cc). Additional observations of this species were made along Proctor Valley Road but were outside of the off-site improvements boundary.

San Diego Marsh-Elder (*Iva hayesiana*), List B

San Diego marsh-elder is a CRPR 2B.2 and County List B species. It occurs within marshes, swamps, and playas at elevations ranging from 30 to 1,650 feet amsl. This perennial herb blooms April through November. The population estimates for this species within the Project Area is approximately 5,556 individuals. This species was observed commonly throughout the Project

Area within areas mapped as cismontane alkali marsh or other riparian vegetation, and in ephemeral channels (Figures 4-1 and 4-1a through 4-1cc).

Munz's Sage (*Salvia munzii*), List B

Munz's sage is a CRPR 2B.2 and County List B species. This perennial evergreen shrub typically blooms February through April. It occurs in chaparral and coastal scrub habitat types at elevations of 394–3,494 feet amsl (CNPS 2016). Munz's sage is a common species in some of the coastal sage scrub and chamise chaparral communities within the Project Area. Munz's sage is not state or federally listed; nor is it a "covered species" under the MSCP. According to the MSCP EIR/EIS, "Salvi munzii was not included on the target species list owing to its relative abundance in the southwestern portion of the study area. It is dominant or co-dominant in coastal sage scrub around Otay Lakes." (MSCP EIR/EIS, Comments and Responses, Response 26(w).) Although not all *Salvia* individuals could be identified to species due to the timing of the rare plant surveys, approximately 18,178 individuals were confirmed as Munz's sage. Munz's sage occurs throughout the Project Area (Figures 4-1 and 4-1a through 4-1cc). The Proposed Project would affect 11,812 of these plants. Within the 1,369-acre Project Area, Munz's sage was observed on approximately 67.1 acres, of which 48.2 acres would be disturbed and 19 acres would be preserved. Note also that of the 150 Munz's sage occurrences (ranch-wide) mapped as part of the 1993 PEIR, the Proposed Project, along with the other Otay Ranch projects, would preserve approximately 105 occurrences (i.e., 70 percent). The Proposed Project contains Munz's sage-dominated coastal sage scrub – i.e., approximately 6.2 acres out of 804.1 acres of coastal sage scrub overall. Approximately 2.5 acres of the Munz's sage-dominated coastal sage scrub is located in the Development Footprint and would be affected by the Proposed Project.

4.5.2 County List C and D Species

Plants categorized as County List C species are plants that may be rare but more information is needed to determine their true rarity status. Plants categorized as County List D are of limited distribution and are uncommon, but are not presently rare or endangered (County of San Diego 2010a). No County List C species were observed in the Project Area. County List D species that have been observed in the Project Area are described below and included in Appendix I1. None of these List D species is a Covered Species under the MSCP. In general, populations were not recorded for CRPR 4 and County List D plants; therefore, population numbers are not provided or shown on the figures. Additional species that have moderate or high potential to occur are described in more detail in Appendix I1.

San Diego Sagewort (*Artemisia palmeri*), List D

San Diego sagewort, a CRPR 4.2 and County List D species, occurs in a variety of vegetation communities, including chaparral, coastal scrub, riparian forest, scrub, and woodland, at elevations ranging from 50 to 3,000 feet amsl. This deciduous shrub blooms May through September. Three occurrences of this species, totaling 16 individuals, were observed within Planning Area 16; four of these individuals were located within the Otay Ranch RMP Preserve, four individuals were within the Development Footprint, and eight individuals were within non-graded LDA.

Western Dichondra (*Dichondra occidentalis*), List D

Western dichondra is a CRPR 4.2 and County List D species. This rhizomatous herb blooms March through May. It occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations of 160 to 1,650 feet amsl (CNPS 2016). Since populations of this rhizomatous herb are difficult to discern, the extent of the occurrences were mapped but populations were not counted. There are nine occurrences within four general areas of the Village 14 Development Footprint that total 0.23 acres. One occurrence that totals less than 0.05 acres was located within Planning Area 16 Conserved Open Space. Although additional populations may occur within the Otay Ranch RMP Preserve, this species was not detected during those surveys.

Palmer's Grapplinghook (*Harpagonella palmeri*), List D

Palmer's grapplinghook is a CRPR 4.2 and County List D species typically found within chaparral, coastal scrub, and valley and foothill grasslands. This annual herb blooms March through May and occurs at elevations between 50 to 3,100 feet amsl. Palmer's grapplinghook was observed within the center of the southern portion of the Village 14 Development Footprint at five locations totaling 40 individuals. Although additional populations may occur within the Otay Ranch RMP Preserve, this species was not detected during those surveys.

Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*), List D

Graceful tarplant is a CRPR 4.2 and County List D species that occurs within chaparral, coastal scrub, cismontane woodland, chaparral, and valley and foothill grassland. This annual herb typically blooms May through November and is found at elevations ranging from 200 to 3,600 feet amsl. One population of five individuals was observed in the southern Village 14 Development Footprint. An additional 15 individuals were observed within the Planning Area 16 Development Footprint. Although additional populations may occur within the Otay Ranch RMP Preserve, this species was not detected during those surveys.

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*), List D

Southwestern spiny rush is a CRPR 4.2 and County List D species found within mesic coastal dunes, meadows and alkali seeps, and coastal saltwater marshes and swamps. The typical blooming period for this rhizomatous herb is May and June, and it occurs at elevations less than 3,000 feet amsl. Approximately 577 individuals of southwestern spiny rush were observed within the Otay Ranch RMP Preserve in Planning Areas 16/19, and along Proctor Valley Road South (Village 14) generally within cismontane alkali marsh, freshwater marsh, other riparian vegetation, and ephemeral channels.

Golden-Rayed Pentachaeta (*Pentachaeta aurea* ssp. *aurea*), List D

Golden-rayed pentachaeta is a CRPR 4.2 and County List D species found at elevations of 260 to 6,070 feet amsl within a variety of vegetation communities, including chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, and valley and foothill grassland. This annual herb typically blooms March through July. Approximately 12,608 individuals were observed within the Project Area, including 10,267 individuals within Planning Area 16 (of that total, 4,019 individuals were within the Development Footprint and 6,248 individuals were within the non-graded LDA) and 2,341 individuals within Village 14 (of that total, 2,331 individuals were within the Development Footprint and 10 individuals were within the Otay Ranch RMP Preserve) (Figures 4-1 and 4-1a through 4-1cc).

Ashy Spike-Moss (*Selaginella cinerascens*), List D

Ashy spike-moss is a CRPR 4.1 and County List D species. This perennial rhizomatous herb occurs in chaparral and coastal scrub at elevations of 66 to 2,100 feet amsl. Ashy spike-moss was observed throughout portions of the Project Area, but due to its low ranking, only locations (not population numbers) for this species were recorded. Similar to western dichondra, the extent of occurrences was mapped, but due to the difficulty of discerning individuals, populations were not counted. Occurrences of ashy spike-moss total 1.73 acres within Village 14, including 0.15 acres within Otay Ranch RMP Preserve, 0.06 acres within Conserved Open Space, and 1.52 acres within the Development Footprint. Additionally, occurrences of ashy spike-moss total 4.84 acres within Planning Area 16, including 1.15 acres within the Otay Ranch RMP Preserve, 0.36 acres within Conserved Open Space, 1.22 acres within non-graded LDA, and 2.11 acres within the Development Footprint.

San Diego County Viguiera (*Viguiera laciniata*), List D

San Diego County viguiera is a CRPR 4.2 and County List D species. This shrub is found at elevations ranging from 200 to 2,460 feet amsl in chaparral and coastal scrub. This species

typically blooms February through June. San Diego County viguiera occurs as a common shrub in some of the coastal sage scrub within the Project Area, as well as throughout other vegetation communities. A total of 18,599 individuals were observed throughout the Project Area. Of the approximate total of 2,733 individuals within Village 14, 2,133 individuals occur throughout the Development Footprint and 600 individuals were recorded throughout the Otay Ranch RMP Preserve. Additionally, 148 individuals were observed within the Planning Area 19 Development Footprint. Of the total 15,531 individuals within Planning Area 16, 7,225 individuals were observed within the Otay Ranch RMP Preserve, 434 individuals were within the Conserved Open Space, 3,484~~3,610~~ individuals were within the non-graded LDA, and 4,388~~4,262~~ individuals were within the Development Footprint. Off-site occurrences consisted of 187 individuals within the Planning Areas 16/19 road and one individual within the Proctor Valley North Road improvements area. The Proposed Project contains approximately 6.0 acres of *Viguiera-dominated* dominated coastal sage scrub out of 804.1 acres of coastal sage scrub overall. Approximately 0.9 acres of the Viguiera-dominated CSS is located within the Development Footprint and would be affected by the Proposed Project.

San Diego County Needle Grass (*Stipa [=Achnatherum] diegoensis*), List D

San Diego County needle grass is a CRPR 4.2 and County List D species. This perennial grass is found at elevations below 7,480 feet amsl in chaparral and coastal scrub. This species typically blooms February through June. San Diego County needle grass was observed within Planning Area 16 and the off-site Planning Areas 16/19 road improvement area. Of the total 168 individuals within Planning Area 16, 27 individuals were observed within the Otay Ranch RMP Preserve, 80 individuals were within the non-graded LDA, and 61 individuals were within the Development Footprint. Additionally, seven individuals were observed within the off-site Planning Areas 16/19 road improvement area (Figures 4-1 and 4-1a through 4-1cc).

4.6 Sensitive Wildlife Species

The County of San Diego divides sensitive wildlife species into County Group 1 and County Group 2 based on the species' rarity and known threats (County of San Diego 2010a). County Group 1 species include those that have a high level of sensitivity, are listed as threatened or endangered, or have a natural history requirement that increases their sensitivity. County Group 2 species include those that are becoming less common, although not so rare that extinction is imminent without immediate action. CDFW assigns SSC status to species whose population levels are declining, have limited ranges, and/or are vulnerable to extinction due to continuing threats (CDFW 2017). In addition, fully protected (FP) species are protected by CDFW, and Watch List (WL) species are candidates for higher sensitive status. USFWS provides the Birds of Conservation Concern (BCC) status to migratory and non-migratory bird species that adhere to

the 1988 amendment to the Fish and Wildlife Conservation Act that mandates USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973" (USFWS 2008). County Group 1 and/or SSC species, as well as County Group 2 species that have been observed in the Project Area, or those that have a high potential to occur, are discussed in this section and included in Appendix J1, Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area. Additional species that have moderate potential to occur are also described in more detail in Appendix J1. Species that have been observed or have potential to occur, but not during the life history phase that is considered "special-status" (e.g., nesting), are described in Appendix J2, Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area. For example, white-tailed kite was observed foraging in the Project Area, but is not expected to nest in the Project Area due to the lack of suitable nesting habitat.

The following MSCP Covered Species were observed within the Project Area: Cooper's hawk, Southern California rufous-crowned sparrow, golden eagle, burrowing owl (sign only), northern harrier, coastal California gnatcatcher, western bluebird (*Sialia mexicana*), mule deer (*Odocoileus hemionus*), cougar, American badger (*Taxidea taxus*), and Blainville's horned lizard.

Additional special-status wildlife species observed included San Diego fairy shrimp, red diamond rattlesnake, western spadefoot, grasshopper sparrow, red-shouldered hawk, turkey vulture, California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), yellow warbler (*Setophaga petechia*), common barn-owl (*Tyto alba*), monarch (*Danaus plexippus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diegan tiger whiptail, rosy boa, long-eared owl (*Asio otus*), and white-tailed kite (*Elanus leucurus*).

Two MSCP Covered Species have a high potential to occur within the Project Area: ferruginous hawk (*Buteo regalis*) and orangethroat whiptail (*Aspidoscelis hyperythra*) (Appendix J1).

Other special-status wildlife species with a high potential to occur within the Project Area include Bell's sage sparrow (*Artemisiospiza belli belli*), Quino checkerspot butterfly, Hermes copper butterfly,[10] pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), Yuma myotis (*Myotis yumanensis*), San Diego desert woodrat (*Neotoma lepida intermedia*), big free-tailed bat (*Nyctinomops macrotis*),

[10] Hermes copper has a moderate potential to occur, but because it's a federal candidate for listing, it is included in this discussion.

San Diego banded gecko (*Coleonyx variegatus abbotti*), and Coronado skink (*Plestiodon skiltonianus interparietalis*) (Appendix J1).

4.6.1 County Group 1 Species and/or SSC Species

County Group 1 and/or SSC species that have been observed in the Project Area or have high potential to occur are described below and are included in Appendix J1. Additional species that have moderate potential to occur are described in more detail in Appendix J1.

Amphibians and Reptiles

San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*), SSC/County Group 2

San Diegan tiger whiptail is an SSC and County Group 2 species. It is found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, north into Ventura County, and south into Baja California, Mexico (Lowe et al. 1970; Stebbins 2003).

Tiger whiptail (*A. tigris*) is found in a variety of habitats, primarily in areas where plants are sparse and there are open areas for running. According to Stebbins (2003), the species ranges from deserts to montane pine forests where it prefers warmer and drier areas. The species is also found in woodland and streamside growth, and it avoids dense grassland and thick shrub growth.

One San Diegan tiger whiptail was observed during surveys in the east-central portion of the Project Area within the Development Footprint (Figure 4-1t). There is suitable habitat, including open scrub and chaparral, and termite food sources observed in the Project Area.

Red Diamond Rattlesnake (*Crotalus ruber*), SSC/County Group 2

Red diamond rattlesnake is an SSC and County Group 2 species.[11] It is found in a variety of habitats from the coast to the deserts, from San Bernardino County into Baja California, Mexico (below 5,000 feet amsl). It commonly occurs in rocky areas within coastal sage scrub, chaparral, juniper woodlands, and desert habitats, but can also be found in areas devoid of rocks (Lemm 2006).

Red diamond rattlesnake was observed once within Otay Ranch RMP Preserve in Planning Area 16, outside of the Project Area during focused burrowing owl surveys. There is suitable habitat in the vegetation communities with rocky outcroppings; therefore, this species is assumed to occur within the Project Area.

[11] The County of San Diego's biology guidelines refer to this species as northern red diamond rattlesnake (*Crotalus ruber ruber*); species names in this report follow the naming conventions described in Section 3.2.2.

San Diego Banded Gecko (*Coleonyx variegatus abbotti*) SSC/County Group 1

San Diego banded gecko is an SSC and County Group 1 species. San Diego banded gecko is only recorded in Riverside, San Diego, and San Bernardino Counties in California (CDFW 2016c). San Diego banded gecko is active at night and hides in burrows during daylight (Nafis 2016). The typical breeding season for San Diego banded gecko occurs during April and May, and hibernation is generally November through February (Nafis 2016). General habitat for this species includes coastal scrub and chaparral, and this species is typically found in granite or rocky outcrops (CDFW 2016c).

This species has high potential to occur within the Project Area. Suitable habitat within the Project Area includes chaparral (southern mixed chaparral, chamise chaparral (including disturbed), mulefat scrub, and coastal sage scrub (including disturbed)).

Blainville's Horned Lizard (*Phrynosoma blainvillii*), SSC/MSCP Covered Species/County Group 2

Blainville's horned lizard (previously coast horned lizard) is an SSC, MSCP Covered Species, and County Group 2 species. It is found from the Sierra Nevada foothills and central California to coastal Southern California. It is often associated with coastal sage scrub, especially areas of level to gently sloping ground with well-drained loose or sandy soil, but it can also be found in annual grasslands, chaparral, oak woodland, riparian woodland, and coniferous forest between 30 and 7,030 feet amsl (Jennings and Hayes 1994). This reptile typically avoids dense vegetation, preferring 20% to 40% bare ground in its habitat. Blainville's horned lizard can be locally abundant in areas where it occurs, with densities of near 20 adults per acre. Adults are active from late March through late August, and young are active from August through November or December.

Blainville's horned lizard was observed several times during surveys, and there is suitable habitat throughout open areas in coastal sage scrub and chaparral communities (Figure 4-1b). Two occurrences were identified within the Otay Ranch RMP Preserve in Planning Area 16. In addition, the presence of harvester ants (*Pogonomyrmex* spp.) observed within the Project Area would provide a food source for this species. Up to 90% of the diet of Blainville's horned lizard consists of native harvester ants (Nafis 2014).

Western Spadefoot (*Spea hammondii*), SSC/County Group 2

Western spadefoot is an SSC and County Group 2 species. It is endemic to California and northern Baja California, Mexico. Spadefoot ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja

California, Mexico (Jennings and Hayes 1994; Stebbins 2003). Although this species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, western spadefoot occurs from sea level to 4,000 feet amsl, but mostly at elevations below 3,000 feet amsl (Stebbins 2003).

Western spadefoot is almost completely terrestrial, entering temporary pools and drainages only to breed. The species aestivates in upland habitats near potential breeding sites in burrows approximately 3 feet in depth (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Holland and Goodman 1998; Stebbins 2003). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998).

Western spadefoot tadpoles were found in a vernal pool (identified as B2) and a road rut (B15, located outside of the Project Area) during fairy shrimp surveys; because of this observation, focused surveys for this species were conducted in 2017 (Figure 4-1e). The vernal pool also contains San Diego fairy shrimp and is located within the Otay Ranch RMP Preserve in Village 14, outside of the Project Area in state ownership. Two occupied features are located within the Otay Ranch RMP Preserve (A27 and D6) and two additional features are located within Conserved Open Space (A22 and A23). Therefore, four of the occupied features within the Project Area would be preserved. Twelve occupied features are located within the Development Footprint (A19, A21, AA1, AA3, AA4, B11, C4, C5, C7, D5, D19, and D23). Within the Development Footprint, three occupied features, AA3, D5, and D23 are within the 100-foot preserve edge buffer and would be impacted by the Proposed Project. Impacts to occupied features A19, AA1, AA4 and A21 are within temporarily impacted areas but are considered permanently impacted. All impacts would occur within the Village 14 and Planning Area 16/19 Development Footprint. An additional 11 features were observed outside of the Project Area within open space owned and managed by CDFW and the City of San Diego. None of these features would be directly or indirectly impacted by the Proposed Project. ~~This pool would remain within the Otay Ranch RMP Preserve and would not be impacted by the Proposed Project. Focused surveys detected 16 occupied features. Four occupied features are located within the Otay Ranch RMP Preserve (A21, A27, D6, and AA4). Eight occupied features are located within the Development Footprint (A19, AA1, AA3, B11, C4, C5, C7, and D19), and four occupied features are located within Conserved Open Space (A22, A23, D23, and D5). Within the Development Footprint, one occupied feature, AA3, is within the 100-foot preserve edge buffer and would not be impacted by the Proposed Project.~~

Birds

*Bell's Sage Sparrow (*Artemisiospiza belli belli*), BCC/WL/County Group 1*

Bell's sparrow is a BCC, WL, and County Group 1 species. The recently designated Bell's sparrow (*Artemisiospiza belli*) consists of *A. b. belli* and *A. b. canescens*, both formerly considered subspecies of the sage sparrow (*Amphispiza belli*) and now split from sagebrush sparrow (*A. nevadensis*) (Chesser et al. 2013). The nominate form of Bell's sparrow, Bell's sage sparrow, is designated as a special-status species. This species occurs in chaparral and coastal scrub communities along the Coast Ranges of central California and in the Transverse Ranges of Southern California. This species occurs as a non-migratory resident on the western slope of the central Sierra Nevada range, and in the coastal ranges of California, southward from Marin County and Trinity County, extending into north-central Baja California, Mexico (County of Riverside 2008). The range of this species overlaps with that of at least one other subspecies of sage sparrow (County of Riverside 2008). This species occupies semi-open habitats with evenly spaced shrubs that are 3.3 to 6.6 feet high. This species is uncommon to fairly common in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and lower foothills of the mountains within its range (County of Riverside 2008).

This species has moderate potential to occur within the Project Area. Within the Project Area, suitable habitat includes chaparral (chamise chaparral, including disturbed, southern mixed chaparral), mulefat scrub, non-native grassland, and coastal sage scrub (including disturbed). It is likely that this species would have been observed during the focused coastal California gnatcatcher surveys conducted across the Project Area, but it was not. However, since there is suitable habitat, there is a moderate potential for this species to occur.

*Ferruginous Hawk (*Buteo regalis*), BCC/WL/MSCP Covered Species/County Group 1*

Ferruginous hawk is a BCC, WL, MSCP Covered Species, and County Group 1 species. Ferruginous hawk occurs throughout western North America from southernmost Canada between the Great Plains and Rocky Mountains, south to northern Arizona and New Mexico. This species breeds from southeast Alberta and extreme southwest Manitoba south to the northwest corner of Texas, and west to the Great Basin, Columbia River Basin regions of eastern Oregon, and southeast Washington. Ferruginous hawk most commonly winters from Southern California, Colorado, Arizona, and New Mexico to northern Texas. Northern populations are completely migratory, and birds from southern breeding locations appear to migrate short distances or to be sedentary (Bechard and Schmutz 1995). Ferruginous hawk is an uncommon winter resident and migrants at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges of California (Polite and Pratt 1999).

Based on available habitat and range of this species, there is a high potential for ferruginous hawk to occur within the Project Area, but it has not been observed during any surveys. Ferruginous hawk forages in open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats (Polite and Pratt 1999). Within the Project Area, suitable habitat includes non-native grassland, cismontane alkali marsh, disturbed habitat, mulefat scrub, and disturbed coastal sage scrub.

Coastal California Gnatcatcher (*Polioptila californica californica*), FT/SSC/MSCP Covered Species/County Group 1

Coastal California gnatcatcher is federally threatened, SSC, MSCP Covered Species, and a County Group 1 species. This species occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles Counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego Counties. The species' range continues south to El Rosario, Mexico. Initially it was reported that 99% of all coastal California gnatcatcher locality records occurred at or below an elevation of 984 feet amsl (Atwood 1990; Atwood and Bolsinger 1992). Since that time, data collected at higher elevations show that the species may occur as high as 3,000 feet amsl, but that more than 99% of the known coastal California gnatcatcher locations occur below 2,500 feet amsl (65 FR 63680). Because of the natural topography of the Southern California hills and mountain ranges, most of the higher-elevation locations are more inland, where population densities tend to be much lower than coastal populations.

Coastal California gnatcatcher typically occurs in or near coastal scrub vegetation that is composed of relatively low-growing, dry-season deciduous and succulent plants. Characteristic plants of this community include coastal sagebrush, various species of sage, Eastern Mojave buckwheat, lemonade sumac (*Rhus integrifolia*), California brittlebush (*Encelia californica*), and cactus (e.g., *Opuntia* spp.). Coastal California gnatcatcher also occurs in chaparral, grassland, and riparian vegetation communities where the coastal scrub community is close (Bontrager 1991). Use of these vegetation communities appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the nesting season. Coastal California gnatcatcher tends to occur most frequently in the coastal sagebrush–dominated stands on mesas, gently sloping areas, and along the lower slopes of the Coast Ranges (Atwood 1990). Coastal California gnatcatcher occurs in high frequencies and densities in coastal scrub communities with an open or broken canopy, but it is absent from coastal scrub dominated by tall shrubs, and occurs in low frequencies and densities in low coastal scrub with a closed canopy (Weaver 1998).

Coastal California gnatcatcher gleans insects and spiders from foliage of shrubs, primarily Eastern Mojave buckwheat and coastal sagebrush (Atwood 1993). Its diet is primarily composed of spiders, but is also composed of wasps, bees, and ants (Burger et al. 1999). Coastal California gnatcatcher habitat use has been positively associated with insect abundance and diversity (Redak et al. 1996, as cited in Diffendorfer et al. 2002).

Coastal California gnatcatcher nests usually are located in a small shrub or cactus 1 to 3 feet above the ground. Territory size varies and is influenced by season and locale (Preston et al. 1998), but is unrelated to vegetation structure (Braden et al. 1997). During the breeding/nesting season, territories in coastal areas are often smaller—averaging 5.7 acres (Atwood et al. 1998a, 1998b)—than those in more inland regions, which average 8.4 acres (Braden et al. 1997).

Focused surveys for coastal California gnatcatcher within the Project Area resulted in 29 gnatcatcher observations. (Note that because the surveys were "focused," the surveyed area is not coterminous with the Project Area as a whole.) This total consists of 11 pairs (one with a pair of fledglings), two juveniles, and three lone males (Table 4-3 and Figure 3-2). Three pairs (six gnatcatchers) were observed in the Otay Ranch RMP Preserve and are discussed in Appendix K, Otay Ranch Village 14 and Planning Areas 16/19 RMP Preserve Status Report. Note that some of the surveyed areas and observations identified in Figure 3-2 and quantified in Table 4-3 are outside of the Project Area. These additional locations were retained to give context to the populations within and surrounding the Project Area. Table 4-3 provides the results of the focused coastal California gnatcatcher surveys and does not assess impacts to the species. Pairs were observed in coastal sage scrub communities.

Table 4-3
Coastal California Gnatcatcher Locations and Populations within the Survey Area

Coastal California Gnatcatcher Populations Types	Total Populations within the Survey Area	Otay Ranch RMP Preserve[a]	On-Site Development Footprint		Off-Site Improvement Area Survey Area[b]		
			Village 14	*Planning Areas 16/19*	*City of Chula Vista*	*City of San Diego*	*CDFW-Owned*
Juvenile	2	—	—	—	—	2	—
Male	3	—	1	—	1	—	1
Pair	10 pairs (20 birds)	3 pairs (6 birds)	—	1 pair (2 birds)	1 pair (2 birds)	3 pair (6 birds)	2 pair (4 birds)
Pair and Fledglings	1 pair, 2 fledglings (4 birds)	—	—	—	—	1 pair, 2 fledglings (4 birds)	—
Total Population	**29**	**6**	**1**	**2**	**3**	**12**	**5**

Note: This table does not represent impacts to coastal California gnatcatcher, only the results of focused surveys.
[a] Total populations within the Project Area includes three pairs (six birds) observed within the Otay Ranch RMP Preserve (Appendix K).
[b] Some of the observations were outside of the Project Area and Development Footprint.

The majority of the observations were located within the southern portion of the Project Area associated with the Proctor Valley Road South and Proctor Valley Road Central Development Footprints. Three pairs were detected within the Otay Ranch RMP Preserve in the Village 14 Development Footprint. A lone male was observed within the Village 14 Development Footprint. One pair was detected within the Development Footprint of Planning Areas 16/19. Within the off-site improvement areas, three pairs, two juveniles, and one lone male were observed along the buffer for Proctor Valley Road South. Two pairs and one male were observed along the survey buffer for Proctor Valley Road Central. During the 2017 focused surveys in off-site improvement areas, two pairs were observed within CDFW-owned land (Figures 4-1j, 4-1l, 4-1t, 4-1w, 4-1x, and 4-1z). USFWS designated critical habitat for coastal California gnatcatcher overlaps a very small portion of the east-central Project Area (Figure 2-2).

Golden Eagle (*Aquila chrysaetos*), BCC/WL/FP/MSCP Covered Species/County Group 1

Golden eagle is a BCC, WL, FP, MSCP Covered Species, and County Group 1 species. In addition, golden eagle is protected under the federal BGEPA. As a state fully protected species, take may only occur pursuant to scientific research or in connection with an authorized NCCP, such as the MSCP County Subarea Plan.

Golden eagle is a year-round, diurnally active species that is a permanent resident and migrant throughout California. Golden eagle is more common in northeast California and the Coast Ranges than in Southern California and the deserts. In Southern California, the species tends to occupy mountain, foothill, and desert habitats. Foraging habitat for this species includes open habitats with scrub, grasslands, desert communities, and agricultural areas. This species nests on cliffs within canyons and escarpments and in large trees (generally occurring in open habitats), and occurs primarily in rugged, topographically complex landscapes (Garrett and Dunn 1981; Johnsgard 1990). Most nests are located on cliffs or trees near forest edges, in trees within woodland savannas, or in small stands near open habitats (Kochert et al. 2002). Nest locations tend to be more closely associated with topographic heterogeneity than with a particular vegetation type (Call 1978).

Nest building can occur almost any time during the year. This species nests on cliffs, rock outcrops, large trees, and artificial structures such as electrical transmission towers, generally near open habitats used for foraging (Garrett and Dunn 1981; Johnsgard 1990; Kochert et al. 2002; Scott 1985). Golden eagle commonly builds, maintains, and variably uses multiple alternative nest sites in its breeding territory, routinely refurbishing and reusing individual nests over many years. Generally, the nests are large platforms composed of sticks, twigs, and greenery that are often 10 feet across and 3 feet high (Zeiner et al. 1990a). Pairs may build more than one nest and tend multiple nests prior to laying eggs (Kochert et al. 2002). Each pair

can have up to a dozen nests, especially in cliff-nesting habitat where nests persist for longer than they do in trees, but generally only two to three nests are used in rotation from one year to the next. Some pairs use the same nest each year, but others use alternative nests more regularly. Succeeding generations of eagles may even use the same nest (Terres 1980, as cited in CPUC and BLM 2011).

In California, golden eagle breeds January through August, with peak breeding activity occurring February through July. Breeding typically begins in January with courtship and nest building, and egg laying typically occurs in February and March (Brown 1976; CPUC and BLM 2011; WRI 2010). Golden eagles typically lay one to three eggs, which they incubate for 43 to 45 days (Beebe 1974). Hatching and then the feeding of nestlings takes place March through June. After their young fledge, the adult eagles may continue to feed the young birds for several months (CPUC and BLM 2011; WRI 2010). In the prey-rich oak woodland and savannah habitats of the California Coast Ranges, established golden eagle breeding pairs typically nest in most years (Hunt et al. 1999; Hunt and Hunt 2006); however, the long breeding cycle may contribute to some pairs breeding only every-other-year, even when food is abundant (CPUC and BLM 2011; WRI 2010). In other situations, where overall ecosystem productivity is lower or more variable from year to year, pairs need to range farther in search of food and may not nest every year because of the energetic demands of securing dispersed prey (Kochert et al. 2002).

Lagomorphs (rabbits and hares) and ground squirrels are of primary importance in the diet of most golden eagles, including in San Diego County, but their diet may include a wide variety of other mammals, reptiles, and birds, and frequently includes carrion, especially during winter (Johnsgard 1990; Kochert et al. 2002; Olendorff 1976).

Golden Eagle Foraging/Nesting Potential within the Development Footprint

Golden eagles do not nest within the Project Area. All technical ~~memorandums~~ memoranda analyzing golden eagles related to the Project Area are included in Appendix C.

MSCP Plan Table 3-5 lists vegetation communities that provide potential foraging habitat for golden eagle, including coastal sage scrub, chaparral, grassland, and oak woodland (MSCP 1998). These vegetation communities comprise 1,325.5 acres of the Project Area (see Table 5-6, below). Of these 1,325.5 acres of potential foraging habitat within the Project Area, the Proposed Project would develop/disturb 780.8~~779.8~~ acres and would convey 390.7 acres to the Otay Ranch RMP Preserve. An additional 72.4 acres of potential foraging habitat would be conserved as Conserved Open Space ~~may be conveyed to the Otay Ranch RMP Preserve~~. The applicant is also required to convey ~~an~~ additional ~~350.1 acres~~acreage to the Otay Ranch RMP Preserve for Proposed Project impacts, which would likely contain suitable golden eagle foraging habitat.

This mitigation can occur anywhere within the Otay Ranch RMP Preserve that has not already been conveyed to the Otay Ranch RMP POM.

The vegetation community acreages in Table 3-3 of the MSCP Plan (MSCP 1998) were not based on refined or site-specific surveys. For this reason, they do not capture or describe the actual quality of the habitat on any particular parcel of land. To provide a more detailed assessment of golden eagle foraging habitat within the Project Area, the applicant retained Dudek to conduct a vegetation survey of the Project Area in 2014. The results of the vegetation survey were provided to biologists at H.T. Harvey & Associates with golden eagle expertise. According to the MSCP's definition of golden eagle foraging habitat, 97% of the Development Footprint is suitable golden eagle foraging habitat; however, H.T. Harvey & Associates (Appendix C) concluded that approximately 11% (89 acres) of the Development Footprint is not golden eagle foraging habitat because the chaparral is too dense for eagles to maneuver within and capture prey (Kochert et al. 2002; Marzluff et al. 1997; Weins et al. 2015).

Prey species such as black-tailed jackrabbits, desert cottontails, brush rabbits, California ground squirrels, mule deer, and coyote are known to occur in the Project Area. Lagomorphs and ground squirrels are of primary importance in the diet of most golden eagles, including in San Diego County (Bittner 2015; Hunsicker 1972; Hunt et al. 1999; Kochert et al. 2002).

Based on the distribution and abundance of pellets (both old and relatively fresh) detected during a habitat assessment conducted by H.T. Harvey& Associates (Appendix C), the coastal sage scrub and intermixed grasslands that are particularly prevalent in Planning Areas 16/19, but also predominate on the upper foothills in the Village 14 area of Proctor Valley, provide sufficient protective shrub cover and forage to accommodate an abundance of jackrabbits and smaller rabbits, with habitat structure that is highly suited to foraging by golden eagles. Conversely, although the level of apparent lagomorph abundance was often comparable to that found in coastal sage scrub and areas of sparse chamise chaparral, areas of dense chamise chaparral and other shrub cover were generally too dense and tall to support eagle foraging.

Most of the Proctor Valley portion of the Project Area is underlain primarily with Olivenhain cobbly loam, which contains relatively high clay content and loamy/cobbly structure that is not conducive to burrowing by ground squirrels. Habitat assessments for burrowing owl within open vegetation communities conducted by Dudek biologists, and golden eagle habitat assessments conducted by H.T. Harvey & Associates (Appendix C) throughout Village 14 and Planning Areas 16/19, revealed limited evidence of ground squirrels and burrow resources except in areas of grazed grassland in Planning Areas 16/19. Ongoing research in San Diego County indicates that California ground squirrels prefer to burrow in sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007; Wisinski et al. 2013). Unlike much of the Village 14

Development Footprint in central Proctor Valley, the upper foothills portions of Proctor Valley, much of Planning Areas 16/19, and much of the land designated as Otay Ranch RMP Preserve extending up into the Jamul Mountains are underlain by Friant sandy loam soils, which are more compatible with ground squirrel burrowing. However, California ground squirrels tend to avoid steep, rugged terrain (Fitch 1948; Smallwood and Neher 2009). In addition, depending on the exposure, dense chaparral is more likely to occur on foothill and upper slopes, and eagles are unable to forage in these areas because of the high vegetation density.

Black-tailed jack rabbits, a primary golden eagle prey species in some areas, were observed throughout the Project Area during biological surveys. Black-tailed jackrabbit home ranges may average as small as 50 acres in Northern California (Lechleitner 1958); however, in more xeric grassland and shrub environments, such as those found in interior southern San Diego County, home ranges probably average hundreds of acres (Smith 1990). Therefore, although the scrub and grassland communities within the Project Area represent good habitat for jackrabbits, the overall Development Footprint likely supports relatively few breeding pairs.

Based on the available and accessible evidence, it is not clear that any individual eagles currently rely on the Project Area as foraging habitat consistently or perennially (Appendix C). Given that Village 14 and Planning Areas 16/19 do not currently overlap any pair's core breeding territory, and the closest known recently active nests are more than 5 miles away, if a pair nesting in the San Ysidro Mountains routinely forages in Proctor Valley, the loss of foraging habitat from the Proposed Project in a peripheral portion of that pair's overall home range would not be significant or impede achievement of the MSCP's requirements and the 53% conservation goals for golden eagle (Appendix C). Moreover, such a pair would continue to have ready access to large acreages of suitable foraging habitat within the Otay Ranch RMP Preserve in the Jamul Mountains, the foothills of Proctor Valley, possibly around San Miguel Mountain, and in the large expanse of Preserve habitat located between the Jamul Mountains and San Ysidro Mountains. Therefore, developing the Proposed Project would not significantly compromise the ability of any current breeding pairs to sustain themselves (Appendix C).

Status of Golden Eagle Breeding and Nests in the Vicinity of the Project Area

A review of pertinent documents related to the historical occurrence of golden eagle nests in the vicinity of the Project Area was conducted using Scott (1985), WRI (2005, 2010), USFWS (2011a, 2014b), and USGS 2014. Based on these resources, one historic breeding territory was situated west of the Project Area on San Miguel Mountain (Appendix C). The MSCP Plan refers to this territory as the "Rancho San Diego" territory (MSCP 1998), but most biologists know it as the "San Miguel Mountain" territory, which is how this document refers to it. Historic maps and descriptions identify two distinct nesting areas: one on the upper eastern slope and one on

the western slope of San Miguel Mountain, generally within canyons. Radio towers are situated above the eastern nesting area on the top of San Miguel Mountain. This breeding territory area was occupied from at least the "early 1900s" through 2007 (Scott 1985; WRI 2010).

In 2000, fire destroyed three existing nest structures that were located in the nesting area on the upper east side of San Miguel Mountain, but the resident pair rebuilt one of those nests that same year. The pair continued to attempt nesting in the area through 2005, and then remained in the territory but did not attempt to breed in 2006 or 2007. Then in late 2007, the Harris Fire destroyed the remaining nest and collapsed the cliff face on which the eagles built the nest. Since the 2007 fire, surveys have failed to confirm a breeding pair or any newly built nests in the area (Appendix C). In short, no eagles have attempted to nest at the site since 2005, and the nesting territory has apparently been unoccupied since 2007 (Appendix C) (USFWS 2014b; WRI 2010).

USFWS and the Bureau of Land Management (BLM) installed two artificial nest platforms in the region in 2013. One platform was installed on August 20, 2013, on the eastern side of San Miguel Mountain near where the most recently used historical nests were located (San Diego National Wildlife Refuge land) and the second platform was installed on April 29, 2013, on the north end of the Jamul Mountains (BLM land) (USFWS 2011b, 2014b). Post-construction monitoring, which was conducted at various intervals January through June 2014, did not reveal nesting at either location, although golden eagles perched on the platform on San Miguel Mountain (USFWS 2014b). Within the 2011 USFWS grant submission form, USFWS acknowledged that this was an experimental project and that "the response of golden eagles to artificial nest structures is not well-studied" (USFWS 2011b). Based on data showing no nesting activity in the 10 years since the Harris Fire (Appendix C) (USFWS 2014a; WRI 2010), it is assumed that the former San Miguel Mountain territory is inactive.

Eagle specialists from H.T. Harvey & Associates (Appendix C) surveyed the Project Area and surrounding area (4,000-plus-foot buffer surrounding the Development Footprint) for potential territorial and breeding activity during the 2016 and 2017 breeding seasons. The study area included the locations of the former San Miguel Mountain nest sites and both artificial platforms. The surveys did not reveal any nests or any eagles displaying territorial, courtship, or nesting behavior within the San Miguel, Jamul, or Proctor Valley areas.

Based on the data discussed above, there are no extant golden eagle nests within 4,000 feet of the Development Footprint, nor anywhere close to that distance from the Project Area (Appendix C). The nearest known active golden eagle nest (as of 2011) is located in the Cedar Canyon area near Otay Mountain, just over 5 miles from the proposed Development Footprint (USFWS et al. 2012). Golden eagles observed by H.T. Harvey & Associates and tracked by USGS in the Project Area mostly appeared to be transient adults and subadults that occur seasonally or periodically in

these areas; however, the USGS tracking data demonstrate that the Project Area does represent a peripheral portion of the current overall foraging range of the Cedar Canyon breeding pair (Appendix C) (Tracey et al. 2016, 2017).

White-Tailed Kite (*Elanus leucurus*), FP/County Group 1

White-tailed kite is a FP and County Group 1 species. White-tailed kite occurs mainly in lowlands of southern and northwestern cismontane California in savannah, open woodland, marshes, cultivated fields, and partially cleared lands (Zeiner et al. 1990a). White-tailed kite hunts in the morning and late afternoon for voles and mice, usually near farmlands. It is non-migratory but can be nomadic and dispersive in its movements, and often occurs in communal roosts (Unitt 2004). Nests are made of piled sticks and twigs and placed near the tops of oak, willow, or other trees near marshes and foraging areas (Zeiner et al. 1990a).

White-tailed kite was observed once in November 2014 toward the east-central portion of the Project Area within the Otay Ranch RMP Preserve in Village 14 (Figure 4-1s). ~~Approximately 45 acres is suitable foraging habitat within the Project Area.~~ Due to the Project Area's proximity to Sweetwater Reservoir and Lower and Upper Otay Reservoirs where there is more suitable riparian woodland for nesting, this species likely forages in the Project Area occasionally. Foraging habitat within the Project Area consists of cismontane alkali marsh, eucalyptus woodland, mulefat scrub, oak riparian forest, and non-native grassland. Due to the lack of dense riparian or oak woodland within the Project Area, as well as lack of observations during the nesting season, this species is unlikely to nest within the Project Area.

Cooper's Hawk (*Accipiter cooperii*), WL/MSCP Covered Species/County Group 1

Cooper's hawk is a WL, MSCP Covered Species, and County Group 1 species. It is found throughout California in wooded areas. This species inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawk uses patchy woodlands and edges with snags for perching while it hunts for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990a).

A Cooper's hawk was observed flying overhead during biological surveys in 2014, but since much of the Project Area is likely used by this species, the observation was not mapped. There is some suitable nesting habitat in the southern willow scrub and eucalyptus within the Project Area. There are five small separate areas mapped as eucalyptus woodland throughout the Project Area, including one patch along Proctor Valley Road South (Figures 4-1 and 4-1a through 4-

1cc). Two small polygons of southern willow scrub are mapped in the northern portion of the Project Area, within the Otay Ranch RMP Preserve in Planning Areas 16/19 (Figures 4-1 and 4-1a through 4-1cc). The Project Area supports nesting opportunities within habitats with trees.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*), WL/MSCP Covered Species/County Group 1

Southern California rufous-crowned sparrow is a WL, MSCP Covered Species, and County Group 1 species. The current distribution of Southern California rufous-crowned sparrow is restricted to a narrow belt of semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California (Bent 1968; Collins 1999; Grinnell 1926; Grinnell and Miller 1944; Todd 1922; Unitt 1984; Zeiner et al. 1990a). The subspecies has also been found on San Martin Island. Southern California rufous-crowned sparrow is considered a resident throughout its range. No true migratory movements have been recorded, although limited movements to lower elevations in some areas have been reported during especially severe winters (Collins 1999).

Southern California rufous-crowned sparrows were observed on several occasions in coastal sage scrub habitats during surveys (Figures 4-1a, 4-1b, 4-1f, and 4-1u). Of the five individuals observed, two Southern California rufous-crowed sparrows were observed within Planning Area 16 in the Development Footprint. One individual was observed in the Otay Ranch RMP Preserve, one individual was observed in the Development Footprint within Planning Area 19, and one individual was observed with the Development Footprint of Proctor Valley Road (Village 14).

Grasshopper Sparrow (*Ammodramus savannarum*), SSC/County Group 1

Grasshopper sparrow is an SSC and County Group 1 species. In California, grasshopper sparrows breed (and primarily winter) on slopes and mesas containing grasslands of varying compositions (Garrett and Dunn 1981; Grinnell and Miller 1944). The species frequents dense, dry or well-drained grassland, especially native grassland with a mix of grasses and forbs for foraging and nesting. Grasshopper sparrows require fairly continuous native grassland areas with occasional taller grasses, forbs, or shrubs for song perches (Garrett and Dunn 1981). Grasshopper sparrow tends to avoid grassland areas with extensive shrub cover, and the presence of native grasses is less important than the absence of trees (County of Riverside 2008; Smith 1963).

Grasshopper sparrow was observed during surveys but the observations were not mapped. Suitable habitat for grasshopper sparrow includes non-native grassland that occurs primarily in Planning Areas 16/19 Preserve.

Long-Eared Owl (*Asio otus*), SSC/County Group 1

Long-eared owl is an SSC and County Group 1 species. It is an uncommon year-round resident throughout most of the state, with the exception of the Central Valley and Southern California desert regions, where is it generally a winter visitor (Zeiner et al. 1990a). Along the coastline of Southern California, long-eared owl may be a resident breeder (Bloom 1994; Marks et al. 1994) or a rare winter visitor (Garrett and Dunn 1981).

Long-eared owl primarily uses riparian habitat for roosting and nesting, but can also use live oak thickets and other dense stands of trees (Zeiner et al. 1990a). It appears to be more associated with forest edge habitat than with open habitat or forest habitat (Holt 1997). The species usually does not hunt in the woodlands where it nests, but in open areas such as fields, rangelands, and clearings. At higher elevations, the species is found in conifer stands that are usually adjacent to more open grasslands and shrublands (Marks et al. 1994). In California, long-eared owl also nests in dense or brushy vegetation amid open habitat (Bloom 1994). Long-eared owl has also been known to nest in caves, cracks in rock canyons, and in artificial wicker basket nests (Garner and Milne 1998; Marks et al. 1994).

Long-eared owl was observed once in November 2014 toward the southern portion of the Project Area (Figure 4-1s). There are some breeding records in surrounding areas to the north (Unitt 2004). Due to the lack of dense riparian woodland or oak woodland, this species has low potential to nest within the Project Area.

Burrowing Owl (*Athene cunicularia*), BCC/SSC/MSCP Covered Species/County Group 1

Burrowing owl is a BCC, SSC, MSCP Covered Species, and County Group 1 species. It occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. The winter range is much the same as the nesting range, except that most burrowing owls apparently vacate the northern areas of the Great Plains and the Great Basin in winter (County of Riverside 2008). The majority of burrowing owls that breed in Canada and the northern United States are believed to migrate south during September and October and north during March and April and into the first week of May. These individuals winter within the nesting habitat of more southern populations. Thus, winter observations may include migratory individuals and the resident population (County of Riverside 2008). The burrowing owls in Northern California are believed to migrate (Coulombe 1971).

In California, burrowing owls are year-round residents of flat, open, dry grassland and desert habitats at lower elevations. They can inhabit annual and perennial grasslands and scrublands characterized by low-growing vegetation. They may be found in areas that include trees and

shrubs if the cover is less than 30%; however, they prefer treeless grasslands (Bates 2006). Although burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been known to occupy fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates 2006; County of Riverside 2008). They typically require burrows made by fossorial mammals, such as California ground squirrels. This species also prefers sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007).

Focused surveys for burrowing owl were conducted within the Project Area in 2014 following the guidelines in the Staff Report on Burrowing Owl Mitigation (CDFG 2012) (see Section 3.3.4 for methods). During these surveys, no burrowing owls or sign were observed. In 2015, burrowing owl sign consisting of white wash, feathers, and pellets were observed at one location in the central portion of the Project Area during rare plant surveys (Figures 4-1l and 4-1m).

Suitable habitat within the Project Area includes 115 acres of non-native grassland and open areas of coastal sage scrub (including disturbed) that contain burrows, burrow surrogates, or fossorial mammal dens (Figure 3-3). However, based on the limited observation of burrowing owl sign and the lack of observations during focused surveys in 2014, this species likely does not occur regularly within the Project Area. The loamy/cobbly soils underlying much of the Project Area, in particular most of the area within the Development Footprint, are not ideal for ground squirrel burrowing. This suggests that within the Project Area, the distribution and abundance of California ground squirrels, a primary source of burrows for burrowing owls, is limited.

Red-Shouldered Hawk (*Buteo lineatus*), County Group 1

Red-shouldered hawk is not considered special status by any state or federal agencies; however, it is a County Group 1 species. Red-shouldered hawk inhabits a broad range of North American forests, but favors mature, mixed deciduous–coniferous woodlands, especially bottomland hardwood, riparian areas, flooded deciduous swamps, oak woodlands, eucalyptus groves, and suburban areas with nearby woodlots (Dykstra et al. 2008). This species nests in riparian habitats near permanent water and forages along edges of wet meadows, swamps, and emergent wetlands (Zeiner et al. 1990a).

Red-shouldered hawks were detected within the Project Area, but the observations were not mapped. Within the Project Area, there are no permanent water sources; however, ephemeral and intermittent sources are present. There is suitable foraging habitat throughout the Project Area. Nesting and foraging habitat for this species includes chamise chaparral, disturbed chamise chaparral, disturbed habitat, eucalyptus woodland, oak riparian forest, and non-native grassland. The Project Area supports nesting opportunities within habitats with large trees.

Turkey Vulture (*Cathartes aura*), County Group 1

Turkey vulture is not considered special status by any state or federal agencies; however, it is considered a County Group 1 species. In California, it is common during the nesting season and is a year-round resident west of the Sierra Nevada, especially in coastal areas. Summer and year-round ranges also include the southeastern United States; portions of Texas, Mexico, Central America, and South America; and some islands in the Caribbean (Kirk and Mossman 1998).

Turkey vultures use a variety of habitats while foraging on wild and domestic carrion. They prefer open stages of most habitats. In the western United States, they tend to occur regularly in areas of hilly pastured rangeland, non-intensive agriculture, and areas with rock outcrops suitable for nesting, although they are not generally found in high-elevation mountain areas (Kirk and Mossman 1998; Zeiner et al. 1990a). Nest locations tend to be difficult to find and are usually located in a crevice among granite boulders (Unitt 2004). This species prefers hilly areas that provide deflective updrafts for flight, and generally avoids extensive areas of row-crop farmland (Kirk and Mossman 1998).

Turkey vultures were observed foraging throughout the Project Area during biological surveys, but the observations were not mapped. The Project Area does not support suitable cliffs or large trees for nesting, but there is suitable foraging habitat within the Project Area. Suitable foraging habitat includes most vegetation communities and undeveloped land cover.

Northern Harrier (*Circus cyaneus*), SSC/MSCP Covered Species/County Group 1

Northern harrier is an SSC, MSCP Covered Species, and County Group 1 species. Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes. This species can also forage over coastal sage scrub or other open scrub communities. Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland (Macwhirter and Bildstein 2011). Winter habitats similarly include a variety of open habitats dominated by herbaceous cover. Northern harrier populations are most concentrated in areas with low vegetation.

One northern harrier was observed foraging in the northern portion of the Project Area within the Otay Ranch RMP Preserve in Planning Areas 16/19 (Figure 4-1b). Northern harriers are known to nest along Otay River, and there is suitable nesting habitat along the Proctor Valley drainage; however, based on the low frequency of observations, this species is likely not currently nesting within the Project Area.

Loggerhead Shrike (*Lanius ludovicianus*), BCC/SSC/County Group 1

Loggerhead shrike is a BCC, SSC, and County Group 1 species. It is found in lowlands and foothills throughout California, and it remains in the southern portion of the state year-round. Preferred habitats for the loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or built structures (such as the top of chain-link fences or barbed wire) that provide means to skewer prey items. This species occurs most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be quite common in agricultural and grazing areas. They can sometimes be found in mowed roadsides, cemeteries, and golf courses, although they occur rarely in heavily urbanized areas (Zeiner et al. 1990a). Loggerhead shrike builds nests in stable shrubs or trees requiring dense foliage for well-concealed nests, and likely nests in the Project Area.

Loggerhead shrikes were observed within Village 14 on the eastern edge of the Development Footprint and in the Otay Ranch RMP Preserve (Figure 4-1s).

Yellow Warbler (*Setophaga petechia*), BCC/SSC/County Group 2

Yellow warbler is a BCC, SCC, and County Group 2 species. Yellow warbler inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990a). This species breeds along the coast of California west of the Sierra Nevada, and eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats.

Yellow warbler was observed foraging within Otay Ranch RMP Preserve in Planning Area 16. This species was observed during 2017 focused coastal California gnatcatcher surveys. The yellow warbler was not mapped because the bird was frequently moving and calling within sparse chaparral, and was likely to be a migrant due to unsuitable nesting habitat.

Invertebrates

*San Diego Fairy Shrimp (*Branchinecta sandiegonensis*), FE/County Group 1*

San Diego fairy shrimp is a federally endangered and County Group 1 species.[12] In 2015 and 2016, focused surveys were conducted within the study area, which includes the Project Area and areas outside the Project Area along the existing segments of Proctor Valley Road. A total of 105 features were identified within the study area as potential suitable habitat for vernal pool branchiopods, such as San Diego fairy shrimp. Most of the features were located alongside or within existing dirt roads within the study area and were moderately disturbed. Many of the features showed evidence of historical off-highway-vehicle disturbance (i.e., shaped like tire tracks). The features detected were road ruts (depressions that are typically formed by vehicular traffic within or immediately adjacent to roadways, generally lack aquatic vegetation, and are heavily disturbed by vehicular traffic), ephemeral basins (surface depressions that retain sufficient water level, may support aquatic vegetation, and generally lack vehicle disturbance), or vernal pools (depressions that retain sufficient water level and ~~,~~ support vernal pool indicator plant species~~, and support vernal pool branchiopods~~).

Of the 105 features surveyed, 15 supported either the non-special-status versatile fairy shrimp or the federally listed endangered San Diego fairy shrimp. An additional 11 contained immature fairy shrimp that were unidentifiable to species (i.e., *Branchinecta* sp.).

During the focused fairy shrimp surveys conducted in 2014/2015 and 2015/2016, a total of 49 features (39 features in 2014/2015 and 10 features in 2015/2016) were identified as potential suitable habitat for vernal pool branchiopods within the Project Area. Within the Project Area, nine features were found to support fairy shrimp during the focused protocol surveys. Of these nine features, four features had San Diego fairy shrimp and were all characterized as road ruts (A22, A23, A27, and D4) (Figures 3-6a through 3-6i). Five of the features supported versatile fairy shrimp. None of the four features containing San Diego fairy shrimp would be impacted by the Proposed Project.

In addition to features within the Project Area, a total of 17 features outside of the Project Area were found to support fairy shrimp during the focused protocol surveys discussed herein: five features (A12, B2, C14, C21 and D9) supported San Diego fairy shrimp, two features (C8 and C12) supported versatile fairy shrimp, and 10 features (C13, C15 through C19 and D15 through

[12] The MSCP County Subarea Plan also identifies San Diego fairy shrimp as a Covered Species. As explained above, however, a 2006 federal court decision invalidated the City of San Diego's MSCP coverage for fairy shrimp, and the MSCP County Subarea Plan includes similar coverage provisions for the species. For this reason, the County has taken the position that the MSCP, as written, does not provide take authorization coverage for San Diego fairy shrimp.

D18) were occupied by immature fairy shrimp that were unidentifiable to species (i.e., *Branchinecta* sp.) (Figures 3-6a through 3-6i). The only feature that would be considered a vernal pool, Feature B2, is located outside of the Project Area to the north of Village 14 within lands owned by CDFW. This feature contains San Diego fairy shrimp.

Quino Checkerspot Butterfly (*Euphydryas editha quino*), FE/County Group 1

Quino checkerspot butterfly is a federally endangered and County Group 1 species. This species is found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (typically at less than 3,000 feet amsl). This species requires host plants within these vegetation communities for feeding and reproduction. The primary larval host plant is dotseed plantain; however, several other species have been documented as important larval host plants, including desert plantain, sometimes called woolly plantain (*Plantago patagonica*); thread-leaved bird's beak (*Cordylanthus rigidus*); white snapdragon (*Antirrhinum coulterianum*); owl's clover; and Chinese houses (*Collinsia* spp.) (USFWS 2003). A total of 813.9 acres of the Project Area is USFWS-designated critical habitat for Quino checkerspot butterfly (Figure 2-2). Although not observed within the Project Area during surveys conducted in 2015 and 2016, this species is described in more detail herein because it has previously been recorded within and surrounding the Project Area (see Figures 4-2a through 4-2cc, 2016 Quino Host Plant Mapping and Historical Locations). Historically, Quino checkerspot butterfly was observed within the Project Area (CDFW 2016c; HELIX 2018 (Appendix D); USFWS 2015a).

Quino Checkerspot Butterfly Status

HELIX evaluated the status of Quino checkerspot butterfly based on current and historic observations and host plant distribution in the Project Area, including the Village 14 and Planning Areas 16/19 Development Footprint, the Otay Ranch RMP Preserve, Conserved Open Space, and off-site improvements (Appendix D). Based on these protocol surveys, the site is not considered currently occupied by the Quino checkerspot butterfly.

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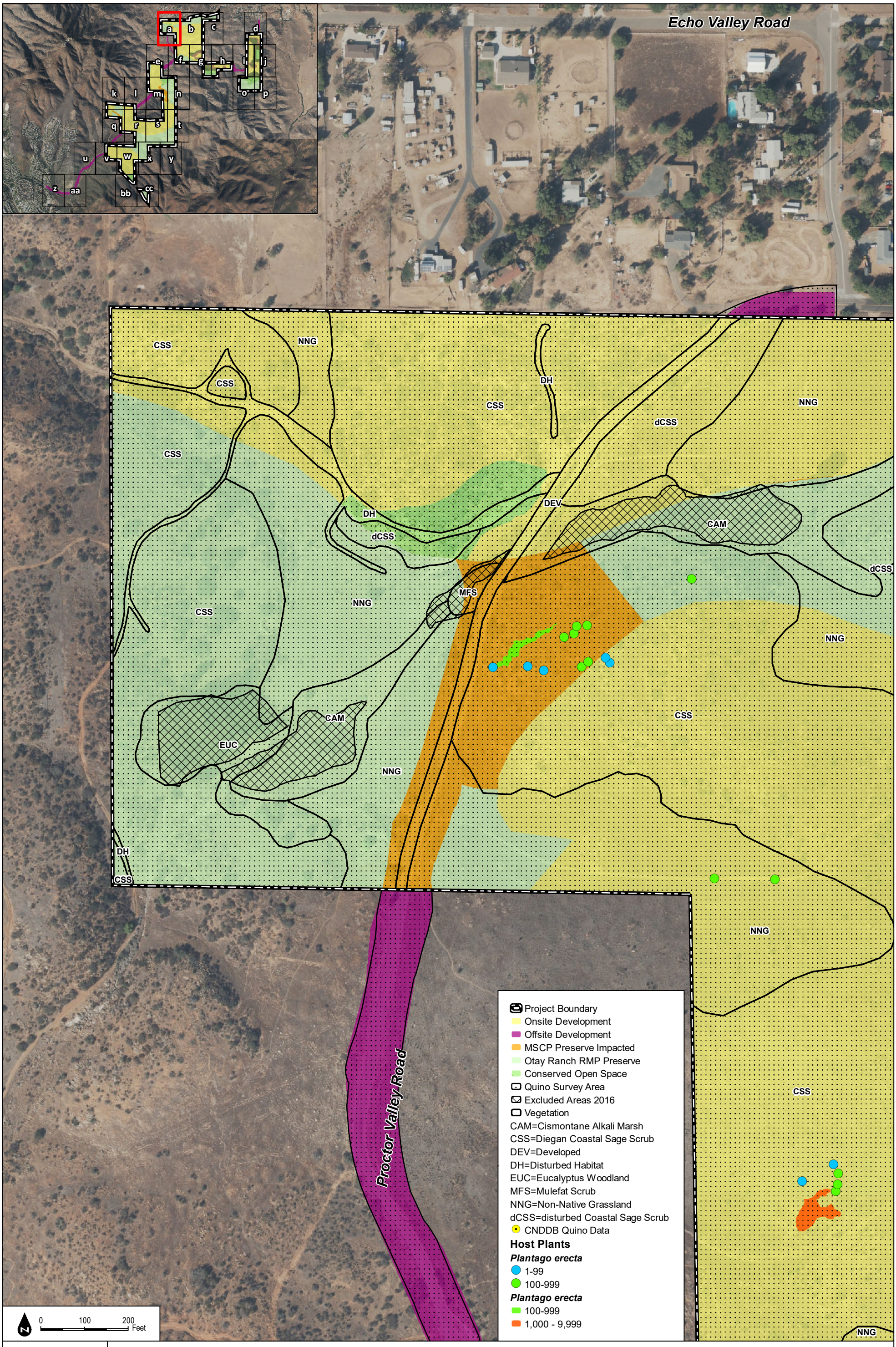

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SOURCE: NAIP 2016, Hunsacker 2017, HELIX 2016

Figure 4-2a

2016 Quino Host Plant Mapping and Historical Locations

Otay Ranch Village 14 and Planning Areas 16/19

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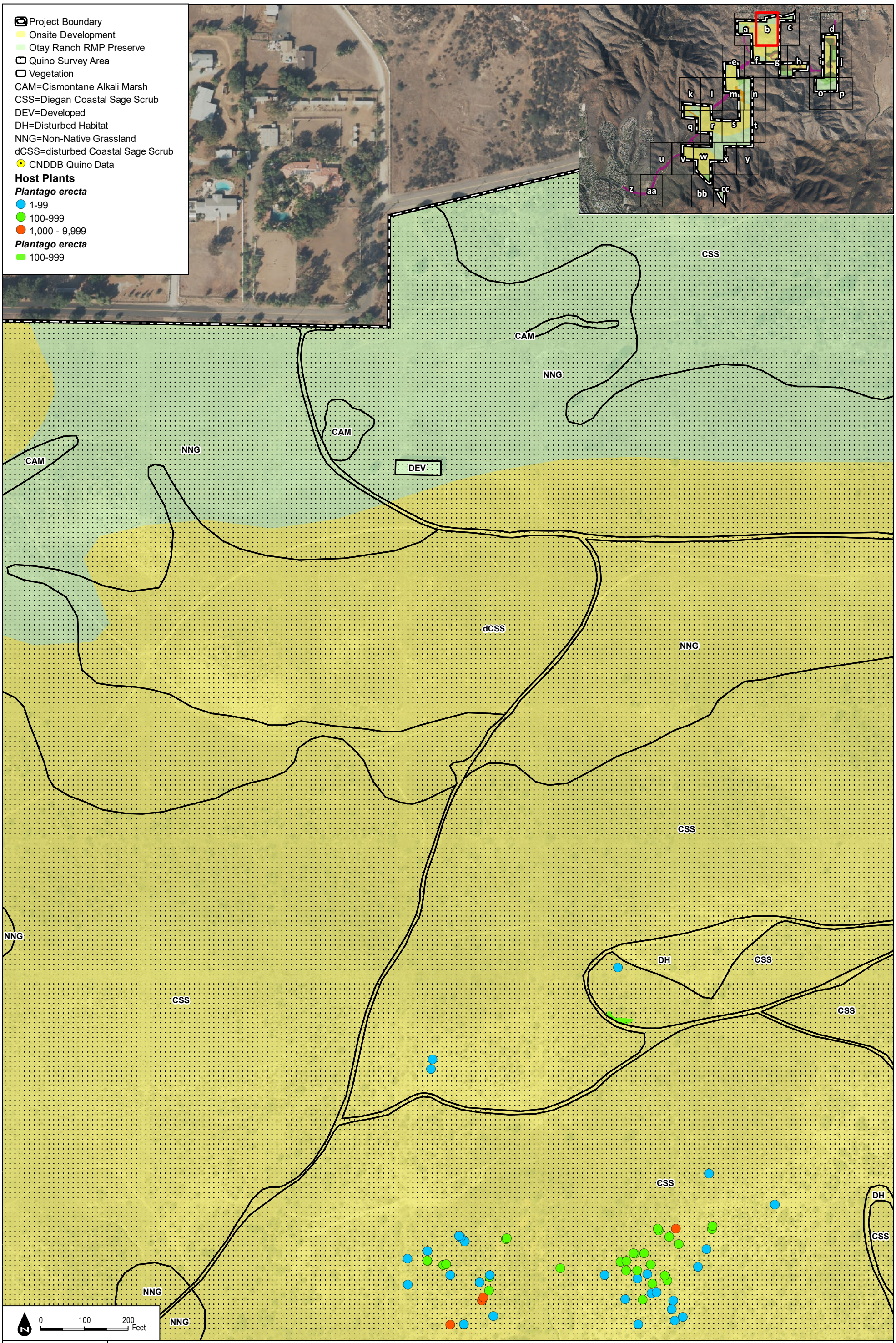

SOURCE: NAIP 2016, Hunsacker 2017, HELIX 2016

Figure 4-2b
2016 Quino Host Plant Mapping and Historical Locations

DUDEK

Otay Ranch Village 14 and Planning Areas 16/19

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SOURCE: NAIP 2016, Hunsacker 2017, HELIX 2016

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Figure 4-2c
2016 Quino Host Plant Mapping and Historical Locations

Otay Ranch Village 14 and Planning Areas 16/19

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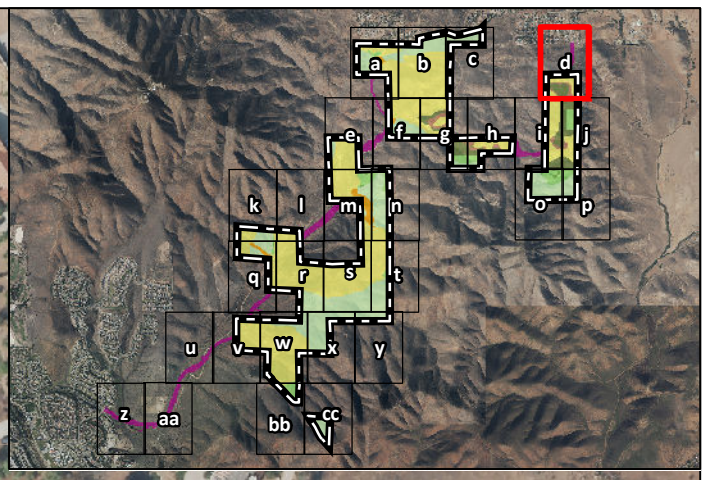
Project Boundary
Onsite Development
Offsite Development
LDA Non-Impacted
LDA Impacted
Quino Survey Area
Vegetation
CSS=Diegan Coastal Sage Scrub
DH=Disturbed Habitat
CNDDB Quino Data



CSS
DH
CSS

0 100 200 Feet

SOURCE: NAIP 2016, Hunsacker 2017, HELIX 2016

Figure 4-2d
2016 Quino Host Plant Mapping and Historical Locations

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Otay Ranch Village 14 and Planning Areas 16/19

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