Appendix C

Biological Resources Report

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May 18, 2020 11092

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Subject: Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California

Dear Ms. Murillo:

This biological resources habitat assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency analysis letter report describes the existing biological conditions of the proposed Costco/Vineyard II Retail Development Project (project) site and provides an assessment of potential biological impacts. The proposed project and potential impacts to special-status biological resources are analyzed in the context of the California Environmental Quality Act (CEQA) and in the context of the MSHCP. This report describes the project site, the general biological reconnaissance survey conducted, special-status biological resources present or potentially present on site, potential constraints to development that may be posed by biological resources on the project site, and recommended mitigation. This report also provides an MSHCP consistency assessment including the following requirements of the MSHCP (relevant MSHCP sections are identified in parentheses):

- Riparian/Riverine, Vernal Pool, and Fairy Shrimp Requirements (Section 6.1.2)
- Species Survey Requirements (Sections 6.1.3 and 6.3.2)
- Urban/Wildlife interface Guidelines (Section 6.1.4)

1 Project Location

The approximately 26.3-acre project site is located at the northeast corner of Antelope Road and Clinton Keith Road, in the City of Murrieta in Riverside County (Figure 1, Project Location; all figures can be found in Attachment A). The project site is located within the U.S. Geological Survey 7.5-minute Murrieta quadrangle map, with the approximate center of the property at longitude 117°10'12.19"W and latitude 33°35'59.24"N.

The proposed project would involve construction of a new retail development consisting of a Costco Wholesale warehouse and fuel station, a fitness center, a major retail pad, four smaller retail shops, one restaurant, one drive-through fast food restaurant, two bio-filtration basins, and associated parking. The bio-filtration basins would feature underground tanks to collect, filter, and store runoff before discharging it into the existing City of Murrieta storm drain system through three existing off-site storm drainpipes. The use of bio-filtration basins is expected to maintain discharge rates to equal or less than flow rates at existing condition.

Additionally, the proposed project includes an off-site grading area to support associated landscaping and two off-site storm drain lines that will connect the project to existing storm drains. This area was included in the biological survey and subsequent analysis.

1.1 Project History

The project site previously supported sand and gravel mass grading operations prior to permit expiration in December 2019. Dudek Biologist Anna Cassady conducted a general biological survey of the study area (project site, off-site grading area, off-site storm drain lines, and natural habitat within an associated 500-foot buffer) in May 2018 in order to inventory biological resources. At this time, mass grading operations were active and the project site contained a detention basin in support of its Stormwater Pollution Prevention Plan (SWPPP). In accordance with the SWPPP, the detention basin was designed so that it would not hold standing water for longer than 72 hours before discharging into neighboring storm drains.

Following the completion of mass grading operations at the end of December 2019, Anna Cassady re-surveyed the study area on February 28, 2020, at which time the detention basin had been removed.

2 Methods

2.1 Literature Review

Special-status biological resources potentially present on the project site were identified through a literature search using the following sources: U.S. Fish and Wildlife Service's (USFWS) Critical Habitat and Occurrence Data (USFWS 2020); California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CDFW 2020); the California Native Plant Society's (CNPS) online Inventory of Rare, Threatened, and Endangered Plants (CNPS 2020); and the Calflora database, which compiles observation and plant data from both private and public institutions, including the Consortium of California herbaria (Calflora 2020). Searches were completed for the following U.S. Geological Survey quadrangles: Lake Elsinore, Romoland, Winchester, Wildomar, Murrieta, Bachelor Mountain, Fallbrook, Temecula, and Pechanga.

For this report, "special-status" species are those that are (1) listed, proposed for listing, or candidates for listing under the federal Endangered Species Act as threatened or endangered (listed species); (2) listed or candidates for listing under the California Endangered Species Act as threatened or endangered (listed species); (3) a state fully protected species; (4) a CDFW Species of Special Concern (non-listed special-status species); or (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a California Rare Plant Rank of 1B or 2B (non-listed special-status species).

Special-status vegetation communities are those communities identified as high priority for inventory in the List of Vegetation Alliances and Associations (CDFW 2019) by a state rarity ranking of S1, S2, or S3.

Finally, a previous biological report for the Vineyard III Retail Development Project directly adjacent to the western edge of the project site was reviewed (Dudek 2020).

2.2 Field Reconnaissance

Dudek Biologist Anna Cassady conducted a general biological survey of the study area (project site, off-site grading area, off-site storm drain lines, and natural habitat within an associated 500-foot buffer) in May 2018. A follow-up site visit was conducted by Anna Cassady in August 2018 to document changes to the site as a result of maintenance activities associated with the site's SWPPP. Finally, Anna Cassady performed an updated general biological survey in February 2020 and April 2020 after mass grading operations ended. Survey conditions are provided in Table 1 below. All native and naturalized plant species encountered within the study area were identified and recorded. The potential for special-status plant and wildlife species to occur within the study area was evaluated based on the vegetation communities, soils present, and documented occurrences within 5 miles of the study area. Vegetation communities and land covers on site were mapped directly in the field onto a 200-foot-scale (1 inch = 200 feet), aerial photograph-based field map of the study area. Following completion of the fieldwork, all vegetation polygons were digitized using ArcGIS and a geographic information system (GIS) coverage was created. In addition, an investigation of presence and distribution of jurisdictional waters of the United States regulated by the U.S. Army Corps of Engineers (ACOE), jurisdictional waters of the state regulated by the Regional Water Quality Control Board (RWQCB), and jurisdictional streambed and associated riparian habitat regulated by CDFW was conducted.

Latin and common names for plant species with a California Rare Plant Rank follow the CNPS Inventory of Rare and Endangered Plants (CNPS 2020). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020), and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2020a). Natural vegetation communities were mapped in the field using *Vegetation Alliances of Western Riverside County* (Klein and Evens 2006) with modifications to accommodate the lack of conformity of the observed communities to those included in these references. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, and the American Ornithologists' Union for birds (AOU 2015).

To meet requirements in the MSHCP, a habitat assessment was conducted to identify suitable habitat for burrowing owl (*Athene cunicularia*) within the project site and a 500-foot buffer. This assessment was conducted in accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (RCA 2006). In addition, a habitat assessment was conducted to identify suitable habitat for Narrow Endemic Plant Species Survey Area species. The project site is within Survey Area 4. These species include San Diego ambrosia (*Ambrosia pumila*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), California orcutt grass (*Orcuttia californica*) and Munz's onion (*Allium munzii*).

Table 1. Survey Conditions

Date	Hours	Survey Type	Conditions (temperature, cloud cover, wind)
5/7/18	8:45 a.m.–11:30 a.m.	General Biological Survey; MSHCP Habitat Assessment	72°F–82°F, 0% - 20% cc, 1–2 mph winds
8/15/18	N/A	Site Visit to document changes due to SWPPP	N/A

Table 1. Survey Conditions

Date	Hours	Survey Type	Conditions (temperature, cloud cover, wind)
2/28/20	8:45 a.m.–10:00 a.m.	General Biological Survey; MSHCP Habitat Assessment	63°F–72°F, 25%-50% cc, 0–1 mph winds
4/19/20	12:00 a.m.–1:10 p.m.	General Biological Survey; MSHCP Habitat Assessment	63°F–65°F, 70%-50% cc, 1–2 mph winds

Note: MSCHP = multiple species habitat conservation plan; SWPPP = storm water pollution prevention plan.

2.2.1 Survey Limitations

Access was not available within the natural habitat within the 500-foot buffer due to private land ownership and active construction. Therefore, vegetation mapping and habitat assessment were both conducted using public roads and/or using aerial signatures of those communities occurring within the proposed project footprint.

3 Results

3.1 Site Description

The project site is characterized as a previously active sand and gravel mass grading operation site with primarily flat topography and several low-elevation hills. As of the February 2020 site visit, site operations had ceased nearly 3 months prior. Much of the site has been leveled out since the project site was active, but the north end of the site still contains steep access roads to higher elevation portions of the project site and off-site grading area. The northern off-site storm drain line lies within a level, disturbed area. The southern off-site storm drain line lies within active construction associated with Vineyard I, a commercial development project. Elevations range from approximately 1,510 to 1,605 feet above mean sea level. The surrounding area includes residential development to the east, undeveloped land to the north and west that has been approved as future commercial development, and Interstate (I) 215 to the west, west of the proposed commercial development. Directly south of the project site is active construction of Vineyard I. To the south of this is a residential subdivision and a school, south of which lies open space associated with the Hogback Hills. Representative photographs of the project site are included in Attachment B.

3.2 Soils

Four soil types are mapped on the study area: Cajalco fine sandy loam, Las Posas loam, Las Posas rocky loam, and Cieneba sandy loam (Figure 2, Soils).

- **Cajalco Series** consists of well-drained, moderately permeable soils formed in alluvium from igneous rock. These soils are typically found in foothills and interior valleys (USDA 2020b). Within the study area, this soils series makes up the eastern and western sides.

- **Las Posas Series** consists of well drained, moderately deep soils formed from igneous rocks. These soils are typically found within mountainous uplands and foothills (USDA 2020b). Within the study area, this soil series makes up the majority of the project site in the central portion of the study area.
- **Cieneba Series** consists of excessively drained, very shallow and shallow soils formed from granitic rock. These soils are typically found on hills and mountains (USDA 2020b). Within the study area, this soil series makes up a small portion of the southwestern corner.

3.3 Vegetation Communities and Land Covers

Six vegetation communities and two land cover types were classified for the project site: California buckwheat scrub, disturbed California buckwheat scrub, fourwing saltbush scrub, chamise–black sage chaparral, chamise–California buckwheat, Mediterranean California naturalized annual and perennial grasslands grassland, disturbed habitat, and developed land. Figure 3, Biological Resources Map, illustrates the distribution of vegetation communities and land covers, and Table 2 provides a summary of each land cover's extent within the study area.

Table 2. Vegetation Communities and Land Covers within the Project Site, Off-Site Grading Area, Off-Site Storm Drain Lines, and Associated Study Area

Vegetation Community/Land Cover	Acreage
California Buckwheat Scrub	13.32
Disturbed California Buckwheat Scrub	0.87
Disturbed Fourwing Saltbush Scrub	0.65
Chamise–Black Sage Chaparral	0.32
Chamise–California Buckwheat	0.94
Mediterranean California naturalized annual and perennial grasslands	3.45
Disturbed Habitat	32.46
Developed Land	20.95
Total	**72.98***

* 72.98 acres represents the project parcel, the off-site grading area, two off-site storm drain lines, and natural habitat within a 500-foot buffer (i.e., the associated study area). The proposed project includes the 26.3-acre project site, 2.46-acre off-site grading area, and 0.43 acres of off-site storm drain lines.

3.3.1 California Buckwheat Scrub

The California buckwheat (*Eriogonum fasciculatum*) vegetation association is an open to continuous shrub layer where California buckwheat typically dominates. The shrub layer often occurs in two separate strata: low shrubs at 0–2 meters tall and tall shrubs at 1–5 meters tall. A variety of native or non-native species may make up the herb layer, and emergent trees only infrequently occur (Klein and Evens 2006).

Within the study area, California buckwheat scrub is located in the northern portion of the study area on the east side of Antelope Road. A small portion of California buckwheat scrub intersects with the western portion of the off-site grading area. This vegetation community is dominated by California buckwheat with low cover of black sage (*Salvia mellifera*).

Disturbed California Buckwheat Scrub

Within the study area, a disturbed form of this alliance occurs on the east side of the project site and the steep slopes on the east and west side of Antelope Road. The vegetation community on the eastern side of the project site is primarily dominated by California buckwheat; however, it also contains low cover of deerweed (*Acmispon glaber*) and tree tobacco (*Nicotiana glauca*) with an understory comprised of common Mediterranean grass (*Schismus barbatus*) and bare ground. The vegetation community along either side of Antelope Road is heavily disturbed due to artificially incised slopes associated with the former mass grading operation activities on the project site and the grading of Antelope Road. Scattered California buckwheat occurs along the slopes in addition to intermittent black sage. The herbaceous layer contains a low cover of non-native grasses, but is mostly comprised of bare ground.

3.3.2 Disturbed Fourwing Saltbush Scrub

The fourwing saltbush scrub alliance is not recognized within the *Vegetation Alliances of Western Riverside County*, but it is described in a *Manual of California Vegetation, 2nd Edition* as being either dominated or co-dominated by fourwing saltbush (*Atriplex canescens*) in the shrub canopy (Sawyer et al. 2009). The shrub canopy is typically open or intermittent with a variable herbaceous layer comprised of seasonal herbs or non-native grasses. Emergent trees may also be available at a low cover. Associated shrub species include burrobush (*Ambrosia dumosa*), allscale saltbush (*Atriplex polycarpa*), and bush seepweed (*Suaeda nigra*) (Sawyer et al. 2009).

Within the study area, a disturbed form of this vegetation community occupies a small section of the eastern side of the project site, directly adjacent to the disturbed habitat of the former mass grading operation. This community is dominated by fourwing saltbush, but also contains a low cover of California buckwheat. The understory is comprised of non-native grasses and bare ground.

3.3.3 Chamise–Black Sage Chaparral

The chamise–black sage chaparral vegetation community is co-dominated by chamise (*Adenostoma fasciculatum*) and black sagewith an intermittent to continuous canopy within the shrub layer. The shrub layer may occur in two separate strata: low shrubs at 0.5 to 2 meters tall and taller shrubs 1 to 5 meters tall (Klein and Evens 2006).

Within the study area, this vegetation community is located within the southern portion of the study area. It is comprised primarily of chamise and black sage, but also contains some California buckwheat (*Eriogonum fasciculatum*) and a sparse understory of non-native grasses.

3.3.4 Chamise–California Buckwheat Association

The chamise–California buckwheat vegetation association is either dominated or co-dominated by chamise and California buckwheat with a shrub layer of open to continuous canopy. The shrub layer may occur in two separate strata: low shrubs at 0 to 2 meters tall and taller shrubs 0.5 to 5 meters tall. Trees may occur at trace cover, and the herbaceous layer typically remains open to intermittent (Klein and Evens 2006).

Within the study area, this association occurs in small patches on the western side of the study area, outside of the project site. These patches are comprised primarily of chamise, but are also co-dominated by a continuous presence of California buckwheat. The herbaceous layer is comprised of non-native grasses.

3.3.5 Mediterranean California Naturalized Annual and Perennial Grassland

As defined by Klein and Evens (2006), Mediterranean California Naturalized Annual and Perennial Grassland is usually dominated by annual grasses and herbs of various assortments that are in upland habitats. Specifically, red brome (*Bromus madritensis* ssp. *rubens*) or ripgut brome (*B. diandrus*) are abundant with other non-native and native species.

Non-native grassland occupies the western side of the study area, outside of the project site. This vegetation community is comprised primarily of weedy species including, but not limited to, brome species (*Bromus* sp.), short-podded mustard (*Hirschfeldia incana*), common Mediterranean grass, dove weed (*Croton setiger*), prickly wild lettuce (*Lactuca serriola*), and common cryptantha (*Cryptantha intermedia*). A single blue elderberry (*Sambucus nigra* ssp. *caerulea*) is located on the southwestern side of the study area, and several Peruvian peppertrees (*Schinus molle*) are clustered at the northwestern edge of the study area; however, neither of these trees warranted their own vegetation community due to the small scale of their cover.

3.3.7 Developed Land

Although not recognized by the *Vegetation Alliances of Western Riverside County*, "developed land" refers to areas that have been constructed on 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.

The portions of the study area mapped as developed include active construction taking place in the southern portion of the study area, directly south of the project site, and associated roads within the study area. This area contains the southern off-site storm drain line. The construction south of the project site is not depicted on the most recent aerial photography; therefore, the aerial used for the project figures does not display this development.

3.3.8 Disturbed Habitat

Although not recognized by the *Vegetation Alliances of Western Riverside County,* the classification of disturbed habitat is due to the predominance of bare ground and compacted soils with a sparse covering of non-native plant species, and other disturbance-tolerant plant species. Oberbauer et al. (2008) describes disturbed habitat as areas that have been physically disturbed by previous human activity and are no longer recognizable as a native or naturalized vegetation association but that continue to retain a soil substrate.

Within the study area, disturbed habitat is located within the majority of the project site and off-site grading area in locations where mass grading operations previously occurred. Additionally, the northern off-site storm drain line is located within disturbed habitat. This land cover encompasses the majority of the mass grading operation activities and is primarily comprised of bare ground; however, the northeastern side of the project site also contains a low cover of tree tobacco, deerweed, and short-podded mustard. In addition, there are two individual mulefat (*Baccharis salicifolia*) plants within the project site, but these individuals did not warrant their own vegetation community due to the small scale of their cover.

3.4 Floral Diversity

A total of 31 species of native or naturalized plants—17 native (55%) and 14 non-native (45%)—were recorded within the study area. This low plant diversity reflects the study area's disturbed environment and its proximity to adjacent developed areas. Plant species observed within the study area are listed in Attachment C.

3.5 Wildlife

A total of 12 bird species were detected within the study area, including house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), American kestrel (*Falco sparverius*), Say's phoebe (*Sayornis saya*), and California towhee (*Melozone crissalis*). No active bird nests were observed within the study area during the reconnaissance survey; however, the vegetated portions of the study area could support nesting birds. No amphibian species were observed, and none are expected to occur due to the lack of aquatic habitat. One reptile species was observed during the survey: western fence lizard (*Sceloporus occidentalis*). One mammal species was observed during the survey: coyote (*Canis latrans*). The low wildlife diversity reflects the relatively disturbed nature of the study area, as well as the lack of contiguous habitat. Wildlife species observed within the study area are listed in Attachment D.

3.6 Special-Status Plant Species

No plant species listed or proposed for listing as rare, threatened, or endangered by either CDFW or the USFWS were detected within the study area. No plant species considered sensitive by the CNPS were observed. The study area is not within Critical Habitat for any special-status plant species (USFWS 2020).

Based on the results of the literature review and database searches, 59 special-status plant species have been documented within the region. All of these species were evaluated for potential to occur within the study area. Criteria used include soils, current disturbance levels, vegetation communities present, elevation ranges, and previous known locations based on the California Natural Diversity Database, CNPS, and Calflora records.

There are no federally or state-listed as endangered plant species with a potential to occur in the study area. Due to the developed nature of the project site, all non-listed special-status species were determined to either have low potential or were not expected to occur within the project site. Four non-listed special-status species have a moderate potential to occur within the buffer area of the study area: smooth tarplant (*Centromadia pungens* ssp. *laevis*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), intermediate Mariposa lily (*Calochortus weedii* var. *intermedius*), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*). All species except for white rabbit-tobacco are fully covered under the MSHCP. A list and determination of potential to occur for these species can be found in Attachment E.

3.7 Special-Status Wildlife Species

No wildlife species listed or proposed for listing as rare, threatened, or endangered by either CDFW or the USFWS were detected within the study area. The study area is not within Critical Habitat for any special-status wildlife species (USFWS 2020).

Attachment F lists 43 special-status wildlife species that are known to occur in the U.S. Geological Survey 7.5-minute Murrieta quadrangle and the eight surrounding quadrangles (CDFW 2020). For each species listed, a determination was

made regarding potential use of the study area by the species based on information gathered during the field reconnaissance, known habitat preferences, and knowledge of the species' relative distributions in the area.

The federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) has a low potential to occur on the project site and a moderate potential to occur in the study area outside the project site. Coastal California gnatcatcher is a fully covered species under the MSHCP. The federally listed endangered and state-listed threatened Stephens' kangaroo rat (*Dipodomys stephensi*) has a low potential to occur in both the project site and the study area; however, is a fully covered species under the MSHCP. The project is also within the *Stephens' Kangaroo Rat Habitat Conservation Plan*, which provides take authorization for Stephens' kangaroo rat within its boundaries (RCHCA 1996).

Due to the disturbed nature of the project site, all non-listed special-status wildlife species were determined to either have low potential or were not expected to occur within the project site. Seven non-listed, special-status species have a moderate potential to occur within the study area outside of the project site: California glossy snake (*Arizona elegans occidentalis*), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*), San Diego banded gecko (*Coleonyx variegatus abbotti*), red diamondback rattlesnake (*Crotalus ruber*), Blainville's horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea),* and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). All of these species except for California glossy snake and coast patch-nosed snake are fully covered under the MSCHP. None of these species were observed within the study area during the reconnaissance survey. A list and determination of potential to occur for these species can be found in Attachment F.

3.7.1 Burrowing Owl Habitat Assessment

The proposed project is located within the MSHCP Burrowing Owl Habitat Assessment Area. In accordance with the MSHCP, a habitat assessment was conducted for this species.

The burrowing owl is a California Species of Special Concern. With a relatively wide-ranging distribution throughout the west, burrowing owl is considered to be a habitat generalist (Lantz et al. 2004). In California, burrowing owl is a yearlong resident of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon–juniper and ponderosa pine habitats (Zeiner et al. 1990). Preferred habitat is generally typified by short, sparse vegetation with few shrubs; level to gently sloping topography; and well-drained soils (Haug et al. 1993).

The presence of burrows is the most essential component of burrowing owl habitat, as they are required for nesting, roosting, cover, and caching prey. In California, western burrowing owl most commonly lives in burrows created by California ground squirrels (*Spermophilus (Otospermophilus) beecheyi*). Burrowing owl may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse), useable burrows are available, and foraging habitat is close (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can also be used for nesting and roosting.

The nearest documented occurrence of burrowing owl is approximately 2.5 miles southeast of the study area. This occurrence was documented in 2003 (CDFW 2020).

The project site is primarily disturbed, previously operating as an active mass grading operation. This disturbed habitat comprises unvegetated, compacted soils that do not contain California ground squirrel activity or burrows. There is a section of open, disturbed fourwing saltbush scrub (0.65 acres) on the eastern side of the project site.

This area could provide potential low-quality foraging habitat for burrowing owl due to its small extent and its lack of continuity with surrounding higher-quality habitat. No California ground squirrel burrows or other burrows 4 inches or greater in diameter that could provide nesting habitat for burrowing owl were observed within the study area. Currently, potential for this species to occur is low; however, should the project site continue to remain fallow prior to construction, suitability of the project site for this species could increase.

3.8 Nesting Birds

The project site is primarily disturbed as a previous mass grading operation; however, the natural habitat on the eastern side of the property provides potential nesting habitat for commonly occurring birds such as Anna's hummingbird or house finches. In addition, ground-nesting birds such as killdeer (*Charadrius vociferus*) may utilize the developed portion of the project site. The project site does not contain large trees suitable for raptor nesting.

3.9 Jurisdictional Waters and Significant Drainage Courses

A concrete, roadside ditch is located along the northwestern boundary of the study area, along I-215. This feature lies in a topographic low-point and appears to convey freeway runoff from the south, which then sheetflows into an area in the northwestern portion of the study area. There is no further evidence of ponding or surface flows, and runoff conveyed by this ditch is assumed to percolate or evaporate. This feature would not be considered jurisdictional by the ACOE, RWQCB or CDFW. Figure 3 illustrates the location of this feature.

The southeastern corner of the study area contains a v-ditch leading to a storm drain within the residential communities to the east. This feature is not located within the project site. This feature appears to originate south of the project site along the eastern edge of the study area. The v-ditch collects runoff and conveys it north to a storm drain located within the residential communities east of the project site. According to the Water Quality Management Plan, the storm drain system later connects with Warm Springs Creek (Smith 2019). Because this feature was artificially created in uplands and is not supported by a freshwater source, it would not be considered jurisdictional by the ACOE, RWQCB, and CDFW. Figure 3 illustrates the location of this feature.

No other potential jurisdictional features were observed within the study area.

3.10 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping stones for wildlife dispersal. Wildlife movement through the project site is unlikely due to the developed nature of surrounding land use. The remnants of a mass grading operation occupy the majority of the project site, the I-215 lies to the west and north, a small subdivision lies to the east, and a school exists to the south. Therefore, the study area has limited to no value as a potential wildlife corridor or habitat linkage.

4 Western Riverside County MSHCP Consistency Analysis

The project site is located in the MSHCP Southwest Area Plan and must comply with relevant section of the MSHCP. The project site is not within an MSHCP Criteria Cell (Figure 4, Western Riverside County MSHCP); therefore, no Reserve Assembly requirements would apply to the project site. The project's compliance with the relevant sections of the MSHCP is discussed below.

4.1 MSHCP Section 6.1.2 Riparian/Riverine Resources

The MSHCP defines riparian/riverine areas as "lands which contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." The MSHCP further clarifies those areas "demonstrating characteristics as described above which are artificially created are not included in these definitions" (County of Riverside 2003).

The study area contains an unvegetated roadside ditch on the northwestern side of the project site that appears to manage road runoff associated with I-215. The majority of the ditch is concrete-lined, and runoff conveyed by the ditch sheetflows and dissipates into undeveloped areas within the study area. This feature is artificially created, does not rely on a fresh water source, and does not convey flows to downstream riverine resources; therefore, it is not a riverine resource as defined by the MSHCP.

The study area also contains an unvegetated v-ditch conveying street runoff, leading to a storm drain located within the residential communities to the east. According to the Water Quality Management Plan, the storm drain system eventually outlets near Warm Springs Creek. This feature is not located within the project site. Because this feature is artificially created and does not rely on a freshwater source, it would not be considered a riverine resource as defined by the MSHCP.

The project site contains an individual mulefat plant at two separate locations. These plants are not sufficient to support riparian bird species such as least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), or yellow-billed cuckoo (*Coccyzus americanus*). This is due to the small size of its extent, the lack of understory or closed-canopy features that give depth to the vegetation community, the lack of continuity with higher quality habitat, and the project site surroundings (existing and planned development).

4.1.1 Vernal Pool and Fairy Shrimp Habitat

No vernal pool indicator plants were identified within the study area. The study area does not contain clay soils, bedrock, or other poorly drained soils typically associated with vernal pools. During the survey, no other topographic low points were observed within the study area, nor are they present on historic aerials. The project site contained evidence of ponding (damp soils, soil cracks) in several locations during the February 28, 2020, site visit; however, the area had experienced rain 6 days prior and much of the preceding weeks. Additionally, the soils mapped in the project site are Cajalco and Las Posas series, both of which are considered well draining and not known to retain water. Due to the lack of suitable soils and lack of standing water following rain events, the project site is not considered suitable for special-status fairy shrimp species.

4.2 MSHCP Section 6.1.3 Narrow Endemic Plant Species Survey Area

The proposed project is located within the Narrow Endemic Plant Species Survey Area 4. In accordance with the MSHCP, a habitat assessment must be conducted for the target species and focused surveys completed if suitable habitat is present. The target narrow endemic plants are San Diego ambrosia, many-stemmed dudleya, spreading navarretia, Wright's trichocoronis, California orcutt grass and Munz's onion. Details regarding the habitat requirements for each of these species is provided in Attachment E.

San Diego ambrosia, spreading navarretia, California orcutt grass, and Wright's trichocoronis are not expected to occur within the study area. These species are commonly found in association with vernal pools, and an evaluation of the study area did not yield conditions suitable for vernal pools (see further discussion about vernal pools in Section 4.1.1).

Munz's onion and many-stemmed dudleya are also not expected to occur within the study area as the study area lacks clay soils within which these species are associated. Because the habitat assessment for narrow endemic plant species did not identify habitat characteristics associated with these species, focused narrow endemic plant species surveys are not required.

4.3 MSHCP Section 6.3.2 Additional Survey Needs and Procedures

The MSHCP establishes habitat assessment requirements for certain species of plants, birds, mammals, and amphibians. The project site is in a required habitat assessment area for burrowing owl. As discussed in Section 3.7, Special-Status Wildlife Species, of this report, the habitat assessment did not identify potential burrowing owl habitat or suitable burrows features; therefore, focused surveys are not required. Site conditions can change prior to development of the site as California ground squirrels have the potential to move in and create suitable burrows for burrowing owl. To avoid potential for significant impacts to burrowing owl during construction activities, a pre-construction burrowing owl survey should be conducted and avoidance measures implemented if burrowing owls are present.

Should the project site remain fallow for a long enough duration such that it acquires sparse shrub cover and California ground squirrels, the site would become suitable for burrowing owl, and focused burrowing owl surveys would be required.

4.4 MSHCP Section 6.1.4 Urban/Wildlands Interface Guidelines

According to the MSHCP, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area (MSHCP, p. 6–42). The project site is not adjacent to any conserved areas; however, a component of the proposed project is the creation of two bio-retention basins that will collect, filter, and store runoff before discharging it into the existing City of Murrieta storm drain system through three existing off-site storm drain pipes. These storm drain pipes are undergrounded through existing residential development and eventually link with Warm Springs Creek 1.5 miles to the east, an area described for conservation by the MSHCP (Smith 2019) (Figure 4). As such, the Urban/Wildlands Interface Guidelines are applicable. The proposed project will implement the following Urban/Wildlands Interface Guidelines from the MSHCP (County of Riverside 2003) that are applicable to downstream resources. The lighting and noise portion of the Urban/Wildlands Interface Guidelines are not applicable as the land use is not adjacent to a Conservation Area.

Drainage

Proposed Developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. Regular maintenance shall occur to ensure effective operations of runoff control systems. As previously described, the proposed project includes two bio-filtration basins that will treat drainage associated with the proposed project and discharge it into existing storm drain systems at a rate equal or less than that of existing conditions.

Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, Habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented.

Invasives

When approving landscape plans for Development that is proposed adjacent to the MSHCP Conservation Area, Permittees shall consider the invasive, non-native plant species listed in Table 6-2 of the MSHCP and shall require revisions to landscape plans (subject to the limitations of their jurisdiction) to avoid the use of invasive species for the portions of Development that are adjacent to the MSHCP Conservation Area. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography and other features. As described in Mitigation Measure (MM) BIO-1, species listed in Table 6-2 of the MSCHP shall be avoided in the landscape plan.

5 Impacts Analysis and Recommendations

This section addresses potential impacts to special-status biological resources that could result from implementation of the proposed project. This section follows the CEQA checklist for biological resources. For the purposes of this biological analysis, it is assumed that the entire project site and off-site grading area would be permanently impacted. The two off-site storm drain lines are considered temporary impacts because the storm drain pipes will be undergrounded (Figure 5, Impacts).

5.1 Special-status Vegetation Communities

No special-status vegetation communities occur on the project site; therefore, no impacts to special-status vegetation communities would occur with project implementation. Table 3 lists impacts to the land covers found on the project site, off-site grading area, and off-site storm drain lines.

Table 3. Impacts to Land Covers on the Project Site, Off-Site Grading Area, and Off-Site Storm Drain Lines

Vegetation Community/Land Cover	Acreage
Project Site	
California Buckwheat	–
Disturbed California Buckwheat	–
Fourwing Saltbush	0.65
Chamise–Black Sage	–
Chamise–California Buckwheat Association	–
Mediterranean California Naturalized Annual and Perennial Grassland	–
Disturbed Land	25.62
Developed Land	<0.01
Project Site Total	**26.3**
Off-Site Grading Area	
California Buckwheat	0.28
Disturbed Land	2.18
Developed Land	<0.01
Off-Site Grading Area Total	**2.46**
Disturbed Land	0.31
Developed Land	0.13
Off-Site Storm Drain Lines Total	**0.43**
Grand Total	**29.17***

* Total impacts are larger than the 26.3-acre project site due to the inclusion of the 2.46-acre off-site grading area to the north and 0.43 acres from the two off-site storm drain lines to the north and south. Subtotals may not add due to rounding.

5.2 Special-Status Plants

There are no special-status plant species that have moderate or high potential to occur within the project site; therefore, there would be no direct impacts to special-status plant species with project implementation.

Four non-listed, special-status species have a moderate potential to occur within the buffer area of the study area. Indirect impacts could occur to these four special-status plants and their habitat. Potential indirect impacts to special-status plants include the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species.

All species except for white rabbit-tobacco are fully covered under the MSHCP, and impacts to all species except for white rabbit-tobacco would be less than significant with payment of the MSHCP Development Mitigation Fee. Indirect impacts to non-covered special-status plants (white rabbit-tobacco) would be significant absent mitigation (Impact BIO-1). To avoid potential for significant impacts to white rabbit-tobacco during construction activities, general avoidance and minimization will be implemented that contain construction activities within the designated limits and prevent debris and toxins from spilling into the neighboring buffer area. Implementation of MM-BIO-1 would reduce potential impacts to less than significant.

5.3 Special-Status Wildlife

Two federally listed threatened species—Stephens' kangaroo rat and coastal California gnatcatcher—have a low potential to occur within the project site impact area. The project site is within the Stephens' Kangaroo Rat Habitat Conservation Plan boundary (RCHCA 1996); therefore, impacts to Stephens' kangaroo rat would be less than significant with payment of the Stephens' Kangaroo Rat Habitat Conservation Plan Development Mitigation Fee. Coastal California gnatcatcher is fully covered by the MSHCP; therefore, impacts to this species would be less than significant with payment of the MSHCP Development Mitigation Fee.

Seven non-listed special-status wildlife species have the potential to occur adjacent to the project site, and the project could result in indirect impacts to these species. Indirect impacts could include noise, dust, pollution, and entrapment during construction activities. Five of these species are fully covered under the MSCHP, and impacts would be less than significant with payment of the MSHCP Development Fee. Two species, California glossy snake and coast patch-nosed snake, are not covered by the MSHCP. Implementation of MM-BIO-1 would reduce potential indirect impacts to these species to less than significant.

5.3.1 Burrowing Owl

The burrowing owl habitat assessment determined that suitable burrowing owl habitat is not present on site due to the absence of suitable burrows and limited foraging habitat; therefore, the project would not result in significant impacts to burrowing owl habitat. If burrowing owl should occupy the site prior to initiation of construction activities, direct impacts to burrowing owl would be significant. Additionally, if burrowing owl occupy surrounding habitat within 500 feet of construction activities, indirect impacts could be significant. To avoid potential for significant impacts to burrowing owl during construction activities, a pre-construction burrowing owl survey should be conducted and avoidance measures implemented if burrowing owl are present (MM-BIO-2).

5.3.2 Nesting Birds

Project construction could result in direct and indirect impacts to nesting birds, including the loss of nests, eggs, and fledglings if vegetation clearing and ground-disturbing activities occur during the avian nesting season (typically March 1 through August 31). If the nesting bird season cannot be avoided, a nesting bird survey should be conducted and avoidance measures implemented if nests are documented within the impact footprint or within 300 feet of the impact footprint (MM-BIO-3).

5.4 Jurisdictional Waters

The proposed project site does not contain jurisdictional waters; therefore, the proposed project would not result in impacts to this resource.

5.5 Wildlife Corridors and Nursery Sites

The project site does not function as a wildlife corridor and does not support any wildlife nursery sites. As a result, implementation of the proposed project would not result in impacts to these resources.

5.6 Habitat Conservation Plans

The project site is within the MSHCP Plan Area. As described in Section 4, the project site does not support riparian/riverine resources, vernal pools or fairy shrimp habitat, narrow endemic plant habitat, or criteria area species habitat; therefore, there are no requirements under the MSHCP for these resources. The project is also not adjacent to conservation areas; however, the bio-filtration systems will connect to downstream resources available for conservation. Therefore, several of the Urban/Wildlife Interface Guidelines are applicable. With implementation of applicable Urban/Wildlands Interface Guidelines, as described in Section 4.4 of this report, the project would be consistent with this section of the MSHCP. The project does not support burrowing owl habitat; however, burrowing owl have the potential to occupy the site in the future. With implementation of the burrowing owl pre-construction surveys and avoidance and minimization measures if applicable, the project would be consistent with the MSHCP burrowing owl requirements. With implementation of mitigation measure MM-BIO-2, Burrowing Owl Pre-construction Surveys, MM-BIO-1, General Avoidance and Minimization Measures, and payment of the MSHCP Development Mitigation Fee, the proposed project would be consistent with the MSHCP.

The project site is within the Stephens' Kangaroo Rat Habitat Conservation Plan boundary. With payment of the Stephens' Kangaroo Rat Habitat Conservation Plan Development Mitigation Fee, the proposed project would be consistent with the Stephens' Kangaroo Rat Habitat Conservation Plan.

5.7 Other Local Ordinances

The City of Murrieta Development Code, Article III, Section 16.42, Tree Preservation, identifies the following as protected trees:

- Mature Native Oak Tree;
- Mature Native Tree;
- Mature Tree;
- Historically Significant Trees;
- Any tree required to be planted or preserved as environmental mitigation, or condition of approval for a discretionary permit.

There are no resources on the project site that meet the above criteria; therefore, a tree removal permit in accordance with the City of Murrieta Development Code is not required. There are no other local ordinances applicable to the project.

6 Avoidance, Minimization and Mitigation Measures

The following measures are recommended to avoid, minimize and/or mitigate for impacts to special-status resources.

MM-BIO-1 General Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction activities.

- Construction limits along the northern boundary of the off-site grading area and western side of the northern off-site storm drain line shall be clearly flagged so that adjacent native vegetation is avoided.
- Construction work and operations and maintenance areas shall be kept clean of debris, such as trash and construction materials. Fully covered trash receptacles that are animal-proof will be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the proposed project site.
- Nighttime construction should be minimized to the extent possible. However, if nighttime activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph.
- Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents shall be located within the designated impact area or adjacent developed areas.
- To prevent inadvertent entrapment of special-status wildlife during construction, all excavated steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or be provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape.
- All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.

The following avoidance and minimization measure shall be implemented as part of project operations:

- The project landscape plan shall avoid the use of any invasive, non-native plant species rated as "high" or "moderate" by the California Invasive Plant Council's Invasive Plant Inventory (Cal-IPC 2020).
- The project landscape plan shall avoid the use of any species listed in Table 6-2 of the MSHCP.

MM-BIO-2: Prior to initiation of construction activities, a burrowing owl pre-construction survey shall be conducted in accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (RCA 2006). In accordance with these

instructions, this survey would occur within 30 days prior to ground-disturbance activities. A minimum of one survey site visit within the described time frame prior to disturbance is required to confirm presence or absence of owls on the site. Pre-construction surveys shall be conducted by a qualified biologist.

If surveys confirm occupied burrowing owl habitat is located within the impact footprint or within 500 feet of the impact footprint, avoidance measures shall be implemented consistent with the requirements of the MSHCP.

MM-BIO-3: To maintain compliance with the Migratory Bird Treaty Act and Fish and Game Code, if ground disturbance and/or vegetation clearance activities are scheduled to occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist within the project footprint and a 300-foot buffer around the project footprint. Surveys shall be conducted within 3 days prior to initiation of activity and will be conducted between dawn and noon.

If an active nest is detected during the nesting bird survey, avoidance buffers shall be implemented as determined by a qualified biologist. The buffer will be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests will be monitored as determined by the qualified biologist until nestlings have fledged and dispersed or it is confirmed that the nest has been unsuccessful or abandoned.

7 Conclusions

The proposed project has the potential to result in significant impacts to special-status plants, burrowing owl, and nesting birds. With implementation of avoidance, minimization and mitigation measures as described in Section 6, the project would have less-than-significant impacts to biological resources.

If you have any questions regarding the contents of this report, please either email acassady@dudek.com or call at 951.300.1088.

Sincerely,

Anna Cassady
Biologist

Att.: *Attachment A – Figures 1–5*
Attachment B – Site Photographs
Attachment C – Vascular Plant Species
Attachment D – Wildlife Species
Attachment E – Special-Status Plant Species Detected or Potentially Occurring in the Study Area
Attachment F – Special-Status Wildlife Species Detected or Potentially Occurring in the Study Area

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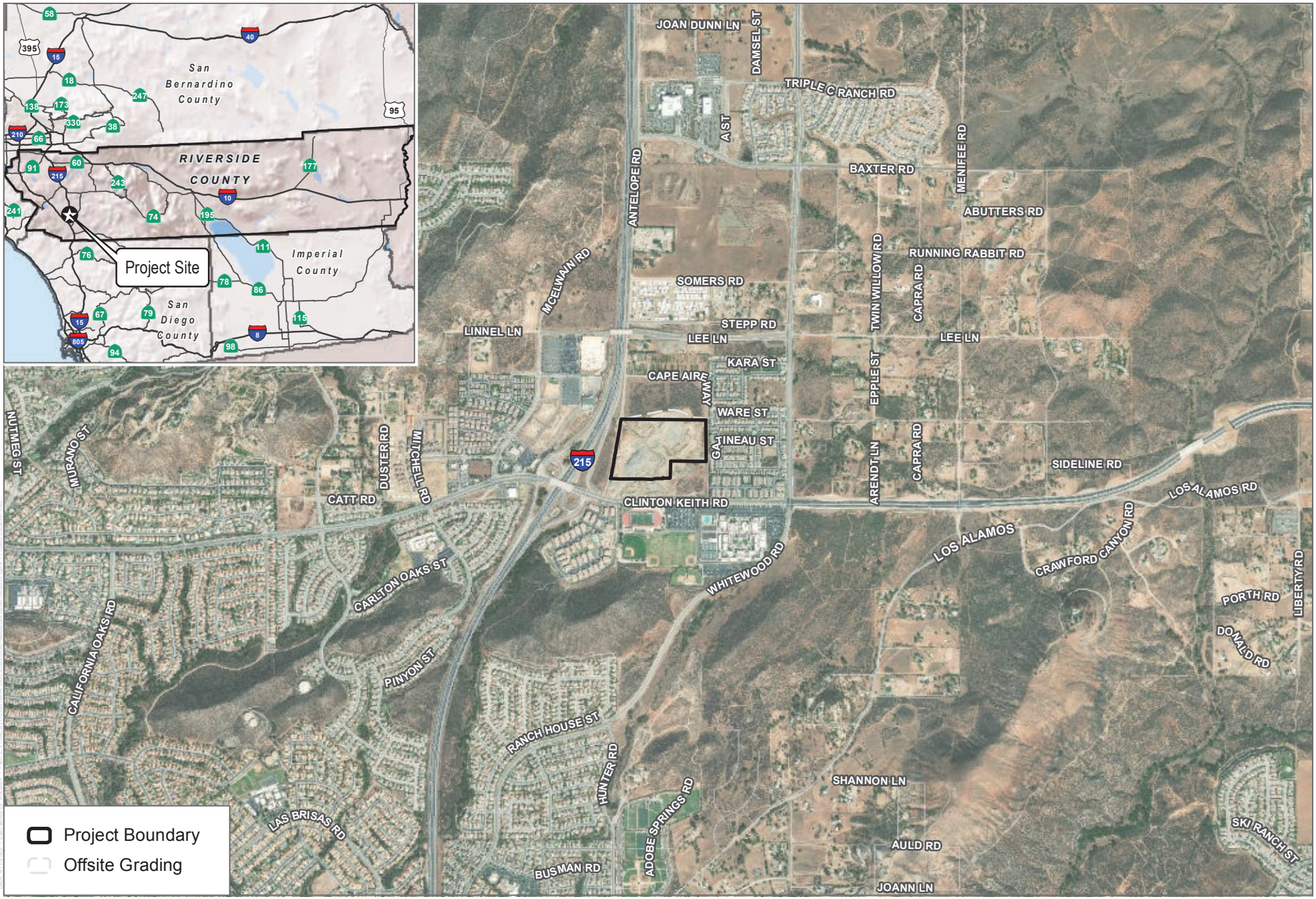
Attachment A

Figures 1–5



SOURCE: DigitalGlobe 2018

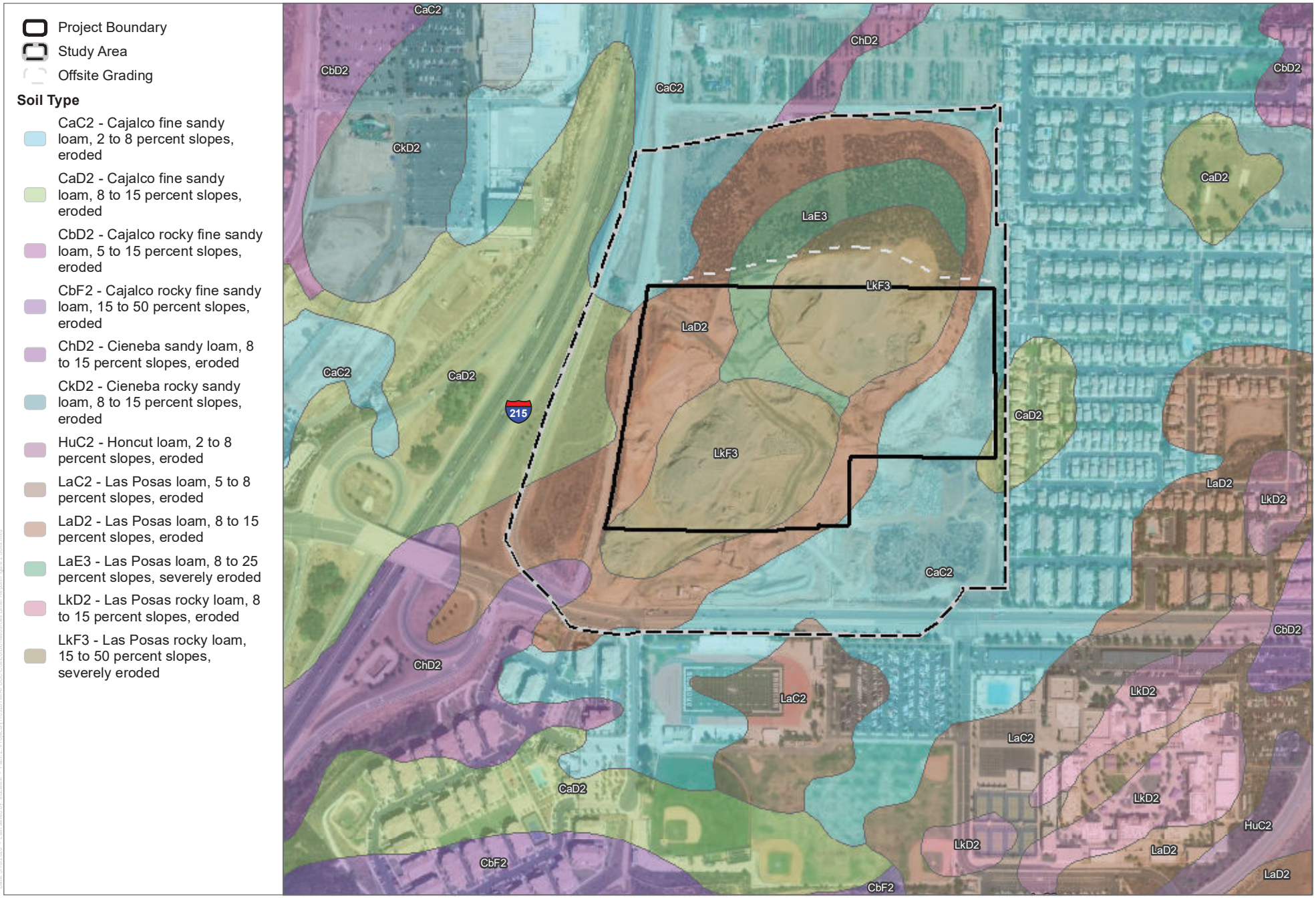
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California



SOURCE: DigitalGlobe 2018; USDA 2018

DUDEK

FIGURE 2

Soils Map

Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California

SOURCE: DigitalGlobe 2018

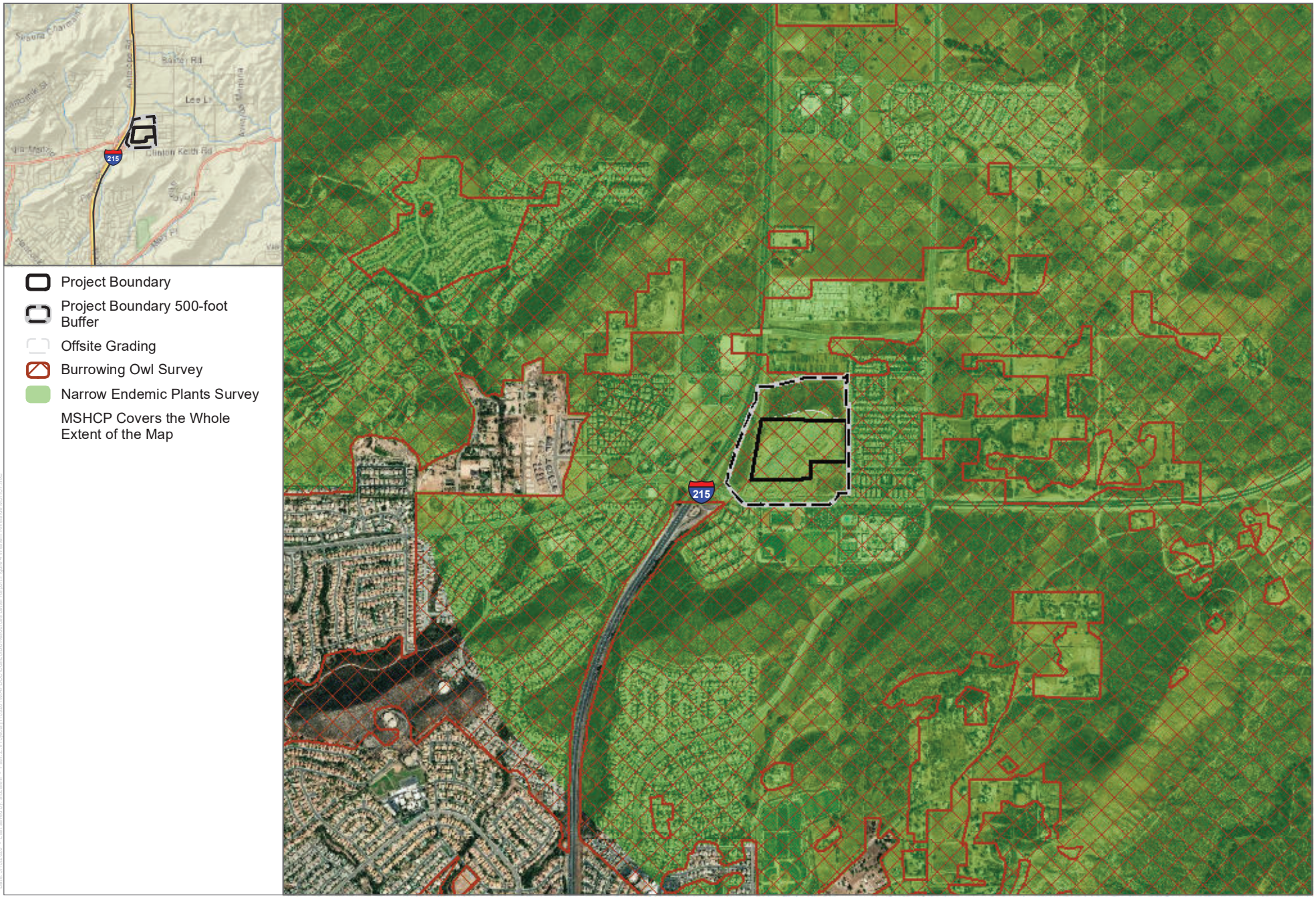
DUDEK

0 250 500 Feet

FIGURE 3

Biological Resources

Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California



SOURCE: DigitalGlobe 2018; County of Riverside 2018

DUDEK

0 750 1,500 Feet

FIGURE 4

Western Riverside MSHCP

Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California

SOURCE: DigitalGlobe 2018

DUDEK

0 250 500 Feet

FIGURE 5

Impacts

Biological Resources Letter Report and MSHCP Consistency for the Costco/Vineyard II Retail Development Project, City of Murrieta, California

Attachment B

Site Photographs

Photo 1: View of western boundary of the project site, facing south.

Photo 2: View of western side of the project site, facing east.

Photo 3: View of northern boundary of the off-site grading location, facing east. Off-site grading area is to the right and California buckwheat scrub in buffer is to the left.

Photo 4: View of the central portion of the project site, facing south.

Photo 5: View of northeastern portion of the project site with intermittent California buckwheat and numerous tree tobacco plants.

Photo 6: View of eastern portion of the project site with disturbed fourwing saltbush scrub in the background, facing southeast.

Photo 7: View of disturbed habitat and disturbed fourwing saltbush scrub on the east side of the project site, facing north.

Photo 8: View of storm drain inlet on east side of study area, outside of project site, leading to residential development to the east.

Attachment C

Vascular Plant Species

Plant Species

Vascular Species

Monocots

POACEAE—GRASS FAMILY

* *Bromus hordeaceus*—soft brome
* *Bromus madritensis*—compact brome
* *Hordeum murinum*—mouse barley
* *Schismus barbatus*—common Mediterranean grass

Eudicots

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

* *Schinus molle*—Peruvian peppertree

ASTERACEAE—SUNFLOWER FAMILY

Heterotheca grandiflora—telegraphweed
* *Centaurea melitensis*—Maltese star-thistle
* *Oncosiphon piluliferum*—stinknet
Encelia farinosa—brittle bush
Baccharis salicifolia—mulefat

BORAGINACEAE—BORAGE FAMILY

Amsinckia menziesii—Menzies' fiddleneck
Cryptantha intermedia—Clearwater cryptantha

BRASSICACEAE—MUSTARD FAMILY

* *Hirschfeldia incana*—shortpod mustard

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex canescens—fourwing saltbush

CUCURBITACEAE—GOURD FAMILY

Marah macrocarpa—Cucamonga manroot

EUPHORBIACEAE—SPURGE FAMILY

Croton setiger—dove weed

FABACEAE—LEGUME FAMILY

Lupinus succulentus—hollowleaf annual lupine

* *Melilotus indicus*—annual yellow sweetclover

Acmispon glaber—deer weed

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill

* *Erodium botrys*—longbeak stork's bill

LAMIACEAE—MINT FAMILY

Salvia mellifera—black sage

MALVACEAE—MALLOW FAMILY

Sphaeralcea emoryi var. *emoryi*—Emory's globemallow

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy

POLYGONACEAE—BUCKWHEAT FAMILY

* *Rumex crispus*—curly dock

Eriogonum fasciculatum—California buckwheat

ROSACEAE—ROSE FAMILY

Adenostoma fasciculatum—chamise

SALICACEAE—WILLOW FAMILY

Populus fremontii—Fremont cottonwood

SOLANACEAE—NIGHTSHADE FAMILY

Solanum xanti—chaparral nightshade

* *Nicotiana glauca*—tree tobacco

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—saltcedar

* signifies introduced (non-native) species

Attachment D

Wildlife Species

Wildlife Species – Vertebrates

Bird

Emberizines

EMBERIZIDAE—EMBERIZIDS

Melozone crissalis—California towhee

Falcons

FALCONIDAE—CARACARAS AND FALCONS

Falco sparverius—American kestrel

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis saya—Say's phoebe

Tyrannus vociferans—Cassin's kingbird

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay

New World Quail

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

* *Columba livia*—rock pigeon (rock dove)

Zenaida macroura—mourning dove

Wrens

TROGLODYTIDAE—WRENS

Troglodytes aedon—house wren

Mammal

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Sylvilagus audubonii—desert cottontail

Reptile

Lizards

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

* signifies introduced (non-native) species

Attachment E

Special-Status Plant Species Detected or Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	None	Chaparral, Coastal scrub, Desert dunes; sandy/annual herb/(Jan)Mar–Sep/245–5,250	Low potential to occur. The study area contains marginal coastal scrub vegetation and is within the appropriate elevation range; however, the project site consists of disturbed topsoil and numerous non-native weed species.
Allium munzii	Munz's onion	FE/ST/1B.1/	Narrow Endemic Plant Species	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland; mesic, clay/perennial bulbiferous herb/Mar–May/970–3,510	Not expected to occur. The study area contains marginal coastal scrub vegetation and is within the appropriate elevation range; however, there are no clay soils.
Almutaster pauciflorus	alkali marsh aster	None/None/2B.2	None	Meadows and seeps; alkaline/perennial herb/June–Oct/785–2,625	Not expected to occur. Although the study area is within the appropriate elevation range, there is no meadow and seep habitat that could support this species.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1/	Narrow Endemic Plant Species	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr–Oct/65–1,360	Not expected to occur. Although the study area contains coastal scrub vegetation communities, it does not support vernal pool habitat. Additionally, the project site is outside of the known elevation range for this species. According to Calflora, populations of San Diego ambrosia occur east of the State Route 79 and north of Lake Elsinore (Calflora 2020).

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Arctostaphylos rainbowensis	Rainbow manzanita	None/None/1B.1	Covered	Chaparral/perennial evergreen shrub/Dec–Mar/670–2,200	Not expected to occur. While the study area is within the appropriate elevation range, it does not contain suitable chaparral vegetation that would support this species.
Astragalus pachypus var. *jaegeri*	Jaeger's bush milk-vetch	None/None/1B.1	Covered	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky/perennial shrub/Dec–June/1,195–3,200	Not expected to occur. The reconnaissance survey was conducted during this species' blooming period, and this perennial shrub would have likely been detected during the survey.
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	FE/None/1B.1	Criteria Area Survey Plant Species	Playas, Valley and foothill grassland (mesic), Vernal pools; alkaline/annual herb/Apr–Aug/455–1,640	Not expected to occur. The study area does not contain alkaline soils or support vernal pool habitat.
Atriplex pacifica	South Coast saltscale	None/None/1B.2	None	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. The study area is outside of the appropriate elevation range for this species.
Atriplex parishii	Parish's brittlescale	None/None/1B.1	Criteria Area Survey Plant Species	Chenopod scrub, Playas, Vernal pools; alkaline/annual herb/June–Oct/80–6,235	Not expected to occur. The study area does not contain alkaline soils or support chenopod scrub, playa, or vernal pool habitat.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None/1B.2	Criteria Area Survey Plant Species	Coastal bluff scrub, Coastal scrub; alkaline/annual herb/Apr–Oct/30–655	Not expected to occur. The study area is outside of the appropriate elevation range for this species; there are no alkaline soils; and there is no coastal dune or playa habitat.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Ayenia compacta	California ayenia	None/None/2B.3	None	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/Mar–Apr/490–3,595	Not expected to occur. The study area does not contain desert scrub. The project site is outside of the known geographic range of this species. According to Calflora, populations of *California ayenia* generally occur east of Mt. San Jacinto (Calflora 2020).
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Criteria Area Survey Plant Species	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; sandy or gravelly/perennial evergreen shrub/(Feb)Mar–June/225–2,705	Not expected to occur. Nevin's barberry is a perennial evergreen shrub that would have been detected during the reconnaissance survey. According to Calflora, Nevin's barberry generally occurs east of Temecula and north of the City of Riverside (Calflora 2020).
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Criteria Area Survey Plant Species	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar–June/80–3,675	Not expected to occur. The study area is within the appropriate elevation range and contains marginal coastal scrub vegetation communities; however, there are no clay soils, and the site is highly disturbed (formerly a mass grading operation, disturbed topsoils, and numerous non-native species).
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1	Covered	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps,	Not expected to occur. The study area is within the appropriate elevation range

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				Valley and foothill grassland, Vernal pools; mesic, clay/perennial bulbiferous herb/May–July/95–5,550	and supports chaparral and grassland vegetation communities; however, there are no clay soils or vernal pool habitat.
Brodiaea santarosae	Santa Rosa Basalt brodiaea	None/None/1B.2	None	Valley and foothill grassland; basaltic/perennial bulbiferous herb/May–June/1,850–3,430	Not expected to occur. The study area is within the appropriate elevation range and supports a grassland vegetation community; however, Santa Rosa Basalt brodiaea occurs in the Santa Ana Mountains in undisturbed areas. .
California macrophylla	round-leaved filaree	None/None/1B.2	Criteria Area Survey Plant Species	Cismontane woodland, Valley and foothill grassland; clay/annual herb/Mar–May/45–3,935	Not expected to occur. The study area is within the appropriate elevation range and supports a grassland vegetation community; however, there are no clay soils.
Calochortus weedii var. *intermedius*	intermediate mariposa lily	None/None/1B.2	Covered	Chaparral, Coastal scrub, Valley and foothill grassland; rocky, calcareous/perennial bulbiferous herb/May–July/340–2,805	Not expected to occur on the project site; moderate potential to occur in buffer portion of study area. The study area is within the appropriate elevation range, has rocky loam substrate, and contains marginal coastal scrub vegetation communities. The species has been documented as occurring directly west of the project site at the Highway 215

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
					interchange with Clinton Keith Road (CDFW 2020). However, the majority of the project site used to be a mass grading operation, while the remainder of the project site exhibits varying levels of disturbance (disturbed top soils, weedy species). Finally, this species was not detected during the reconnaissance survey, which was conducted during the species' blooming period.
Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2	None	Closed-cone coniferous forest, Chaparral/perennial evergreen shrub/Apr–June/770–2,475	Not expected to occur. The study area is within the appropriate elevation range; however, it does not contain suitable chaparral or coniferous forest vegetation. According to Calflora, the closest documented location of Lakeside ceanothus is on Mt. Palomar.
Ceanothus ophiochilus	Vail Lake ceanothus	FT/SE/1B.1	Criteria Area Survey Plant Species	Chaparral (gabbroic or pyroxenite-rich outcrops)/perennial evergreen shrub/Feb–Mar/1,900–3,495	Not expected to occur. The study area is not within the appropriate elevation range for this species.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/1B.1	Criteria Area Survey Plant Species	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; alkaline/annual herb/Apr–Sep/0–2,100	Low potential to occur on the project site; moderate potential to occur in the study area. Smooth tarplant thrives on disturbance like most tarplants. The study area contains

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
					marginal grassland habitat and riparian scrub that could support this species; however, as a former mass grading operation, the project site has disturbed topsoils with a minimal amount of native vegetation. According to Calflora, numerous collections of smooth tarplant have been collected around Murrieta and near the study area; however, this species was not observed within the study area during the reconnaissance survey, which was conducted during the species blooming period.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	None	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. The project site is not within the appropriate elevation range and does not contain suitable coastal bluff scrub or dunes.
Chorizanthe parryi var. *parryi*	Parry's spineflower	None/None/1B.1	Covered	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky, openings/annual herb/Apr–June/900–4,005	Low potential to occur on the project site, moderate potential to occur in the study area. The project site is within the appropriate elevation range, contains sandy soils, and supports marginal coastal scrub vegetation communities, but is primarily comprised of a site of previous mass grading. This species withstands

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
					disturbance like that seen within the survey area. According to Calflora, Parry's spineflower is most likely to occur in western Riverside County, and populations are documented near the study area.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/1B.2	Covered	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr–July/95–5,020	Not expected to occur. The study area is within the appropriate elevation range and supports chaparral and grassland vegetation communities; however, there are no clay soils.
Clarkia delicata	delicate clarkia	None/None/1B.2	None	Chaparral, Cismontane woodland; often gabbroic/annual herb/Apr–June/770–3,280	Not expected to occur. The study area is within the appropriate elevation range; however, there are no gabbroid type soils, chaparral, or cismontane woodlands.
Clinopodium chandleri	San Miguel savory	None/None/1B.2	Narrow Endemic Plant Species	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland, Valley and foothill grassland; Rocky, gabbroic or metavolcanic/perennial shrub/Mar–July/390–3,525	Not expected to occur. The study area does not contain suitable rocky soils, and this perennial evergreen shrub would have been detected during the reconnaissance survey.
Cryptantha wigginsii	Wiggins' cryptantha	None/None/1B.2	None	Coastal scrub; often clay/annual herb/Feb–June/65–900	Not expected to occur. The study area is not within the appropriate elevation range and does not contain clay soils.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Dodecahema leptoceras	slender-horned spineflower	FE/SE/1B.1	Narrow Endemic Plant Species	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan); sandy/annual herb/Apr–June/655–2,495	Not expected to occur. The study area is within the appropriate elevation range and supports a marginal coastal scrub vegetation community; however, there are no alluvial fan formations.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2	Narrow Endemic Plant Species	Chaparral, Coastal scrub, Valley and foothill grassland; often clay/perennial herb/Apr–July/45–2,590	Not expected to occur. The study area is within the appropriate elevation range and supports a marginal coastal scrub vegetation community. However, there are no clay soils within the study area.
Dudleya viscida	sticky dudleya	None/None/1B.2	Covered	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial herb/May–June/30–1,805	Not expected to occur. The study area is within the appropriate elevation range and supports a marginal coastal scrub vegetation community. However, sticky dudleya is more likely to be found on coastal rocky cliff faces like those found on Camp Pendleton. No rocky cliff habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Covered	Coastal scrub, Valley and foothill grassland, Vernal pools; mesic/annual/ perennial herb/Apr–June/65–2,035	Not expected to occur. The study area is within the appropriate elevation range and supports a marginal grassland vegetation community. However, the project site does not support vernal pool habitat or the necessary mesic conditions.
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1	None	Coastal scrub (mesic), Vernal pools; soil/ephemeral liverwort/30–1,970	Not expected to occur. The study area does not support mesic coastal scrub or vernal pool vegetation communities.
Hesperocyparis forbesii	Tecate cypress	None/None/1B.1	None	Closed-cone coniferous forest, Chaparral; clay, gabbroic or metavolcanic/perennial evergreen tree//260–4,920	Not expected to occur. While the study area is within the appropriate elevation range, there are no clay soils, suitable forest, or chaparral vegetation, and this evergreen tree would have been detected during the reconnaissance survey.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	None	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/Feb–July(Sep)/225–2,655	Not expected to occur. Although the study area is within the appropriate elevation range, according to Calflora, mesa horkelia has a generally coastal distribution (CalFlora 2020).
Horkelia truncata	Ramona horkelia	None/None/1B.3	None	Chaparral, Cismontane woodland; clay, gabbroic/perennial herb/May–June/1,310–4,265	Not expected to occur. Although the study area is within the appropriate elevation range, there are no gabbroic soils and no suitable vegetation.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Juncus luciensis	Santa Lucia dwarf rush	None/None/1B.2	None	Chaparral, Great Basin scrub, Lower montane coniferous forest, Meadows and seeps, Vernal pools/annual herb/Apr–July/980–6,695	Not expected to occur. Although the study area is within the appropriate elevation range, there is no suitable semi-aquatic habitat (meadows, seeps, vernal pools).
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1	Criteria Area Survey Plant Species	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/0–4,005	Not expected to occur. While the study area is within the appropriate elevation range, there is no playa or vernal pool habitats to support this species.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2	Criteria Area Survey Plant Species	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr–July/1,705–4,495	Not expected to occur. The study area is outside of the appropriate elevation range for this species, and there is no suitable vegetation that would support this species.
Lilium parryi	lemon lily	None/None/1B.2	Covered	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest; mesic/perennial bulbiferous herb/July–Aug/4,000–9,005	Not expected to occur. The study area is outside of the appropriate elevation range and does not contain suitable riparian forest or coniferous forest habitat.
Limnanthes alba ssp. *parishii*	Parish's meadowfoam	None/SE/1B.2	Covered	Lower montane coniferous forest, Meadows and seeps, Vernal pools; vernally mesic/annual herb/Apr–June/1,965–6,560	Not expected to occur. The study area is outside of the appropriate elevation range and does not contain suitable riparian or coniferous forest habitat.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Mielichhoferia shevockii	Shevock's copper moss	None/None/1B.2	None	Cismontane woodland (metamorphic, rock, mesic)/moss/2,460–4,595	Not expected to occur. The study area is outside of the appropriate elevation range and does not support cismontane forest.
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	None/None/1B.3	None	Chaparral, Cismontane woodland, Lower montane coniferous forest (sometimes); Usually understory/perennial rhizomatous herb/Apr–Sep/1,310–4,100	Not expected to occur. The study area lacks suitable vegetation and woodland overstory to support this species.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/1B.2	None	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/980–5,165	Not expected to occur. The study area lacks suitable vegetation and woodland overstory to support this species.
Monardella macrantha ssp. *hallii*	Hall's monardella	None/None/1B.3	Covered	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/perennial rhizomatous herb/June–Oct/2,395–7,200	Not expected to occur. The study area is outside of the appropriate elevation range and does not contain suitable chaparral or coniferous forest habitat.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Narrow Endemic Plant Species	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/95–2,150	Not expected to occur. Although the study area is within the appropriate elevation range, it does not support chenopod scrub or vernal pool habitat.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.1	Criteria Area Survey Plant Species	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/5–3,970	Not expected to occur. Although the study area is within the appropriate elevation range, it does not contain alkaline soils nor support meadows, mesic seeps, or vernal pool habitat.
Nolina cismontana	chaparral nolina	None/None/1B.2	None	Chaparral, Coastal scrub; sandstone or gabbro/perennial evergreen shrub/(Mar)May–July/455–4,185	Not expected to occur. The study area does not contain sandstone or gabbro soils and this conspicuous, evergreen shrub would have likely been detected during the reconnaissance survey. According to Calflora, chaparral nolina populations occur south of Temecula.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Narrow Endemic Plant Species	Vernal pools/annual herb/Apr–Aug/45–2,165	Not expected to occur. While the study area is within the appropriate elevation range, it does not support vernal pool habitat.
Packera ganderi	Gander's ragwort	None/SR/1B.2	None	Chaparral (burns, gabbroic outcrops)/perennial herb/Apr–June/1,310–3,935	Not expected to occur. While the study area is within the appropriate elevation range and contains chaparral, it is located outside of the known geographic range of this species. According to Calflora, Gander's ragwort occurs almost entirely within San Diego county (Calflora 2020).

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	None	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; sandy, gravelly/perennial herb/(July)Aug–Nov(Dec)/0–6,890	Low potential to occur on the project site; moderate potential to occur in the study area buffer. The study area is within the appropriate elevation range and contains marginal coastal scrub and riparian scrub vegetation. However, the project site is highly disturbed because it used to be a mass grading operation. The study area buffer includes coastal scrub that could support this species. According to Calflora, white rabbit-tobacco occurs within Murrieta, near Ivy Street (Calflora 2020).
Saltugilia latimeri	Latimer's woodland-gilia	None/None/1B.2	None	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland; rocky or sandy, often granitic, sometimes washes/annual herb/Mar–June/1,310–6,235	Not expected to occur. The study area is not located in Mojavean desert scrub or a wash environment. According to Calflora, Latimer's woodland-gilia occurs on Mt. San Jacinto and east of Mt. San Jacinto, and 8 miles southeast of Temecula (CalFlora 2020).
Scutellaria bolanderi ssp. *austromontana*	southern mountains skullcap	None/None/1B.2	None	Chaparral, Cismontane woodland, Lower montane coniferous forest; mesic/perennial rhizomatous herb/June–Aug/1,390–6,560	Not expected to occur. The study area does not support a mesic, woodlands, chaparral, or coniferous forest habitat.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	None	Chaparral, Cismontane woodland, Coastal scrub;	Low potential to occur. The study area is within the

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				sometimes alkaline/annual herb/Jan–Apr(May)/45–2,625	appropriate elevation range and supports a marginal coastal scrub vegetation community, but it does not contain alkaline soils.
Sibaropsis hammittii	Hammitt's clay-cress	None/None/1B.2	Narrow Endemic Plant Species	Chaparral (openings), Valley and foothill grassland; clay/annual herb/Mar–Apr/2,360–3,495	Not expected to occur. The study area is outside of the appropriate elevation range.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2	None	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar–June/45–5,020	Low potential to occur. The study area is within the appropriate elevation range and supports a marginal coastal scrub vegetation community, but it does not contain alkaline soils.
Sphaerocarpos drewei	bottle liverwort	None/None/1B.1	None	Chaparral, Coastal scrub; openings, soil/ephemeral liverwort/295–1,970	Low potential to occur. The study area is within the appropriate elevation range, but supports marginally suitable habitat (coastal scrub).
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2	None	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/perennial rhizomatous herb/July–Nov/5–6,695	Not expected to occur. The study area is within the appropriate elevation range, but does not contain vernally mesic grassland or other mesic environments.

Scientific Name	Common Name	Status (Federal/State/CRPR	MSHCP	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	None/None/2B.1	Narrow Endemic Plant Species	Meadows and seeps, Marshes and swamps, Riparian forest, Vernal pools; alkaline/annual herb/May–Sep/15–1,425	Not expected to occur. The study area is within the appropriate elevation range, but does not support vernal pools, riparian forest, or other mesic environments. Additionally, there are no alkaline soils within the project site.
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2	None	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	Not expected to occur. Although the study area is within the appropriate elevation range and supports a chaparral vegetation community, this conspicuous perennial shrub would have likely been detected during the reconnaissance survey. According to Calflora, Parry's tetracocus generally occurs within San Diego county.
Tortula californica	California screw-moss	None/None/1B.2	None	Chenopod scrub, Valley and foothill grassland; sandy, soil/moss/30–4,790	Low potential to occur in the study area. While the study area contains grassland and is within the appropriate elevation range, there are no sandy soils that would support this species.

Federal
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
ST: State listed as threatened
SR: State listed as rare

CRPR: California Rare Plant Rank
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Threat Rank
0.1 – Seriously threatened in California (more than 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan

Attachment F

Special-Status Wildlife Species Detected or Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Amphibians					
Anaxyrus californicus	arroyo toad	FE/SSC	Covered	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.
Rana draytonii	California red-legged frog	FT/SSC	Covered	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.
Spea hammondii	western spadefoot	None/SSC	Covered	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.
Taricha torosa (Monterey County south only)	California newt	None/SSC	Covered	Wet forests, oak forests, chaparral, and rolling grassland.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.
Reptiles					
Actinemys marmorata	western pond turtle	None/SSC	Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Arizona elegans occidentalis	California glossy snake	None/SSC	None	Commonly occurs in desert regions throughout Southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation. The project site contains one section of natural vegetation with marginal open, sandy habitat that could support this species. The study area contains scattered brush habitat with sandy areas that could support this species.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Covered	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation; however, it contains one section of natural vegetation with marginally suitable habitat (scrub) that could support this species. The study area contains scattered brush habitat with sandy areas that could support this species.
Coleonyx variegatus abbotti	San Diego banded gecko	None/SSC	Covered	Rocky areas within coastal scrub and chaparral.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation; however, it contains one section of natural vegetation with marginally suitable habitat (scrub) that could support this species. The study area contains scattered coastal scrub habitat that could support this species.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Crotalus ruber	red diamondback rattlesnake	None/SSC	Covered	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation; however, it contains one section of natural vegetation with marginally suitable habitat (scrub) that could support this species. The study area contains scattered scrub habitat that could support this species.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation; however, it contains one section of natural vegetation with marginally suitable habitat (scrub) that could support this species. The study area contains scattered scrub habitat with sandy areas that could support this species.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site used to be a mass grading operation; however, it contains one section of natural vegetation with marginally suitable habitat (scrub) that could support this species. The study area contains scattered brush habitat that could support this species.
Thamnophis hammondii	two-striped gartersnake	None/SSC	None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Not expected to occur. The study area does not support suitable aquatic or upland habitat for this species.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Birds					
Agelaius tricolor (nesting colony)	tricolored blackbird	None/ST	Covered	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	Not expected to occur. The study area does not support freshwater or emergent wetland habitat that would support nesting for this species.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL	Covered	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	Not expected to occur on the project site; low potential to forage in the study area. The project site is surrounded by development and does not contain open areas suitable for nesting or wintering. In addition, there are no cliff-sides or large trees to provide nesting habitat. The study area contains open, scrubby hillsides that could provide foraging habitat for this species.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	None/SSC	Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Low potential to occur. The study area supports grassland and scrub vegetation communities suitable for the foraging of this species. However, no California ground squirrels or their burrows were observed on the project site. No other features that could serve as surrogate burrows were observed.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Covered	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	Not expected to occur. The study area is surrounded by development and used to be a mass grading operation. It does not support woodlands or open areas suitable for nesting or foraging.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Covered	Southern cactus scrub patches.	Not expected to occur. The study area does not contain cactus scrub to support this species.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Charadrius alexandrinus nivosus (nesting)	western snowy plover	FT, BCC/SSC, WL	None	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.	Not expected to occur. The study area does not support aquatic habitat suitable for this species.
Circus cyaneus (nesting)	northern harrier	None/SSC	Covered	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	Not expected to nest, low potential to forage. The study area does not contain wetland habitat that would support the nesting of this species; however, the project site contains marginal scrubland that could support foraging, but it is an isolated stand surrounded by development and adjacent to a mass grading operation where mass grading operations occurred.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT, BCC/SE, WL	Covered	Nests in dense, wide riparian woodlands and forest with well-developed understories.	Not expected to occur. The study area does not contain dense riparian woodlands that would support this species.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Covered	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands.	Not expected to nest, low potential to forage. The study area does not support woodlands or riparian areas near open lands for this species to nest. However, the project site contains grassland that could support foraging, but it is an isolated stand surrounded by development and adjacent to a mass grading operation.
Haliaeetus leucocephalus (nesting and wintering)	bald eagle	FD, BCC/SE, FP	Covered	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains.	Not expected to nest or forage. The study area does not support forested areas near aquatic habitat for this species to nest and/or winter.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	Not expected to nest or forage. The project site does not contain dense riparian woodlands that would support this species.
Lanius ludovicianus (nesting)	loggerhead shrike	None/SSC	Covered	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	Low potential to occur. The project site supports some suitable habitat (shrubs with open habitat) for this species to nest; however, it is an isolated stand because it is surrounded by development and adjacent to an area where mass grading operations occurred. This species was not observed within the study area.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC, WL	Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.	Low potential to occur on the project site; moderate potential to occur in the study area. The project site lacks suitable sage scrub habitat, but supports chaparral that contains scattered buckwheat suitable for foraging. This marginally suitable habitat is isolated and surrounded by development. The species has been documented as occurring approximately 0.25 miles west of the project site near McElwain Road, and 0.5 miles south of the site, east of Whitewood Road (CDFW 2020). The study area contains suitable buckwheat scrub that could support this species.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE, WL	Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.	Not expected to nest or forage. The study area does not contain dense riparian thickets that would support this species. The project site contains two individual mulefat plants that do not form a community that could support this species.
Fishes					
Gila orcuttii	arroyo chub	None/SSC	Covered	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud.	Not expected to occur. The study area does not support aquatic habitat for this species.
Mammals					
Antrozous pallidus	pallid bat	None/SSC	None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Low potential to occur. The study area supports marginal shrubland vegetation community suitable for foraging; however, the stand is isolated and surrounded by development.
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC	None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level.	Low potential to occur. The study area is within the elevation range for this species and supports marginally suitable habitat (coastal scrub, but completely surrounded by development and adjacent to where mass grading operations occurred) for this species. No small mammal burrows were observed on the project site. The species has been documented as occurring approximately 3.5 miles south of the project site near Jackson Avenue (CDFW 2020).

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC	Covered	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland.	Low potential to occur. The study area is within the elevation range for this species and supports limited coastal scrub and annual grassland habitat suitable for this species (isolated by surrounding development and adjacent to a mass grading operation). No small mammal burrows were observed on the project site. The species has been documented as occurring approximately 0.75 miles south of the project site (CDFW 2020).
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST	Covered	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas.	Low potential to occur. The study area is within the elevation range for this species and supports limited annual grassland habitat suitable for this species (isolated and surrounded by development). No small mammal burrows were observed on the project site. The species has been documented as occurring approximately 0.6 miles southeast of the project site (CDFW 2020). However, this historic occurrence (1988) is unlikely to have persisted.
Eumops perotis californicus	western mastiff bat	None/SSC	None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Not expected to occur. The study area supports marginally suitable foraging habitat and lacks suitable roosting habitat.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Lasiurus xanthinus	western yellow bat	None/SSC	None	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Not expected to roost or forage. The project site contains only marginal riparian scrub, but does not contain desert wash or palm habitat suitable for this species.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/SSC	Covered	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Low potential to occur on project site; moderate potential to occur in study area. The study area contains both agriculture and disturbed landscapes suitable for this species. This species was not observed within the study area.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Covered	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	Low potential to occur. The study area supports marginally suitable coastal scrub and rock stockpile habitat for this species; however, this region is surrounded by development and adjacent to a mass grading operation. No woodrat middens were observed within the project site.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	None	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with dropoffs, caverns, and buildings.	Not expected to occur. The study area does not support desert riparian or desert wash habitats suitable for this species.
Onychomys torridus ramona	southern grasshopper mouse	None/SSC	None	Grassland and sparse coastal scrub.	Low potential to occur. The study area supports marginally suitable grassland habitat for this species. The project site is completely surrounded by development. No small mammal burrows were observed on the project site.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Perognathus longimembris brevinasus	Los Angeles pocket mouse	None/SSC	Covered	Lower-elevation grassland, alluvial sage scrub, and coastal scrub.	Low potential to occur. The study area supports marginally suitable grassland habitat for this species. The project site is surrounded by development. No small mammal burrows were observed on the project site. The species has been documented as occurring approximately 4.3 miles southeast of the project site (CDFW 2020).
Perognathus longimembris internationalis	Jacumba pocket mouse	None/SSC	None	Desert scrub and sparse sage scrub in areas with fine sandy soils	Not expected to occur. The study area does not support suitable desert scrub or sparse sage scrub habitat with fine sandy soils. No small mammal burrows were observed on the project site.
Invertebrates					
Branchinecta lynchi	vernal pool fairy shrimp	FT/None	Covered	Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats.	Not expected to occur. The study area does not support vernal pools suitable for this species In addition, soils mapped on the site are well-draining and not susceptible to prolonged inundation.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. The study area does not support vernal pools suitable for this species. In addition, soils mapped on the site are well-draining and not susceptible to prolonged inundation.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Covered	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include Plantago erecta, Antirrhinum coulterianum, and Plantago patagonica (Silverado Occurrence Complex)	Not expected to occur. The study area supports marginally suitable habitat (coastal scrub, but lacks cryptogamic crusts or clay soils). Additionally, no known host plants are present on the project site.

Scientific Name	Common Name	Status (Federal/State)	MSHCP	Habitat	Potential to Occur
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. The study area does not support vernal pools suitable for this species. In addition, soils mapped on the site are well-draining and not susceptible to prolonged inundation.

Status Legend
Federal
BCC: USFWS—Birds of Conservation Concern
FD: Federally delisted; monitored for 5 years
FE: Federally listed as endangered
FT: Federally listed as threatened
State
FP: CDFW Fully Protected Species
SE: State listed as endangered
ST: State listed as threatened
SSC: California Species of Special Concern
WL: CDFW Watch List Species
MSHCP: Western Riverside County Multiple Species Conservation Plan