Appendix D

Biological Resources

SOUTH CAMPUS SPECIFIC PLAN

BIOLOGICAL TECHNICAL REPORT

Riverside County, California

February 21, 2020

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1 INTRODUCTION

Meridian Park, LLC proposes amendments to the General Plan of the March Joint Powers Authority and South Campus Specific Plan to shift planned uses within the south campus portion of the area previously analyzed and permitted under the March Business Center EIR (SCH No. 2002071089). The project includes development of office, commercial, mixed use, business park, industrial, and park/open space within an approximately 568-acre area.

Much of the development authorized under the March Business Center Specific Plan (the plan area is marketed and branded as "Meridian") and the South Campus Specific Plan are constructed or currently under construction. Additionally, a conservation easement has been placed over a portion of the specific plan area in accordance with previous development agreements; no changes or impacts in this area are proposed. Remaining areas are primarily developed and disturbed lands. This report addresses areas not previously developed for which proposed uses would shift within the plan area.

This Biological Technical Report (BTR) describes the existing biological resources within and adjacent to the proposed project footprint; details the methods used to assess existing conditions and potential impacts to sensitive habitats and species; and presents potential avoidance, minimization, and mitigation measures to reduce potential project impacts.

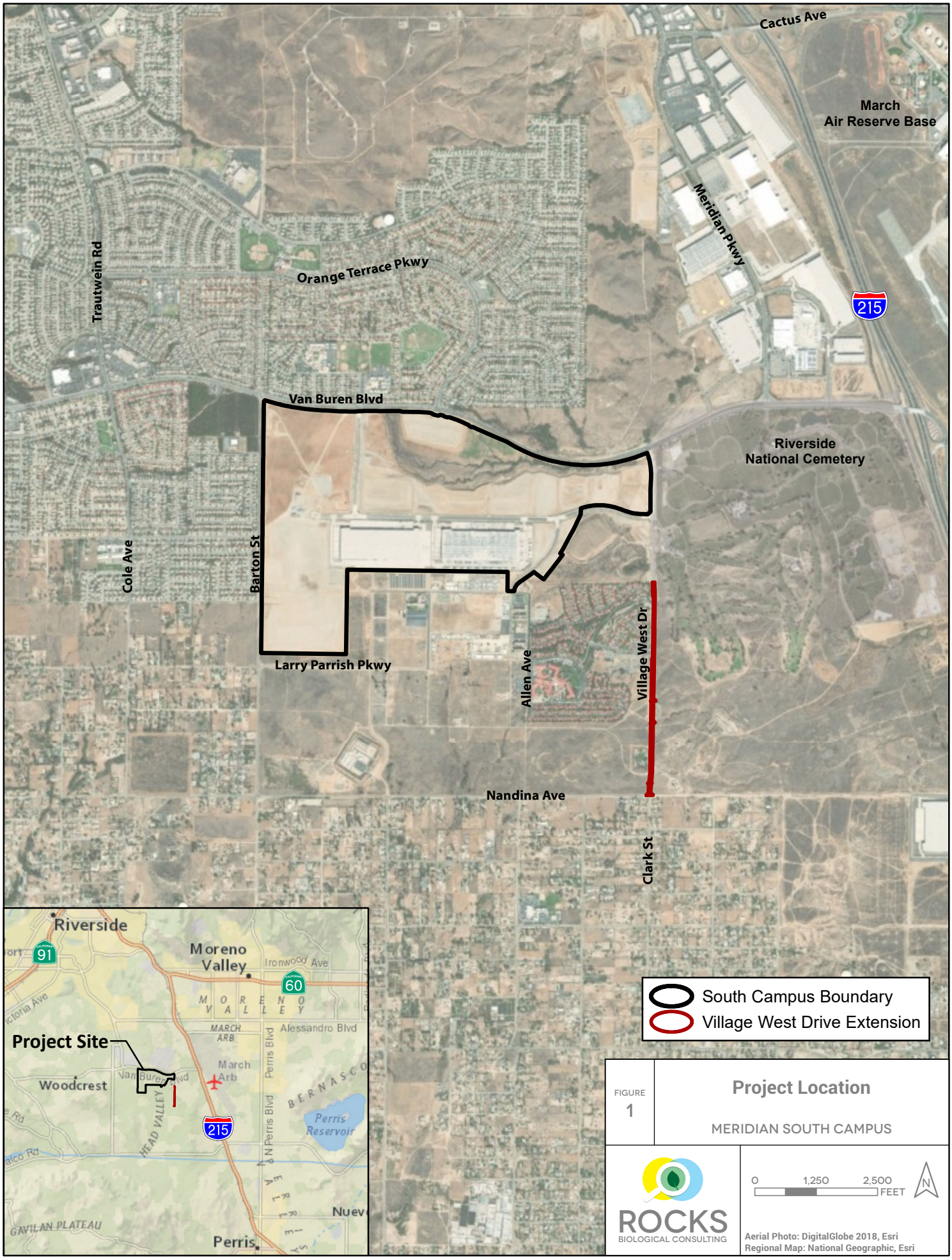
1.1 PROJECT LOCATION

The project site is located within the southwestern portion of the March Joint Powers Authority (March JPA) jurisdiction. More specifically, the project site is located in the South Campus of the March Business Center, also known as Meridian, south of Van Buren Boulevard, west of Village West Drive, and east of Barton Street, in unincorporated Riverside County, California (Figure 1). Interstate 215 (I-215) is located approximately 2.5 miles east of the project site. The Village West Drive extension component of the Project is located to the west and south of South Campus.

1.2 SITE BACKGROUND AND PLANNING CONTEXT

In 1993, the federal government mandated the realignment of March Air Force Base (AFB) and a substantial reduction in its military use. In April 1996, March AFB was re-designated an Air Reserve Base (ARB). Approximately 4,400 acres of land that had historically supported March AFB were no longer needed to support the ARB. The cities of Moreno Valley, Perris, and Riverside, and the County of Riverside formed the March JPA to oversee the dispensation and management of the surplus land. A General Plan and Master Environmental Impact Report (EIR) were prepared and adopted/certified in 1999 for the JPA planning area, which includes the March ARB.

The March Business Center Specific Plan and Final Focused EIR (SCH#2002071089), which guides land use decisions within a 1,290-acre portion of the JPA planning area, was adopted and certified in 2003. Within the March Business Center Specific Plan, two separate "campuses," North Campus and South Campus, were identified, along with the potential for a possible third campus. The South Campus components of the March Business Center Specific Plan have been analyzed under both CEQA and NEPA in the following documents:


Cactus Ave
March
Air Reserve Base
Meridian Pkwy
Trautwein Rd
Orange Terrace Pkwy
215
Van Buren Blvd
Riverside
National Cemetery
Cole Ave
Barton St
Larry Parrish Pkwy
Allen Ave
Village West Dr
Nandina Ave
Clark St
Riverside
91
Moreno
Valley
Ironwood Ave
60
MORENO VALLEY
Project Site
MARCH ARB
Alessandro Blvd
Woodcrest
March Arb
Perris Blvd
BERNASCO
Perris Reservoir
215
Nuev
GAVILAN PLATEAU
Perris
South Campus Boundary
Village West Drive Extension
FIGURE
1
Project Location
MERIDIAN SOUTH CAMPUS
ROCKS
BIOLOGICAL CONSULTING
0
1,250
2,500
FEET
N
Aerial Photo: DigitalGlobe 2018, Esri
Regional Map: National Geographic, Esri

- Final Environmental Impact Statement: Disposal of Portions of March Air Force Base (February 1996)
- Final Environmental Impact Report for the March Air Force Base Redevelopment Project (June 1996)
- Redevelopment Plan for the March Air Force Base Redevelopment Project (June 1996)
- March Joint Powers Authority Development Code (July 1997)
- General Plan of the March Joint Powers Authority (September 1999)
- Master Environmental Impact Report for the General Plan of the March Joint Powers Authority (September 1999)
- March Business Center Specific Plan (February 2003)
- March JPA General Plan Amendment (February 2003)
- March Business Center Focused Environmental Impact Report (February 2003)
- March Business Center Design Guidelines (November 2003)
- Addenda to the certified 2003 March Business Center Focused EIR, including:

  – Meridian South Campus Specific Plan Amendment – Parcel Delivery Terminal Project (September 2017)

  – Meridian South Campus Specific Plan Amendment – Land Swap Addendum (September 2018)

As part of the 'Disposal and Reuse of March Air Force Base' process, a section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) was pursued for Stephens' kangaroo rat (*Dipodomys stephensi*; SKR), least Bell's vireo (*Vireo bellii pusillus*; LBVI), mountain plover (*Charadrius montanus*), coastal California gnatcatcher (*Polioptila californica californica*; CAGN), Quino checkerspot butterfly (*Euphydryas editha quino*; QCB), southwestern willow flycatcher (*Empidonax traillii extimus*; SWFL), and Riverside fairy shrimp (*Streptocephalus woottoni*).

The project also occurs within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) plan area. The MSHCP is a regional effort to preserve sensitive habitats and species, and all development in the region that is permitted through the County of Riverside must comply with the MSHCP. The goal of such regional biological planning efforts is to preserve sufficient native habitats such that special-status species are also conserved. Though the JPA is an independent agency and therefore not covered under the MSHCP, project mitigation will be pursued in a manner consistent with the MSHCP, further off-setting potential minor impacts on special-status species that could occur with project implementation.

1.3 PROJECT OBJECTIVES

The proposed project requests an amendment to the existing South Campus components of the March Business Center Specific Plan (South Campus Specific Plan) to shift land uses between parcels. The proposed project does not convert any new land to development and would not encroach on the March ARB or its operations. To reflect the evolving community priorities and environmental regulatory landscape, the proposed mix of uses have been designed to reduce the environmental impacts compared to the South Campus development originally approved in 2003 (2003 South Campus) as well as the currently approved South Campus development (Current South Campus). The primary objectives of the project include the following:

- Respond to community requests for community serving land uses, including a dog park, additional retail uses, such as restaurants and stores.
- Provide a mix of uses that reduces the overall impacts compared to the original and currently entitled uses.
- Site community serving uses in locations easily accessible from Van Buren Boulevard.
- Provide appropriate land use intensities to comply with the parameters of the March Air Reserve Base/Inland Port Airport Compatibility Plan.
- Implement the goals, objectives and policies of the March JPA General Plan.
- Provide increased job opportunities for local residents through the provision of employment- generating businesses.
- Establish a land use and facility plan that ensures project viability in consideration of existing and anticipated economic conditions.
- Encourage the use of alternative modes of transportation through the provision of a pedestrian and bicycle circulation system that is safe, convenient and comfortable.
- Provide a range of job types for the community's residents.
- Minimize impacts from construction of the development to sensitive biological resources.
- Implement the terms and conditions agreed upon in the September 12, 2012 Settlement Agreement entered into between and among the Center for Biological Diversity, the San Bernardino Valley Audubon Society, March JPA, and LNR Riverside LLC, as the complete settlement of the claims and actions raised in *Center for Biological Diversity v. Jim Bartel, et al*.

1.4 EXISTING CONDITIONS

Much of the development of the March Business Center Specific Plan (the plan area is is marketed and branded as "Meridian") and the South Campus Specific Plan are constructed or currently under construction. The following is a summary of roadways and buildings that have been built or are under construction.

Roadways

- Van Buren Boulevard – Van Buren Boulevard has been widened to seven through lanes, with four westbound lanes and three eastbound lanes.
- Coyote Bush Road – Coyote Bush Road has been constructed providing a connection between Van Buren Boulevard and Krameria Avenue.
- Krameria Avenue – Krameria Avenue has been constructed between Village West Drive on the east to provide access to Building B on the west.
- Bundy Avenue – Bundy Avenue has been extended northward to connect with Krameria Avenue on the north.
- Village West Drive – Village West Drive has been improved between Van Buren Boulevard and Krameria Avenue to provide access into the South Campus. South of Lemay Drive in the residential community located south of South Campus, Village West Drive becomes and unpaved roadway.

Park and Trail System

Located southwest of the intersection of Krameria Avenue and Village West Drive is an open space area with a newly constructed park and loop trail system. The loop trail is approximately 4,300 linear feet (0.8 miles), in the eastern portion of a 61.38-acre parcel. Adjacent to the park and loop trail is a parking lot with 25 parking spaces accessed via Village West Drive.

Buildings

- Building A, located south of Krameria Avenue and west of Bundy Avenue, is a 1,000,000 square foot industrial warehouse building. This building was constructed in November 2017, is complete and operational, and is occupied by Amazon.
- Building B, located immediately west of Building A, south of Krameria Avenue and where Coyote Bush Road intersects with Krameria Avenue, is a 1,000,000 square foot industrial warehouse building. Construction of Building B was complete in March 2018. A parking lot west and south of Building B is currently under construction. Once complete, in October 2020, Building B and the adjacent parking lot will be utilized by the United Parcel Service (UPS).
- Building C, located at the northeast corner of the intersection of Coyote Bush Road and Krameria Avenue, is a 500,000 square foot industrial warehouse building that is currently under construction and will be complete by February 2020. Building C will be occupied by Safavieh.
- Commercial Development, totaling 15,485 square feet and situated on the northern 3.5 acres of a commercial parcel located at the southeast corner of the intersection of Orange Terrace Parkway and Van Buren Boulevard, has been approved. The approved commercial development includes a gas station, food mart, a pad for a drive-through restaurant, and a building for retail.

Table 1 provides a summary of the total square footage of development that has occurred within the South Campus project area.

Table 1. Existing South Campus Development

Component	Land Use	Tenant	Square Footage
Building A	Industrial	Amazon	1,000,000 SF
Building B	Industrial	UPS	1,000,000 SF
Building C	Industrial	Safavieh	500,000 SF
		Total	2,500,000 SF

1.5 PROPOSED PROJECT

The proposed project involves amending the South Campus Specific Plan to shift the mix of uses which will reduce the environmental impacts compared to the 2003 South Campus and the Current South Campus. The amended South Campus Specific Plan would result in the following

changes to acreages for each land use type. A comparison to the 2003 South Campus and Current South Campus is provided in Table 2 below.

- Increase of 16.2 acres of Parks/Open Space
- Increase of 47.3 acres of Industrial
- Increase of 17.1 acres of Commercial
- Reduction of 27.4 acres of Office
- Reduction of 15.0 acres of Mixed Use
- Reduction of 33.3 acres of Business Park

Table 2. 2003, Current and Proposed South Campus Land Uses

Use	2003 South Campus (acres)	Current South Campus (acres)	Proposed (acres)	Change from Current Approval (acres)
Office	43.9	32.0	4.6	-27.4
Commercial	12.5	6.4	23.5	+17.1
Mixed Use	48.5	33.3	18.3	-15.0
Business Park	263.2	232.1	198.8	-33.3
Industrial	146.8	134.5	181.8	+47.3
Park/Open Space	111.6	125.0	141.2	+16.2
Total Net Acres	626.5	563.3	568.2	+4.9

The proposed project also includes Plot Plan approvals for five components of the South Campus buildout. Each of these are discussed below:

- Commercial Development: Commercial development, totaling 15,485 feet has been approved on the northern 3.5 acres of the parcel located at the southeast intersection of Orange Terrace Parkway and Van Buren Boulevard. The proposed project seeks approval to construct additional commercial use, specifically a grocery store, in the southern 9.4 acres of that Commercial parcel. A total of 61,336 square feet of additional Commercial use with a total of 345 parking spaces would be constructed. The proposed Project also seeks approval of a conditional use permit to allow alcohol sales at the grocery store.
- Building D: The proposed Building D would be constructed west of Coyote Bush Road and north of Krameria Avenue on a parcel that is 36.5 acres in size. The building would be an 800,000 square foot industrial warehouse located across the street from the existing Building C.
- Dog Park and Paseo: A 6.2-acre dog park and paseo would be constructed on the eastern side of Barton Street across from the Santa Inez Way and Barton Street

intersection. The dog park and paseo would extend to Caroline Way and provide an open space connection to Krameria Avenue.

- Caroline Way: Caroline Way would be constructed from the west end of Krameria Avenue north to the end of Building D where it will turn to the left and connect with Coyote Bush Road.
- Village West Drive Extension: The improved portions of Village West Drive currently terminate at Lemay Drive to the south. The proposed Project would include improvements to and the extension of Village West Drive to provide a through connection between Van Buren Boulevard to the north and Nandina Avenue to the south. The improved Village West Drive would include two through lanes, a center striped median, and a bike lane. Sidewalks would also be provided on either side of the roadway. The total roadway width would be 54 feet, and the improvements are expected to be for 4,330 linear feet (approximately 1,720 linear feet of which is the existing roadway that runs in front of the Air Force Village West development). Note that extension of Village West Drive will require an easement from the United States Department of Veteran's Affairs. The land where Village West Drive roadway improvements would occur is land owned by the Veterans Administration and the Federal government. An existing abandoned water tower, located along the alignment, would be removed.

1.6 REGULATORY FRAMEWORK

Several regulations have been established by federal, state, and local agencies to protect and conserve biological resources. The descriptions below provide a brief overview of agency regulations that may be applicable to the project. The final determination as to what types of permits are required is made by the regulating agencies.

FEDERAL REGULATIONS

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed species. ESA regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act. As development is proposed, the responsible agency or individual landowner is required to consult with the USFWS to assess potential impacts to listed species (including plants) or its critical habitat, pursuant to Sections 7 and 10 of the act. USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the federal ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 of the act provides for permitting of federal projects on projects requiring federal permits.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S. Code [U.S.C.] 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 CFR 10.13. The MBTA is enforced by USFWS and prohibits "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act of 1899 prohibits discharge of any material into navigable waters, or tributaries thereof, of the United States without a permit. The act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, or channel; or to dam navigable streams without a permit.

Many activities originally covered by the Rivers and Harbors Act are now regulated under the Clean Water Act of 1972, discussed below. However, the 1899 Act retains relevance and created the structure under which the U.S. Army Corps of Engineers oversees Clean Water Act 404 permitting.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (Corps) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3 (as amended at 80 Federal Register 37104, June 29, 2015). The Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits.

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The Regional Water Quality Control Board (RWQCB), a division of the State Water Resources Control Board, provides oversight of the 401 permit process in California. The RWQCB is required to provide "certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits.

STATE REGULATIONS

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was established in 1970 as California's counterpart to the National Environmental Policy Act (NEPA). It is a statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, where feasible.

CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity, which must receive some discretionary

approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act (CESA) of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. The California Department of Fish and Wildlife (CDFW) is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special-status species are addressed through the issuance of a 2081 permit (Memorandum of Understanding).

In 1991, the California NCCP Act was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. California law (Section 2800 et seq. of the California Fish and Game Code [CFGC]) established the NCCP program "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and

growth." The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code (CFGC), CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Lake or Streambed Alteration

Agreement Application must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Within California, fish, wildlife, and native plant resources are protected and managed by CDFW. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the CFGC address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of birds of prey is provided for in Sections 3503, 3513, and 3800 of the CFGC.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) provides for statewide coordination of water quality regulations. The state Water Resources Control Board was

established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis.

The RWQCB is the primary agency responsible for protecting water quality in California. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the California Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

REGIONAL AND LOCAL PLANS

Western Riverside Multiple Species Habitat Conservation Plan (MSHCP)

The project occurs within an area covered by the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). Projects where the lead agency is signatory to the MSHCP are covered under the MSHCP. However, the March Joint Powers Authority is the lead agency for the project and is not a signatory to the MSHCP. As such, the project is not subject to MSHCP regulations nor does it receive take authority granted under the MSHCP.

Riverside County Ordinance Nos. 499 and 559- Tree Removal

Chapter 12.08 of the Riverside County Code of Ordinances sets for regulations regarding roadside tree removal and trimming activities (County of Riverside 2016). In accordance with Unincorporated Riverside County Ordinance No. 499 (as amended through 499.11), a permit must be obtained from the County Transportation Director prior to removing trees or trimming any tree planted in the right of way of a County highway. If such removals are proposed, conditions may be imposed by the County Transportation Director such as requirements for use of a qualified tree surgeon or trimmer, and for bond, insurance or security to protect from damage, as well as relocation and/or replacement by one or more other trees.

Chapter 12.24 of the Riverside County Code of Ordinances also includes regulations related to tree removal (County of Riverside 2016). According to the Unincorporated Riverside County Ordinance No. 559 (as amended through 559.7), the removal of living native trees on parcels or property greater than 0.5 acre in size, located in the unincorporated Riverside County, and above 5,000 feet in elevation requires a permit. The project site elevation is below 5,000 acres; as such, this ordinance is not applicable.

Riverside County Oak Tree Management Guidelines

Riverside County Oak Tree Management Guidelines address oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering (County of Riverside 1999). A biological study is required for properties that support oak trees on a lot size of 2.5 acres or greater. Protected oaks include any individual tree larger than 2 inches in diameter at breast height (DBH) or the sum of the diameters of multiple trunks at DBH. Protected species include *Quercus agrifolia*, *Q. chrysolepis*, *Q. engelmann*, *Q. kelloggii*, *Q. morehus*, and *Q. wislezenii* (County of Riverside 1999).

Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' Kangaroo Rat Habitat Conservation Plan (HCP) was completed in 1996 by the Riverside County Habitat Conservation Agency, the CDFW, and the USFWS. The HCP was created as a region-wide plan for species permitting and conservation so that individual projects could receive ESA take authority for the species through the County, rather than individually. The HCP established 7 "core reserves," totaling more than 41,000 acres, within a planning area of 533,000 acres. The Riverside County Habitat Conservation Agency is responsible for "completing" the reserves through the addition of land in fee simple or through the acquisition of easements. The HCP also calls for the addition of 2,500 acres of occupied Stephens' kangaroo habitat into the reserves, for total acreage of occupied SKR habitat within core reserves to 15,000 acres (Chamberlin, 1998). A portion of the reserves occur within the former March Air Base; however,

the project site is not among the reserve lands.

General Plan of the March Joint Powers Authority.

As part of the base re-alignment, the General Plan of the March Joint Powers Authority was created as a guiding tool for development within the former Air Base. The general plan is designed to implement the March Air Force Base Master Reuse Plan, which included disposal and redevelopment of approximately 4,400 acres of the approximately 6,500 acres of the former Air Base. The General Plan established serves as a blueprint for future growth and development (March JPA, 1999).

2 METHODS

Several previous biological surveys have been performed on the project site, including surveys for the initial March Business Center EIR (SCH No. 2002071089) as well as several burrowing owl pre-construction surveys as individual developments within the site were constructed.

For the current re-aligned South Campus Specific Plan project, RBC biologists conducted updated vegetation mapping, a habitat assessment for potential special-status species, and general biological surveys on July 31, 2019 and October 9, 2019. A formal aquatic jurisdictional delineation was performed on the Village West Drive extension by RBC regulatory specialists on October 21, 2019.

The general biological survey, vegetation mapping and wildlife surveys were conducted within the project area plus a 50-foot buffer, collectively referred to as the Biological Survey Area (BSA) herein. Note that figures in this report depict the full BSA for informational purposes and edge effects analysis; however, only project site information is included in report calculations and tables.

Prior to conducting field surveys, existing information regarding biological resources present or potentially present within the BSA was obtained through a review of pertinent literature and databases, including, but not limited to:

- CDFW California Natural Diversity Database (CNDDB)
- California Native Plant Society (CNPS) Electronic Inventory
- United States Fish and Wildlife Service Database
- National Wetlands Inventory Database

A CNDDB (CDFW 2019) query was conducted for the project site plus a 3-mile radius. The CNPS Electronic Inventory (CNPS 2019) search was conducted for the United States Geological Survey (USGS) 7.5' quadrangles surrounding the BSA. The potential for special-status species to occur within the BSA was refined by considering the habitat affinities of each species, the results of field habitat assessments, vegetation mapping, and knowledge of local biological resources.

2.1 VEGETATION COMMUNITIES AND LAND USES

RBC conducted vegetation mapping in the field to provide a baseline of the biological resources that occur or have the potential to occur within the BSA. RBC conducted vegetation mapping by walking throughout the BSA and mapping vegetation communities on aerial photographs at a 1:2400 scale (1 inch = 200 feet). The extent of each habitat type (delineated as a habitat polygon on the vegetation maps) was calculated using the ArcGIS Geographic Information System (GIS). Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with MSCHP vegetation mapping classification. Note that information regarding how each community is classified under the Manual of California Vegetation, 2nd Edition is also provided herein for reference.

2.2 BIOLOGICAL SURVEYS

A general biological survey for plants and animals was conducted concurrently with project vegetation mapping on July 31, 2019 and October 9, 2019. Plant species encountered during the field survey were identified and recorded in field notebooks. Plant species that could not be identified were brought into the laboratory for identification using the dichotomous keys in the

Jepson Manual (Baldwin et al. 2012) and following the taxonomic treatment of the Jepson Manual with input from the *Western*

Riverside County Annotated Checklist (Roberts 2004). A compiled list of the vascular plant species observed in the BSA is presented in Appendix B.

Wildlife species were documented during the field survey by sight, calls, tracks, scat, or other signs, and were recorded in field notebooks. Binoculars (8X42 magnification) were used to aid in the identification of wildlife. In addition to species observed during the surveys, expected wildlife use of the BSA was assessed based on known habitat preferences of local species and knowledge of their biogeographic distribution in the region. Scientific and common names of animals follow CDFW (2018). A list of wildlife species observed in the study area is presented in Appendix C.

The location of observed biological resources designated as special-status by the USFWS, CDFW, and/or CNPS, if encountered, were recorded in field notebooks, aerial maps, and/or through the use of Global Positioning System (GPS) handheld units. The BSA was also surveyed for habitat with the potential to support special-status plant and animal species.

2.3 JURISDICTIONAL DELINEATION

2.3.1 PRE-FIELD REVIEW

Prior to the on-site delineation, field maps were created using a Geographic Information System (GIS) and a color aerial photograph at a 1:300 scale. RBC staff also reviewed USGS NHD and topography data and U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data to further determine the potential locations of jurisdictional aquatic resources. Google Earth was also utilized to assess current and historic presence or absence of flow in the jurisdictional survey area.

Per the review of on-line data sources, USGS NHD maps four "blue-line" ephemeral streams generally within the central, eastern portion of the jurisdictional survey area and a reservoir just to the west of the southwestern boundary of the jurisdictional survey area (USGS 2018). USFWS NWI maps one Riverine Intermittent Streambed Temporarily flooded (R4SBA, Riverine) feature just to the east of the eastern boundary of the jurisdictional survey area and maps one Palustrine Unconsolidated Bottom Artificially Flooded (PUBK, Freshwater Pond) feature partially within the southwestern portion of the jurisdictional survey area (USFWS 2019).

2.3.2 ON-SITE DELINEATION

Shanti Santulli, Sarah Krejca, and Brenda Bennett of RBC conducted a jurisdictional delineation field visit on October 21, 2019 from 0900 to 1415. The jurisdictional survey area was approximately 26.53 acres and included the project footprint plus a 100-foot buffer. While in the field, potentially jurisdictional features were recorded using a hand-held Global Positioning System (GPS) unit with a level of accuracy ranging from five to eight feet. RBC staff refined the data using aerial photographs and topographic maps with two-foot contours to ensure accuracy.

Wetland Delineation

Field staff examined potential Corps jurisdictional wetland areas using the routine determination methods set forth in Part IV, Section D, Subsection 2 of the Corps 1987 *Wetland Delineation Manual* (Wetland Manual) (Environmental Laboratory 1987) and the 2008 *Regional Supplement to*

the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (Arid West Supplement) (Corps 2008a).

Areas that met the three parameters per the Arid West Supplement (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) were considered wetland waters of the U.S./State. RBC staff based wetland plant indicator status (i.e., Obligate [OBL], occurs 99+% in wetlands; Facultative Wetland [FACW], occurs 67-99% in wetlands; Facultative [FAC], occurs 34-66% in wetlands; Facultative Upland [FACU], occurs 1-33% in wetlands; Upland [UPL], occurs 99+% in uplands; Not Listed [NL], considered UPL for wetland delineation purposes) on the *National Wetland Plant List* (NWPL; Corps 2016) and hydric soils indicators on *Field Indicators of Hydric Soils in the United States, Version 8.2* (NRCS 2018). Soil chromas were identified in the field according to *Munsell's Soil Color Charts* (Munsell Color 2015) and using protocols per the Wetland Manual and Arid West Supplement. Plants were identified according to The Jepson Manual 2nd edition (Baldwin et al. 2012) and nomenclature follows Jepson eFlora (Jepson Flora Project 2019).

Note that in April 2019 the State Water Resources Control Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (the Procedures) which will become effective on May 28, 2020, nine months after the Office of Administrative Law approved the Procedures on August 28, 2019. Although the Procedures are not yet applicable to this project, the delineation methods used by RBC for the proposed project follow the wetland delineation methodology outlined in the Procedures.

Field staff identified the limits of CDFW potential jurisdictional wetland boundaries using the same wetland delineation methods per the Corps. Note that CDFW follows the USFWS wetland definition and classification system, which defines a wetland as transitional land between terrestrial and aquatic systems having one or more of the following attributes: "(1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (USFWS 1979). A wetland is presumed when all three attributes are present; if less than three attributes are present the presumption of a wetland must be supported by "the demonstrable use of wetland areas by wetland associated fish or wildlife resources, related biological activity, and wetland habitat values" (CFGC 1994).

Ordinary High Water Mark Delineation

An ordinary high water mark (OHWM) is defined in 33 Code of Federal Regulations 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." RBC staff used *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (OHWM Field Guide; Corps 2008b) and guidance provided in RGL 05-05 to estimate the extent of an OHWM in the field. For each feature exhibiting the potential presence of an OHWM, RBC completed a 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet following the guidance provided in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Datasheet; Corps 2010). Per the 2010 OHWM Datasheet, common indicators of an OHWM include a break in slope (i.e., abrupt cut in bank slope created by hydrogeomorphic processes across the landscape), changes in average sediment texture between floodplain units (i.e., low-

flow, active floodplain, low terrace), and changes in vegetation species and/or cover between floodplain units.

Field staff identified the lateral limits of potential non-wetland waters of the State using the same methods for determining an OHWM per the Corps as described above.

Streambed and Associated Riparian Delineation

CDFW potential jurisdictional non-wetland boundaries were determined based on the presence of lake and/or streambed and riparian habitat. Lakes include “natural lakes or man-made reservoirs” (14 California Code of Regulations [CCR] § 1.56). Streambeds considered within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (14 CCR § 1.72). Riparian habitat refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Isolated riparian habitat (i.e., where riparian vegetation did not appear associated with a streambed) was not considered CDFW jurisdictional.

3 RESULTS

3.1 PHYSICAL SETTING

The project site is located on relatively flat ground and supports primarily developed and disturbed lands. On-site elevations range from approximately 1620 to 1780 feet AMSL. Soils on-site are primarily Fallbrook sandy loams and Monserate sandy loams (Appendix D). No potentially jurisdictional aquatic features were observed within the primary South Campus development area with the exception of the conservation easement areas, which are not proposed for development. Potentially jurisdictional features occur immediately adjacent the Village West Drive road extension, however.

3.2 VEGETATION COMMUNITIES AND LAND USES

The project site and 50-foot mapping buffer (BSA) supports twelve vegetation communities and other land covers as shown on Figures 2a-2b and identified in Table 3. Most of the site has been graded so conditions are atypical; mapping was performed based on conditions observed during the July 31 and October 9, 2019 field visits.

Vegetation communities and land uses mapped within the BSA are primarily developed and disturbed habitat; developed/ornamental lands; and non-native grassland. Areas that are developed including roads and industrial areas were mapped as developed. No jurisdictional or riparian vegetation communities are present within the project site; however, such areas do occur within the conservation easement on the north side of the site and immediately adjacent the Village West Drive roadway extension.

Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with MSCHP vegetation mapping classification. Note that information regarding how each community is classified under the Manual of California Vegetation, 2nd Edition is also provided herein for reference.

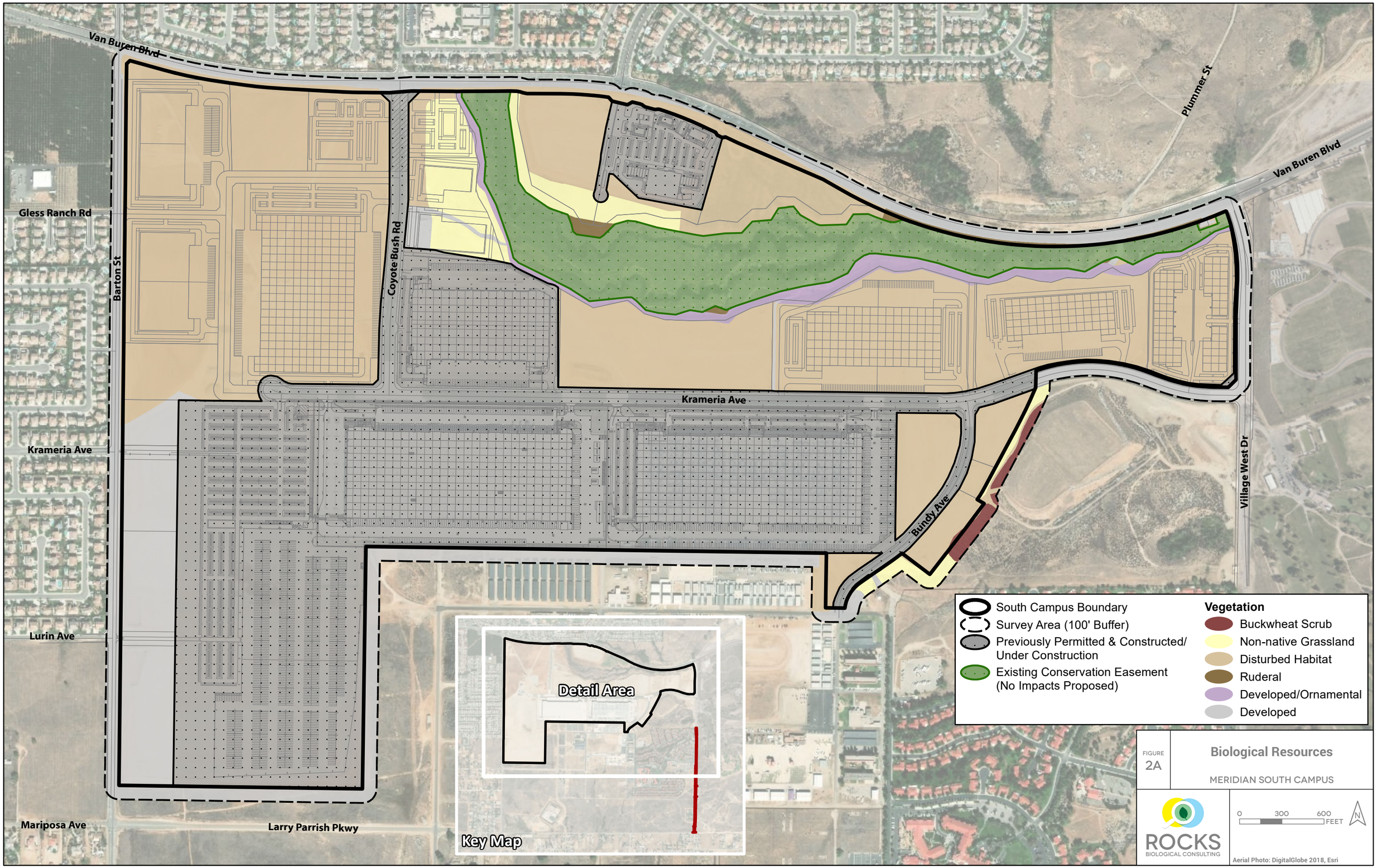
VEGETATION COMMUNITIES

Buckwheat Scrub

Buckwheat scrub (0.11 acre) is a form of coastal sage scrub monotypically dominated by California buckwheat (*Eriogonum fasciculatum*) in the shrub strata. The buckwheat scrub within the project area and adjacent has large openings with a healthy soil crust. Other present species include common goldfields (*Lasthenia gracilis*), doveweed (*Croton setiger*), and everlasting nest-straw (*Stylocline gnaphaloides*). This habitat is identified as G5 and S5, meaning it is "demonstrably secure because of its worldwide/ statewide abundance." (CNPS, 2019).

Developed & Developed/Ornamental

Developed lands within the project area (26.08 acres and 9.39 acres, respectively) support little to no native vegetation and are comprised of human-made structures and landscaping. The high level of soil disturbance allows only sparse ruderal (weedy) plant species to occur. Major developed areas within the project area include buildings, parking lots, a manufactured slope with ornamental plants, and a paved access road along the southside of the conservation easement.


Van Buren Blvd
Plummer St
Van Buren Blvd
Gless Ranch Rd
Barton St
Coyote Bush Rd
Krameria Ave
Krameria Ave
Village West Dr
Burdy Ave
Lurin Ave
Mariposa Ave
Larry Parrish Pkwy
Detail Area
Key Map
South Campus Boundary
Survey Area (100' Buffer)
Previously Permitted & Constructed/ Under Construction
Existing Conservation Easement (No Impacts Proposed)
Vegetation
Buckwheat Scrub
Non-native Grassland
Disturbed Habitat
Ruderal
Developed/Ornamental
Developed
FIGURE 2A
Biological Resources
MERIDIAN SOUTH CAMPUS
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Aerial Photo: DigitalGlobe 2018, Esri

Survey Area
Village West Drive Impacts
Village West Drive Roadway and Utility Improvements

Vegetation

Freshwater Marsh
Southern Riparian Forest
Southern Willow Scrub
Disturbed Riversidean Sage Scrub
Non-Native Grassland/Paniculate Tarplant (*Deinandra paniculata*, CRPR 4.2)
Disturbed Habitat
Ruderal
Developed/Ornamental

Arnold Dr
Village West Dr
Lemay Dr
Twining Ave
5th St
Nandina Ave
Clark St

Key Map
Detail Area

FIGURE 2B

Biological Resources

MERIDIAN SOUTH CAMPUS

ROCKS BIOLOGICAL CONSULTING

0 150 300 FEET

N

Aerial Photo: DigitalGlobe 2018, Esri

Disturbed Habitat

Disturbed habitat (207.48 acres) is typically classified as land on which the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of a plant association (e.g., disturbed chaparral). The habitat is typically dominated by non-native annual species and perennial broadleaf species but may also include barren areas devoid of vegetation due to ground disturbance. The disturbed habitat within the project area was graded and left open and is now being colonized by non-native plants and scattered native species.

Table 3. Vegetation Communities within South Campus Specific Plan Project Area

Vegetation Community (Holland Code)	Vegetation Community (MCV 2)	Global/ State Rank	Acres Within Project Area	
			South Campus	Village West Drive Extension
Buckwheat Scrub	*Eriogonum fasciculatum* Shrubland Alliance / Buckwheat Scrub	G5, S5	0.11	-
Developed	Developed/ Disturbed	-	26.08	-
Developed/Ornamental	Developed/ Disturbed	-	9.39	3.14
Disturbed	Developed/ Disturbed	-	206.27	0.21
Freshwater Marsh (within mapping buffer only)	*Typha* Herbaceous Alliance	G5, S5	-	-
Non-Native Grassland	Mediterranean California Naturalized Annual and Perennial Grassland	None	15.36	-
Non-Native Grassland/Paniculate Tarplant	Mediterranean California Naturalized Annual and Perennial Grassland	None	-	1.39
Ruderal	Upland Mustards	-	1.16	0.80
Southern Riparian Forest (within mapping buffer only)	*Populus fremontii* Forest Alliance	G4, S3.2	-	-

Southern Willow Scrub (within mapping buffer only)	*Salix laevigata* Woodland Alliance	G3, S3	-	-
		SubTotal	*258.37*	*5.54*
Other Areas				
Areas Previously Permitted & Constructed/Under Construction	Developed	-	234.43	-
Existing Conservation Easement (Not Included in Project Impact Area/Not a Part)	Various	-	44.73	-
		SubTotal	*279.15*	-
Total			537.52	5.54

Freshwater Marsh

Freshwater marsh occurs just outside the project area adjacent the Village West Drive alignment, within the project mapping buffer. This habitat supports hydrophytic species including broadleaf cattail (*Typha latifolia*), slender willow herb (*Epilobium ciliatum*), and water-cress (*Nasturtium officinale*).

Non-Native Grassland

Non-native grassland (15.36 acres) generally occurs on fine textured loam or clay soils that are moist during the summer and fall (Holland 1986). Non-native grassland within the project area is largely dominated by common brome (*Bromus madritensis* ssp. *rubens*) and Mediterranean schismus (*Schismus barbatus*) with scattered vinegar weed (*Trichostema lanceolatum*), short-pod mustard, and rigid fiddleneck (*Amsinckia menziesii*). Non-native grassland on site also includes some barren areas and old roads.

Non-Native Grassland/Paniculate tarplant

Non-native grassland/paniculate tarplant (1.39 acres) is similar to non-native grassland, but supports paniculate tarplant (*Deinandra paniculata*, CRPR 4.2) as one of the dominant broadleaf plant species. Non-native grassland/paniculate tarplant occurs within and adjacent the proposed Village West Drive extension.

Ruderal

Ruderal vegetation (1.96 acres) is typically found in areas with past vegetation clearing, development, or agricultural activities, and subsequently contain disturbed vegetative cover that is greater than 50 percent broad-leaved, non-native species. The ruderal vegetation community within the project area is heavily dominated by short-pod mustard and stinknet (*Oncosiphon piluliferum*) with less cover of non-native grasses.

Southern Riparian Forest

Southern riparian forest occurs outside the proposed project area but within the project mapping buffer, or BSA. This habitat is a dense stand of riparian trees with a moderately-dense understory of small trees and shrubs. Characteristic species include cottonwoods (*Populus* spp.), sycamores (*Platanus* spp.) and willows (*Salix* spp.). Southern riparian forest on site is dominated by Goodding's black willow (*Salix gooddingii*) and Fremont's cottonwood (*Populus fremontii*), and occurs along Village West Drive.

Southern Willow Scrub

Southern willow scrub also occurs just outside the proposed project area. This habitat is characteristically dominated by dense stands of willows (*Salix* spp.). The southern willow scrub within the project area occurs along Village West Drive and contains stands of Goodding's black willow, red willow (*Salix laevigata*), and Arroyo willow (*Salix lasiolepis*).

3.4 PLANTS AND ANIMALS

The project area supports a low diversity of vegetation communities and plant species diversity. Within the site and mapping buffer, a total of 58 plant species (64 percent native, 36 percent non-native) were observed during project biological surveys. A comprehensive list of plant species that were observed during biological surveys within the BSA is included as Appendix B.

A total of 22 species of birds, two reptiles, three mammals, and eight invertebrate species were observed or presumed present based on track and/or scat (Appendix C). Because twilight/nighttime surveys were not conducted, crepuscular and nocturnal animals are likely under-represented in this assessment.

Special-status biological resources are those defined as follows: 1) Species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened/endangered population sizes; 2) Species and habitat types recognized by local and regional resource agencies as sensitive; 3) Habitat areas or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; 4) Wildlife corridors and habitat linkages; and/or 5) Biological resources that may or may not be considered sensitive, but are regulated under local, state, and/or federal laws.

For the purposes of this report, species are considered to have special-status if they meet one or more of the following criteria:

- Listed under the federal or state Endangered Species Act (CDFW 2019; USFWS 2019).
- USFWS Birds of Conservation Concern (USFWS 2019)
- CDFW Special Animals List (CDFW 2019)
- CDFW Species of Special Concern (CDFW 2019)
- CDFW Fully Protected Species (CDFW 2019)
- Listed as having a California Rare Plant Rank (CRPR; formerly CNPS List, CNPS 2019)

3.4.1 SPECIAL-STATUS PLANT SPECIES

Special-status plant species include those that are: 1) Listed or proposed for listing by federal or state agencies as threatened or endangered; 2) CRPR List 1 through 4 (CNPS 2019); or 3)

Considered rare, endangered, or threatened by the CDFW (CDFW 2019) or other local conservation organizations or specialists.

CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CRPR system is recognized by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status. The CRPR system is categorized as outlined in Table 5.

One CRPR plant species, paniculate tarplant (CRPR 4.2), was observed on-site within non-native grassland adjacent to Village West Drive (Figure 2B). The potential for the project area to support other special-status plant species was assessed during the site visits and vegetation mapping; analysis of CNDDB (Figure 3) and CNPS data; and knowledge of the habitat affinities and biogeography of special-status plants in southern California. Based on site suitability and local databases, one other CRPR plant species has a moderate potential to occur on site. A complete list of special-status plants with potential to occur on-site can be found in Table 4.

Some trees are protected under local tree protection ordinances. Trees occur within the conservation easement area; however, no oak trees or other protected specimens occur within the proposed development site.

3.4.1.1 Threatened and Endangered Plant Species

No federally or state threatened, or endangered plants were observed during the general field survey or summer rare plant survey and none have a moderate or high potential to occur on the site based on the disturbed nature of the site and lack of suitable habitats (Table 4).

3.4.1.2 Plant Species of Special Concern

One CRPR listed species, paniculate tarplant (CRPR 4.2) was observed immediately adjacent to the existing dirt road that will be developed as Village West Drive extension (Figure 2B). One other CRPR plant, smooth tarplant (CRPR 1B.1), was not observed during general biological surveys but has a moderate potential to occur on the project site.

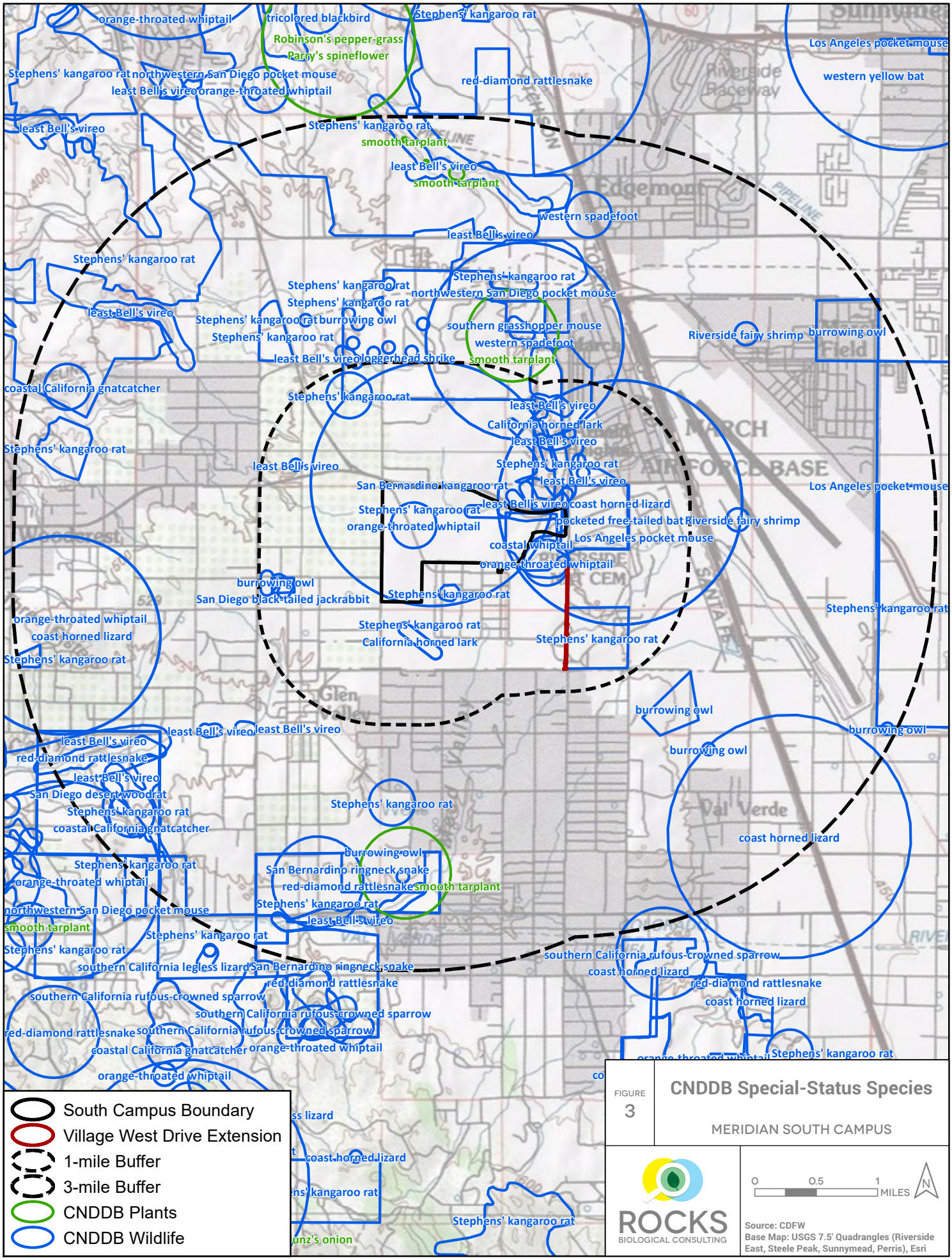
Paniculate Tarplant (Deinandra paniculata)

Paniculate tarplant was observed within the project site and BSA during 2019 general biological surveys. Paniculate tarplant holds a CRPR of 4.2, meaning it has a limited distribution in California and is moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat). This species holds the State Rank S4, meaning the plant is apparently secure within California (CNPS 2019).

Paniculate tarplant was observed within the project site and BSA in non-native grassland along Village West Drive (Figure 2B).

Smooth Tarplant (Centromadia pungens ssp. laevis)

Smooth tarplant was observed to the southeast of the main South Campus project site during 2019 general biological surveys. Smooth tarplant has a CRPR rank of 1B.1, meaning it is rare, threatened, or endangered in California and elsewhere, and seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat). Smooth tarplant holds the State Rank S2, meaning the plant is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province (CNPS 2019).


orange-throated whiptail
tricolored blackbird
Stephens' kangaroo rat
Robinson's pepper-grass
Parry's spineflower
Los Angeles pocket mouse
western yellow bat
Stephens' kangaroo rat
northwestern San Diego pocket mouse
least Bell's vireo
orange-throated whiptail
red-diamond rattlesnake
least Bell's vireo
Stephens' kangaroo rat
smooth tarplant
least Bell's vireo
smooth tarplant
western spadefoot
least Bell's vireo
Stephens' kangaroo rat
Stephens' kangaroo rat
Stephens' kangaroo rat
northwestern San Diego pocket mouse
least Bell's vireo
Stephens' kangaroo rat
burrowing owl
Stephens' kangaroo rat
southern grasshopper mouse
western spadefoot
least Bell's vireo
loggerhead shrike
smooth tarplant
Riverside fairy shrimp
burrowing owl
coastal California gnatcatcher
Stephens' kangaroo rat
least Bell's vireo
California horned lark
least Bell's vireo
Stephens' kangaroo rat
least Bell's vireo
Stephens' kangaroo rat
least Bell's vireo
San Bernardino kangaroo rat
Los Angeles pocket mouse
Stephens' kangaroo rat
least Bell's vireo
coast horned lizard
pocketed free-tailed bat
Riverside fairy shrimp
orange-throated whiptail
Los Angeles pocket mouse
coastal whiptail
orange-throated whiptail
burrowing owl
San Diego black-tailed jackrabbit
Stephens' kangaroo rat
Stephens' kangaroo rat
orange-throated whiptail
coast horned lizard
Stephens' kangaroo rat
California horned lark
Stephens' kangaroo rat
Stephens' kangaroo rat
burrowing owl
least Bell's vireo
least Bell's vireo
least Bell's vireo
red-diamond rattlesnake
least Bell's vireo
San Diego desert woodrat
Stephens' kangaroo rat
coastal California gnatcatcher
burrowing owl
burrowing owl
burrowing owl
Stephens' kangaroo rat
coast horned lizard
Stephens' kangaroo rat
orange-throated whiptail
San Bernardino ringneck snake
red-diamond rattlesnake
smooth tarplant
northwestern San Diego pocket mouse
smooth tarplant
Stephens' kangaroo rat
least Bell's vireo
Stephens' kangaroo rat
Stephens' kangaroo rat
southern California legless lizard
San Bernardino ringneck snake
red-diamond rattlesnake
southern California rufous-crowned sparrow
southern California rufous-crowned sparrow
red-diamond rattlesnake
southern California rufous-crowned sparrow
coastal California gnatcatcher
orange-throated whiptail
orange-throated whiptail
southern California rufous-crowned sparrow
coast horned lizard
red-diamond rattlesnake
coast horned lizard
Stephens' kangaroo rat
South Campus Boundary
Village West Drive Extension
1-mile Buffer
3-mile Buffer
CNDDB Plants
CNDDB Wildlife
coast horned lizard
Stephens' kangaroo rat
Stephens' kangaroo rat
FIGURE 3
CNDDB Special-Status Species
MERIDIAN SOUTH CAMPUS
ROCKS BIOLOGICAL CONSULTING
0 0.5 1 MILES
N
Source: CDFW
Base Map: USGS 7.5' Quadrangles (Riverside East, Steele Peak, Sunnymead, Perris), Esri

Though not observed within the project site, focused species surveys were not conducted for this species, and suitable habitat occurs on site. As such, it is considered to have a moderate potential for occurrence on the project site.

Table 4. Special-Status Plant Species with Potential to Occur Within the Project Study Area

Species	Status	Habitat Description	Potential to Occur
Brand's star phacelia	CRPR 1B.1	Annual herb. Blooms Mar-Jun. Coastal dunes and scrub. Elev. 0-1310 ft.	None. No suitable coastal dune or scrub habitat present.
Bristly sedge (*Carex comosa*)	CRPR 2B.1	Perennial rhizomatous herb. Blooms May-Sep. Coastal prairie, marsh/swamp lake margins, valley/foothill grasslands. Elev. 0-2,050 ft.	None. Species known from only two collections in 1882 in Riverside County.
California satintail (*Imperata brevifolia*)	CRPR 2B.1	Perennial rhizomatous herb. Blooms Sep-May. Chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub. Elev. 0-3,986 ft.	Low. Coastal scrub and riparian scrub adjacent to the site is disturbed and limited.
Chaparral ragwort (*Senecio aphanactis*)	CRPR 2B.2	Annual herb. Blooms Jan-Apr. Chaparral, cismontane woodland, and coastal scrub. Elev. 50-2,625 ft.	Low. Coastal scrub adjacent to the site is limited and disturbed.
Chaparral sand-verbena (*Abronia villosa* var. *aurita*)	CRPR 1B.1	Annual herb. Blooms Jan-Sep. Sandy chaparral, coastal scrub and desert dunes. Elev. 245-5,250 ft.	None. Coastal scrub adjacent to the site is limited and disturbed; species would have been observed if present.
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	CRPR 1B.1	Annual herb. Blooms Feb-Jun. Coastal salt marshes and swamps, playas, vernal pools. Elev. 3-4,002 ft.	None. No coastal salt marsh or vernal pool habitat present.
Coulter's matilija poppy (*Romneya coulteri*)	CRPR 4.2	Perennial rhizomatous herb. Blooms Mar-Jul. Chaparral and coastal scrubs. Elev. 65-3,937 ft.	None. Coastal scrub adjacent to the site is limited and disturbed; species would have been observed if present.
Gambel's water cress (*Nasturtium gambelii*)	FE, SE, CRPR 1B.1	Perennial rhizomatous herb. Blooms Apr-Oct. Marshes and swamps. Elev. 15-1085 ft.	Very low. No freshwater marsh habitat present on-site; marsh habitat near the site is limited and disturbed.
Little mousetail (*Myosurus minimus* ssp. *apus*)	CRPR 3.1	Annual herb. Blooms Mar-Jun. Valley/foothill grasslands and alkaline vernal pools. Elev. 65-2,100 ft.	None. No vernal pool habitat on site and grasslands observed on site are dominated by non-native grasses.
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	CRPR 1B.2	Annual herb. Blooms Apr-Jul. Chaparral, coastal scrub, meadows and seeps, valley/foothill grassland, and vernal pools in clay soils. Elev. 98-5,020 ft.	None. No suitable clay soil observed during site visit. Grasslands found on site are dominated by non-native grasses.
Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*)	CRPR 1A	Perennial rhizomatous herb. Blooms Aug-Oct. Coastal salt and freshwater marshes and swamps. Elev. 33-5,495 ft.	None. Species would have been observed if present.

Species	Status	Habitat Description	Potential to Occur
Many-stemmed dudleya (*Dudleya multicaulis*)	CRPR 1B.2	Perennial herb. Blooms Apr-Jul. Chaparral, coastal scrub, and valley/foothill grasslands in clay soils. Elev. 50-2,590 ft.	None. No clay soil observed during site visit. Grasslands found on site are dominated by non-native grasses.
Mesa horkelia (*Horkelia cuneata* var. *puberula*)	CRPR 1B.1	Perennial herb. Blooms Feb-Sep. Maritime chaparral, cismontane woodland, and coastal scrub. Elev. 230-2,657 ft.	Low. Coastal scrub adjacent to the site is limited and disturbed.
Munz's onion (*Allium munzii*)	FE; ST; CRPR 1B.1	Perennial bulbiferous herb. Blooms Mar-May. Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland in clay soils. Elev. 970-3,510 ft.	None. No clay soil observed during site visit. Grasslands found on site are dominated by non-native grasses. Coastal scrub adjacent site is limited and disturbed.
Nevin's barberry (*Berberis nevinii*)	FE; SE; CRPR 1B.1	Perennial evergreen shrub. Blooms Feb-Jun. Chaparral, cismontane woodland, coastal scrub, and riparian scrub. Elev. 230-2,705 ft.	None. Coastal scrub and riparian scrub adjacent site is limited and disturbed; species would have been observed if present.
Palmer's grapplinghook (*Harpagonella palmeri*)	CRPR 4.2	Annual herb. Blooms Mar-May. Chaparral, coastal scrub, and valley/foothill grasslands. Elev. 65-3,133 ft.	None. No clay soil observed during site visit. Grasslands found on site are dominated by non-native grasses.
Paniculate tarplant (*Deinandra paniculata*)	CRPR 4.2	Annual herb. Blooms Apr-Nov. Coastal scrub, valley/foothill grassland, vernal pools. Elev. 82-3,084 ft.	Present. Species observed on site within proposed Village West Drive extension within non-native grassland.
Parish's brittlescale (*Atriplex parishii*)	CRPR 1B.1	Annual herb. Blooms Jun-Oct. Chenopod scrub, playas, and vernal pools within alkaline habitat. Elev. 82-6,233 ft.	None. No chenopod scrub, playas, or vernal pools present.
Parish's bush-mallow (*Malacothamnus parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms Jun-Jul. Chaparral and coastal scrub. Elev. 1,000-1,493 ft.	None. Believed to be extinct. Known only from the type collection.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	CRPR 1B.1	Annual herb. Blooms Apr-Jun. Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elev. 900-4,000 ft.	Low. Limited suitable habitat present. Grasslands found on site are dominated by non-native grasses.
Payson's jewelflower (*Caulanthus simulans*)	CRPR 4.2	Annual herb. Blooms Feb-Jun. Chaparral and coastal scrub in sandy and granitic soils. Elev. 295-7,218 ft.	Low. Coastal scrub adjacent site is limited and disturbed.
Peninsular spineflower (*Chorizanthe leptotheca*)	CRPR 4.2	Annual herb. Blooms May-Aug. Chaparral, coastal scrub, lower montane coniferous forest. Elev. 984-6,233 ft.	Low. Coastal scrub adjacent site is limited and disturbed.
Plummer's mariposa lily (*Calochortus plummerae*)	CRPR 4.2	Perennial bulbiferous herb. Blooms May-Jul. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elev. 330-5,580 ft.	Very low. No dried *Calochortus* fruit observed on site during site visit.

Species	Status	Habitat Description	Potential to Occur
Prairie wedge grass (*Sphenopholis obtusata*)	CRPR 2B.2	Perennial herb. Blooms Apr-Jul. Cismontane woodland, meadows and seeps. Elev. 984-6,561 ft.	None. No suitable habitat present.
Pringle's Monardella (*Monardella pringlei*)	CRPR 1A	Annual herb. Blooms May-Jun. Coastal scrub in sandy soils. Elev. 980-1310 ft.	None. Believed to be extirpated, last seen in 1941. Suitable sandy habitat not observed during site visits.
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	CRPR 4.3	Annual herb. Blooms Jan-Jul. Chaparral and coastal sage scrub. Elev. 3-2,905 ft.	Low. Very limited suitable habitat present.
Salt spring checkerbloom (*Sidalcea neomexicana*)	CRPR 2B.2	Perennial herb. Blooms Mar-Jun. Chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, and playas within alkaline springs and marshes. Elev. 50-5,020 ft.	None. No suitable habitat present.
San Diego ambrosia (*Ambrosia pumila)*	FE, CRPR 1B.1	Perennial rhizomatous herb. Blooms Apr-Oct. Chaparral coastal scrub, valley and foothill grassland, and vernal pools in sandy loam or clay soils. Elev. 65-1360 ft.	None. Limited suitable habitat present. Grasslands found on site are dominated by non-native grasses.
San Diego sagewort (*Artemisia palmeri*)	CRPR 4.2	Perennial deciduous shrub. Blooms Feb-Sep. Chaparral, coastal scrub, riparian scrub/forest/woodland. Elev. 50-3,000 ft.	Low. Coastal scrub and riparian scrub/forest adjacent site are disturbed and limited.
San Bernardino aster (*Symphyotrichum defoliatum*)	CRPR 1B.2	Perennial rhizomatous herb. Blooms Jul-Nov. Cismontane woodlands, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic valley/foothill grasslands. Elev. 7-6,690 ft.	Very low. Freshwater marsh on site is disturbed and limited.
San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)	FE; CRPR 1B.1	Annual herb. Blooms Apr-Aug. Playas, mesic valley/foothill grasslands, and vernal pools within alkaline habitat. Elev. 456-1,640 ft.	None. No suitable alkaline habitat present.
Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	FE; SE; CRPR 1B.1	Perennial herb. Blooms Apr-Sep. Chaparral and coastal alluvial fan scrub. Elev. 298-2,000 ft.	None. No chaparral or coastal alluvial fan scrub present.
Slender-horned spineflower (*Dodecahema leptoceras*)	FE; SE; CRPR 1B.1	Annual herb. Blooms Apr-Jun. Chaparral, cismontane woodland, alluvial fan coastal scrub. Elev. 655-2,490 ft.	None. No suitable habitat present.
Small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*)	CRPR 4.2	Annual herb. Blooms Mar-May. Cismontane woodlands, coastal scrub, valley/foothill grasslands, and vernal pools. Elev. 50-3,510 ft.	Very low. Limited suitable habitat present. Grasslands found on site are dominated by non-native grasses.

Species	Status	Habitat Description	Potential to Occur
Small-flowered morning-glory (*Convolvulus simulans*)	CRPR 42	Annual herb. Blooms Mar-Jul. Chaparral, coastal scrub, valley and foothill grasslands. Elev. 98-2,296 ft.	Very low. Limited suitable habitat present. Grasslands found on site are dominated by non-native grasses.
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	CRPR 1B.1	Annual herb. Blooms Apr-Sep. Chenopod scrub, meadows and seeps, playa, riparian woodland, valley and foothill grassland. Elev. 0-2,100 ft.	Moderate. Limited suitable habitat present.
Spreading navarretia (*Navarretia fossalis*)	FT; CRPR 1B.1	Annual herb. Blooms Apr-Jun. Chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools. Elev. 98-2,150 ft.	Very low. Freshwater marsh on site is limited and disturbed.
Thread-leaved brodiaea (*Brodiaea filifolia*)	FT; SE; CRPR 1B.1	Perennial bulbiferous herb. Blooms Mar-Jun. Chaparral, cismontane woodlands, coastal scrub, playas, valley/foothill grasslands, vernal pools. Elev. 82-3,675 ft.	Very low. Limited suitable habitat present. Grasslands found on site are dominated by non-native grasses.
Vernal barley (*Hordeum intercedens*)	CRPR 3.2	Annual herb. Blooms Mar-Jun. Coastal dunes, coastal scrub, valley/foothill grassland saline flats and depressions, and vernal pools. Elev. 16-3,280 ft.	Very low. Limited suitable habitat present.
Western spleenwort (*Asplenium vespertinum*)	CRPR 4.2	Perennial rhizomatous herb. Blooms Feb-Jun. Chaparral, Cismontane woodland, Coastal scrub. Elev. 590-3,280 ft.	Low. Coastal scrub adjacent site is limited and disturbed.
White rabbit-tobacco (*Pseudognaphalium leucocephalum*)	CRPR 2B.2	Perennial herb. Blooms (Jul)Aug-Nov(Dec). Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland. Elev. 0-6,890 ft.	Low. Coastal scrub and riparian habitats adjacent site are limited and disturbed.
Woven-spored lichen (*Texosporium sancti-jacobi*)	CRPR 3	Crustose lichen. Appears on soil, small mammal pellets, dead twigs, and on *Selaginella* spp., as well as chaparral openings. Elev. 950-2,165	Very low. Continuous site disturbance would preclude establishment of this species.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	CRPR 2B.1	Annual herb. Blooms May-Sep. Meadows and seeps, marshes and swamps, riparian forests, and vernal pools. Elev. 16-1,427 ft.	Very low. Freshwater marsh adjacent to the site is limited and disturbed.

FE: USFWS Federally Threatened (FE) Species under the Endangered Species Act
FT: USFWS Federally Threatened (FT) Species under the Endangered Species Act
SE: CDFW State Endangered (SE) under the California Endangered Species Act
ST: CDFW State Threatened (ST) under the California Endangered Species Act
CRPR: California Rare Plant Rank

Table 5. California Rare Plant Rank (CRPR) Definitions

California Rare Plant Rank (CRPR)	1A	presumed extirpated in California and rare or extinct elsewhere
	1B	rare, threatened, or endangered in California and elsewhere
	2A	presumed extirpated in California but more common elsewhere
	2B	rare, threatened, or endangered in California but more common elsewhere
	3	plants for which more information needed
	4	plants of limited distribution
CRPR Threat Ranks	0.1	Seriously threatened in California (over 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 (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.4.2 SPECIAL-STATUS WILDLIFE SPECIES AND CRITICAL HABITATS

Prior to conducting field surveys, the potential for the project site to support special-status wildlife species was assessed based on the vegetation mapping, analysis of CNDDB query from July 2019 (Figure 3), review of USFWS data, and knowledge of the habitat affinities and biogeography of special-status wildlife in southern California. Additionally, the base re-alignment Biological Opinion (1999) and supporting information was reviewed as part of this assessment.

No USFWS federally listed endangered species were observed within or immediately adjacent to the BSA during project surveys; however, two listed species, least bell's vireo and Stephens' kangaroo rat have been documented historically within or immediately adjacent the project area. One CDFW Species of Special Concern (SSC), San Diego black-tailed jackrabbit, was observed just outside the BSA during project surveys. A list of the potential of sensitive wildlife to occur on the site is provided in Table 6.

Table 6. Special-Status Wildlife Species with Potential to Occur Within the Project Study Area

Species	Status	Habitat Description	Potential to Occur
INVERTEBRATES			
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE	Vernal pools or other seasonal pools with a depth greater than 30 cm.	Very low. No vernal pools observed during surveys.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools or other seasonal pools, primarily in central and northern California but with limited populations in Riverside and San Diego Counties.	Very low. No vernal pools observed during surveys.

AMPHIBIANS			
Western spadefoot (*Spea hammondii*)	SSC	Temporary ponds, vernal pools, and backwaters of flowing creeks. Also, adjacent upland habitats such as grasslands and coastal sage scrub for burrowing.	None. Suitable habitat occurs adjacent to project area, but none within project impact area.
REPTILES			
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	A variety of rocky, sandy, dry habitats including sage scrub, chaparral, woodlands on friable loose soil.	Moderate. Suitable rocky, arid habitat present.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.	Low. Suitable habitat is adjacent to project area; however, species is more common near the coast.
Orange-throated whiptail (*Aspidoscelis hyperythra*)	WL	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Moderate. Suitable soils and buckwheat scrub habitat present in adjacent habitat.
Red-diamond rattlesnake (*Crotalus ruber*)	SSC	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Often associated with dense vegetation in rocky areas.	Moderate. Suitable rocky habitat present.
San Bernardino ring-necked snake (*Diadophis punctatus modestus*)	WL	Found within moist habitats, including meadows, rocky hillsides, grassland, chaparral, mixed coniferous forests, and woodlands	Low. Suitable moist habitat is adjacent to project area.
BIRDS			
Burrowing owl (*Athene cunicularia*)	SSC (at burrowing sites & some wintering sites)	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (*Otospermophilus beecheyi*) and other fossorial mammal burrows.	Moderate. Species has been documented in project area historically and suitable burrows observed within project area during general biological survey.
California horned lark (*Eremophila alpestris actia*)	WL	Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous, chaparral, and disturbed habitats.	Moderate. Suitable disturbed habitat with exposed soils present.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT, SSC	Found almost exclusively in dense coastal sage scrub. Also known to occupy transitional habitats such as chaparral.	Low. No suitable habitat present on site; buckwheat scrub immediately adjacent to project area is marginally suitable habitat.

Least Bell's vireo (*Vireo bellii pusillus*)	FE (when nesting); SE (when nesting)	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	Moderate (adjacent). No suitable habitat within proposed project area; however, species is known from adjacent riparian areas (conservation easement).
Loggerhead shrike (*Lanius ludovicianus*)	SSC (when nesting)	Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting.	Moderate. Suitable scrub habitat present adjacent to site.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	WL	Steep, arid, and rocky south-aspect slopes containing chaparral and rock outcrops.	Low. Suitable habitat not present on or adjacent to project area.
MAMMALS			
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Found in low elevation grassland, alluvial sage scrub, and coastal sage scrub.	Low. Alluvial sage scrub and coastal sage scrub not present, however grassland present. Repeated disturbance of the site would likely preclude this species.
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	SSC	Inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities.	Low. Suitable habitat within project area and burrows observed that are consistent with pocket mouse size; however, repeated disturbance of the site would likely preclude this species.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.	None. Rocky outcrops not present.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC	Habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. Uses open land but requires some shrubs for cover.	Present; species was observed to the southeast just outside the BSA. Although the project area is fairly disturbed, suitable foraging habitat is present for this species.
San Diego desert woodrat (*Neotoma lepida intermedia*)	SSC	Rock outcrops, rocky cliffs and slopes in chaparral, desert habitats, and sage scrub.	Very low. Suitable habitat not present on or adjacent to project area.
Southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	Low open and semi-open scrubs habitats including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs.	Low. Suitable desert habitat with friable soils lacking on site. Repeated disturbance of the project area would likely preclude this species.
Stephens' kangaroo rat (*Dipodomys stephensi*)	FE; ST	Habitats include annual grassland and coastal sage scrub with sparse shrub cover. Commonly in association with *Eriogonum fasciculatum*, *Artemisia californica*, and *Erodium cicutarium*, in areas with loose, friable, well-drained soil, and flat or gently rolling terrain.	Moderate. Species has been documented very near project area and burrows observed on-site that are consistent with species' burrow size. Buckwheat scrub immediately adjacent to project area is suitable habitat.

FE: Federally Endangered (FE) Species under the Endangered Species Act
FT: Federally Threatened (FT) Species under the Endangered Species Act
SE: State Endangered (SE) under the California Endangered Species Act
ST: State Threatened (ST) under the California Endangered Species Act
SSC: California Department of Fish and Wildlife Species of Special Concern (SSC)
WL: California Department of Fish and Wildlife Watch List (WL) Species

3.4.2.1 Threatened and Endangered Wildlife Species

Least Bell's Vireo (Vireo pusillus pusillus)

The least Bell's vireo is federally and state-listed as endangered, and is a covered species under the MSHCP. Historically, this species was a common summer visitor to riparian habitats throughout much of California. The species is now found only in riparian woodlands in southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside Counties. Least Bell's vireo is a migratory species and typically arrives in southern California in late March or early April and leaves for its wintering ground in September.

This species is restricted to riparian woodland and is most frequent in areas that include an understory of dense young willows or mulefat with a canopy of tall willows. Least Bell's vireo typically build their nests along edges of riparian thickets (Unitt 2004) approximately three feet above the ground.

Least Bell's vireo decline has been attributed primarily to habitat loss, degradation, and fragmentation combined with brood/nest parasitism by the brown-headed cowbird (*Molothrus ater*). Significant effort has been focused on preserving, enhancing, and creating suitable nesting habitat for the species, and extensive cowbird control programs have helped this species populations rebound along several of its breeding drainages in southern California (USFWS 2006).

This species has been reported within the conservation easement on site (but outside the project impact area) as well as immediately north of Van Buren Avenue (Rocks, 2014, 2019 and CDFW CNDDB; Figure 3).

Stephens' Kangaroo Rat (Dipodomys stephensi)

Stephens' kangaroo rat is a federal-listed endangered and state-listed threatened species and is a covered species under the Riverside Habitat Conservation Plan for the Stephens' Kangaroo Rat (RCHCA; 1996). This species occupies portions of Riverside and San Diego counties. There are three distinct regions with Stephens' kangaroo rat populations: western Riverside County, western San Diego County, and central San Diego County. Stephens' kangaroo rat historically occurred in southwestern San Bernardino County, but this species is believed to be extirpated from that area (USFWS 1997).

Habitat for the Stephens' kangaroo rat includes open grasslands, fallow agricultural fields, and sparse coastal sage scrub vegetation communities in areas with penetrable soils and flat to fairly steep sloping topography (USFWS 1997). Stephens' kangaroo rat is found at elevations of 180 to 4,100 feet, with most populations located at elevations below 2,000 feet (USFWS 1997). Habitat for the Stephens' kangaroo rat varies in composition and density from place to place and season to season. Filaree (*Erodium* spp.) frequently dominates the best Stephens' kangaroo rat habitat areas, especially during and shortly after the rainy season (RECON 1989). Areas with dense grass cover are typically not suitable for Stephens' kangaroo rat (USFWS 1997). A nocturnal species, Stephens' kangaroo rat consumes a diet primarily of seeds. The decline of this species is attributed in large part to habitat loss and fragmentation due to urban development and agriculture. Other

factors contributing to the loss of the species include off-road vehicles, rodent control, and predation by feral and domestic cats (USFWS 1997).

Stephens' kangaroo rat has been reported historically on the project site (CDFW; Figure 3) and was documented approximately 1.25 miles southeast of the site in 2018 (Rocks Biological Consulting, 2018). Suitable habitat for Stephens' kangaroo rat is present on the project site and a burrow consistent with this species was observed during the 2019 general biological surveys. Due to the disturbed nature (disked soil) of the site, the probability of an extant, on-site Stephens' kangaroo rat population is not as high as it might have been historically; however, this species maintains a moderate to high potential for occurrence.

3.4.2.2 Wildlife Species of Special Concern & Watch List Species

Burrowing Owl (Athene cunicularia)

Burrowing owl is a California Species of Special Concern at nesting sites and is federally protected by the Migratory Bird Treaty Act (MBTA). The western subspecies of burrowing owl (*A. c. hypugaea*) breeds from southern Canada to the western half of the United States and into Baja California and central Mexico. In California, suitable habitat for BUOW is generally characterized by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils, such as naturally occurring grassland, shrub steppe, and desert habitats (Haug et al. 1993). BUOW may also occur in agricultural areas, ruderal grassy fields, vacant lots, and pastures containing suitable vegetation structure and useable burrows with foraging habitat in proximity (Gervais et al. 2008). BUOW usually use burrows dug by California ground squirrel (*Otospermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) and dens or holes dug by other fossorial species including badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (e.g., San Joaquin kit fox (*Vulpes macrotis mutica*)) (Ronan 2002). BUOW also frequently use natural rock cavities, debris piles, culverts, and pipes for nesting and roosting (Rosenberg et al. 2004) and have been documented using artificial burrows for nesting and cover (Smith and Belthoff 2001).

Burrowing owls have declined throughout much of their range because of habitat loss due to urbanization, agricultural conversion, and destruction of ground squirrel colonies (Remsen 1978). The incidental poisoning of burrowing owls and the destruction of their burrows during eradication programs aimed at rodent colonies have also caused their decline (Collins 1979; Remsen 1978). Although burrowing owls are relatively tolerant of lower levels of human activity, human related impacts such as shooting and introduction of non-native predators, have negative population impacts. Burrowing owls often nest and perch near roads where they are vulnerable to roadside shooting, fatal car strikes, and general harassment (Remsen 1978).

Burrowing owl has been reported historically on the project site (Rocks Biological Consulting, 2018 and CDFW; Figure 3). Suitable habitat for burrowing owl was not observed on the project site during 2018 biological surveys. However, based on the presence of on-site suitable burrows and the ability of burrowing owls to occupy fairly disturbed and urban environments, this species has a moderate potential to occur.

California Horned Lark (Eremophila alpestris actia)

California horned lark is a CDFW Watch List species found in a variety of habitats including deserts, grasslands, chaparral, alpine dwarf-shrub, and coniferous habitats, where trees and large shrubs are absent.

Within southern California, California horned lark nest on the ground in open fields, grasslands, and rangelands. Horned larks forage in areas with low-growing vegetation and feed primarily on grains and other seeds and shift to mostly insects in the summer months. California horned lark breed from March through July, with a peak in activity in May. Outside of the breeding season pairs do not maintain territories and instead form large gregarious, somewhat nomadic flocks. Threats to the California horned lark include habitat destruction and fragmentation, as well as threats to successful nesting such as pesticides and agricultural mowing (Beason 1995).

California horned lark were not observed by RBC during biological surveys; however, the species is known to historically occur within one mile of the project site (Figure 3). As such, California horned lark has a moderate potential to occur on the project site based on the ability of the species to utilize disturbed and desert scrub habitats.

Coastal Whiptail (Aspidoscelis tigris stejnegeri)

Coastal whiptail is a California Species of Special Concern. This species occupies a variety of habitats including coastal sage scrub, chaparral, riparian areas, woodlands, and rocky areas (Lemm 2006). Coastal whiptail ranges north-south from Ventura County to Baja California and east-west from the Peninsular Ranges to the coast. This species predominantly feeds on spiders and also consumes other small invertebrates (Thomson 2016).

Suitable scrub habitat on site is limited, however present for this species. Furthermore, this species is known to occupy marginal and moderately disturbed habitats, and is known from within one mile of the project site (Figure 3). As such, coastal whiptail has a moderate potential to occur at the site.

Loggerhead Shrike (Lanius ludovicianus)

Loggerhead shrike is a CDFW Species of Special Concern when nesting. This species is a (non-migratory) year-round resident in southern California. Loggerhead shrike prefer open habitats, typically with short vegetation and scattered shrubs.

This species consumes a diet mainly consisting of insects and also feeds on reptiles, birds and small mammals. Loggerhead shrike use a feeding technique where the bird impales prey on spines or thorns of shrubs. Thus, loggerhead shrike suitable habitat requires vegetation with spines or thorns (Yosef 1996), or artificial objects, such as barbed wire.

Leading causes of decline for this species include urban development and ingestion of pesticide-laden prey. Loggerhead shrike numbers are still fairly large across North America; however, the species has dramatically declined over the past century (Yosef 1996).

Suitable nesting habitat for loggerhead shrike containing thorny shrubs and small trees is present on site. Furthermore, adequate foraging habitat and artificial spiny structures (fencing, etc.) are present for this species to impale prey, and loggerhead shrike is known to occur within three miles of the project site (Figure 3). As such, loggerhead shrike has a moderate potential to occur on the project site.

Orange-Throated Whiptail (Aspidoscelis hyperythra)

The orange-throated whiptail is a CDFW watch list species that inhabits chaparral, non-native grassland, coastal sage scrub, juniper woodland, and oak woodland in southwestern California and Baja California from sea level to 3,400 feet. Its diet consists primarily of the termite (*Reticulitermes hesperus*) so it is tied to perennial vegetation (Bostic 1966) including California buckwheat (McGurty 1981). Orange-throated whiptails are diurnal but spend the hottest part of the

day in the shade (Pianka 1986). The orange-throated whiptail does not reproduce parthenogenetically and mates from April to July with a clutch size of around 2 eggs. Hibernation for adults takes place in late July to September with juveniles hibernating all the way to December (Bostic 1966).

The orange throated-whiptail is threatened by habitat loss and conversion of shrub-dominated habitats to non-native grassland. Additionally, non-native Argentine ants (*Irdomyrmex humilis*) are an invasive species known to displace many native insects and may influence the food base the orange-throated whiptail (Jennings and Hayes 1994).

The orange-throated whiptail was not observed within the survey area during biological surveys, however, is known to historical occur within one mile of the project site (Figure 3). As such, orange-throated whiptail has a moderate potential to occur based on habitat suitability and regional occurrences.

Red-Diamond Rattlesnake (Crotalus ruber)

Red-diamond rattlesnake is a California Species of Special Concern. This species occurs in chaparral and coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Red-diamond rattlesnake prefer a densely vegetated habitat during day and night. This species predominantly hunts small mammals and less often reptiles and birds (Barbour and Clark 2012, Dugan and Hayes 2012).

Suitable vegetated rocky habitat on site is limited, however present for this species. Furthermore, this species is known to occur within three miles of the project site (Figure 3). As such, red-diamond rattlesnake has a low potential to occur at the site.

San Diego Black-Tailed Jackrabbit (Lepus californicus)

San Diego black-tailed jackrabbit is a California Species of Special Concern. San Diego black-tailed jackrabbit is found from the coast to the western slope of the coastal mountains, up to 6,000 feet. It inhabits open land but requires some shrubs for cover. Typical habitats include early stages of chaparral; open coastal sage scrub, and grasslands near the edges of brush. Grasses and forbs are the species' preferred foods. Chew and Chew (1970) reported a diet of 65% shrub browse and 35% herbage. Breeding occurs throughout the year, and young are born under shrubs with no special nest structure. Home ranges averaging 45 acres have been recorded in California (Lechleitner 1958).

San Diego black-tailed jackrabbit is considered a Species of Special Concern in California because the population declines threaten this subspecies with extinction in the state. It is currently considered vulnerable due to a restricted range and small number of populations. Major threats to black-tailed jackrabbits include habitat loss and fragmentation due to agriculture and urban development.

One individual was observed just outside the BSA to the southwest of the site, and although the site is fairly disturbed, foraging habitat for San Diego black-tailed jackrabbit is present. As such, the species is considered to have a moderate potential for occurrence.

3.4.2.3 Critical Habitat

The Endangered Species Act defines critical habitat as a specific geographic area, or areas, that contain features essential for the survival and recovery of endangered and threatened species. Critical habitat is designated by USFWS for endangered and threatened species and may include

sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Critical habitat may also include areas that are not currently occupied by the species, but that will be needed for its recovery. Special management of critical habitat, including measures for water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types is required to ensure the long-term survival and recovery of the identified species.

No USFWS-designated critical habitat or proposed critical habitat occurs within five miles of the proposed project site (USFWS, 2019). Therefore, no impacts to critical habitat are expected with implementation of the proposed project.

3.5 AQUATIC RESOURCES

Several potentially jurisdictional areas occur immediately adjacent to the proposed Village West Drive extension project boundaries (Figure 4). Within the survey area, which included the road extension plus a 100' buffer, RBC identified a total of 0.19 acre (872 linear feet) of non-wetland waters of the U.S./State jurisdictional areas by the Corps and RWQCB, respectively, and 0.31 acre (150 linear feet) of wetland waters of the U.S./State jurisdictional areas by the Corps and RWQCB, respectively (Table 7). RBC identified 0.24 acre (966 linear feet) of CDFW jurisdictional streambed and 0.36 acre (56 linear feet) of associated wetland/riparian habitat within the survey area, as further detailed below in Table 8.

A portion of the survey area outside the proposed project impact boundaries was not accessible during the delineation due to fencing. This area of approximately 0.43 acre of reservoir/basin is a potentially jurisdictional wetland waters of the U.S./State jurisdictional areas by the Corps and RWQCB, respectively, and associated wetland/riparian habitat jurisdictional by CDFW. Note that if project boundaries change and impacts are proposed in this area, additional analysis would be required.

Table 7. Aquatic Resource Summary Table: USACE and RWQCB Areas within 100' of Village West Drive Extension Area

Aquatic Resource Name	Acre(s)	Linear Feet	Presence of OHWM/ Wetland	Estimated OHWM Width (Min – Max) (linear feet)	Cowardin Code	Dominant Vegetation	Notes
W-1	0.31	150	Yes/Yes	5 - 25	PEM	Freshwater marsh, southern riparian forest	Small, intermittent channel and abutting wetlands, both meeting three wetland parameters
NWW-1	0.03	94	Yes/No	7 - 7	R6	Unvegetated (concrete-lined channel)	Ephemeral channel
	0.05	324	Yes/No	15 - 15	R6	Southern willow scrub	Ephemeral channel
NWW-2	0.02	84	Yes/No	5 - 15	R6	Non-native grassland	Ephemeral channel

Aquatic Resource Name	Acre(s)	Linear Feet	Presence of OHWM/ Wetland	Estimated OHWM Width (Min – Max) (linear feet)	Cowardin Code	Dominant Vegetation	Notes
NWW-3	0.05	216	Yes/No	12 - 12	R6	Non-native grassland	Ephemeral channel
NWW-4	0.04	154	Yes/No	10 - 10	R6	Non-native grassland	Ephemeral channel
Reservoir/ Basin*	(0.43)*	(0)*	Unknown/ Unknown*	Unknown*	Unknown*	Southern willow scrub	-
Total	0.50 (0.93)	1,022 (1,022)					

*Potentially jurisdictional wetland. Field staff unable to access site and assess wetland parameters.

Table 8. Aquatic Resource Summary Table: CDFW

Aquatic Resource Name	Aquatic Resource Type	Acre(s)	Linear Feet	Dominant Vegetation	Notes
W-1	Wetland/Riparian Habitat	0.26	56	Freshwater marsh, southern riparian forest	Small, intermittent channel with abutting associated wetland/riparian habitat
	Streambed	0.05	94	Southern riparian forest	
NWW-1	Streambed	0.03	94	Southern willow scrub	Ephemeral
	Streambed (Concrete Drainage)	0.05	324	Unvegetated (concrete-lined channel)	Ephemeral
	Riparian Habitat	0.10	0	Southern willow scrub	-
NWW-2	Streambed	0.02	84	Non-native grassland	Ephemeral
NWW-3	Streambed	0.05	216	Non-native grassland	Ephemeral
NWW-4	Streambed	0.04	154	Non-native grassland	Ephemeral
Reservoir/Basin*	Wetland/Riparian Habitat	(0.43)*	(0)*	Southern willow scrub	-
Total		0.60 (1.03)	1,022 (1,022)		

*Potentially jurisdictional wetland/riparian habitat if associated with a streambed. Field staff unable to access site and assess wetland parameters.

Survey Area
Village West Drive Impacts
Village West Drive Roadway and Utility Improvements
OHWM Datasheet Point (OHWM)
Wetland Sample Point (WSP)
Flow Direction
Culvert

Corps/RWQCB/CDFW Jurisdictional Features*

Intermittent, Non-wetland Water/Streambed
Ephemeral, Non-wetland Water/Streambed
Ephemeral, Non-wetland Water/Streambed (Concrete Drainage)
Wetland
Reservoir/Basin**

CDFW Riparian Vegetation Communities*

Southern Willow Scrub

* Potentially jurisdictional features based on formal delineation conducted 10/22/2019.
** Field staff unable to access site and assess wetland parameters.

Arnold Dr
Lemay Dr
Twining Ave
Village West Dr
W-1
OHWM6
WSP1
WSP2
NWW-1
OHWM1
WSP3
NWW-2
OHWM5
NWW-3
OHWM4
NWW-4
WSP5
OHWM3
OHWM2
WSP4
Detail Area 1
Detail Area 2
Key Map

FIGURE 5

Aquatic Resource Delineation

SOUTH CAMPUS/VILLAGE WEST DRIVE ROAD EXTENSION PROJECT
COUNTY OF RIVERSIDE

ROCKS BIOLOGICAL CONSULTING

1 INCH = 180 FEET
0 90 180 FEET

N

Date: 2/4/2020
Aerial Photo: DigitalGlobe 2017, Esri

3.5.1 WETLANDS

Wetland 1 (W-1) was a riverine wetland (i.e., wetlands within and abutting a small channel) with wetland/riverine hydrology approximately 1,000 feet north of the project impact area. W-1 originates west of Village West Drive within an area of freshwater marsh and near a culvert directing runoff from the neighboring residential development to the east under Village West Drive and into an area of southern riparian forest. W-1 travels east before continuing off site, eventually traveling into a small single culvert just west of the adjacent golf course. The outlet for this single culvert could not be verified in the field. RBC investigated two wetland sampling points (WSP and WSP 2) to determine the extent of the W-1 boundary (Figure 5). RBC investigated WSP 2 in association with WSP 1 to determine the wetland boundary. WSP 1 met all three wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology), while WSP 2 met none of the wetland parameters. In general, the wetland boundary was defined by topographic changes lending to wetland versus upland characteristics and the presence or absence of vegetation. Although no redox features were observed within WSP 1, likely due to very wet soil conditions during the survey, per Part IV, Section D, Subsection 2, Step 12 of the 1987 Wetland Manual, hydric soils were assumed since "all dominant species have an indicator status of OBL or FACW, and the wetland boundary is abrupt" based on the abrupt change in vegetation cover and topography.

RBC investigated three additional wetland sampling points (WSP 3 to 5) within the survey area, none of which met all three wetland parameters or for which hydric soils could be assumed per Step 12 of the 1987 Wetland Manual.

As noted above, there is a 0.43-acre reservoir/basin located within a fenced portion of the survey area, which field staff was unable to access to assess wetland parameters. If this area of southern willow scrub habitat is not determined to be a Corp/RWQCB wetland, this area may still be considered 0.43 acre of associated riparian habitat jurisdictional by CDFW, if determined to be associated with a streambed.

3.5.2 NON-WETLAND WATERS OF THE U.S./STATE OR STREAMBED

Non-Wetland Waters 1 (NWW-1) is an ephemeral non-wetland water/streambed approximately 530 feet north of the project impact area. NWW-1 originates west of Village West Drive as a concrete drainage, before traveling through culverts under Village West Drive, then daylighting east of Village West Drive within an area of southern willow scrub. NWW-1 travels east before continuing off site, eventually traveling into a small single culvert within the adjacent golf course, traveling under a dirt path, and outletting through another single culvert. The estimated OHWM for NWW-1 (OHWM 1) measured 7 to 15 feet wide and was defined by a change in average sediment texture, change in vegetation cover, and a gradual 1-inch high break in bank slope. The extent of the streambed equated to the delineated OHWM for the shallow channel.

NWW-2 is an ephemeral non-wetland water/streambed just north of the project impact area, located within an area of non-native grassland that included one saltcedar (*Tamarix ramosissima*) and one Goodding's black willow (*Salix gooddingii*). The upstream limit of NWW-2 is adjacent to a small single culvert which directs runoff from the neighboring residential development to the west of Village West Drive. The estimated OHWM for NWW-2 (OHWM 5) measured 5 to 15 feet wide and was defined by a change in average sediment texture, change in vegetation species, and a 6-inch high break in bank slope. The extent of the streambed equated to the delineated OHWM.

NWW-3 and NWW-4 are ephemeral non-wetland waters/streambeds east of the project impact area. Flows into NWW-3 appeared to originate from road runoff/sheet flows. Flows into NWW-4 appeared to originate from a small single culvert from under the adjacent dirt road. The estimated OHWM for NWW-3 (OHWM 4) measured 12 feet and the estimated OHWM for NWW-4 (OHWM 3) measured 10 feet. The OHWMs for NWW-3 and NWW-4 were defined by a change in average sediment texture, change in vegetation cover, and a gradual 1-inch high break in bank slope. The extent of the streambeds on both features equated to the delineated OHWM.

3.6 WILDLIFE CORRIDORS

A wildlife corridor can be defined as a physical feature that links wildlife habitat, often consisting of native vegetation that joins two or more larger areas of similar wildlife habitat. Corridors enable migration, colonization, and genetic diversity through interbreeding and are therefore critical for the movement of animals and the continuation of viable populations. Corridors can consist of large, linear stretches of connected habitat (such as riparian vegetation) or as a sequence of stepping-stones across the landscape (discontinuous areas of habitat such as wetlands and ornamental vegetation), or corridors can be larger habitat areas with known or likely importance to local fauna.

Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

The project area does not serve as a wildlife corridor, as the areas surrounding the site are substantially developed.

4 IMPACT ANALYSIS

Direct impacts are caused by the project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses to native habitats, potential jurisdictional waters, wetlands, and special-status species; and diverting natural surface water flows. Direct impacts could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of adult plants, bulbs, or seeds.

Indirect impacts can result from project-related activities where biological resources are affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife (domestic cats and dogs) and plants.

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. Such impacts taken individually may be minor but are collectively significant in light of regional impacts.

March JPA's 2015 Local California Environmental Quality Act (CEQA) Guidelines Form J thresholds of significance have been used to determine whether project implementation would result in a significant direct, indirect, and/or cumulative impact. These thresholds are based on Appendix G of the state CEQA Guidelines (CCR Title 14, Division 6, Chapter 3, Sections 15000–15387). A significant biological resources impact would occur if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy, or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan.

4.1 VEGETATION IMPACTS

The proposed South Campus Specific Plan project would occur primarily on previously disturbed and developed land (Figure 2, Table 9). The only native habitat present within the proposed project area is buckwheat scrub (*Eriogonum fasciculatum* shrubland alliance).

Table 9. South Campus Specific Plan Vegetation Communities/Land Use Project Impacts

Vegetation Community (Holland Code)	Vegetation Community (MCV 2)	Global/ State Rank	Project Impacts	
			South Campus	Village West Drive Extension
Buckwheat Scrub	*Eriogonum fasciculatum* Shrubland Alliance / Buckwheat Scrub	G5, S5	0.11	-
Developed	Developed/ Disturbed	-	26.08	-
Developed/Ornamental	Developed/ Disturbed	-	9.39	3.14
Disturbed	Developed/ Disturbed	-	206.27	0.21
Non-Native Grassland	Mediterranean California Naturalized Annual and Perennial Grassland	None	15.36	-
Non-Native Grassland/Paniculate Tarplant	Mediterranean California Naturalized Annual and Perennial Grassland	None	-	1.39
Ruderal	Upland Mustards	-	1.16	0.80
		Total	*258.37*	*5.54*

Buckwheat scrub habitat is identified as G5 and S5, meaning it is "demonstrably secure because of its worldwide/ statewide abundance." (CNPS, 2019). As such, it is not a rare habitat for which impacts would be significant. Further, impacts on buckwheat scrub are extremely small (0.11 acre) and impacts on upland habitats were addressed under previous EIR documentation (SCH 2002071089; Figure 5). Impacts on this habitat would be less than significant.

The loss of non-native grassland is adverse due to its value for raptor foraging habitat, however, impacts on 15.36 of non-native grassland would not be a significant loss of this habitat locally or regionally as this is not a rare community, and because impacts on all upland habitats were addressed under previous EIR documentation (SCH 2002071089; Figure 5). As part of the base realignment and subsequent negotiations, 664 acres of native habitat were set aside for

conservation in consideration of development within the base re-use area. These conservation areas include upland habitats similar to those that occur on-site. As such, impacts on upland habitats are considered adequately mitigated under previous agency consultation and are less than significant.

Similar to the loss of non-native grassland, the loss of non-native grassland/paniculate tarplant is adverse due to its value for raptor foraging habitat, however, impacts on 1.39 acres of non-native grassland/paniculate tarplant would not be a significant loss of this habitat locally or regionally as this is not a highly rare or sensitive vegetation community and because impacts on all upland habitats were addressed under previous EIR documentation (SCH 2002071089; Figure 5). As part of the base realignment and subsequent negotiations, 664 acres of native habitat were set aside for conservation in consideration of development within the base re-use area. These conservation areas include upland habitats similar to those that occur on-site. As such, impacts on upland habitats are considered adequately mitigated under previous agency consultation and are less than significant. Note that paniculate tarplant impacts are further addressed under section 4.2, below.

4.2 SPECIAL-STATUS PLANT AND ANIMAL IMPACTS

Two federally and/or state listed species have been documented on or immediately adjacent the project site, and three species of special concern have potential to occur on the project site.

4.2.1 FEDERALLY AND/OR STATE LISTED ENDANGERED OR THREATENED SPECIES

4.2.1.1 Least Bell's Vireo

Least Bell's vireo have been documented within the conservation easement on site, as well as in surrounding areas. The project would not impact habitat for this species; however, development would occur in close proximity to occupied habitat, with some buildings proposed approximately 50-75 feet from least Bell's vireo habitat. Small areas of southern willow scrub and southern riparian forest also occur near the proposed Village West Drive alignment; though these areas are not highly suitable for the species, occupancy cannot be ruled out.

Potential project impacts on least Bell's vireo were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel, et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR). Pursuant to those agreements, 664 acres of lands were placed into conservation easement to offset potential species habitat losses due to development of West Campus and other 'developable lands'. Additionally, the California Department of Fish and Wildlife [formerly California Department of Fish and Game] reviewed the USFWS BO decision and issued a consistency determination (2080-1999-056-6) stating that "Biological Opinion No. 1-6-99-F-13 is consistent with the California Endangered Species Act (CESA) as to anticipated take of the least Bell's vireo and Stephens' kangaroo rat." (CDFW, 1999)

Subsequently, Biological Opinion FWS-WRIV-09BO221-09F1185 required conservation of 175.3 acres of least Bell's vireo habitat within the former base. This area, which occurs north and south of Van Buren Blvd, was identified as some of the highest quality habitat in the area and included numerous breeding pairs. A portion of this conservation area is immediately south of the Project site. Note that the proposed South Campus Specific Plan impact area would not encroach into any habitat not analyzed under the previous BO.

The proposed project would include building construction in close proximity to least Bell's vireo habitat. This development was anticipated with previous South Campus plans, and no impacts not previously analyzed would occur with project implementation. In accordance with *Center of Biological Diversity v. Jim Bartel, et al.* Settlement Agreement, the project will abide by Section 6.1.4 of the Western Riverside County MSHCP, including not subjecting wildlife within the MSHCP Conservation Area to noise exceeding residential standards.

4.2.1.2 Stephens' Kangaroo Rat

Stephens' kangaroo rat has been documented previously on the site and in surrounding areas. Suitable habitat is present on-site and burrows consistent with the species were observed during 2019 general biological surveys. As such, the species has a moderate potential for occurrence on the site.

Project impacts on this species were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel, et. al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR). Pursuant to those agreements, 664 acres of lands were placed into conservation easement to offset potential species habitat losses due to development of Project area and other 'developable lands' (Appendix A). Additionally, the California Department of Fish and Wildlife [formerly California Department of Fish and Game] reviewed the USFWS BO decision and issued a consistency determination (2080-1999-056-6) stating that "Biological Opinion No. 1-6-99-F-13 is consistent with the California Endangered Species Act (CESA) as to anticipated take of the least Bell's vireo and Stephens' kangaroo rat." (CDFW, 1999) Additionally, the USFWS and CDFW confirmed in 2006 that the areas taken out of the "Stephens' kangaroo rat management area" were no longer part of the core reserve and incidental take was authorized within these areas pursuant to the HCP (USFWS/CDFG WRIV-3259.5), and a Riverside County Habitat Conservation Agency (RCHCA) fee was paid.

As such, impacts on this species are considered less than significant, conditional upon satisfaction of previous mitigation requirements.

4.2.2 OTHER SPECIAL-STATUS SPECIES

4.2.2.1 CRPR Listed Plant Species

Two CRPR plant species, paniculate tarplant (CRPR 4.2; State Rank S4) and smooth tarplant (CRPR 1B.1; State Rank S2), were observed on the project site or have a moderate potential to occur on the project site.

CRPR 1B plants "meet the definitions of the California Endangered Species Act of the California Fish and Game Code and are eligible for state listing." Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125; (c) and/or §15380" (CNPS 2019).

Some CRPR 4 plants "meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and we strongly recommend that California Rare Plant Rank 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, based on CEQA Guidelines §15125 (c) and/or §15380" (CNPS 2019).

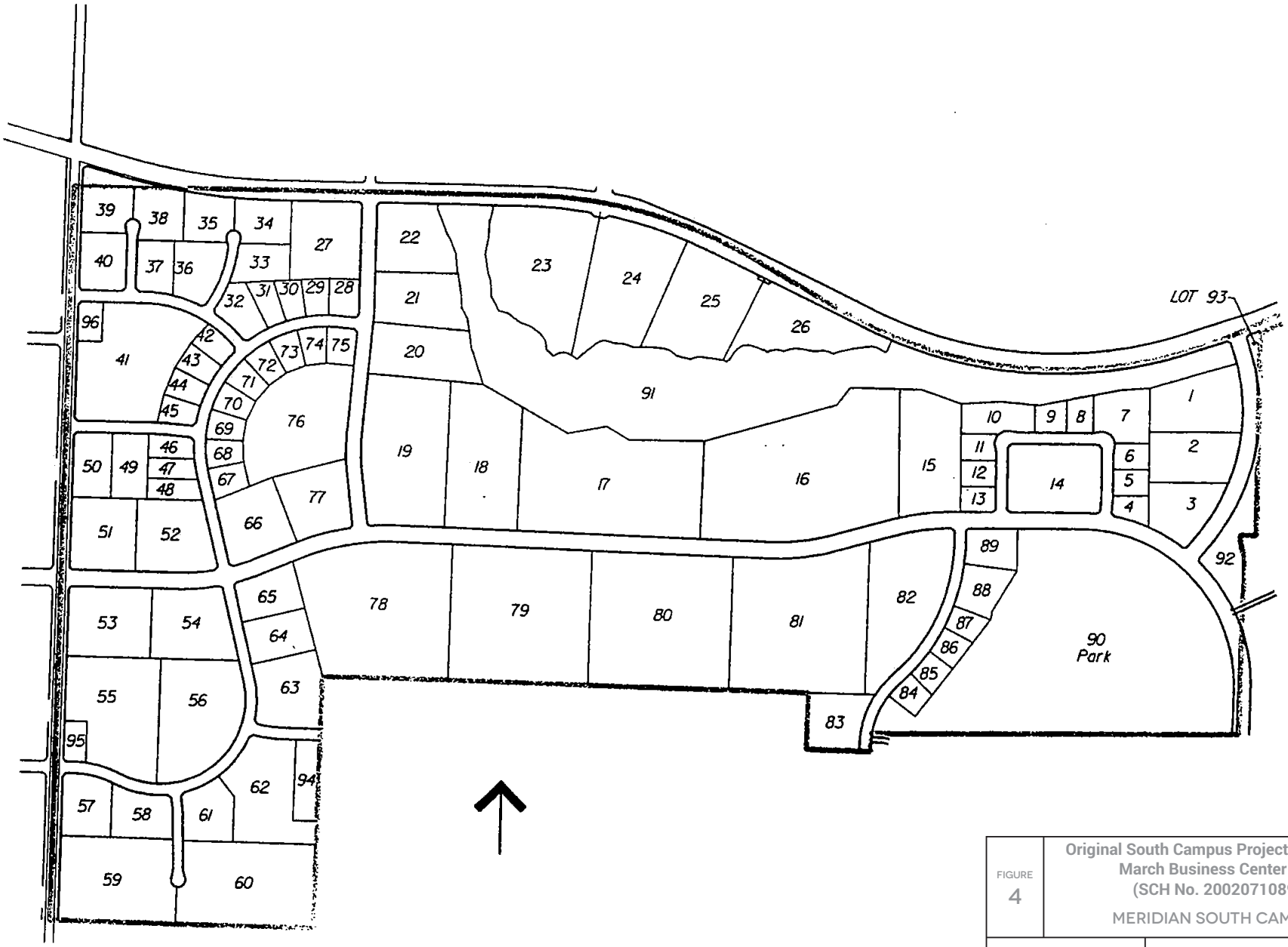


FIGURE 4

Original South Campus Project Layout per March Business Center EIR (SCH No. 2002071089)

MERIDIAN SOUTH CAMPUS

ROCKS BIOLOGICAL CONSULTING

Source: March JPA, 2003. March Business Center EIR. SCH No. 2002071089 (Figure III-4B)

State Rank of S2 means that the plant species is “imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province” (CNPS 2019).

State Rank of S4 means that the plant species is “uncommon but not rare; some cause for long-term concern due to declines or other factors” (CNPS 2019).

As part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including development of the project site. Conserved areas occur west of I-215 and approximately one mile north of the project site and provide similar habitats to those that will be impacted by the project. The conservation area is comprised of similar habitats as those occurring on the project site, and at least one population of 50 smooth tarplant individuals was observed during a 2018 general reconnaissance survey of the conservation area (Rocks Biological Consulting, personal observation 2018). It is also likely, given the habitats present within the conserved areas, that there are additional populations of smooth tarplant within the conserved areas. As such, many habitat and species losses have already been addressed through conservation of this site, including smooth tarplant and other CRPR species, such as paniculate tarplant. Due to upland habitat mitigation completed as part of the base closure process, potential impacts on smooth tarplant, if present, would be less than significant.

4.2.2.2 Wildlife Species of Special Concern & Watch List Species

Burrowing Owl

Burrowing owl or sign (active burrow, white-wash, pellets, etc.) was not observed during 2019 biological surveys. Suitable foraging and nesting habitat (burrows) occur on site, however, and there is potential for this species to occur on-site or to colonize the site prior to project construction. If present, direct impacts in the form of habitat destruction, and potentially death, injury, or harassment of nesting birds, their eggs, and their young could occur. Injury or mortality occurs most frequently during the vegetation clearing stage of construction and involves eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Potential impacts on burrowing owl were identified in the *Master Environmental Impact Report for the General Plan of the March Joint Powers Authority* (March JPA, 1999), and project impacts on burrowing owls are potentially significant. Such impacts were anticipated with original project development plans and no additional impacts are anticipated with current project plans. Mitigation outlined in the original South Campus development CEQA document would be required for current project development (see Section 5).

Other Special-Status Wildlife

Four additional Species of Special Concern wildlife species, coastal whiptail, loggerhead shrike, red diamond rattlesnake, and San Diego black-tailed jackrabbit, have a moderate potential for occurrence based on suitable habitat or observation during 2019 surveys (Appendix C). Additionally, two Watch List wildlife species, California horned lark and orange-throated whiptail, have a moderate potential for occurrence based on the presence of suitable habitat.

As part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including development of the project site. As such, many habitat and species losses have already been addressed through conservation of this site. According to the CNLM Stephens’ kangaroo rat

monitoring report (2012), the preserve lands are dominated by non-native grasslands, with patches of Riversidean sage scrub and riparian areas; which are similarly suitable habitats for California horned lark, coastal whiptail, loggerhead shrike, orange-throated whiptail, red diamond rattlesnake, and San Diego black-tailed jackrabbit. As such, impacts on this species would be less than significant, conditional upon satisfaction of previous mitigation requirements. Further, compliance with state and federal nesting bird regulations would avoid direct take of any avian species.

4.3 NESTING BIRD IMPACTS

The South Campus Specific Plan project area has a minor potential to support avian nests, which would be protected under the Migratory Bird Treaty Act and/or the California Fish and Game Code (§3503) under which it is unlawful to "take, possess, or needlessly destroy" avian nests or eggs. Thus, potential impacts could occur if vegetation clearing is undertaken during the breeding season. Removal of habitat would occur outside of the breeding season (February 1 to September 15), or would be surveyed by a qualified biologist prior to construction initiation. If active nests are found, the project clearing in that area plus an appropriate buffer (determined by the qualified biologist in consultation with CDFW) would be delayed until nestlings have fledged. Please refer to Section 5 for full nest protection requirements.

4.4 AQUATIC RESOURCE IMPACTS

The project was re-designed following the fall 2019 field jurisdictional delineation to avoid direct impacts on potentially jurisdictional areas (Section 3.4; Figure 5). However, due to the close proximity to these areas, potentially significant impacts could occur with construction activities.

Due to the close proximity of these resource areas, we recommend that a letter describing the proposed project impacts and associated mapping be submitted to the Corps, RWQCB, and CDFW to receive written concurrence that no permits would be required by the respective agency.

4.5 WILDLIFE CORRIDOR IMPACTS

The project is surrounded in all directions by developed land. Thus, the project area does not serve as a wildlife corridor, and therefore the project would not impact wildlife corridors.

4.6 LOCAL POLICIES & ORDINANCES IMPACTS

No native oaks occur within the project site; therefore, no impacts to oaks that are protected under the Riverside County Oak Tree Management Guidelines would occur with project implementation.

The only trees that occur near roadways are those associated with the conservation easement drainage area, and no impacts are proposed in this area. Pursuant to Unincorporated Riverside County Ordinance No. 499.11 (as amended though 499.11), "No person, firm, corporation, public district, public agency or political subdivision shall remove or severely trim any tree planted in the right of way of any County highway without first obtaining a permit from the County Transportation Director to do so." As there have been no street trees planted on the project site, no impacts to trees protected under Ordinance No. 499.11 would occur with project implementation.

Chapter 12.24 of the Riverside County Code of Ordinances also includes regulations related to tree removal (County of Riverside 2016). According to the Unincorporated Riverside County Ordinance No. 559 (as amended through 559.7), the removal of living native trees on parcels or property greater than 0.5 acre in size, located in the unincorporated Riverside County, and above 5,000 feet in elevation requires a permit. The project site elevation is below 5,000 acres; as such, this

ordinance is not applicable and no impacts to trees protected under Riverside County Ordinance No. 559 would occur with project implementation.

4.7 CUMULATIVE IMPACTS

The project would result in minor impacts to buckwheat scrub, non-native grassland, and non-native grassland/paniculate tarplant, as well as potential impacts on special-status species. All impacts will be fully mitigated in accordance with previous agreements and in consultation with state and federal wildlife agencies. Project impacts were considered in connection with the larger March Air Base re-use, and this area is included in the regional MSHCP plan. The MSHCP is a regional effort to offset significant cumulative biological impacts, and all development in the region that is permitted through the County of Riverside must comply with the MSHCP. Because of this regional biological planning, cumulative biological impacts are avoided for development in the western Riverside region when developments are pursued in compliance with the plan. Though the JPA is an independent agency and therefore not a participant under the MSHCP, project mitigation will be pursued in a manner consistent with the MSHCP and all special-status species impacts will be permitted through state and federal agencies. As such, cumulative impacts are considered less than significant.

5 MITIGATION

The following discussion provides project-specific mitigation/avoidance measures for potential impacts on special-status resources.

5.1 MONITORING AND ADJACENCY IMPACT AVOIDANCE

To prevent inadvertent disturbance to areas outside the limits of the proposed project activities, including potentially jurisdictional areas, the following monitoring requirements and BMPs shall be implemented.

Additionally, due to the close proximity of potentially jurisdictional aquatic resources, we recommend that a letter describing the proposed project impacts and associated mapping be submitted to the Corps, RWQCB, and CDFW in advance of project activities to request written concurrence that no permits would be required.

A biologist shall be contracted to perform regular random checks (at minimum twice a month) to ensure implementation with the following monitoring requirements and BMPs. Monitoring reports and a post-construction monitoring report will be prepared to document compliance with these requirements.

MM-1: To prevent inadvertent disturbance to areas outside the limits of the proposed project construction limits, the following monitoring requirements and BMPs shall be implemented. A biologist shall be contracted to perform regular random checks (at minimum once a month) to ensure implementation with the following monitoring requirements and BMPs. Monitoring reports and a post-construction monitoring report will be prepared to document compliance with these requirements.

1) To prevent inadvertent disturbance to areas outside the limits of work, the construction limits shall be clearly demarcated (e.g., installation of flagging or temporary visibility construction fence) prior to ground disturbance activities and all construction activities, including equipment staging and maintenance shall be conducted within the marked disturbance limits. The work limit delineation will be maintained throughout project construction.
2) Biologist will flush special-status species (i.e., avian or other mobile species) from suitable habitat areas to the maximum extent practicable immediately prior to initial vegetation removal activities.
3) Construction vehicles shall not exceed 15 miles per hour on unpaved roads adjacent to project site or the right-of-way accessing the site.
4) If trash and debris need to be stored overnight during the maintenance activities, fully covered trash receptacles that are animal-proof and weather-proof will be used by the maintenance contractor to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Alternatively, standard trash receptacles may be used during the day, but must be removed each night.
5) Cut vegetation must be hauled out of the channel and stored, if necessary, where it cannot be washed by rainfall or runoff into the channel. When maintenance activities are completed, any excess materials or debris will be removed from the project site.
6) Temporary structures and storage of construction materials will not be located in jurisdictional waters, including wetlands and riparian areas.

7) Staging/storage areas for construction equipment and materials will not be located in jurisdictional waters, including wetland and riparian areas.
8) Pets on or adjacent to construction sites will not be permitted by the operator.
9) As per the Landscaping Guidelines of the Resource Management Element of the March JPA General Plan (1999), drought tolerant vegetation and native vegetation will be used to the extent feasible, consistent with March JPA Landscape Water Efficiency Ordinance #JPA 16-03, with the purpose of preserving existing mature trees and native vegetation. Landscape plans shall be reviewed by a qualified botanist to recommend appropriate provisions to minimize the spread of invasive plant species as defined by the County of Riverside and listed by the California Invasive Plant Council (www.cal-ipc.org) and California Native Plant Society (www.cnps.org) within the project area. Provisions may include: a) installation of container plants and/or hydro-seeding areas adjacent to existing, undisturbed native vegetation areas with native plant species common within temporary impact areas; and (b) review and screening of proposed plants to identify and avoid potential invasive species and weed removal during the initial planting of landscaped areas.

5.2 THREATENED AND ENDANGERED SPECIES MITIGATION

5.2.1 LEAST BELL'S VIREO

Least Bell's vireo have been documented adjacent to proposed project work areas within the conservation easement. Species-specific mitigation will include construction timing and noise restrictions in accordance with the *Center of Biological Diversity v. Jim Bartel, et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR) and standard vireo noise avoidance techniques to avoid noise impacts on this species.

MM-2: The following avoidance and minimization measures shall be implemented during project construction activities:

1) Construction noise levels shall not exceed residential noise standards within the MSHCP Conservation Area, and shall not exceed 60 dBA Leq hourly average in riparian habitats occupied by least Bell's vireo unless authorized by the appropriate regulatory authorities (i.e., CDFW and USFWS). A noise level verification report shall be submitted to March JPA every 2 weeks during the duration of the site grading and of construction phases;
2) Environmental awareness training for all construction personnel to educate personnel about least Bell's vireo, protected species avoidance measures to be implemented by all personnel, including the avoidance of nesting bird season to the greatest extent feasible;
3) Demarcation of the extent of construction limits with temporary construction fencing to be maintained until construction is complete;
4) Establishment of environmentally sensitive areas around avoidable least Bell's vireo nest locations (500-foot avoidance buffer or as approved by USFWS and CDFW) by a qualified biologist prior to the start of any ground- or vegetation- disturbing activities, which shall be maintained and avoided during construction activities and until the nest is determined to no longer be active by a biologist;

5) Presence of a qualified biological monitor during initial grading activities, adjacent to environmentally sensitive areas, and as needed to avoid incidental take. The biological monitor shall have the authority to stop work as needed to avoid direct impacts to least Bell's vireo;
6) Monitoring reports and a post-construction monitoring report shall be prepared to document compliance with these requirements.

5.2.2 STEPHENS' KANGAROO RAT

As described previously, Stephens' kangaroo rat has a moderate probability of occurrence on the site. Potential impacts on Stephens' kangaroo rat were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel, et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR). Pursuant to those agreements, 664 acres of lands were placed into conservation easement to offset potential species habitat losses due to development of Project area and other 'developable lands' (Appendix A). Additionally, the California Department of Fish and Wildlife [formerly California Department of Fish and Game] reviewed the USFWS BO decision and issued a consistency determination (2080-1999-056-6) stating that "Biological Opinion No. 1-6-99-F-13 is consistent with the California Endangered Species Act (CESA) as to anticipated take of the least Bell's vireo and Stephens' kangaroo rat." (CDFW, 1999)

As such, Project impacts on the Stephen's kangaroo rat will be mitigated through implementation of all 1999 BO and 2012 Settlement Agreement requirements.

MM-3: The project applicant shall provide evidence that the Stephen's Kangaroo Rat impact fee has been paid for the site.

5.3 SPECIAL–STATUS SPECIES MITIGATION

5.3.1 BURROWING OWL

Burrowing owl, a federal bird of conservation concern and state Species of Special Concern, was not observed during 2019 general biological surveys, but has the potential to inhabit the site. As such, pre-construction surveys will be required.

MM-4: In accordance with the *Master Environmental Impact Report for the General Plan of the March Joint Powers Authority* (March JPA, 1999), the following mitigation for burrowing owl is required:

> *Thirty days prior to the onset of construction activities, a qualified biologist with appropriate resource agency permits shall survey the construction limits of the Project for the presence of burrowing owls and occupied nest burrows. Any occupied burrows found during the survey efforts shall be mapped on the construction plans. (Draft MEIR, p. 3-96)*
>
> *If nesting and/or activity is present at any burrow site, then the active burrow shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for burrowing owls in the region of the Planning Area normally occurs from February 1 to August 31. To protect any burrow site, the following restrictions on construction are required between February 1 to August 31:*

1) *Clearing limits will be established a minimum of 100 feet in any direction from any occupied burrow; and*

2) *Access and surveying will not be allowed within 50 feet of any occupied burrow. (Ibid.)*

Construction during the non-nesting season can occur only at the sites if a qualified biologist has determined that the burrows are no longer active. If an active burrow is observed during the non-nesting period, the burrow site will be monitored by a qualified biologist, and when the owl is outside the burrow entrance, the biologist will flush any owl to open space areas. The biologist will then excavate the burrow site with tools or fill the burrow with soil so owls cannot return to the burrow site. (Ibid.)

Note that clearing limit and access distances may be revised during project consultation with CDFW; distances are typically 300-feet for current permits/mitigation.

5.4 NESTING BIRD MITIGATION

MM-5: To avoid direct impacts to raptors and/or native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction (precon) survey shall be conducted within ten (10) calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the CDFW and/or USFWS as applicable for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the precon survey, no further mitigation is required.

6 REFERENCES

Anon, 2018. FWS Critical Habitat for Threatened and Endangered Species Dataset. Land Use - 2014 - Land lQ [ds2677] - Data.gov. Available at: https://catalog.data.gov/dataset/fws-critical-habitat-for-threatened-and-endangered-species-dataset [Accessed August 26, 2019].

Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J. and Wilken, D.H., 2012. The Jepson Manual. Vascular plants of California (Second edition). Berkeley, Los Angeles, and London: University of California Press.

Beason, Robert C. 1995. Horned Lark (*Eremophila alpestris*) In The Birds of North America, No. 195 (A. Poole and F. Gill, eds.) The Academy of Natural Sciences, Philadelphia, PA and The American Ornithologists' Union, Washington, D.C.

Bolster, B.C., 1998. Terrestrial mammal species of special concern in California. Draft Final Report prepared by PV Brylski, PW Collins, ED Pierson, WE Rainey and TE Kucera. Report submitted to California Department of Fish and Game Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No. FG3146WM.

Bostic, D. L. 1966. Food and feeding behavior of the teiid lizard, *Cnemidophorus hyperythrus beldingi*. Herpetologica 22(1):23-3Brown, L., and D. Amadon. 1968.

California Department of Fish and Game. 1999. Consistency determination 2080-1999-056-6.

California Department of Fish and Wildlife (CDFW). 2018. California Department of Fish and Game Natural Diversity Data Base – Electronic Format.

California Department of Fish and Wildlife (CDFW). 2018. Special Animals, July 2018. California Natural Diversity Data Base (CNDDB) [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf]

California Fish and Game Commission (CFGC). 1994. Fish and Game Commission Comment to the Department of Fish and Game on the Wetland Policy Implementation Proposal

California Native Plant Society (CNPS), Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Accessed November 5, 2019. http://www.rareplants.cnps.org

Charts, M.S.C., 2000. Macbeth Division of Kollmorgen Corporation, Baltimore, Maryland. Revised washable edition.

Chamberlin, 1998. Western Riverside County Habitat Conservation Planning. Accessed February 22, 2019. http://seas.umich.edu/ecomgt/cases/pubs/hcp/Western%20Riverside%20County%20HCP%20(HCP).pdf

Chew, R.M., and Chew, A.E. 1970. Energy Relationships of the Mammals of a Desert Shrub (*Larrea tridentata*) Community. *Ecological Monographs*.

Collins, C.T. 1979. The Ecology and Conservation of Burrowing Owls. In *Proceedings of the National Audubon Society Symposium of Owls of the West, Their Ecology and Conservation. National Audubon Society Western Education Center.* Tiburon, CA. October.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

Gervais, J.A., Rosenberg, D.K. and Comrack, L.A., 2008. Burrowing owl (Athene cunicularia). California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California (WD Shuford and T. Gardali, editors). Western Field Ornithologists and California Department of Fish and Game, Studies of Western Birds, 1, pp.1-450.

Haug, E.A., Millsap, B.A. and Martell, M.S., 1993. Burrowing Owl: Speotyto Cunicularia. American Ornithologists' Union.

Holland, R.F., 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency, Department of Fish and Game.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile Species of Special Concern in California. Final report submitted to California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California, under Contract 8023.

Jepson Flora Project (eds.) 2019. Jepson eFlora. http://ucjeps.berkeley.edu/eflora/

Kimley-Horn. 2010. Final Subsequent Environmental Impact Report for the Meridian Specific Plan Amendment (SP-5). SCH No. 2009071069.

Lechleitner, R.R. 1958. Movements, Density, and Mortality in a Black-tailed Jack Rabbit Population. *The Journal of Wildlife Management*, *22*(4), pp.371-384.

Lemm, J.M., 2006. Field guide to amphibians and reptiles of the San Diego region (p. 344). Berkeley: University of California Press.

March Joint Powers Authority (JPA). 1999. General Plan of the March Joint Powers Authority. Accessed March 14, 2016. http://www.marchjpa.com/documents/docs_forms/general_plan.pdf.

March Joint Powers Authority (JPA). 1999. Master Environmental Impact Report for the General Plan of the March Joint Powers Authority. SCH No. 97071095. September 1999.

McGurty B.M. 1981. Status survey report on the orang-throated whiptail lizard, *Cnemidophorus hyperythrus beldingi* occurring on Camp Pendleton U.S. Marine Corps Base, Miramar U.S. Naval Air Station, and Fallbrook Annex U.S. Naval Weapons Station during the survey period August to November 1981. Contract 11310-0129-81. San Diego, California.

Munsell Color. 2015. Munsell Soil-Color Charts with Genuine Munsell Color Chips, 2009 Year Revised. Grand Rapids, MI.

Natural Resources Conservation Service (NRCS), United States Department of Agriculture. 2018. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2.

North American Bird Conservation Initiative, U.S. Committee. 2014. State of the Birds 2014 Report. U.S. Department of Interior, Washington, DC.

Pianka, E. R. 1986. Ecology and natural history of desert lizards. Princeton University Press, Princeton.

RECON, Environmental, Inc. (RECON) 1989. Interim Habitat Conservation Plan for the Stephens' Kangaroo Rat. Prepared for County of Riverside Planning Department. RECON Number R-1955. August.

Remsen, J. V. 1978. Bird Species of Special Concern in California: an annotated list of declining or vulnerable bird species. California Department of Fish and Game, Nongame Wildlife Branch, Report #78-01.

Riverside County Board of Supervisors. 2000. Riverside County Ordinance No. 559 (amended though 559.7) An Ordinance of the County of Riverside Amending Ordinance No. 559 Regulating the Removal of Trees. [http://www.rivcocob.org/ords/500/559.7.pdf]

Riverside County Board of Supervisors. 2004. Riverside County Ordinance No. 499.11 (as amended though 499.11) An Ordinance of the County of Riverside Amending Ordinance No. 499 Relating to Encroachments in County Highways. [http://www.rivcocob.org /ords/400/499.11.pdf]

Riverside County Habitat Conservation Agency (RCHCA). 1996. Habitat Conservation Plan for the Stephens' kangaroo rat in western Riverside County, California. 204 pp + appendices.

Roberts Jr, F.M., 2004. The vascular plants of western Riverside County, California: an annotated checklist. FM Roberts Publ.

Rocks Biological Consulting.

2014. 45-Day Report for Least Bell's Vireo Surveys at the Meridian Specific Plan Project, March Joint Powers Authority Planning Area, Riverside County, California.

2018. Meridian South Campus Retail Center Project Burrowing Owl Assessment, Riverside County, California.

2018. Meridian Trunk Sewer Stephens' Kangaroo Rat Surveys, Riverside County, California.

2019. Van Vuren Boulevard Phase II Widening Project Least Bell's Vireo Noise Monitoring.

Ronan, N.A., 2002. Habitat selection, reproductive success, and site fidelity of burrowing owls in a grassland ecosystem.

Rosenberg, D.K. and Haley, K.L., 2004. The ecology of burrowing owls in the agroecosystem of the Imperial Valley, California. Studies in Avian Biology, 27, pp.120-135.

Smith, B.W. and Belthoff, J.R., 2001. Identification of ectoparasites on burrowing owls in southwestern Idaho. Journal of Raptor Research.

Thomson, R.C., 2016. California amphibian and reptile species of special concern. Univ of California Press.

U.S. Army Corps of Engineers (Corps).

2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Eds. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

2008b. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual. R.W. Lichvar, and S.M. McColley. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center.

2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. K.E. Curtis and R.W. Lichvar. EDRC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center.

2016. Updated Map and Drawing Standards for the South Pacific Division Regulatory Program. February 10.

U.S. Fish and Wildlife Service.

1979. Classification of Wetlands and Deepwater Habitats of the United States. December.

1997 Draft Recovery Plan for the Stephens' Kangaroo Rat (*Dipodomys stephensi*). Region 1 U.S. Fish and Wildlife Service, Portland.

1999. Formal Section 7 Consultation on the Disposal and Reuse of March Air Force Base, Riverside County, California (1-6-99-F-13)

2001. Least Bell's Vireo Survey Guidelines.

2003. Completion of the Land Acquisition Portion of the Reserve Expansion Requirement of the Long-Term Habitat Conservation Plan for the Stephens' Kangaroo Rat and Exchange of the SKR Management Area of the Former March Air Force Base.

2014. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa That Are Candidates for Listing as Endangered or Threatened Species; Proposed Rule. 50 CFR Part 17. Vol. 61(40): pp. 7596-7613. August 22.

2016. USFWS Threatened & Endangered Species Active Critical Habitat Report. https://ecos.fws.gov/ecp/report/table/critical-habitat.html

2019. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/

U.S. Geological Survey (USGS). 2015. USGS U.S. Topo 7.5 – minute map for RIVERSIDE EAST, CA. Accessed on July 24, 2018. https://prd-tnm.s3.amazonaws.com/StagedProducts/Maps/USTopo/PDF/CA/CA_Riverside_East_20150310_TM_geo.pdf

U.S. Geological Survey (USGS). 2018. The National Map, Advanced Viewer. U.S. Department of Interior. https://viewer.nationalmap.gov/advanced-viewer/ (accessed October 2019)

Unitt, Philip. 1984. The Birds of San Diego County. San Diego Society of Natural History.

Unitt, Philip. 2004. San Diego County Bird Atlas. Proceedings of the San Diego Natural History Museum, No. 39. Ibis Publishing, Vista, CA. 644 pages.

Yosef, R. 1996. Loggerhead Shrike (*Lanius ludovicianus*), version 2.0. In The Birds of North America (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bna.231

Appendix A

Site Photographs

Photo 1. View from north of Krameria Avenue, facing south. View of disturbed habitat and constructed berms in foreground; developed land in background. July 31, 2019.

Photo 2. View from center of project site, facing east, of disturbed habitat and constructed berm. July 31, 2019.

Photo 3. View from east of Bundy Avenue, facing west, of disturbed habitat and constructed retention basin in foreground; developed land in background. July 31, 2019.

Photo 4. View from north of Krameria Avenue, facing west. Disturbed habitat and constructed berms in foreground; developed land in background. July 31, 2019.

Photo 5. View of disturbed and ruderal habitat from south of Van Buren Boulevard, facing west. July 31, 2019.

Photo 6. View from west cul-de-sac of Krameria Avenue, facing north. July 31, 2019.

Photo 7. View of west cul-de-sac of Krameria Avenue, facing south. Disturbed habitat in foreground, developed land in background. July 31, 2019.

Photo 8. View of developed lands from Krameria Avenue, facing south. July 31, 2019.

Photo 9. View of disturbed lands from Barton Street, along the western boundary, facing southeast. July 31, 2019.

Photo 10. View of conservation easement area (outside of project footprint), facing north. July 31, 2019.

Photo 11. View of disturbed Riversidean sage scrub along Village West Dr, facing east. October 9, 2019.

Photo 12. View of disturbed Riversidean sage scrub (foreground) and southern riparian forest (background) along Village West Dr, facing northeast. October 9, 2019.

Photo 13. View of non-native grassland/paniculate tarplant along Village West Dr, facing west. October 9, 2019.

Photo 14. View of disturbed area along Village West Dr, facing northwest. October 9, 2019.

Appendix B

List of Vascular Plant Species Observed within the Project Study Area

Scientific Name	Common Name
Amaranthaceae (amaranth family)	
*Amaranthus albus**	white tumbleweed
Anacardiaceae (cashew family)	
*Schinus molle**	Peruvian pepper tree
Apocynaceae (dogbane family)	
Funastrum cynanchoides var. *hartwegii*	climbing milkweed
Arecaceae (palm family)	
*Washingtonia robusta***	Mexican fan palm
Asteraceae (sunflower family)	
Artemisia californica	coastal sagebrush
Baccharis salicifolia ssp. *salicifolia*	mule-fat
Baccharis salicina	willow baccharis
*Centaurea melitensis**	tocalote
Corethrogyne filaginifolia var. *filaginifolia*	California sand-aster
Deinandra paniculata (CRPR 4.2)	San Diego tarplant
Encelia californica	California encelia
Encelia farinosa	brittlebush
Ericameria palmeri var. *pachylepis*	thickbracted goldenbush
*Erigeron bonariensis**	flax-leaf fleabane
Helianthus annuus	Western sunflower
Heterotheca grandiflora	telegraph weed
Isocoma menziesii	Menzies' goldenbush
*Lactuca serriola**	prickly lettuce
Lasthenia gracilis	common goldfields
*Oncosiphon piluliferum***	stinknet
*Pulicaria paludosa**	Spanish false-fleabane
Sonchus asper ssp. *asper**	prickly sow-thistle
Stephanomeria exigua ssp. *deanei*	Deane's small wreath-plant
Stylocline gnaphaloides	everlasting nest-straw
Boraginaceae (forget-me-not family)	
Amsinckia menziesii	rigid fiddleneck
Xanthium strumarium	cocklebur
Brassicaceae (mustard family)	
*Hirschfeldia incana***	short-pod mustard
Nasturtium officinale	water-cress
*Sisymbrium irio**	London rocket
Cactaceae (cactus family)	
Cylindropuntia californica var. *parkeri*	cane/valley cholla
Opuntia littoralis	coast prickly-pear

Chenopodiaceae (goosefoot family)	
Salsola sp.**	tumbleweed
Euphorbiaceae (spurge family)	
Croton setiger	doveweed
*Euphorbia polycarpa**	small-seed sandmat
Fabaceae (legume family)	
Acmispon glaber var. *brevialatus*	short-wing deerweed
Astragalus pomonensis	Pomona locoweed
*Parkinsonia aculeata**	Mexican palo verde
Heliotropiaceae (heliotrope family)	
Heliotropium curassavicum var. *oculatum*	salt heliotrope
Lamiaceae (mint family)	
*Marrubium vulgare**	horehound
*Trichostema lanceolatum**	vinegar weed
Malvaceae (mallow family)	
Malvella leprosa	alkali mallow
Onagraceae (evening primrose family)	
Epilobium ciliatutm	slender willow herb
Poaceae (grass family)	
*Bromus diandrus***	ripgut grass
*Bromus rubens***	foxtail chess, red brome
Festuca microstachys	Gray's fescue
*Schismus barbatus***	Mediterranean schismus
Polygonaceae (buckwheat family)	
Eriogonum elongatum var. *elongatum*	tall buckwheat
Eriogonum fasciculatum var. *foliolosum*	inland California buckwheat
Eriogonum gracile var. *gracile*	slender buckwheat
Salicaceae (willow family)	
Populus fremontii	Fremont cottonwood
Salix gooddingii	Goodding's black willow
Salix laevigata	red willow
Salix lasiolepis	arroyo willow
Solanaceae (nightshade family)	
Datura wrightii	western jimson weed
*Nicotiana glauca***	tree tobacco
Tamaricaceae (tamarisk family)	
*Tamarix ramosissima***	saltcedar
Typhaceae (cattail family)	
Typha latifolia	broadleaf cattail
Urticaceae (nettle family)	
Urtica dioica ssp. *holosericea*	hoary nettle

CRPR 4.2: *California Rare Plant Rank (California Native Plant Society)*
** Non-Native Species (CalFlora)*
*** Invasive and Non-Native Species (CalFlora)*

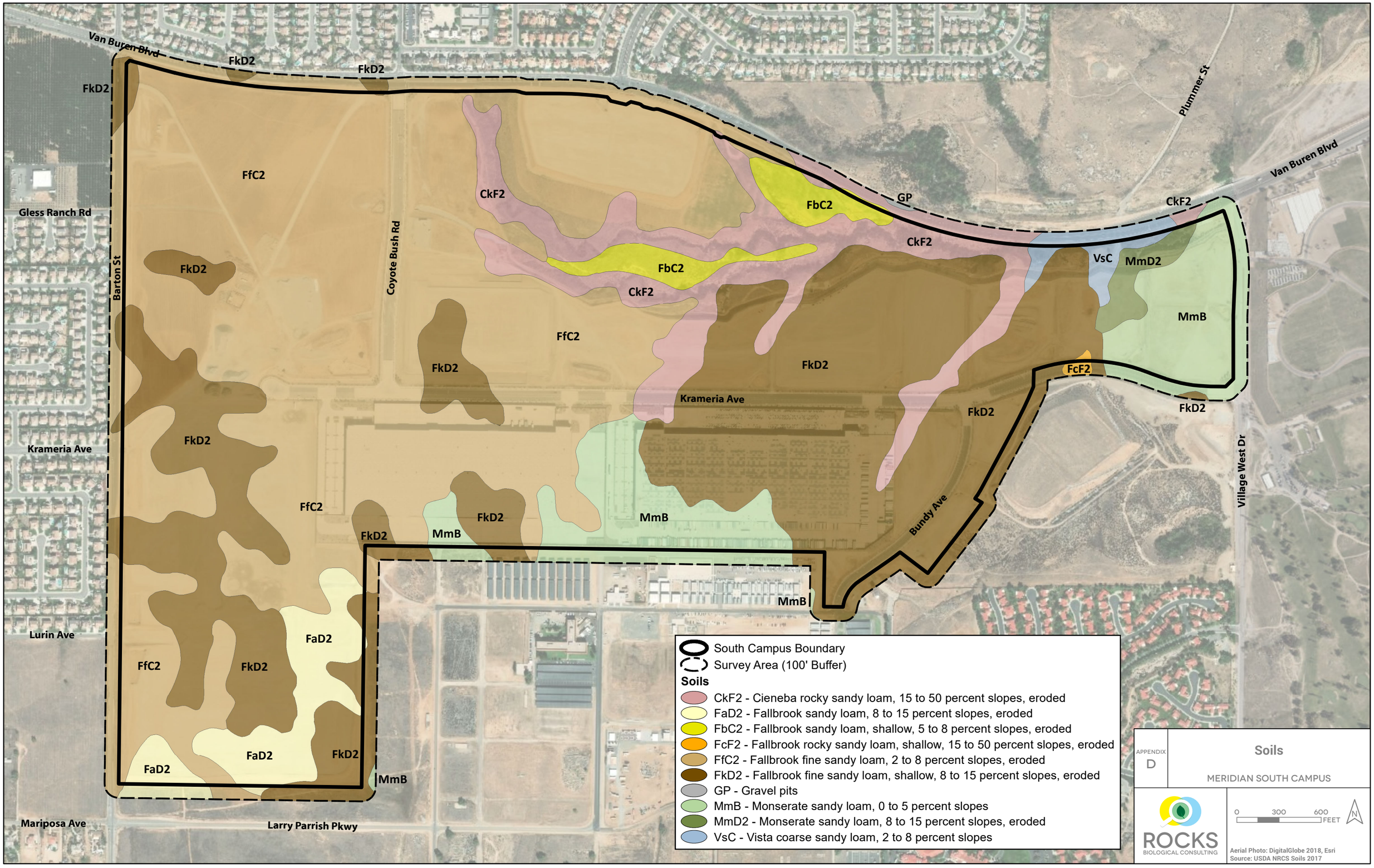
Appendix C

List of Wildlife Species Observed within the Project Study Area

Common Name	Scientific Name
REPTILES	
Phrynosomatidae (spiny lizards)	
Great Basin fence lizard	*Sceloporus occidentalis longipes*
Teiidae (whiptails and runners)	
Coastal tiger whiptail (SSC)	*Aspidoscelis tigris stejnegeri*
INVERTEBRATES	
Formicidae (ants)	
Argentine ant	*Linepithema humile*
Lycaenidae (gossamer-wing butterflies)	
Common gray hairstreak	*Strymon melinus pudica*
Nymphalidae (brush-footed butterflies)	
Common buckeye	*Junonia coenia*
Mourning cloak	*Nymphalis antiopa antiopa*
Papilionidae (parnassians and swallowtails)	
Western tiger swallowtail	*Papilio rutulus*
Pieridae (whites and sulphurs)	
Checkered white	*Pontia protodice*
Orange sulphur	*Colias eurytheme*
Riodinidae (metalmarks)	
Behr's Metalmark	*Apodemia virgulti virgulti*
BIRDS	
Accipitridae (eagles, hawks, and kites)	
Red-tailed hawk	*Buteo jamaicensis*
Cathartidae (new world vultures)	
Turkey vulture	*Cathartes aura*
Columbidae (pigeons and doves)	
Mourning dove	*Zenaida macroura*
Rock pigeon*	*Columbia livia*
Corvidae (crows, jays, and magpies)	
American crow	*Corvus brachyrhynchos*
California scrub-jay	*Aphelocoma californica*
Common raven	*Corvus corax*
Falconidae (falcons and caracaras)	
American kestrel	*Falco sparverius*

Fringillidae (finches)	
House finch	*Haemorhous mexicanus*
Lesser goldfinch	*Spinus psaltria*
Icteridae (oropendolas, orioles, blackbirds)	
Hooded oriole	*Icterus cucullatus*
Parulidae (new world warblers)	
Yellow warbler (SSC)	*Setophaga petechia*
Passerellidae (new world sparrows)	
California towhee	*Melozone crissalis*
Picidae (woodpeckers)	
Nuttall's woodpecker	*Picoides nuttallii*
Strigidae (owls)	
Great horned owl	*Bubo virginianus*
Trochilidae (hummingbirds)	
Anna's hummingbird	*Calypte anna*
Troglodytidae (wrens)	
Bewick's wren	*Thryomanes bewickii*
Rock wren	*Salpinctes obsoletus*
Tyrannidae (flycatchers)	
Black phoebe	*Sayornis nigricans*
Cassin's kingbird	*Tyrannus vociferans*
Say's phoebe	*Sayornis saya*
Vireonidae (vireos, greenlets, shrike-babblers)	
Least Bell's vireo (SE, FE; nesting)	*Vireo bellii pusillus*
MAMMALS	
Canidae (dogs, wolves, coyotes, foxes, and jackals)	
Coyote (scat)	*Canis latrans*
Leporidae (rabbits and hares)	
Audubon's cottontail	*Sylvilagus audubonii*
San Diego black-tailed jackrabbit (SSC)	*Lepus californicus bennettii*

FE: Endangered Species Act (ESA) Federally Endangered Species
SE: California Endangered Species Act (CESA) State Endangered Species
SSC: California Department of Fish and Wildlife (CDFW) Species of Special Concern
*: non-native species


Van Buren Blvd
Plummer St
Gless Ranch Rd
Barton St
Coyote Bush Rd
Krameria Ave
Lurin Ave
Mariposa Ave
Larry Parrish Pkwy
Bundy Ave
Village West Dr
FkD2
FfC2
CkF2
FbC2
GP
VsC
MmD2
MmB
FcF2
FaD2
South Campus Boundary
Survey Area (100' Buffer)
Soils
CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
FbC2 - Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded
FcF2 - Fallbrook rocky sandy loam, shallow, 15 to 50 percent slopes, eroded
FfC2 - Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded
FkD2 - Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded
GP - Gravel pits
MmB - Monserate sandy loam, 0 to 5 percent slopes
MmD2 - Monserate sandy loam, 8 to 15 percent slopes, eroded
VsC - Vista coarse sandy loam, 2 to 8 percent slopes
APPENDIX D
Soils
MERIDIAN SOUTH CAMPUS
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Aerial Photo: DigitalGlobe 2018, Esri
Source: USDA NRCS Soils 2017

Village West Drive Survey Area

Soils

- FaD2 - Fallbrook sandy loam, 8 to 15 percent slopes, eroded
- FbC2 - Fallbrook sandy loam, shallow, 5 to 8 percent slopes, eroded
- FcF2 - Fallbrook rocky sandy loam, shallow, 15 to 50 percent slopes, eroded
- FfC2 - Fallbrook fine sandy loam, 2 to 8 percent slopes, eroded
- FkD2 - Fallbrook fine sandy loam, shallow, 8 to 15 percent slopes, eroded
- VsC - Vista coarse sandy loam, 2 to 8 percent slopes

VsC
FkD2
Arnold Dr
FcF2
Village West Dr
FkD2
Lemay Dr
Twining Ave
FcF2
FbC2
5th St
FaD2
Nandina Ave
FfC2
Clark St

APPENDIX D

Soils

MERIDIAN SOUTH CAMPUS

ROCKS BIOLOGICAL CONSULTING

0 150 300 FEET

N

Aerial Photo: DigitalGlobe 2018, Esri