Appendix E-1: Biological Technical Report

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BIOLOGICAL TECHNICAL REPORT

FOR THE

GREEN RIVER RANCH SPECIFIC PLAN

LOCATED IN THE CITY OF CORONA, RIVERSIDE COUNTY, CALIFORNIA

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January 17, 2022
[Revised April 2, 2024]

INFORMATION SUMMARY

A. **Report Date:** January 17, 2022 [Revised April 2, 2024]

B. **Report Title:** Biological Technical Report for the Green River Ranch Specific Plan

C. **Study Area Location:** City of Corona, Riverside County, California

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general biological surveys and focused biological surveys for the approximately 159.82-acre Green River Ranch Specific Plan, as well as 15.30 acres of offsite improvements, for an overall Study Area of 175.12 acres. The Study Area is located in the City of Corona, Riverside County, California [Exhibit 1 – Regional Map, Exhibit 2 – Vicinity Map, and Exhibit 3 – Aerial Map]. This report identifies and evaluates project-specific impacts to biological resources associated with the proposed Business Park Industrial Project (the "BPI Project" covering Planning Areas 1, 2, and 3 of the Specific Plan) in the context of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), the California Environmental Quality Act (CEQA), and State and Federal regulations such as the State and federal Endangered Species Acts (CESA and FESA), Clean Water Act (CWA), and the California Fish and Game Code. In addition, this document provides a programmatic analysis for the future development of commercial Planning Area 4 but for which a specific development project is not proposed at this time ("the commercial property"). This report does not analyze biological effects associated with the potential future development of the Estate Residential uses in Planning Area 5 because foreseeable near-term residential development of that area is speculative. Portions of Planning Area 5 that would be physically impacted by grading to support the BPI project (14.15 acres) are, however, specifically evaluated in this document as part of the BPI project. The remaining portions of Planning Area 5 that would not be impacted by the BPI project (6.26 acres) are referred to herein as "Residentially Zoned Open Space" because although the area would be residentially zoned, development would be temporarily restricted through a deed restriction.

The overall Specific Plan property is divided into the following components [Exhibit 4– Specific Plan Project Components Map], which is also summarized in Table 1-1:

- Business Park Industrial Planning Areas 1, 2, and 3 (50.53 acres) – onsite improvements only (Planning Areas 1, 2, and 3).
- Commercial (5.54 acres) – onsite improvements only (Planning Area 4).
- Estate Residential Zoning (20.41 acres) – includes areas to be impacted by the BPI project's grading (14.15 acres) and areas that would not be impacted and left as Residentially-Zoned Open Space (6.26 acres) (Planning Area 5).
- Proposed Non-MSHCP Open Space (2.57 acres) – this corresponds with Open Space General in the Specific Plan (Planning Area 6) and includes areas to be temporarily impacted during BPI project grading, but that will be restored through the planting of oak woodland habitat to mitigate the Project's impacts to oak woodland habitat.
- Proposed Conservation (80.77 acres) – this corresponds with Open Space General in the Specific Plan (Planning Area 6) and includes lands that will be dedicated to the RCA for the MSHCP Reserve to support the assembly of PCL-1 located to the south and west.

Table 1-1. Summary of the Green River Ranch Specific Plan

Project Component	Acreage
Business Park Industrial	50.53
Commercial	5.54
Estate Residential (affected by BPI Project Grading)	14.15
Estate Residential (Residentially Zoned Open Space)	6.26
Proposed Non-MSHCP Open Space (Temporary Impact)	2.57
Proposed Conservation (Avoided)	80.77
Total	**159.82**

As noted above, the Project specifically evaluated herein at the project-specific level includes only the Business Park Industrial (BPI) component, consisting of the onsite improvements and grading associated with the proposed implementation of development in Planning Areas 1, 2 and 3 (Business Park Industrial land uses) and its associated grading and offsite improvements, and the proposed onsite conservation areas (Planning Area 6). The offsite improvements associated with development of the Business Park Industrial component of the Specific Plan will occur along Green River Road and include sewer improvements at the Green River Road and Palisades Drive intersection. The Commercial component of the Specific Plan (Planning Area 4) is evaluated herein at a programmatic level, as a specific development plan is not proposed at this time. This report does not evaluate physical disturbance in the 6.26-acre portion of the Estate Residential planning area (Planning Area 5) that would be undisturbed by the grading necessary to build the Business Park Industrial component of the Project because residential development is speculative at this time and a deed restriction would be placed over the property until or unless future residential development is proposed.

Section 4.0 of this report documents the existing conditions for the 159.82-acre Specific Plan area and the acreage of off-site improvements, including vegetation alliances, habitat assessments and focused surveys for special-status species, and delineation of jurisdictional waters. Section 5.0 of this report provides the project-specific impact analysis for the Business Park Industrial component of the Project, and a programmatic analysis for the commercial property. This report does not address physical impacts associated with potential, future residential development in the residentially zoned portion of the Specific Plan (Planning Area 5), as a residential development plan is not currently proposed nor reasonably foreseeable.

This report documents all methods employed regarding the general biological surveys and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA and MSHCP requirements, including (1) general biological surveys; (2) vegetation mapping; (3)

habitat assessments and focused surveys for special-status plant species (including species with applicable MSHCP survey requirements); (4) habitat assessments and focused surveys for special-status wildlife species (including species with applicable MSHCP survey requirements); (5) assessment for the presence of wildlife migration and colonial nursery sites; (6) assessments for MSHCP riparian/riverine areas and vernal pools; and (7) assessments for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act, State Water Quality Control Board pursuant to Section 401 of the Clean Water Act, and CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600–1616 of the California Fish and Game Code. Observations of all plant and wildlife species were recorded during the biological studies and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

1.2 Project Location

The Study Area comprises approximately 175.12 acres in the City of Corona, California [Exhibit 1 – Regional Map] and is located within Sections 30 and 31 of Township 3 South, Range 7 West of the U.S. Geological Survey (USGS) 7.5" quadrangle maps Prado Dam and Blackstar Canyon [Exhibit 2 – Vicinity Map]. The Study Area is bordered by undeveloped land to the south, Green River Road and Fresno Road to the north and west, and State Route 91 north of Green River Road [Exhibit 3 – Aerial Map].

1.3 Project Description

The following provides a brief description of the different Specific Plan components, including Commercial, Business Park Industrial, the Estate Residential designation and proposed conservation (i.e., Open Space – General). Under existing conditions, the City of Corona General Plan designates the Specific Plan area for "Mixed Use: Industrial/Commercial (MU2)," "General Commercial (GC)," "Estate Residential (ER)," and "Open Space – General (OS-G)" land uses. Development of the applicable portions of the Specific Plan will require a General Plan Amendment (GPA2020-0002), Amendment No. 1 to the Green River Ranch Specific Plan (SPA2020-0006), Tentative Tract Map (TTM37963), and a Precise Plan (PP2020-0004). As part of GPA2020-0002, the portion of the Specific Plan located north of Green River Road would be redesignated from MU2 to GC on approximately 5.5 acres. To the south of Green River Road, areas currently designated for MU2, ER, and OS-G land uses would be reconfigured to provide approximately 50 acres of Business Park Industrial (BPI) land uses immediately south of Green River Road, approximately 20 acres of ER land uses south of the BPI land use designation, and 83.34 acres of Open Space would be dedicated in the western and southern portions of the site as MSHCP conservation associated the Business Park Industrial Project. Areas designated for OS-G would be redesignated for BPI land uses.

1.3.1 Commercial

The Commercial property (Planning Area 4) is located north of Green River Road at the northernmost portion of the Specific Plan. The "General Commercial" land use designation is intended to provide services for travelers and local residents, and would allow for service stations, restaurants (fast food, turnover, and high quality), and neighborhood retail. Since a

specific development project has not yet been designed for the property, this report provides a programmatic analysis for the Commercial property.

1.3.2 Business Park Industrial

The "Business Park Industrial" land use designation associated with approximately 52.19 acres of the Project evaluated herein, includes 50.53 acres onsite and 1.66 acres offsite that the applicant is intending to acquire from the City. The 50.53-acre onsite portion is designed to include five proposed buildings, parking, landscaping, and other components. The offsite portions include proposed landscaping areas between the development parcels/Specific Plan boundary and Green River Road, as well along as a portion of Dominguez Ranch Road proposed for landscaped slope and utility improvements.

Building 1 is located within proposed Planning Area 1. Truck trailer loading docks are proposed along the southern side of the building, with passenger vehicle parking areas occurring to the west, north, and east of the building, as well as to the south side of the truck trailer docking area. Access to Building 1 would be provided from a driveway along Street A.

Buildings 2 and 3 are located within proposed Planning Area 2. Truck trailer loading docks are proposed along the east side of Building 2 and along the west side of Building 3. Passenger vehicle parking areas are proposed to the west, north, and east of the proposed buildings, with additional passenger vehicle parking proposed along the south side of Building 3. Access to Buildings 2 and 3 would be accommodated by driveways extending from Street A.

Buildings 4 and 5 are located within proposed Planning Area 3. Truck trailer loading docks are proposed along the east side of Building 4 and along the west side of Building 5. Passenger vehicle parking areas are proposed to the west, south, and east of the proposed buildings, with additional passenger vehicle parking proposed along the north side of Building 5. Access to Buildings 4 and 5 would be accommodated by two driveways extending from Street A, and a single driveway extending from Dominguez Ranch Road.

The proposed manufactured slopes are designed around the development pads, with the manufactured slopes transitioning into the natural condition on the southern side of the development. Landscaping is proposed for the manufactured slopes for stabilization and aesthetic purposes. The slopes would be hydroseeded and landscaped with tree species including 24-inch box California laurel (*Umbellularia californica*), 24-inch box coast live oak (*Quercus agrifolia*), and 24-inch box Catalina cherry (*Prunus lyonia*).

Wildlife fencing will be constructed along the western edge of the business park industrial development, separating the wildlife movement path from the rest of the Project (see Appendix A and B). The fence will start at the northwestern corner of the development area and extend south to the southern limits of the proposed manufactured slopes within the Estate Residential parcel. The fence will then extend east, meandering along the limits of the manufactured slopes to follow the topography for ease of installation. The fence will terminate at the eastern property boundary.

As the northern limit of the fencing will terminate near Green River Road, and the frontage of the Business Park Industrial project will not itself be fenced, then it is possible that wildlife moving from north to south across Green River Road might access the manufactured slopes and parking lot of the Business Park Industrial project and end up on the opposite side of the wildlife fence. As such, the fence is proposed to be chain link (at least 8 feet tall) to allow for one-way swing gates to be installed along the fence allowing for escape access to the wildlife movement path and open space to the south. Vegetation would be planted next to the fence to screen the wildlife movement path from the development area, including vegetation to be planted in the wildlife movement path as a part of habitat restoration in that area.

1.3.3 Estate Residential

The "Estate Residential" land use designation is intended to provide for single-family detached residences on estate properties and would allow for up to 32 dwelling units with a minimum lot size of 20,000 square feet. In the Estate Residential designation, 14.15 acres would be disturbed by grading associated with Business Park Industrial component of the Project. The remaining 6.26 acres of the Estate Residential designation would remain as Residentially-Zoned Open Space, but is not at this time proposed as conservation to support MSHCP Reserve Assembly.

1.3.4 Proposed Non-MSHCP Open Space

The Specific Plan's "Open Space General" land use designation is intended for land conservation and preservation of a large portion of the site's natural state. Approximately 2.57 acres of the proposed conservation will consist of a linear section of land in the northwestern portion of the Specific Plan that would be temporarily impacted by grading associated with the Business Park Industrial component of the Project but will be restored to mitigate oak woodland habitat to be impacted by the Project.

1.3.5 Proposed Conservation

The Specific Plan's "Open Space General" land use designation is intended for land conservation and preservation of a large portion of the site's natural state. Approximately 80.77 acres in the southern portion of the Specific Plan are proposed as conservation to support MSHCP Reserve Assembly related to PCL-1 located to the south and west of the Specific Plan.

1.3.6 Green River Road

The Project will improve an approximately 2,000-foot section of Green River Road, from the SR-91 ramps on the west to Dominguez Ranch Road on the east. The existing Green River Road is developed to a width between approximately 110 and 120 feet, including approximately 100 feet of pavement, curb and gutter, and sidewalk (southern edge), as well as re-constructed slopes on either side of the roadway. Proposed improvements include pavement widening to the north and south, re-striping the roadway, relocation of curb and gutter, and recontouring of the roadside areas. Appendix C (Green River Road Striping Plan) is included to show details in the proposed configuration.

Northern Side of Green River Road

The northern side of Green River Road will be widened by Caltrans by 13 feet between the SR-91 Ramps and Fresno Road irrespective of the proposed Project to provide a dedicated right turn lane to SR-91. This widening is currently being constructed by Caltrans but is identified here for reference. East of the Caltrans improvements, the Project will match the Caltrans widening width and widen the northern side of Green River Road by 13 feet to lengthen the turn lane installed by Caltrans. The existing curb and gutter would thus be moved 13 feet to the north to accommodate the additional lane width. North of the widening area, a 2:1 landscaped slope will occur to transition to natural grade. The widening would stop at the approximate location of proposed Street A (the entry to the proposed Business Park Industrial Project). No widening on the northern side of Green River Road would occur between proposed Street A and Dominguez Ranch Road.

Medians

Within the existing Green River Road alignment at Fresno Road and just east of Fresno Road, the City of Corona will require the Project Applicant to install a raised center, hardscaped median with 8-inch curb for the purpose of prohibiting left turn movements from westbound Green River Road to Fresno Road. The median will be approximately 12 feet wide by 200 feet long including tapers. Also, on Green River Road just west of Dominguez Ranch Road, the City of Corona will require the Project Applicant to close a gap in the existing center median, to match the existing raised center, hardscaped median design at 12 feet wide with an 8-inch curb.

Southern Side of Green River Road

East of Fresno Road for a distance of approximately 125 feet, Green River Road will be widened by 2 feet. East of the 2 feet widening section, Green River Road will be widened by 14 feet to add a right turn lane for proposed Street A. The existing curb, gutter, and sidewalk would thus be moved 14 feet to the south to accommodate the additional lane. At the Green River Road/proposed Street A intersection, a traffic signal is proposed. East of this new intersection, the southern side of Green River Road will be widened by 5 feet for a distance of approximately 150 feet, including tapers.

1.3.6 Sewer Improvements (Green River Road/Palisades Drive)

In anticipation of the increased sewer flows associated with future developments throughout the City of Corona, the Department of Water and Power has proposed several Capital Improvement Projects to address current and future deficiencies in the existing sewer system. The proposed Project (per the City's plans) will construct a new lift station at the intersection of Green River Road and Palisades Drive to replace and upgrade the existing SDO LS (Sierra Del Oro Lift Station). The proposed lift station will accommodate flows from existing and future developments, which include the proposed sewer flows from the Green River Ranch Project. The new lift station is included in the City's Fiscal Year 2021 through Fiscal year 2025 Capital Improvement Program and includes 2,600 linear feet of 12-inch gravity sewer and 1,500 lineal feet of 12-inch force main.

1.3.7 Fresno Road Repaving

The Project Applicant will repave the existing Fresno Road, occurring in a 24-foot width, on top of the existing pavement in the Fresno Road public right-of-way. There will be no widening or any other improvements other than repaving. Maintenance will be typical city maintenance for a public road, which includes sweeping and as-needed pavement repair if there is any damage.

1.4 Relationship of the Study Area to the MSHCP

1.4.1 MSHCP Background

The Western Riverside County MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts to these species for Projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements in order for these species to ultimately be considered "adequately conserved". A number of these species have survey requirements based on a project's occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP *Volume I, Section 6.1.3*), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP *Volume I, Section 6.3.2*) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animals species (burrowing owl, mammals, amphibians) identified by survey areas (MSHCP *Volume I, Section 6.3.2*); and species associated with riparian/riverine areas and vernal pool habitats, i.e., least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP *Volume I, Section 6.1.2*). An additional 28 species (MSHCP *Volume I*, *Table 9.3*) not yet adequately conserved have species-specific objectives in order for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands described within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated "criteria" for the purpose of targeting additional

conservation lands for acquisition. Projects located within the Criteria Area are subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if lands are targeted for inclusion in the MSHCP Reserve. In addition, all Projects located within the Criteria Area are subject to the Joint Project Review (JPR) process, where the Project is reviewed by the Regional Conservation Authority (RCA) to determine overall compliance/consistency with the biological requirements of the MSHCP.

1.4.2 Proposed Criteria Refinement

The Study Area occurs within the MSHCP Temescal Area Plan, specifically in Subunit 1 (Santa Ana River to Santa Ana Mountains), Criteria Cells 1702, 1704, 1811, and 1812 [Exhibit 5A – MSHCP Overlay Map]. Lands described for conservation within these Criteria Cells are intended support the assembly of Proposed Constrained Linkage 1 ("PCL-1") and Proposed Constrained Linkage 2 ("PCL-2") further to the east. Both PCL-1 and PCL-2 are intended to connect Existing Core A (Prado Basin/Santa Ana River) with Existing Core B (Cleveland National Forest) to the south and is expected to provide for movement of mountain lion (***Puma concolor***), bobcat (***Lynx rufus***), and other wildlife. Lands within the Specific Plan are associated with PCL-1, as the Linkage is currently described in the MSHCP. PCL-2 is located east of the Specific Plan and is not applicable to development within the Specific Plan.

The MSHCP defines a constrained linkage as a "constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use." Existing urban development constrains the Linkage at its northern terminus, including State Route (SR) 91, the Burlington Northern Santa Fe (BNSF) railroad line and Green River Road, although the Linkage is unconstrained in the south. Despite these constraints, the MSHCP recognizes that PCL-1 likely provides for movement of mountain lion and bobcat from the Santa Ana Mountains to the Chino Hills area beyond the Plan Area, as well as providing habitat for additional Planning Species, including the coastal California gnatcatcher and Cooper's hawk. However, due to the multitude of constraints along the existing PCL-1 alignment, and the existence of a superior, functional movement route to the west/southwest (referred to as "B Canyon"), the City of Corona is currently pursuing a Criteria Refinement through the RCA and Wildlife Agencies to formally relocated PCL-1 west to coincide with the B Canyon area. The processing of the Criteria Refinement coincides with the RCA's recent acquisition of approximately 740 acres of lands located south and west of the Specific Plan Project that contain B Canyon. The RCA issued Criteria Refinement Review Findings (CR# 24-01-10-01, dated February 20, 2024) in support of the Criteria Refinement and those Findings are currently being reviewed by the Wildlife Agencies, with the expectation that the Wildlife Agencies will provide concurrence. The formal relocation of PCL-1 removes the Specific Plan Project site from the Linkage and thereby greatly reduces the relative importance of the Project site to facilitate wildlife movement and to connect Core A and Core B. The Criteria Refinement Review Findings is included as Appendix D to this Biological Technical Report. The RCA's Criteria Refinement Review Findings are included as Appendix E.

1.4.3 MSHCP Survey Requirements

The Study Area does not occur within the MSHCP Criteria Area Plant Species Survey Area (CAPSSA), Mammal Survey Area, and/or Amphibian Survey Area. However, the Study Area is located within the MSHCP Burrowing Owl (*Athene cunicularia*) Survey Area and Narrow Endemic Plant Species Survey Area (NEPSSA) [Exhibit 5B – MSHCP Survey Areas Map]. Specifically, the site occurs in NEPSSA Survey Area 7. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): San Diego ambrosia (*Ambrosia pumila*), Brand's phacelia (*Phacelia stellaris*), and San Miguel savory (*Clinopodium chandleri*).

2.0 METHODOLOGY

To adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates (GLA) assembled biological data consisting of following main components:

- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), CDFW, and MSHCP riparian/riverine areas and vernal pools policy;
- Performance of vegetation mapping for the Study Area;
- Performance of habitat assessments, and site-specific biological surveys, to evaluate the presence/absence of special-status species in accordance with the requirements of CEQA and the MSHCP;
- Performance of focused surveys for rare plants; and
- Performance of focused surveys for burrowing owl.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the CNDDB [CDFW 2020], CNPS 8th edition online inventory (CNPS 2020), Natural Resource Conservation Service soil data (NRCS 2021), Information for Planning and Consultation (IPAC) database (USFWS 2021), MSHCP species and habitat maps and sensitive soil maps (Dudek 2003), other pertinent literature, and knowledge of the region. Site-specific general surveys within the Study Area were conducted on foot in the proposed development areas for each target plant or animal species identified below as well as in the avoided open space. Table 2-1 provides a summary list of survey dates, survey types and personnel.

Table 2-1. Summary of Biological Surveys for the Study Area

Survey Type	2020 Survey Dates	Biologist(s)
General Biological Survey and Vegetation Mapping	3/2, 4/24	JF
Evaluation of MSHCP Riparian/Riverine Areas, Vernal Pools, and Fairy Shrimp Habitat	4/29, 5/5, 6/4, 6/5	JF

Survey Type	2020 Survey Dates	Biologist(s)
Delineation of Federal and State Jurisdictional Waters	4/29, 5/5, 6/4, 6/5	JF
Focused Plant Surveys	3/2, 4/24	JS
Focused Burrowing Owl Surveys	3/3, 4/16, 4/24, 5/4	JF
Focused Least Bell's Vireo Surveys	5/5, 5/15, 5/25, 6/4, 6/15, 6/29, 7/10, 7/23	JF, SC
Focused Crotch's Bumble Bee Surveys	6/15, 7/7	JA, SC

JF = Jason Fitzgibbon JS = Jillian Stephens SC = Stephanie Cashin JA = Jeff Ahrens

Individual plants and wildlife species were evaluated in this report based on their "special-status." For this report, plants were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State Endangered Species Act (ESA); and/or
- CNPS Rare Plant Inventory Rank 1A, 1B, 2A, 2B, 3, or 4.

Wildlife species were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species.

Vegetation communities and habitats were considered "special-status" based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW (see Section 3.2.2 below for further explanation); and
- Riparian/riverine habitat.

2.1 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Study Area, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Study Area; (3) general field reconnaissance survey(s); (4) vegetation mapping according Manual of California Vegetation Second Edition (MCVII) (Sawyer, Keeler-Wolf, and Evens, 2009) and cross walked over to Holland (1986) and then MSHCP vegetation classifications; and (5) habitat assessments and focused surveys for special-status plants (including those with MSHCP requirements).

2.1.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39) (CNPS 2020); and
- CNDDB for the USGS 7.5' quadrangles: Prado Dam, California and all surrounding quadrangles (CDFW 2020).
- USFWS IPAC database (USFWS 2021).

2.1.2 Vegetation Mapping

Vegetation communities within the Study area were mapped according to Holland (1986) and the MCVII (Sawyer, Keeler-Wolf, and Evens, 2009) based on the dominant plant species present. Where necessary, deviations were made when areas did not fit into exact vegetation descriptions or membership rules. These vegetation communities were named based on the dominant plant species present. Plant communities were mapped in the field directly onto a 200-scale (1"= 200') aerial photograph. Vegetation mapping was conducted by GLA biologist Jason Fitzgibbon on March 2, 2020, and April 24, 2020.

2.1.3 Special-Status Plant Species and Habitats Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status plants with the potential to occur within the Study Area. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2021) and the MSHCP (Dudek 2003).

The Project is located within NEPSSA Survey Area 7. Pursuant to the MSHCP, the following target species must be evaluated through habitat assessments and focused surveys (if suitable habitat is present): San Diego ambrosia, Brand's phacelia, and San Miguel savory.

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Study Area were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special-status plants that may occur within the Study Area; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Study Area, if applicable.

2.1.4 Botanical Surveys

GLA biologists Jason Fitzgibbon and Jillian Stephens visited the site on March 2 and April 24, 2020 to conduct general and focused plant surveys. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFG 2009, CNPS 2001, USFWS 2000). As applicable,

surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Study Area. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), and Munz (1974).

2.2 Wildlife Resources

Wildlife species were evaluated and detected during the field survey(s) by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Study Area by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit(s). A complete list of wildlife species observed within the Study Area is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFG 2008), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians 6th Edition, Collins and Taggert (2009) for amphibians and reptiles, and the American Ornithologists' Union Checklist 7th Edition (2009) for birds. The methodology (including any applicable survey protocols) utilized to conduct general survey(s), habitat assessment(s), and/or focused surveys for special-status animals are included below.

2.2.1 General Surveys

Birds

During the general biological and reconnaissance survey within the Study Area, birds were identified opportunistically within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general biological and reconnaissance survey within the Study Area, mammals were identified opportunistically within each habitat type. Mammals were detected both by direct observations and by the presence of diagnostic sign (i.e. tracks, burrows, scat, etc.).

Reptiles and Amphibians

During general biological and reconnaissance surveys within the Study Area, reptiles and amphibians were identified opportunistically during surveys within each habitat type. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.2.2 Special-Status Animal Species Evaluated for the Study Area

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Study Area. Species were evaluated based on three factors, including: 1) species identified by the CNDDB and/or USFWS IPaC as occurring (either currently or historically) on or in vicinity of the Study Area, (2) species survey areas as identified by the MSHCP for the Study Area; and 3) any other special-status animals that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs on the Study Area.

2.2.3 Habitat Assessment for Special-Status Animal Species

GLA biologist Jason Fitzgibbon conducted a habitat assessment for special-status animal species on March 2, 2020. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Study Area.

2.2.4 Focused Surveys for Special-Status Animals Species

Crotch's Bumble Bee

GLA biologists performed focused surveys for the Crotch's bumble bee (*Bombus crotchii*) within all suitable habitat areas within the Study Area. Surveys followed a protocol developed by GLA which largely encompasses the Crotch's bumble bee (CBB) flight season (March to September) when the queen, daughters, males, and new queens are generally active. Surveys are preferably spaced out throughout the flight season to take advantage of different blooming periods and floral resources. The survey protocol recommends that individual biologists conduct three focused surveys during the flight season, beginning within the three acres of that contain the highest quality floral resources per every 50 acres of potential suitable habitat. Although the Study Area supported less than 50 acres of potential suitable habitat, due to the overall size of the Study Area and distance between suitable habitat areas, two biologists conducted three focused surveys each.

During each focused survey, two sampling approaches were implemented. During the first phase, the surveyor conducted one hour of visual survey effort within the three-acre flowering area identified as supporting the highest quality habitat as determined by the surveyor. If CBB were not detected during the first hour of searching, a second hour of survey effort was conducted. During the second hour, the surveyor could either choose to resurvey the same flowering area (if any *Bombus* species were detected prior) or the surveyor could choose to conduct a second hour of searching within another high quality three-acre flowering area on site. If CBB were not detected during the second hour of the survey effort, the second survey phase was implemented, in which the surveyor surveyed the best additional flowering areas throughout the site, as deemed appropriate. The surveyor scanned suitable flowering areas for bumble bee activity and focused on those areas. Minimal time was spent in lesser quality habitat. Depending on the size of the habitat area, the opportunistic survey effort generally did not

exceed one hour. In addition, GLA biologists documented bumble bee activity incidentally during all other biological surveys.

Focused surveys were conducted by GLA biologists Jeff Ahrens and Stephanie Cashin on June 15 and July 7, 2020. Pursuant to the survey guidelines, the surveys were conducted between an hour after sunrise until two hours before sunset. Weather conditions during the surveys were conducive to a high level of bumble bee activity. Table 2-2 summarizes the Crotch's bumble bee survey visits. The results of the CBB surveys are documented in Section 4.0 of this report.

Table 2-2. Summary of Crotch's Bumble Bee Surveys

Survey Date	Biologist	Start/End Time	Start/End Temperature (degree F)	Wind Speed Range (mph)	Cloud Cover (%)
6/15/20	SC	0930/1230	70/82	2-5	0
6/15/20	JA	0700/1215	61/79	2-5	0
7/7/20	JA	0730/1100	67/83	1-3	0

SC = Stephanie Cashin JA = Jeff Ahrens

Burrowing Owl

Portions of the Study Area are located within the MSHCP survey area for the burrowing owl (*Athene cunicularia*). GLA biologist Jason Fitzgibbon conducted focused surveys for the burrowing owl for all suitable habitat areas within the Study Area. Surveys were conducted in accordance with survey guidelines described in the 2006 MSHCP Burrowing Owl Survey Instructions. The guidelines stipulate that four focused survey visits be conducted on separate dates between March 1 and August 31. Within areas of suitable habitat, the MSHCP first requires a focused burrow survey to map all potentially suitable burrows. The focused burrow survey was conducted on March 2, 2020. Focused burrowing owl surveys were conducted on March 3, April 16, April 24, and May 4, 2020. The burrowing owl survey visits need to be conducted from one hour prior to sunrise to two hours after sunrise or two hours before sunset to one hour after sunset.

Both the burrow and owl surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. Additionally, all work was performed more than 5 days after a rain event. Refer to Table 2-1 in Section 2.0 for survey condition details.

Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Exhibit 6 identifies the burrowing owl survey areas at the Study Area. Transects were spaced between 22 feet and 65 feet apart, adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 320 feet along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. Transect locations are provided on Exhibit 6 along with the 500-foot buffer area. Table 2-3 summarizes

the burrowing owl survey visits. The results of the burrowing owl surveys are documented in Section 4.0 of this report.

Table 2-3. Summary of Burrowing Owl Surveys

Survey Date	Biologist	Start/End Time	Start/End Temperature (degree F)	Wind Speed Range (mph)	Cloud Cover (%)
3/3/20	JF	0542/0953	53/69	0-2	0
4/16/20	JF	0608/0934	51/58	5-7	100
4/24/20	JF	0653/0915	63/79	5-7	0
5/4/20	JF	1701/1949	73/69	5-2	0

JF = Jason Fitzgibbon

Least Bell's Vireo

GLA biologists Jason Fitzgibbon and Stephanie Cashin conducted focused surveys for the least Bell's vireo in all suitable habitat areas within the Study Area. Surveys were conducted in accordance with the 2001 USFWS survey guidelines, which stipulate that eight surveys should be conducted between April 10 and July 31, with a minimum of ten days separating each survey visit.

Focused surveys were conducted on May 5, May 15, May 25, June 4, June 15, June 29, July 10, and July 23, 2020. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 11:00 a.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 2-4 summarizes the vireo survey visits. The results of the vireo surveys are documented in Section 4.0 of this report.

Table 2-4. Summary of Least Bell's Vireo Surveys

Survey Date	Biologist	Start/End Time	Start/End Temperature (degree F)	Wind Speed Range (mph)	Cloud Cover (%)
5/5/20	JF	0645/0951	60/71	0-4	0
5/15/20	JF	0710/1100	61/74	2-3	50
5/25/20	JF	0524/0915	58/66	0-2	25
6/4/20	JF	0736/1100	64/78	0-4	0
6/15/20	SC	0615/0930	62/70	0-2	0
6/29/20	JF	0644/1058	62/73	3-4	50
7/10/20	JF	0545/1012	65/84	0-2	0
7/23/20	JF	0546/1100	63/78	2-6	25

JF = Jason Fitzgibbon

2.3 Jurisdictional Waters

The Study Area was reviewed to identify the presence and limits of jurisdictional waters, including waters of the U.S. (including wetlands) subject to the jurisdiction of the Corps and

Regional Board, and waters of the State (including riparian vegetation) subject to the jurisdiction of CDFW. Prior to beginning the field review a 200-scale color aerial photograph and the previously cited USGS topographic maps were examined to determine the locations of potential areas of Corps/CDFW jurisdiction. Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. Potential wetland habitats at the subject site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[1] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[2] The presence of an Ordinary High Water Mark (OHWM) was determined using the 2008 Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States[3] in conjunction with the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.[4] While in the field the limits of the OHWM, wetlands (if applicable), and CDFW jurisdiction were recorded using GPS technology and/or on high resolution aerial photographs. Other data were recorded on wetland datasheets.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

Volume I, Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.*

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

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[1] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[2] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[3] Lichvar, R. W., and S. M. McColley. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. (http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf).

[4] Curtis, Katherine E. and Robert Lichevar. 2010. Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. ERDC/CRREL TN-10-1. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

GLA surveyed the Study Area on April 29, 2021, May 5, 2021, and June 4 and 5, 2021 for riparian/riverine areas and vernal pool/seasonal pool habitat, including features with the potential to support fairy shrimp. To assess for vernal/seasonal pools (including fairy shrimp habitat), GLA biologists evaluated the topography of the site, including whether the site contained depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal/seasonal pools; and whether the site supported plants that suggested areas of localized ponding.

3.0 REGULATORY SETTING

The proposed Project is subject to state and federal laws and regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; special-status species which are not listed as threatened or endangered by the state or federal governments; and special-status vegetation communities.

3.1 Endangered Species Acts

3.1.1 California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of

this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3.1.3 State and Federal Take Authorizations

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.
- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as

well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.1.4 Take Authorizations Pursuant to the MSHCP

The Western Riverside County MSHCP was adopted on June 17, 2003, and an Implementing Agreement (IA) was executed between the federal and state wildlife agencies and participating entities. The MSHCP is a comprehensive habitat conservation-planning program for western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. As such, the MSHCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the MSHCP, and to provide for an overall Conservation Area that would be of greater benefit to biological resources than would result from a piecemeal regulatory approach. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts to sensitive species pursuant to Section 10(a) of the FESA.

Through agreements with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), the MSHCP designates 146 special-status animal and plant species that receive some level of coverage under the plan. Of the 146 "Covered Species" designated under the MSHCP, the majority of these species have no additional survey/conservation requirements. In addition, through project participation with the MSHCP, the MSHCP provides mitigation for project-specific impacts to Covered Species so that the impacts would be reduced to below a level of significance pursuant to CEQA. As noted above, project-specific survey requirements exist for species designated as "Covered Species not yet adequately conserved". These include Narrow Endemic Plant Species, as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species identified by the Criteria Area Species Survey Areas (CASSA); animal species as identified by survey area; and plant and animal species associated with riparian/riverine areas and vernal pool habitats (*Volume I, Section 6.1.2* of the MSHCP document).

For projects that have a federal nexus such as through federal Clean Water Act Section 404 permitting, take authorization for federally listed covered species would occur under Section 7 (not Section 10) of FESA and that USFWS would provide a MSHCP consistency review of the proposed project, resulting in a biological opinion. The biological opinion would require no more compensation than what is required to be consistent with the MSHCP.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant

to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants CNPS Ranked 3 or 4.

3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (SFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare

- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- SFP State Fully Protected
- SP State Protected
- SSC State Species of Special Concern

CNDDB Global/State Rankings

The CNDDB provides global and state rankings for species and communities based on a system developed by The Nature Conservancy to measure rarity of a species. The ranking provides a shorthand formula species/community rarity based on the best information available from multiple sources, including state and federal listings, and other groups that recognize species as sensitive (e.g., Bureau of Land Management, Audubon Society, etc.). State and global rankings are used to prioritize conservation and protection efforts so that the rarest species/communities receive immediate attention. A lower ranking (i.e., G1 or S1) indicates extreme rarity. Species or communities with a ranking from 1 to 3 are considered rare and/or under threat. Species with a ranking of 4 or 5 are considered common and not under threat. If the global/state ranking is undetermined, a range is generally provided. For example, a global ranking of "G1G3" indicates that a species/community global rarity is between G1 and G3. If the animal being considered is a subspecies of a broader species, a "T" ranking is attached to the global ranking. The following are descriptions of global and state rankings:

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.
- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences) or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread and abundant.

State Rankings

- S1 – Extremely rare; typically 5 or fewer known occurrences in the state; or only a few remaining individuals; may be especially vulnerable to extirpation.
- S2 – Very rare; typically between 6 and 20 known occurrences; may be susceptible to becoming extirpated.
- S3 – Rare to uncommon; typically 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.

- S4 - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 - Common, widespread, and abundant in the state.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Eighth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five ranks. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. CNPS Ranks 1, 2, 3, & 4, and Threat Code Extensions

CNPS Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on

CNPS Rank	Comments
	this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

3.3.1 Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(2) All interstate waters including interstate wetlands;
(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:
(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
(ii) From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or
(iii) Which are used or could be used for industrial purpose by industries in interstate commerce...
(4) All impoundments of waters otherwise defined as waters of the United States under the definition;
(5) Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;
(6) The territorial seas;
(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.
(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

> *...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

3.3.1.1 Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;
- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

3.3.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[5] and waters of the

[5] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent

state. Waters of the United States are defined above in Section II.A and waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

3.2.2.1 State Wetland Definition

The Water Boards define an area as wetland[6] as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The following wetlands are waters of the state:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;[7] and*
3. *Artificial wetlands[8] that meet any of the following criteria:*

    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;

changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[6] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. [For Inclusion in the Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California].

[7] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

[8] Artificial wetlands are wetlands that result from human activity.

c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[9]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

3.3.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has

[9] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as “a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators.”

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

3.4 Local Policies or Ordinances

City of Corona 2020–2040 General Plan

The City of Corona 2020–2040 General Plan includes several goals and policies relating to biological resources including:

Environmental Resources Element

Goal ER-4: Proper management of floodplain and riparian areas for their importance to wildlife habitat, unique and sensitive plant life, water recharge, and public health and safety.

- **Policy ER-4.4**: Preserve and enhance existing native riparian habitat and prevent obstruction of natural watercourses to the extent feasible in new private and public developments or implement on-site replacement as mitigation.

Goal ER-5: Preservation and protection of natural and man-made wetlands from development impacts for their importance to wildlife habitat, unique and sensitive plant life, water recharge, and scenic value.

- **Policy ER-5.5**: Prohibit the planting of invasive, nonnative species in areas that would encroach and affect watercourses, their banks, and riparian areas.

Goal ER-6: Protection, enhancement, and sustaining of significant plant and wildlife species and habitat that exist in Corona and its Planning Area, for the long-term benefit of the natural environment and Corona residents and visitors.

- **Policy ER-6.1**: Support the rehabilitation and enhancement of the biological diversity, and integrity of the City’s natural resources through such means as vegetation restoration, control of alien plants and animals, landscape buffering, and natural watercourse channel restoration.

- **Policy ER-6.2**: Preserve the wildlife and plant species and habitats listed in Tables 4-12 and 4-13 of the Technical Background Report for the General Plan and EIR and those that may be considered by the City of Corona in the future.

- **Policy ER-6.3**: Ensure that new developments and circulation improvements demonstrate compliance with state and federal regulations concerning the status, location, and condition of significant and sensitive biological species and habitats and riparian and riverine corridors. Biological surveys, as required and defined by the Western Riverside County Multiple Species Habitat Conservation Plan, should identify potential impacts on biological resources and include mitigation measures to protect/replace resources in like kind.

- **Policy ER-6.4**: Ensure that new developments through the development review process adhere to the Western Riverside County Multiple Species Habitat Conservation Plan, the Stephens' Kangaroo Rat Habitat Conservation Plan, and other habitat plans as appropriate to conserve biological diversity through protection of natural communities.

- **Policy ER-6.5**: Preserve wildlife habitat of significant natural open space areas, including expanding habitat ranges, movement corridors, and nesting sites by adhering to and implementing the core biological linkages identified in the MSHCP for parts of the Temescal Canyon Area Plan in the City. Any proposed recreational use of those areas such as trails shall be designed to not interfere with the preservation efforts established in the MSHCP.

Goal ER-7: Adequate protection of biological resources and increased public awareness of their value to the community.

- **Policy ER-7.1**: Require that public and private construction activities be conducted in a manner to minimize adverse impacts on natural resources and biological resources in proximity to MSHCP conservation areas and adhere to the MSHCP Guidelines pertaining to Urban/Wildlife Interface for drainage, toxics, lighting, noise, invasive barriers and grading [MSHCP Section 6.1.4].

Goal ER-8: Protection, enhancement, and sustaining of significant plant and wildlife species and habitat that exist in Corona and its Planning Area, for the long-term benefit of the natural environment and Corona residents and visitors.

- **Policy ER-6.1**: Support the rehabilitation and enhancement of the biological diversity, and integrity of the City's natural resources through such means as vegetation restoration, control of alien plants and animals, landscape buffering, and natural watercourse channel restoration.

Goal ER-8: Protection of forest and vegetation resources in the City of Corona.

- **Policy ER-8.1** Cooperate with federal and state agencies to achieve the sustainable conservation of forest lands as a means of providing open space and protecting natural resources and MSHCP habitat.

- **Policy ER-8.4**: Maintain and conserve superior examples of native trees (including oak trees), natural vegetation, stands of established trees, and other features for aesthetic and water conservation purposes.

- **Policy ER-8.5:** Conserve the oak tree resources in the City to the extent feasible.

Goal ER-9: Protection of regional washes and waterways and their use for recreational and open space purposes such as trails, habitat preservation, and groundwater recharge.

- **Policy ER-9.1** Protect sensitive biological resources in the Temescal Canyon Area Plan through adherence to policies in the Western Riverside County MSHCP.

- **Policy ER-9.2**: Conserve existing wetlands and wetland functions and values in the Temescal Canyon Wash, Prado Basin, and the Santa Ana River with a focus on conservation of existing riparian, woodland, coastal sage scrub, alluvial fan scrub, and open water habitats.

- **Policy ER-9.3:** Conserve existing known populations of least Bell's vireo and southwestern willow flycatcher within the Temescal Canyon Area Plan including locations at Prado Basin, Santa Ana River, and Temescal Wash. Maintain existing breeding habitat for these species at Prado Basin, Santa Ana River, and Temescal Wash where applicable to a particular project and location.

- **Policy ER-9.4:** Conserve and manage suitable habitat for species known to exist in the Temescal Canyon Area Plan of Western Riverside County's Multiple Species Habitat Conservation Plan.

- **Policy ER-9.5:** Conserve clay soils supporting sensitive plant species known to occur in the Temescal Canyon area, including Munz's onion, Palmer's grappling hook, small-flowered morning glory, long-spined spineflower, thread-leaved brodiaea, small-flowered microseris, and many-stemmed dudleya.

- **Policy ER-9.6:** Conserve sandy soils co-occurring with chaparral supporting Palomar monkeyflower, known to occur in the Temescal Canyon area.

- **Policy ER-9.7:** Conserve locations supporting California muhly, heart-lived pitcher sage, Hall's monardella, and other sensitive plant species that may occur in a wide variety of habitat types within the Temescal Canyon Area Plan.

- **Policy ER-9.8:** Provide for and maintain connection(s) from the Cleveland National Forest to Prado Basin and the Santa Ana River within Temescal Canyon, providing opportunities for offsite connections to Chino Hills State Park.

- **Policy ER-9.10:** Conserve floodplain areas supporting sensitive plant species known to occur in Temescal Canyon, including Parry's spineflower, peninsular spineflower, and smooth tarplant, and Coulter's matilija poppy.

- **Policy ER-9.11:** Conserve rocky soils co-occurring with coastal sage scrub, peninsular jumper, or chaparral supporting Payson's jewelflower, known to occur in the Temescal Canyon area.

- **Policy ER-9.12:** Provide for and maintain a continuous linkage along Temescal Wash from the southern boundary of the Temescal Canyon area to the Santa Ana River.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, an assessment for MSHCP riparian/riverine areas and vernal pools, and a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

4.1 Existing Conditions

The Green River Ranch Specific Plan is comprised of two parcels of land divided by Green River Road. The northern portion of the Study Area (the Project's Commercial component and Planning Area 4) is located to the north of Green River Road, east of California SR-91, and south of Prado Dam Road. This area is relatively flat and undeveloped with disturbed areas along the perimeter, specifically to the north where the property abuts a rail line. The southern portion of the Study Area (Planning Areas 1, 2, 3, 5, and 6) is located south of Green River Road, where a relatively flat semi-developed area that was once an active horse ranch extends toward the Santa Ana Mountains along the southern property boundary. Elevations within the Study Area range from approximately 525 feet above mean sea level (MSL) at Green River Road to over 2,500 feet above MSL in the southcentral portion of the Study Area. The southern portion of the Study Area is comprised of the lower portions of steep canyons that are characteristic of the Santa Ana Mountains. As these canyons descend to the north into the Study Area, the canyons transition to narrow streambeds that ultimately discharge to series of pipes and culverts on the south side of Green River Road. Where the drainages traverse the flat developed areas to the south of Green River Road, flows appear as erosional gullies and non-jurisdictional swales. Potential jurisdictional features associated with the Study Area include three major drainage systems, referred to herein as Drainage Systems A, B, and C. Each of these systems includes several small tributaries that feed into the larger drainages and are sometimes connected to the system by non-jurisdictional swale-like features that do not possess an Ordinary High Water Mark (OHWM) or obvious bed, bank, or channel. There is also a small drainage feature located north of Green River Road that is referred to herein as Drainage D. Drainage Systems A, B, and C as well as Drainage D are described in more detail below.

The National Cooperative Soil Survey (NCSS) has mapped the following soil types as occurring in the general vicinity of the Study Area [Exhibit 7]:

Altamont clay, 25 to 50 percent slopes

The Altamont series consists of deep, well drained soils that formed in material weathered from fine-grained sandstone and shale. Altamont soils are on uplands, hills and mountains. Some Altamont soils are on slides on mountain slopes. Used for livestock grazing and dry farmed grains, mainly barley. The principal vegetation is annual grasses, forbs, and scattered oak trees.

Arbuckle loam, 8 to 15 percent slopes

The Arbuckle series consists of very deep, well drained soils that formed in alluvial materials from mainly conglomerate and metasedimentary rocks. Arbuckle soils are on low terraces. These soils are utilized for dryland and irrigated orchards, irrigated row and field crops, dry farmed grain, and for range. Natural vegetation is annual grasses and forbs, either alone or as an understory with oaks (Quercus sp.) in stands ranging from open to dense.

Cortina cobbly loamy sand, 2 to 8 percent slopes

The Cortina series consists of very deep, somewhat excessively drained soils on alluvial fans and floodplains. These soils formed in gravelly alluvium from mixed rock sources. Slope ranges from 0 to 15 percent. Used for livestock grazing as irrigated pasture and alfalfa, and for vineyards, fruit orchards, citrus fruits, milo and olives. Vegetation on uncultivated areas is annual grasses, forbs, valley oak, sycamore and black walnuts.

Garretson very fine sandy loam, 2 to 15 percent slopes

The Garretson series is a member of the fine-loamy, mixed, nonacid, thermic family of Typic Xerorthents. Typically, Garretson soils have brown and yellowish brown, slightly acid, gravelly very fine sandy loam and gravelly loam A horizons and yellowish brown, brown and grayish brown, slightly acid and neutral, gravelly loam C horizons. These soils are used for the production of deciduous fruit, citrus fruit, avocados, irrigated field crops, alfalfa, and for home sites. Naturalized vegetation in untilled areas is annual grasses and forbs. Native vegetation is woodland and scrub.

Gaviota rocky fine sandy loam, 25 to 75 percent slopes

The Gaviota series consists of very shallow or shallow, well drained soils that formed in material weathered from hard sandstone or meta-sandstone. Gaviota soils are on hills and mountains and have slopes of 2 to 100 percent. These soils are used mostly for livestock grazing. Some of the less sloping areas are cropped to dryland grain. Natural vegetation is scrub and grasslands.

Perkins gravelly loam, 5 to 15 percent slopes

The Perkins series consists of very deep, well drained soils that formed in alluvium derived from mixed rock sources. Perkins soils are on terraces and have slopes of 0 to 30 percent. Perkins soils are fine-loamy, mixed, superactive, thermic Mollic Haploxeralfs. Used for growing field crops, citrus, olives, pasture, small grain, hay and range and home site development. Dominantly, plants are naturalized grasses and forbs. The principal native plants are live oak, California sagebrush, blue oak, valley oak, and shrubs.

Rough broken land

Rough broken land consists of very steep land broken by numerous drainage channels. In most places it is not stony. It occurs in gulches and on mountainsides. This land type is used primarily for watershed and wildlife habitat but can be used also for pasture and woodland. Rough broken land has material of a silt loam or sandy loam texture in the upper part. Beneath this is a layer of loamy material. In some places this land is gravelly in the upper part and very gravelly in the lower part.

Terrace escarpments

Terrace escarpments consist of long, narrow, rocky areas that rise abruptly. This land type consists of steep faces that separate the terraces from the lower lying land. The faces are typically composed of soft sandstones, hard shales, or hard, weather-resistant, fine-grained sandstones. Vegetation is often sparse and dominated by shrubs or grasses. In seepage areas water grasses grow while walnuts and oaks may also grow. Areas of terrace escarpments are used mainly for watershed and as wildlife habitat.

Vallecitos loam, thick solum variant, 15 to 50 percent slopes, eroded

The Vallecitos series consists of shallow, well drained soils formed from metamorphic bedrock. Vallecitos soils are on hills. These soils are used mainly for livestock grazing.

4.2 Vegetation Mapping

The Study Area supports the following MSHCP vegetation and land-cover types: Riparian Scrub, Woodland, Forest/Riverine Vegetation, Coastal Sage Scrub, Chaparral, Desert, Developed/Disturbed Land, and Grassland. Within the Riparian Scrub, Woodland, Forest/Riverine Vegetation classification, there are two different vegetation alliances: Coast Live Oak Woodland and Elderberry Stands. For the Coastal Sage Scrub classification, the following alliances are present: Coastal Sage Scrub and Riversidean Sage Scrub/Mixed Chaparral. In the Chaparral classification there are four alliances: Disturbed Mixed Chaparral, Lower Montane Mixed Chaparral, Mixed Chaparral, Southern Mixed Chaparral. In the Desert classification there is one alliance: Saltbush Scrub. The Grassland classification is vegetated by Non-native Grassland. Table 4-1 provides a summary of the vegetation types and their corresponding acreage for the Specific Plan. Table 4-2 summarizes vegetation types for the

offsite improvement area. Descriptions of each vegetation type follow the tables. A Vegetation Map is attached as Exhibit 8. Photographs depicting the Study Area are shown in Exhibit 9.

Table 4-1. Summary of Vegetation/Land Use Types for the Specific Plan (Onsite)

Vegetation/ Land Use Type	Commercial	Business Park Industrial (Acres)	Estate Residential – Industrial Grading (Acres)	Residentially Zoned Open Space (Acres)	Conservation Temporary Impact (Acres)	Conservation Avoided (Acres)	Total (Acres)
Coast Live Oak Woodland	0	0.72	0.41	0.11	0	3.50	**4.74**
Elderberry Savannah	0.52	0.03	0	0	0	0	**0.55**
Coastal Sage Scrub	0.21	0.01	0.11	0	0.07	0.87	**1.27**
Riversidean Sage Scrub/Mixed Chaparral	0	0	0	0	0	1.90	**1.90**
Disturbed Mixed Chaparral	0	0.21	0.95	0.44	0.19	13.80	**15.59**
Lower Montane Mixed Chaparral	0	0.11	0.30	0.13	0.19	0.21	**0.94**
Mixed Chaparral	0	3.44	4.64	2.70	0.18	30.73	**41.69**
Southern Mixed Chaparral	0	0	0	0	0	3.45	**3.45**
Saltbush Scrub	0.21	0.04	0	0	0	0	**0.25**
Disturbed/ Developed	0.04	16.07	0.81	0.10	0.96	0.31	**18.29**
Residential/ Urban/Exotic	0.16	1.62	0	0	0	0	**1.78**
Ruderal/Non-native grassland	4.40	28.28	6.93	2.78	0.98	26.00	**69.37**
Total	**5.54**	**50.53**	**14.15**	**6.26**	**2.57**	**80.77**	**159.82**

Table 4-2. Summary of Vegetation/Land Use Types for the Offsite Improvement Areas

Vegetation/ Land Use Type	Commercial	Business Park Industrial (Acres)	Green River Road (Acres)	Green River Road/ Palisades Drive Sewer Improvements (Acres)	Fresno Road Repaving (Acres)	Total (Acres)
Coast Live Oak Woodland	0	0	0	0	0	**0**
Elderberry Savannah	0.24	0	0.02	0	0	**0.26**
Coastal Sage Scrub	1.11	0	0.04	0	0	**1.15**
Riversidean Sage Scrub/Mixed Chaparral	0	0	0	0	0	**0**
Disturbed Mixed Chaparral	0	0.03	0	0	0	**0.03**
Lower Montane Mixed Chaparral	0	0	0	0	0	**0**
Mixed Chaparral	0	0	0	0	0	**0**
Southern Mixed Chaparral	0	0	0	0	0	**0**
Saltbush Scrub	0.31	0.18	0.27	0	0	**0.76**
Disturbed/ Developed	0.90	0.64	3.92	4.83	0.65	**10.94**
Residential/Urban/ Exotic	0.40	0.12	0	0	0	**0.52**
Ruderal/Non-native grassland	0.72	0.69	0.23	0	0	**1.64**
Total	**3.68**	**1.66**	**4.48**	**4.83**	**0.65**	**15.30**

Coast Live Oak Woodland

The Study Area supports approximately 4.74 acres of coast live oak woodland near the southern and eastern Project boundary, all of which is in the Specific Plan (onsite). This plant community is dominated with coast live oak (*Quercus agrifolia*) with non-native grasses in the understory. This plant community is riparian vegetation associated with drainage features.

Coastal Sage Scrub

The Study Area supports approximately 2.42 acres of coastal sage scrub within the southwestern Project boundary and north of Green River Road, of which 1.27 acres are within the Specific Plan (onsite) and 1.15 acres are located in the offsite improvement areas. This plant community is dominated with California sagebrush (*Artemisia californica*), California brittlebush (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum)*, occasional individuals or small patches of deerweed (*Acmispon glaber*), and non-native grasses in the understory.

Disturbed Mixed Chaparral

The Study Area supports approximately 15.62 acres of Disturbed Mixed Chaparral, of which 15.59 acres are within the Specific Plan (onsite) and 0.03 acre is located in the offsite

improvement areas. This plant community occurs primarily within the southwestern Project boundary. This plant community is dominated by laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), California sagebrush, California buckwheat, and chaparral yucca (*Hesperoyucca whipplei*).

Disturbed/Developed
The Study Area supports approximately 29.23 acres of disturbed/developed lands, of which 18.29 acres are within the Specific Plan (onsite) and 10.94 acres are located in the offsite improvement areas. This land-cover type occurs primarily within the northern portions of the Study Area. Developed areas are areas where human disturbance has resulted in permanent modification of the existing landscape. These include paved areas, equestrian uses, Green River Road, and buildings. As such, this land cover type does not represent a natural plant community.

Elderberry Savannah
The Study Area supports approximately 0.81 acre of Elderberry Savannah, of which 0.55 acre is within the Specific Plan (onsite) and 0.26 acre is located in the offsite improvement areas. This plant community occurs within the northern portions of the Study Area just north of Green River Road in the offsite Commercial Development. This plant community is dominated with blue elderberry (*Sambucus nigra* ssp. *caerulea)* with a non-native grasses in the understory.

Lower Montane Mixed Chaparral
The Study Area supports approximately 0.94 acre of Lower Montane Mixed Chaparral, all of which is in the Specific Plan (onsite). This plant community occur primarily within the western portion of the Study Area south of Fresno Road. This plant community is dominated by toyon (*Heteromeles arbutifolia)* in the shrub layer along with black sage (*Salvia mellifera*), and California sagebrush. The understory is sparsely vegetated.

Mixed Chaparral
The Study Area supports approximately 41.69 acres of Mixed Chaparral, all of which is in the Specific Plan (onsite). This plant community occurs primarily on the southern portion of the Study Area. This plant community is dominated by laurel sumac, California sagebrush, California buckwheat, and chaparral yucca.

Residential/Urban/Exotic
The Study Area contains 2.30 acres of Residential/Urban/Exotic vegetation, of which 1.78 acres are within the Specific Plan (onsite) and 0.52 acre is located in the offsite improvement areas. Residential/Urban/Exotic vegetation includes areas where the vegetation predominately consists of introduced or escaped non-native horticultural plants, including trees, shrubs, flowers, and turf grass. This plant community occurs primarily along Green River Road, the eastbound SR-91 onramp, and along Dominguez Ranch Road. This plant community include eucalyptus (*Eucalyptus* sp.), Peruvian pepper tree (*Schinus molle*), and fountain grass (*Pennisetum setaceum*).

Riversidean Sage Scrub/Mixed Chaparral
The Study Area contains 1.90 acres of Riversidean Sage Scrub/Mixed Chaparral, all of which is in the Specific Plan (onsite). This plant community occurs primarily within the southern

portions of the Study Area. This plant community is dominated primarily with deerweed (*Acmispon glaber)*, black sage (*Salvia mellifera*), and California sagebrush.

Ruderal/Non-Native Grassland
The Study Area supports approximately 71.01 acres of Ruderal/Non-Native Grassland, of which 69.37 acres are within the Specific Plan (onsite) and 1.64 acres are located in the offsite improvement areas. This plant community is present throughout the Study Area. As such, this plant community is dominated by non-native ruderal species including red brome (*Bromus madritensis* ssp. *rubens*), Russian thistle (*Salsola tragus*), foxtail barley (*Hordeum murinum*), Mediterranean grass (*Schismus barbatus*), black mustard (*Brassica nigra*), tocalote (*Centaurea melitensis*), and coastal heron's bill (*Erodium cicutarium*).

Saltbush Scrub
The Study Area supports approximately 1.01 acres of Southern Saltbush Scrub, of which 0.25 acre is within the Specific Plan (onsite) and 0.76 acre is located in the offsite improvement areas. This plant community occurs primarily on along the shoulders of Green River Road. This plant community is dominated by big saltbush (*Atriplex lentiformis*), with laurel sumac, California buckwheat, California sagebrush, California brittlebush, and coyote bush (*Baccharis pilularis*).

Southern Mixed Chaparral
The Study Area supports approximately 3.45 acres of Southern Mixed Chaparral, all of which is in the Specific Plan (onsite). This plant community occurs primarily on the southern portion of the Study Area. This plant community is dominated by lemonade berry, chamise (*Adenostoma fasciculatum*), California sagebrush, California buckwheat, laurel sumac, California buckwheat, and chaparral yucca.

4.3 Special-Status Vegetation Communities

The CNDDB identifies the following 11 special-status vegetation communities for the Prado Dam and surrounding quadrangle maps: California Walnut Woodland, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Interior Cypress Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Walnut Forest. The Study Area does not contain any special-status vegetation types, including those identified by the CNDDB.

Although the Study Area does not contain any special-status vegetation community types listed by the CNDDB, there are four special-status vegetation communities, Southern Mixed Chaparral, Coastal Sage Scrub, Coast Live Oak Woodland, and Elderberry Stands, mapped within the Study Area that would be considered special-status. Southern Mixed Chaparral is synonymous with the MCVII Classification *Rhus integrifolia* Shrubland Alliance and Coastal Sage Scrub is synonymous with the MCVII Classification *Encelia californica* Shrubland Alliance. Both of these vegetation communities are ranked as a S3 vegetation community in the CDFW Natural Communities List. Coast Live Oak Woodland and Elderberry Stands are riparian associated vegetation communities and is considered sensitive under CEQA and Section 6.1.2 riparian/riverine resources of the MSHCP.

4.4 Special-Status Plants

A single special-status plant species was detected at the Study Area: Coulter's matilija poppy (*Romneya coulteri*). Table 4-3 provides a list of special-status plants evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Study Area, 2) applicable MSHCP survey areas, and 3) any other special-status plants that are known to occur within the vicinity of the Study Area, or for which potentially suitable habitat occurs within the site.

For the Study Area, the survey plant species under the MSHCP were San Miguel savory, San Diego ambrosia, and Brand's phacelia.

Table 4-3. Special-Status Plants Evaluated for the Study Area

Species Name	Status	Habitat Requirements	Occurrence
Allen's pentachaeta *Pentachaeta aurea* ssp. *allenii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Openings in coastal sage scrub, and valley and foothill grasslands.	Confirmed absent during focused plant surveys.
Aparejo grass *Muhlenbergia utilis*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Wet habitats, including riverbanks and meadows, sometimes in alkaline soils	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Brand's star phacelia *Phacelia stellaris*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Coastal dunes and coastal sage scrub. This species is restricted to sandy benches along the Santa Ana River	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Braunton's milk-vetch *Astragalus brauntonii*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: Not covered	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually carbonate soils. Recent burn or disturbed areas.	There is suitable habitat for this species within the conserved open space but not within the proposed Business Park Industrial Park development footprint or within the Commercial or Estate Residential Planning Areas. Confirmed absent in the development footprint during focused plant surveys.
Brewer's calandrinia *Calandrinia breweri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Sandy or loamy soils in disturbed sites and burns. Chaparral, coastal scrub.	Confirmed absent during focused plant surveys.
California androsace *Androsace elongata* ssp. *acuta*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland.	Confirmed absent during focused plant surveys.
California beardtongue *Penstemon californicus*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Sandy soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland.	Confirmed absent during focused plant surveys.
California muhly *Muhlenbergia californica*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP(e)	Mesic habitats, including seeps and streambanks, in chaparral, coastal scrub, lower montane coniferous forest, and meadows.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
California saw-grass *Cladium californicum*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Meadows and seeps, and alkaline or freshwater marshes and swamps.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland.	Confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Chaparral nolina *Nolina cismontana*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Confirmed absent during focused plant surveys.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Confirmed absent during focused plant surveys.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy soils in chaparral, coastal sage scrub.	Confirmed absent during focused plant surveys.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Playas, vernal pools, marshes and swamps (coastal salt).	Confirmed absent during focused plant surveys.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Often in burns in chaparral and coastal scrub.	Confirmed present during focused plant surveys.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: Not covered	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.	Confirmed absent during focused plant surveys.
Fish's milkwort *Polygala cornuta* var. *fishiae*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland.	Confirmed absent during focused plant surveys.
Gambel's water cress *Nasturtium gambelii*	Federal: FE State: ST CNPS: Rank 1B.1 MSHCP: None	Marshes and swamps (freshwater or brackish).	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Gowen cypress *Hesperocyparis goveniana*	Federal: FT State: None CNPS: Rank 1B.2	Closed-cone coniferous forest, chaparral (maritime)	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(d)	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Confirmed absent during focused plant surveys.
Hubby's phacelia *Phacelia hubbyi*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Gravelly, rocky, and talus soils in chaparral, coastal scrub, and valley and foothill grassland.	Confirmed absent during focused plant surveys.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Confirmed absent during focused plant surveys.
Intermediate monardella *Monardella hypoleuca* ssp.*intermedia*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: None	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes).	Confirmed absent during focused plant surveys.
Jokerst's monardella *Monardella australis* ssp. *jokerstii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes. Chaparral, lower montane coniferous forest.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CNPS: Rank 3 MSHCP: None	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Lucky morning-glory *Calystegia felix*	Federal: None State: None CNPS: Rank 3.1 MSHCP: None	Historically associated with wetland and marshy places, but possibly in drier situations as well. Possibly silty loam and alkaline soils. Meadows and seeps (sometimes alkaline), riparian scrub (alluvial).	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Malibu baccharis *Baccharis malibuensis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Chaparral, cismontane woodland, coastal sage scrub.	Confirmed absent during focused plant surveys.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Confirmed absent during focused plant surveys.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Confirmed absent during focused plant surveys.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.	Confirmed absent during focused plant surveys.
Ocellated humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP (f)	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Confirmed absent during focused plant surveys.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Confirmed absent during focused plant surveys.
Palomar monkeyflower *Erythranthe (Mimulus) diffusa*	Federal: None State: None CNPS: Rank 4.3 MSHCP: MSHCP	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Confirmed absent during focused plant surveys.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Peninsular spineflower *Chorizanthe leptotheca*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Confirmed absent during focused plant surveys.
Prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Rigid fringepod *Thysanocarpus rigidus*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Dry rocky slopes in pinyon and juniper woodland.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3 MSHCP: Not covered	Chaparral, coastal sage scrub	Confirmed absent during focused plant surveys.
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: Not covered	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Confirmed absent during focused plant surveys.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Confirmed absent during focused plant surveys.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	There is suitable habitat for this species within the conserved open space but not within the Business Park Industrial Park development footprint or in the Commercial or Estate Residential Planning Areas. Confirmed absent in the development footprint during focused plant surveys.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: Candidate State: SE CNPS: Rank 1B.1 MSHCP: None	Coastal sage scrub, occurring on sandy soils.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Santa Barbara morning-glory *Calystegia sepium* ssp. *binghamiae*	Federal: None State: None CNPS: Rank 1A	Marshes and swamps (coastal).	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Santiago Peak phacelia *Phacelia keckii*	Federal: None State: None CNPS: Rank 1B.3 MSHCP: Not covered	Closed-cone coniferous forest, chaparral .	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1 MSHCP: MSHCP(b)	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur within the Study Area due to a lack of suitable habitat. In addition, confirmed absent during focused plant surveys.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Confirmed absent during focused plant surveys.
Southern California black walnut *Juglans californica*	Federal: None State: None CNPS: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Confirmed absent during focused plant surveys.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Confirmed absent during focused plant surveys.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Federal: None State: None CNPS: Rank 4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), and marshes and swamps (coastal salt).	Confirmed absent during focused plant surveys.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CNPS: Rank 1B.1 MSHCP: None	Closed-cone coniferous forest, chaparral.	Confirmed absent during focused plant surveys.
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: Rank 3.2 MSHCP: MSHCP	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Confirmed absent during focused plant surveys.

Species Name	Status	Habitat Requirements	Occurrence
Western spleenwort *Asplenium vespertinum*	Federal: None State: None CNPS: Rank 4.2 MSHCP: None	Rocky soils in chaparral, cismontane woodland, and coastal scrub.	Confirmed absent during focused plant surveys.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2 MSHCP: None	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Confirmed absent during focused plant surveys.
Yucaipa onion *Allium marvinii*	Federal: None State: None CNPS: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral (clay, openings).	Confirmed absent during focused plant surveys.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State
SE – State Endangered
ST – State Threatened

CNPS
Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

Threat Code extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.

- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys.

4.4.1 Special-Status Plants Detected at the Study Area

GLA observed Coulter's matilija poppy (CNPS 4.2) individuals within the Study Area. The plants were associated with chaparral and coastal sage scrub habitats within the BPI development footprint and open space, but not within future commercial development area. Refer to Section 5 below for a discussion of potential impacts to Coulter's matilija poppy occurring as a result of the proposed Project.

This species is a member of the poppy family (Papaveraceae) and is designated as a CNPS List 4.2 species. This perennial rhizomatous herb is known to occur in dry canyons in chaparral and coastal sage scrub plant communities, sometimes in areas recently burned from 65 to 3935 feet at mean sea level. The population occurs in multiple discrete patches and was initially observed during the focused rare plant surveys.

4.5 Special-Status Animals

The following special-status animals were detected within the Study Area: least Bell's vireo, Crotch's bumble bee, yellow warbler, and Southern California rufous-crowned sparrow. Table 4-4 provides a list of special-status animals evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Study Area, 2) applicable MSHCP survey areas, and 3) any other special-status animals that are known to occur within the vicinity of the Study Area, for which potentially suitable habitat occurs on the site.

Table 4-4. Special-Status Animals Evaluated for the Study Area

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: SC MSHCP: None	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Confirmed present onsite during biological surveys.
Delhi-sands flower-loving fly *Raphiomidas terminatus abdominalis*	Federal: FE State: None MSHCP: MSHCP	Fine, sandy soils, often associated with wholly or partially consolidated dunes referred to as the "Delhi" series. Vegetation consists of a sparse cover, including Californica buckwheat, California croton, deerweed, and evening primrose.	Does not occur within the Study Area due to a lack of suitable habitat.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None MSHCP: MSHCP	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines, and are known to disperse through disturbed habitats to reach suitable nectar plants.	Does not occur within the Study Area due to suitable habitat.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None MSHCP: None	Seasonal vernal pools.	Does not occur within the Study Area due to a lack of suitable habitat.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None MSHCP: MSHCP	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Does not occur within the Study Area due to a lack of suitable habitat.
Southern steelhead - southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: None MSHCP: None	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur within the Study Area due to a lack of suitable habitat.
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur within the Study Area due to a lack of suitable habitat.
Coast Range newt *Taricha torosa*	Federal: None State: SSC MSHCP: MSHCP	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Western spadefoot *Spea hammondii*	Federal: None State: SSC MSHCP: MSHCP	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur within the Study Area due to a lack of suitable habitat.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC MSHCP: Not covered	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Does not occur within the Study Area due to a lack of suitable habitat.
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Moderate potential to occur within the Study Area due to suitable habitat.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC MSHCP: Not covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Moderate potential to occur within the Study Area due to suitable habitat.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC MSCHP: MSHCP	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Moderate potential to occur within the Study Area due to suitable habitat.
Orangethroat whiptail *Aspidoscelis hyperythra*	Federal: None State: WL MSCHP: MSHCP	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Moderate potential to occur within the Study Area due to suitable habitat.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC MSHCP: MSHCP	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Moderate potential to occur within the Study Area due to suitable habitat.
San Diego banded gecko *Coleonyx variegatus abbotti*	Federal: None State: SSC MSHCP: MSHCP	Primarily a desert species, but also occurs in cismontane chaparral, desert scrub, and open sand dunes.	Does not occur within the Study Area due to a lack of suitable habitat.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: SSC MSHCP: Not Covered	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior	Low potential to occur within the Study Area due to suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
		habitats, including sandy washes and alluvial fans.	
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC MSHCP: Not covered	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur within the Study Area due to a lack of suitable habitat.
Western pond turtle *Emys marmorata*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur within the Study Area due to a lack of suitable habitat.
Birds			
American peregrine falcon (nesting) *Falco peregrinus anatum*	Federal: Delisted, BCC State: Delisted, FP MSHCP: MSHCP	Breeding habitat consists of high cliffs, tall buildings, and bridges along the coast and inland. Foraging habitat primarily includes open areas near wetlands, marshes, and adjacent urban landscapes.	Does not occur within the Study Area due to a lack of suitable habitat.
Bald eagle (nesting & wintering) *Haliaeetus leucocephalus*	Federal: Delisted State: SE, CFP MSHCP: MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Does not occur within the Study Area due to a lack of suitable habitat.
Bell's sage sparrow *Artemisiospiza belli belli*	Federal: BCC State: WL MSHCP: MSHCP	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Burrowing owl *Athene cunicularia*	Federal: None State: SSC MSHCP: MSHCP©	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Confirmed absent through focused surveys.
California black rail *Laterallus jamaicensis coturniculus*	Federal: BCC State: ST, CFP MSHCP: Not covered	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur within the Study Area due to a lack of suitable habitat.
California least tern (nesting colony) *Sterna antillarum browni*	Federal: FE State: SE, FP MSHCP: None	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Does not occur within the Study Area due to a lack of suitable habitat.
Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	Federal: BCC State: SSC MSHCP: MSHCP	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Does not occur within the Study Area due to a lack of suitable habitat.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC MSHCP: MSHCP	Low elevation coastal sage scrub and coastal bluff scrub.	Moderate potential to occur within the Study Area due to suitable habitat. Species was not observed during focused surveys conducted in 2006 and 2014.
Golden eagle (nesting and wintering) *Aquila chrysaetos*	Federal: None State: CFP MSHCP: MSHCP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Does not occur within the Study Area due to a lack of suitable habitat.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: SSC MSHCP: MSHCP(e)	Open grassland and prairies with patches of bare ground.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: MSHCP(a)	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Confirmed present in the Commercial Development parcel north of Green River Road (Planning Area 4) during biological surveys.
Long-eared owl (nesting) *Asio otus*	Federal: None State: SSC MSHCP: Not covered	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Does not occur within the Study Area due to a lack of suitable habitat.
Merlin (wintering) *Falco columbarius*	Federal: None State: WL MSHCP: MSHCP	Nest in forested openings, edges, and along rivers. Winter in open forests, grasslands, and especially coastal areas with flocks of small songbirds or shorebirds.	Does not occur within the Study Area due to a lack of suitable habitat.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: WL MSHCP: MSHCP	Grass covered hillsides, coastal sage scrub, and chaparral.	Confirmed present onsite during biological surveys.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE MSHCP: MSHCP(a)	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur within the Study Area due to a lack of suitable habitat.
Swainson's hawk (nesting) *Buteo swainsoni*	Federal: BCC State: ST MSHCP: MSHCP	Summer in wide open spaces of the American West. Nest in grasslands, but can use sage flats and agricultural lands. Nests are placed in lone trees.	Does not occur within the Study Area due to a lack of suitable habitat and outside current range.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: CE, SSC MSHCP: MSHCP	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur within the Study Area due to a lack of suitable habitat.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE MSHCP: MSHCP(a)	Dense, wide riparian woodlands with well-developed understories.	Does not occur within the Study Area due to a lack of suitable habitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: CFP MSHCP: MSHCP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Potential to occur within areas of oak woodland within the Study Area.
Yellow rail *Coturnicops noveboracensis*	Federal: BCC State: SSC MSHCP: None	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur within the Study Area due to a lack of suitable habitat.
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: SSC MSHCP: MSHCP	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Confirmed present onsite during biological surveys.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC MSHCP: MSHCP	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur within the Study Area due to a lack of suitable habitat.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC MSHCP: Not Covered	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Does not occur within the Study Area due to a lack of suitable habitat.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: SSC WBWG: MH MSHCP: Not covered	Roost mainly in crevices and rocks in cliff situations; also utilize buildings, caves, and tree cavities.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: MSHCP(c)	Fine, sandy soils in coastal sage scrub and grasslands.	Does not occur within the Study Area due to a lack of suitable habitat.
Mexican long-tongued bat *Choeronycteris mexicana*	Federal: None State: SSC WBWG: H MSHCP: Not covered	Variety of habitats ranging from desert, montane, riparian, to pinyon-juniper habitats. Found roosting in desert canyons, deep caves, mines, or rock crevicies. Can use abandoned buildings.	Does not occur within the Study Area due to a lack of suitable habitat.
Mountain lion *Puma concolor*	Federal: None State: SC, SSC MSHCP: MSHCP	Found in wide range of habitat including mountains, forests, deserts, and wetlands.	Present. GLA 2006/2007 wildlife study detected heavy wildlife presence onsite through the use of remotely-triggered cameras and scented track stations, and through opportunistic observation of animals, tracks, and scat.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: MSHCP	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Does not occur within the Study Area due to a lack of suitable habitat.
Pallid bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H MSHCP: Not covered	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Moderate potential to occur within the Study Area due to suitable habitat.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M MSHCP: Not covered	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Does not occur within the Study Area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	Does not occur within the Study Area due to a lack of suitable habitat.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Does not occur within the Study Area due to a lack of suitable habitat.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Does not occur within the Study Area due to a lack of suitable habitat.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Moderate potential to occur within the Study Area due to suitable habitat.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Moderate potential to occur within the Study Area due to suitable habitat.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FC – Federal Candidate
BGEPA– Bald and Golden Eagle Protection Act

State
SE – State Endangered
ST – State Threatened
SC– State Candidate
CFP – California Fully-Protected Species
SSC – Species of Special Concern

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.5.1 Special-Status Wildlife Species Observed within the Study Area

Invertebrates

Crotch bumble bee (*Bombus crotchii*) – Crotch Bumble Bee is designated as a State Candidate Endangered (SCE) species but is not covered under the MSHCP as it was never considered for inclusion in the MSHCP.

Crotch bumble bee was voted as a candidate for listing by the California Fish and Game Commission in June of 2019. In a case filed by the Almond Alliance of California, the Sacramento Supreme Court of California (Court) ruled that insects (including Crotch bumble bee) are not eligible for listing under CESA in November of 2020. In February of 2021, the California Fish and Game Commission appealed this decision, and in May 2022, the Third District Court of Appeal court ruled that bees and other insects can be protected under CESA. The plaintiffs subsequently appealed to the California Supreme Court, but in September 2022, the court declined to hear the case, allowing the appellate decision to stand. Therefore, CDFW can move forward with listing Crotch bumble bee, which is currently recognized as a State Candidate Endangered (SCE) species.

In California, the Crotch's bumble bee inhabits open grassland and scrub habitats. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. This species was historically common in the Central Valley of California, but now appears to be absent from most of it, especially in the center of its historic range.

The plant families most commonly associated with the Crotch bumble bee observations or collections from California include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae. Plants in the genera *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* as example food plants. Note that these floral associations do not necessarily represent

the Crotch bumble bee's preference for these plants over other flowering plants, but rather may represent the prevalence of these flowers in the landscape where this species occurs.

GLA biologists conducted focused surveys for the Crotch bumble bee within all areas of suitable habitat within the Study Area. The Crotch bumble bee was detected foraging during the focused surveys within several areas within the Study Area. During the focused surveys, it could not be confirmed if the Crotch bumble bee were actively nesting within the Study Area or only foraging.

Birds

Least Bell's Vireo (*Vireo bellii pusillus*) – The least Bell's vireo is a State and Federally Endangered species and covered under the MSHCP is not yet adequately conserved under the MSHCP, meaning that surveys are required if potential habitat if present and if the species is found and proposed for impact, mitigation at an equivalent or superior level to that proposed for impact is necessary. In California, the least Bell's vireo is found in dense, willow dominated riparian habitat with lush understory vegetation. This species primarily occupies riparian habitats that typically feature dense cover within three to seven feet of the ground and a dense, stratified canopy. This species inhabits edge riparian growth along water or along dry parts of intermittent streams.

GLA biologists Jason Fitzgibbon and Stephanie Cashin conducted focused surveys for the least Bell's vireo in all suitable habitat areas within the Study Area. The least Bell's vireo was detected during the focused surveys within the proposed Commercial development area (Planning Area 4). During the focused surveys, it could not be confirmed if the least Bell's vireo were actively nesting within the Study Area or only defending territories.

Yellow Warbler (*Setophaga petechia*) – The yellow warbler is a State SSC species and a fully covered species under the MSHCP (no survey requirement). This species is a breeding migrant that migrates through a wide variety of vegetation types during early spring and fall, including residential landscapes, but relies on wet riparian vegetation for breeding. Large numbers of yellow warblers breed at Prado Basin (just northeast of the Study Area) in the riparian forest and willow scrub vegetation communities.

This species was observed foraging within the commercial development portion of the Study Area. The BPI project does not contain suitable habitat for the species.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*) – The southern California rufous-crowned sparrow is a State Watch List species and a fully covered species under the MSHCP (no survey requirement). This species occurs in grass covered hillsides with sparse scrub, open coastal sage scrub, and open chaparral.

This species was observed in the BPI portion of the Study Area. The commercial development portion does not contain suitable habitat for the species.

4.5.2 Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Study Area

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*) – The Coastal California gnatcatcher is a federally Threatened species and is a fully covered species under the MSHCP. In California, the Coastal California gnatcatcher inhabits low elevation coastal sage scrub and coastal bluff scrub. This species has a moderate potential to occur within the BPI portion of the Study Area due to suitable habitat but would not occur in the commercial development portion due to a lack of habitat.

White-Tailed Kite (*Elanus leucurus*) – The white-tailed kite is a State Fully Protected species and a fully covered species under the MSHCP. This species is found in low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. The white-tailed kite uses dense canopies used for nesting and cover. The kite has a moderate potential to occur within areas of oak woodland in the BPI portion of the Study Area.

Reptiles

Coast Horned Lizard (*Phrynosoma blainvillii*) – The coast horned lizard is a State SSC species and a fully covered species under the MSHCP (no survey requirement). This species occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*) – The coast patch-nosed snake is a State SSC species but is not covered under the MSHCP. This species occurs in occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*) – The coastal whiptail is a State SSC species and a fully covered species under the MSHCP (no survey requirement). This species occurs in open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Orangethroat Whiptail (*Aspidoscelis hyperythra*) – The Orangethroat whiptail is a State Watch List species and fully covered species under the MSHCP (no survey requirement). This species occurs coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Red-Diamond Rattlesnake (*Crotalus ruber*) – The red-diamond rattlesnake is a State SCC species and is fully covered species under the MSHCP (no survey requirement). This species occurs habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Southern California Legless Lizard (*Anniella stebbinsi*) – The southern California legless lizard is a State SSC species but is not covered under the MSHCP. This species occurs in broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. This species has a low potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Mammals

Pallid Bat (*Antrozous pallidus*) – The western mastiff bat is a State SSC species but is not covered under the MSHCP. This species occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Western Mastiff Bat (*Eumops perotis californicus*) – The western mastiff bat is a State SSC species but is not covered under the MSHCP. This species occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

Western Yellow Bat (*Lasiurus xanthinus*) – The western yellow bat is a State SSC species but is not covered under the MSHCP. This species occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees. This species has a moderate potential to occur within the BPI portion of the Study Area but is not expected to utilize the commercial development portion due to a lack of suitable habitat.

4.5.3 Special-Status Wildlife Species Confirmed Absent Through Focused Surveys at the Study Area

Burrowing Owl (*Athene cunicularia*) – The burrowing owl is State SSC species. This species is a covered species not adequately conserved under the MSHCP, which means that projects located within the burrowing owl survey area may have to evaluate avoidance measures if burrowing owls are present. The Study Area is located within the MSHCP burrowing owl survey area. Suitable habitat occurs throughout the site in non-native grasslands and ruderal/disturbed areas. As such, burrowing owl surveys were performed in accordance with the MSHCP Guidelines to show consistency with the MSHCP and to evaluate impacts under CEQA.

This species is known to occur in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. As a habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover.

GLA biologists did not observe burrowing owls, or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) during the focused burrowing owl surveys in March-May 2020; therefore, the species was confirmed absent. In order to be consistent with the MSHCP burrowing owl survey guidelines (*Additional Survey Needs and Procedures, Section 6.3.2*), pre-construction surveys will occur within 30-days prior to ground disturbance within all areas of the Study Area suitable for burrowing owl.

4.5.4 Raptor Use

The Study Area provides suitable foraging habitat for a number of raptor species, including special-status raptors as discussed above.

Southern California contains a diversity of birds of prey (raptors), many species of which are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species but especially raptors. A few species such as American kestrel (*Falco sparverius*) and red-tailed hawk (*Buteo jamaicensis*) are somewhat adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in the vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within western Riverside County are fully covered species under the MSHCP, with the MSHCP providing the necessary conservation of both foraging and nesting habitats. Some common raptor species (e.g., American kestrel and red-tailed hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan. The MSHCP does not provide Fish and Game Code take coverage for raptors covered under the Plan.

Appendix B (faunal compendium) provides a list of the raptors detected over the course of the field studies. The Study Area lacks potential nesting habitat (e.g., mature trees, shrubs) for raptor species but is expected to provide marginal foraging habitat in the form of insects, spiders, lizards, snakes, small mammals, and other birds as discussed above.

4.6 Nesting Birds

The Study Area contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under California Fish and Game Code.[10]

4.7 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a connection between two or more habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted but may still be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function to connect larger habitat blocks.

Wildlife nurseries are sites where wildlife concentrate for breeding, hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as common species.

The Specific Plan Project site and adjacent lands support the movement of multiple mammalian species, including mountain lion, mule deer, bobcat, coyote, and grey fox, utilizing an extension system of ridges, canyons, and trails. The Specific Plan Project occurs within an area that the MSHCP identifies as Proposed Constrained Linkage 1 (PCL-1). PCL-1 is intended to connect Existing Core A (north of the Project site) with Existing Core B to the south and is expected to provide for movement of mountain lion, bobcat, and other wildlife. However, the northern portion of PCL-1 contains multiple constraints to wildlife movement, including SR-91, the Burlington Northern Santa Fe railroad line, and Green River Road. Because of these constraints and the presence of an important wildlife movement area to the west (referred to as "B Canyon"), the RCA, Wildlife Agencies, and the City of Corona have for a number of years discussed the possibility of relocating PCL-1 to the west to coincide with the B Canyon area. However, because the B Canyon lands have until recently been privately owned, it was not possible to accomplish a Criteria Refinement necessary to formally re-designate the Linkage. Recently the RCA completed the acquisition of approximately 740 acres of lands located south and west of the Specific Plan Project that coincide with B Canyon. Concurrent with the land acquisition, GLA submitted a Criteria Refinement Analysis via the City of Corona to the RCA to support the formal relocation of PCL-1. The RCA issued Criteria Refinement Review Findings (CR# 24-01-10-01, dated February 20, 2024) in support of the Criteria Refinement and those

[10] Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

Findings are currently being reviewed by the Wildlife Agencies, with the expectation that the Wildlife Agencies will provide concurrence in the next 30 days.

In further support of the assembly of PCL-1, the BPI Project Proponent is proposing to conserve 80.77 acres of land within the southern half of the Project site. The proposed conservation is contiguous with the lands recently acquired by the RCA for the MSHCP Reserve. The 80.77 acres of proposed conservation contains the structural topography and vegetative cover to facilitate regional wildlife movement. It also aligns with the wildlife linkage/corridor conservation goals of the MSHCP.

4.8 Critical Habitat

The Study Area does not occur within any lands mapped as Critical Habitat by the USFWS. Therefore, the Project would have no impacts on Critical habitat.

4.9 Jurisdictional Waters

Jurisdictional features associated with the Study Area include three major drainage systems, referred to herein as Drainage Systems A, B, and C. Each of these systems includes several small tributaries that feed into the larger drainages and are sometimes connected to the system by non-jurisdictional swale-like features that do not possess an OHWM or obvious bed, bank, or channel. There is also a small drainage feature located north of Green River Road that is referred to herein as Drainage D. Drainage Systems A, B, and C as well as Drainage D are described in more detail below. Please see the Jurisdictional Delineation Report, provided as Appendix C, for a detailed discussion on each drainage feature.

4.9.1 Corps and Regional Board Jurisdiction (Waters of the U.S. and State)

Potential U.S. Army Corps of Engineers (Corps) and Regional Water Quality Control Board (Regional Board) jurisdiction within the Study Area totals approximately 3.03 acres of waters of the United States and waters of the State (18,838 linear feet), none of which consists of federal wetlands, including 2.97 acres associated with the Specific Plan (onsite improvements) and 0.06 acre associated with offsite improvement areas. All of the jurisdictional features within the Study Area are ephemeral streams that convey flows only in response to direct precipitation (i.e., rain). Flows from the jurisdictional features within the Study Area are conveyed northwards, then off-site and presumably to the Santa Ana River, a Relatively Permanent Water (RPW). The Santa Ana River is ultimately tributary to the Pacific Ocean, a Traditional Navigable Water (TNW).

Table 4-5 below summarizes Corps and Regional Board jurisdictional waters within the Study Area. A description of the Corps and Regional Board jurisdictional drainage features is provided in Appendix C – Jurisdictional Delineation Report. The boundaries of Corps and Regional Board jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 10A and Exhibit 10B].

Table 4-5. Summary of Corps and Regional Board Jurisdiction

Drainage Name	Corps and Regional Board Non-Wetland Waters (acres)	Corps and Regional Board Wetland Waters (acres)	Total Corps and Regional Board Jurisdiction (acres)	Length (linear feet)
Green River Ranch Specific Plan (Onsite)				
Drainage System A	**0.44**	0.00	**0.44**	**4,362**
Drainage A	0.24	0.00	0.24	1,398
Tributary A1	0.07	0.00	0.07	1,060
Tributary A2	0.02	0.00	0.02	606
Tributary A3	0.01	0.00	0.01	224
Tributary A4	0.02	0.00	0.02	396
Tributary A5	0.08	0.00	0.08	678
Drainage System B	**1.00**	0.00	**1.00**	**4,870**
Drainage B	0.93	0.00	0.93	3,330
Tributary B1	0.02	0.00	0.02	440
Tributary B2	0.05	0.00	0.05	1,100
Drainage System C	**1.53**	0.00	**1.53**	**9,139**
Drainage C	1.22	0.00	1.22	5,095
Tributary C1	0.05	0.00	0.05	887
Tributary C2	0.02	0.00	0.02	708
Tributary C3	0.03	0.00	0.03	739
Tributary C4	0.21	0.00	0.21	1,710
Total	**2.97**	**0.00**	**2.97**	**18,371**
Offsite Improvements				
Drainage A	0.024	0.00	0.024	141
Drainage A1	0.001	0.00	0.001	16
Tributary A5	0.025	0.00	0.025	171
Drainage B	0.01	0.00	0.01	105
Drainage D	0.001	0.00	0.001	34
Total	**0.06**	**0.00**	**0.06**	**467**

4.9.3 CDFW Jurisdiction

The Study Area contains approximately 8.30 acres of CDFW Jurisdiction (18,838 linear feet), of which 4.66 acres support riparian vegetation, including 8.20 acres associated with the Specific Plan (onsite improvements) and 0.10 acre associated with offsite improvement areas. CDFW jurisdiction includes all areas within Corps and/or Regional Board jurisdiction and extend beyond the OHWM to either the top of bank or dripline of the riparian habitat. A total of 18,838 linear feet of stream is present. All jurisdictional features within the Study Area are ephemeral streams that convey flows only in direct response to precipitation (i.e., rain). Except Drainage D, flows from the jurisdictional features within the Study Area are conveyed northwards, off-site, and presumably to the Santa Ana River, which is ultimately tributary to the Pacific Ocean.

Table 4-6 below summarizes CDFW jurisdictional waters within the Study Area. A description of the CDFW jurisdictional drainage features is provided in Appendix C – Jurisdictional Delineation Report below. The boundaries of CDFW jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 10C].

Table 4-6. Summary of CDFW Jurisdiction

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Green River Ranch Specific Plan (Onsite)				
Drainage System A	**0.70**	**0.12**	**0.82**	**4,362**
Drainage A	0.29	0.00	0.29	1,399
Tributary A1	0.12	0.02	0.14	1,060
Tributary A2	0.03	0.00	0.03	606
Tributary A3	0.01	0.00	0.01	224
Tributary A4	0.06	0.00	0.06	396
Tributary A5	0.19	0.10	0.29	677
Drainage System B	**1.18**	**0.82**	**2.00**	**4,870**
Drainage B	1.04	0.57	1.61	3,331
Tributary B1	0.02	0.25	0.27	439
Tributary B2	0.12	0.00	0.12	1,100
Drainage System C	**1.68**	**3.70**	**5.38**	**9,139**
Drainage C	1.22	2.72	3.94	5,094
Tributary C1	0.05	0.20	0.25	887
Tributary C2	0.03	0.003	0.03	708
Tributary C3	0.05	0.001	0.05	740
Tributary C4	0.33	0.78	1.11	1,710
Total	**3.56**	**4.64**	**8.20**	**18,371**
Offsite Improvements				
Drainage A	0.02	0.00	0.02	141
Drainage A1	0.003	0	0.003	16
Tributary A5	0.03	0.02	0.05	171
Drainage B	0.02	0.00	0.02	105
Drainage D	0.003	0.003	0.001	34
Total	**0.08**	**0.02**	**0.10**	**467**

4.10 MSHCP Riparian/Riverine Areas and Vernal Pools

Vegetation communities associated with riparian systems are often considered special-status natural vegetation communities because, similar to coastal sage scrub, they have declined throughout southern California during past decades. In addition, they can support a large variety of special-status wildlife species. Most special-status species directly associated with MSHCP riparian/riverine resources are covered species under the MSHCP (under Section 6.1.2 of the

Plan). The MSHCP has specific policies and procedures regarding the evaluation and conservation of riparian/riverine resources (including riparian vegetation) because it supports MSHCP covered species. Specifically, the MSHCP states that "riparian/riverine areas are natural lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." Thus, the MSHCP classification of riparian/riverine includes both riparian (depleted natural vegetation communities) as well as ephemeral drainages that are natural in origin but may lack riparian vegetation. For this analysis, all features that qualify as state streambeds under CDFW jurisdiction are considered MSHCP riparian/riverine resources.

The Study Area contains approximately 8.30 acres of waters of MSHCP Riparian/Riverine Areas, of which 4.66 acres support riparian vegetation, including 8.20 acres associated with the Specific Plan (onsite improvements) and 0.10 acre associated with offsite improvement areas. Riparian vegetation within the Project consists of Coast Live Oak Woodland and Elderberry Stands. No vernal pools or seasonal depressions are present in the Study Area. Table 4-7 below summarizes the totals for MSHCP Riparian/Riverine areas. The boundaries of MSHCP riparian/riverine area are depicted on the enclosed map [Exhibit 11].

Table 4-7. Summary of MSHCP Riparian/Riverine Areas

Drainage Name	Riverine Areas (acres)	Riparian Areas (acres)	Total MSHCP Riparian/Riverine (acres)
Green River Ranch Specific Plan (Onsite)			
Drainage System A	**0.70**	**0.12**	**0.82**
Drainage A	0.29	0.00	0.29
Tributary A1	0.12	0.02	0.14
Tributary A2	0.03	0.00	0.03
Tributary A3	0.01	0.00	0.01
Tributary A4	0.06	0.00	0.06
Tributary A5	0.19	0.10	0.29
Drainage System B	**1.18**	**0.82**	**2.00**
Drainage B	1.04	0.57	1.61
Tributary B1	0.02	0.25	0.27
Tributary B2	0.12	0.00	0.12
Drainage System C	**1.68**	**3.70**	**5.38**
Drainage C	1.22	2.72	3.94
Tributary C1	0.05	0.20	0.25
Tributary C2	0.03	0.003	0.03
Tributary C3	0.05	0.001	0.05
Tributary C4	0.33	0.78	1.11
Total	**3.56**	**4.64**	**8.20**
Offsite Improvements			
Drainage A	0.02	0.00	0.02
Drainage A1	0.003	0	0.003

Tributary A5	0.03	0.02	0.05
Drainage B	0.02	0.00	0.02
Drainage D	0.003	0.003	0.001
Total	**0.08**	**0.02**	**0.10**

4.11 Local Policies or Ordinances

The City of Corona 2020–2040 General Plan includes several goals and policies relating to biological resources. Please see Section 5.6 for a discussion on the Project's compliance with the City's General Plan.

5.0 IMPACT ANALYSIS

The following impact analysis for the Specific Plan focuses on a project-specific analysis for the Business Park Industrial (BPI) component of the Project (Specific Plan Planning Areas 1, 2, 3, and associated grading and off-site infrastructure improvements), for which a development plan (a proposed Precise Plan) is currently proposed. The impact analysis also evaluates at a programmatic level anticipated future development of the Commercial component of the Project (Specific Plan Planning Area 4) assuming a maximum area of impact. A project-specific impact analysis of development in the Commercial area is not feasible until a development plan is proposed and the actual impact area and physical characteristics of a Commercial development project are known. For the portion of the Estate Residential area that will not be physically disturbed by the BPI project (6.26 acres that will remain as Residentially-Zoned Open Space and under a deed restriction until or unless residential development is proposed in the future), is assumed by this report to not be impacted, but also not proposed as conservation to support MSHCP Reserve Assembly. Subsequent analysis under CEQA will be needed if/when a future residential project is proposed that would physically impact all or part of the 6.26-acre area.

The impact analysis examines the potential impacts to plant and wildlife resources that would occur as a result of the construction of the BPI component of the project at a project-specific level and as a result of a future development project in the Commercial component of the project at a programmatic level. Following the overall impact analysis, Section 5.11 provides a summary of the programmatic analysis for the future development of the Commercial parcel and potential but currently speculative physical impacts in the 6.26-acre portion of the Estate Residential parcel that is assumed in this analysis to not be impacted.

Impacts (or effects) can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Indirect impacts pertain to those impacts that result in a change to the physical environment, but which is not immediately related to a project. Indirect (or secondary) impacts are those that are

reasonably foreseeable and caused by a project but occur at a different time or place. Indirect impacts can occur at the urban/wildland interface of projects, to biological resources located downstream from projects, and other offsite areas where the effects of the project may be experienced by plants and wildlife. Examples of indirect impacts include the effects of increases in ambient levels of noise or light; predation by domestic pets; competition with exotic plants and animals; introduction of toxics, including pesticides; and other human disturbances such as hiking, off-road vehicle use, unauthorized dumping, etc. Indirect impacts are often attributed to the subsequent day-to-day activities associated with project build-out, such as increased noise, the use of artificial light sources, and invasive ornamental plantings that may encroach into native areas. Indirect effects may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by non-native invasive species, as well as changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact can occur from multiple individual effects from the same project, or from several projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

5.1 California Environmental Quality Act (CEQA)

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

5.1.1 Criteria for Determining Significance Pursuant to CEQA

Appendix G of the State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

a) 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 the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) 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.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.1.2 MSHCP Participation and CEQA

The MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. Through the regional preservation of native vegetation communities to meet the habitat needs of multiple species, the MSHCP provides coverage for special-status plant and animal species, as well as mitigation for impacts to special-status species and associated native communities (i.e., habitats). Through agreements with the USFWS and CDFW, the MSHCP

designates 146 special-status animal and plant species as Covered Species. The MSHCP provides mitigation for project-specific impacts to these species for projects that are compliant/consistent with MSHCP requirements, such that the impacts for those projects are reduced to below a level of significance on a direct and cumulative basis pursuant to CEQA.

5.2 Special-Status Species

Appendix G(a) of the CEQA guidelines asks if a project is likely to "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 the California Department of Fish and Game or U.S. Fish and Wildlife Service."

5.2.1 Special-Status Plants

Coulter's Matilija Poppy

The proposed BPI Project will impact one special-status plant species: Coulter's matilija poppy. Future development of the Commercial area will not impact the matilija poppy. This species is a Covered Species under the MSHCP. While the Coulter's matilija poppy is classified as a Rank 4 taxon by CNPS and the CRPR, it is not a federally or state-listed species. As summarized above in Table 3-1, Rank 4 species are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. Rank 4 species are not considered rare, threatened or endangered in California or elsewhere, but instead is a watch list for those species with limited distribution. Given the low sensitivity of this species and the limited presence within the Project site, impacts to the matilija poppy would be less than significant under CEQA regardless of coverage afforded under the MSHCP. However, as the MSHCP provides adequate coverage for the matilija poppy, the BPI Project proponent would be required to make mandatory MSHCP fee payments and comply with the biological requirements of the MSHCP. This ensures that any impacts to MSHCP covered special-status plants would be less than significant.

5.2.2 Special-Status Animals

Impacts to Special-Status Species Observed within the Project Site

Special-Status Birds

Three special-status birds were observed within the overall Specific Plan study area that would be impacted by either the BPI component or the future Commercial development component, including yellow warbler, southern California rufous-crowned sparrow and least Bell's vireo. Specifically, the BPI component will remove habitat for the rufous-crowned sparrow and the commercial component would remove riparian habitat supporting the least Bell's vireo and yellow warbler. Additionally, the BPI component would remove habitat with the potential to support white-tailed kite. The BPI component will reduce the suitable foraging and/or nesting habitat (e.g., chaparral, coastal sage scrub, oak woodland, and scrub oak chaparral) for the rufous-crowned sparrow. The rufous-crowned sparrow is not listed and is not a California Species of Concern, but does have a S3 State Ranking, and therefore is marginally considered to

have special-status. However, based on the relatively low sensitivity ranking, broad distribution, and limited impact by the Project compared to the large range of species and the Project's adjacency to MSHCP conservation areas to the south and to the west where proximate foraging habitat is available, impacts to the rufous-crowned sparrow would be less than significant.

Impacts to the least Bell's vireo and yellow warbler by the Commercial component would be potentially significant. However, as the MSHCP provides coverage for both species, the Project's participation in the MSHCP through mandatory MSHCP fee payments and compliance with the biological requirements of the MSHCP ensures that any impacts to covered special-status plants would be less than significant. In addition, the loss of habitat for the least Bell's vireo would require mitigation and the impacts would require the approval of a DBESP by the Wildlife Agencies.

Special-Status Invertebrates

Crotch bumble bee was observed onsite during focused surveys for this species. The overall Study Area supports potentially suitable habitat for the Crotch bumble bee primarily within the non-native grasslands and within the scrub; however, this species is a habitat generalist as it will occur in a variety of plant communities throughout its range. Individuals were detected on the lower slopes in the southern portion of the BPI Project's impact footprint where the grassland areas are less disturbed and native scrub vegetation is present. The ruderal/grassland areas mapped in the northern half of the BPI impact footprint and in the Commercial area are generally unsuitable due to the level of disturbance. BPI Project grading will impact approximately 10.42 acres of scrub vegetation with the potential to support the bumble bee and approximately 6.88 acres of non-native grassland. In association with the BPI Project, the BPI Project proponent will dedicate 80.77 acres of the Specific Plan area for permanent open space conservation. Within these 80.77 acres, the BPI Project will conserve approximately 50.96 acres of various scrub habitats and 26 acres of non-native grassland. Given the sensitivity of the bumble bee, however, the loss of habitat in the BPI Project's development footprint may be potentially significant under CEQA. Furthermore, if Crotch bumble bee remains as a SCE or has otherwise been confirmed as a State Endangered species at the time of Project site disturbance, then an Incidental Take Permit (ITP) could be required prior to the disturbance of the occupied habitat. A mitigation measure has been included in Section 6.0 of this report to further address Crotch bumble bee as a listed species.

Although Crotch bumble bee is not a Covered Species under the MSHCP, and therefore no coverage is afforded to the BPI Project for the bumble bee, with the BPI Project's commitment to conservation of 76.96 acres of scrub and grassland habitats where the bumble bee was also observed and with the further potential to support the bumble bee, potentially significant impacts would be reduced to below a level of significance.

Impacts to Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Study Area

Special-Status Birds

Coastal California Gnatcatcher - The BPI Project will impact suitable live-in habitat (i.e., coastal sage scrub) for the coastal California gnatcatcher. The Commercial area does not contain habitat for the gnatcatcher so no impacts would occur from future development in the Commercial area.

The BPI Project impacts will add to the regional loss of suitable habitat within the region, which may be considered significant under CEQA. However, impacts to the gnatcatcher are fully covered under the MSHCP and the BPI Project's participation in the MSHCP through mandatory MSHCP fee payments, the implementation of a MSHCP gnatcatcher-specific avoidance measure (see below) and compliance with the other biological requirements of the MSHCP, ensures that any impacts to habitat will be less than significant. Further, the BPI Project proponent is proposing to dedicate 80.77 acres of the Specific Plan area to the RCA for the purpose of MSHCP reserve assembly, which benefits the species.

As described below in Section 6.0 (Recommended Mitigation/Avoidance Measures), although the loss of habitat for gnatcatchers is covered by the MSHCP without the requirement to mitigate that habitat loss, projects within the Criteria Area (such as the BPI Project) are prohibited from clearing occupied gnatcatcher habitat between March 1 and August 31. The MSHCP does not mandate how individual projects comply with this condition; however, the expectation is that areas of suitable habitat must first be surveyed to confirm absence of gnatcatchers prior to any habitat clearing conducted between March 1 and August 31, or otherwise habitat removal should be conducted outside of that timeframe. Section 6.0 recommends a specific measure to comply with the MSHCP gnatcatcher condition. The loss of gnatcatcher habitat would be significant under CEQA prior to mitigation, which as described above would be mitigated through broader MSHCP compliance (i.e., fee payment, implementation of the gnatcatcher survey measure as applicable, and compliance with other biological measures). For the purpose of this analysis, it should be assumed that all suitable habitat to be impacted is occupied by gnatcatcher, and that such habitat would be avoided seasonally as applicable.

White-tailed Kite - The BPI Project's development will reduce suitable live-in habitat (e.g., oak woodland) with the potential to support white-tailed kite. These impacts will add to the regional loss of suitable habitat within the region, which may be considered significant under CEQA. However, white-tailed kite is fully covered under the MSHCP. As stated above, the Project's participation in the MSHCP through mandatory MSHCP fee payments and compliance with the biological requirements of the MSHCP ensures that any impacts to covered special-status birds and their habitat would be less than significant. Further, the BPI Project proponent is proposing to dedicate 80.77 acres of the Specific Plan area to the RCA for the purpose of MSHCP reserve assembly, which benefits covered species and their habitats. The Project's conservation goals mirror the MSHCP conservation goals and conserved lands adjacent to the Study Area and throughout the Plan area will reduce Project impacts to the white-tailed kite to less than

significant under CEQA. The Commercial area does not contain oak woodland habitat for white-tailed kite so no impacts would occur from future development in the Commercial area.

Special-Status Reptiles

Special-status reptile species covered by the MSHCP that have the potential to occur within the Study Area but were not observed include coast horned lizard, coastal whiptail, orangethroat whiptail, and red-diamond rattlesnake. The BPI Project's development will reduce suitable live-in habitat (e.g. chaparral, coastal sage scrub, and oak woodland) for these special-status reptile species. Future development in the Commercial area also will reduce suitable live-in habitat (e.g., chaparral and coastal sage scrub). These impacts will add to the regional loss of suitable reptile habitat within the region, which may be considered significant under CEQA. However, each of these reptile species are covered under the MSHCP. As stated above, the Project's participation in the MSHCP through mandatory MSHCP fee payments and compliance with the biological requirements of the MSHCP ensures that any impacts to covered special-status reptiles and their habitat would be less than significant. Further, the BPI Project proponent is proposing to dedicate 80.77 acres of the Specific Plan area to the RCA for the purpose of MSHCP reserve assembly, which benefits covered species and their habitats. The Project's conservation goals mirror the MSHCP conservation goals and conserved lands adjacent to the Study Area and throughout the Plan area will reduce Project impacts to special-status reptile species to less than significant under CEQA.

Two other special-status reptile species (non-listed) have the potential to occur within the Study Area that are not MSHCP Covered Species, including the coast patch-nosed snake and southern California legless lizard. Although not Covered by the MSHCP, the Study Area does not represent a regionally important population for either of these species because these species are common to the region, and these species have a relatively low special-status rank. As such, the loss of habitat for the coast patch-nosed snake and southern California legless lizard due to habitat removal and construction, if present, would be less than significant under CEQA. Nevertheless, the BPI Project Proponent proposes to conserve and dedicate 80.77 acres of the Specific Plan area to the RCA for the purpose of MSHCP reserve assembly, which benefits these special status species and their habitat. The proposed open space conservation area at the southern portion of the Study Area would benefit these species populations regionally.

Special-Status Mammals

Special-status bat species that have the potential to occur within the Study Area but were not observed within the Study area include the pallid bat, western mastiff bat, and western yellow bat. Each of these bat species has the potential to forage and roost within the Study Area habitat. The BPI Project and future development in the Commercial area would remove potentially suitable foraging habitat and the BPI Project also would remove potential roosting habitat. All three bat species are State SSC species and declines in bat populations have been recorded throughout southern California due to a wide variety of reasons, including development, so the potential for a significant impact to occur is present. As summarized, the BPI Project and future development in the Commercial area would remove potential foraging habitat (some of which in the BPI development area may be roosting habitat) may pose a significant impact under CEQA.

Although these species are State SSC, population numbers have declined and special consideration by the wildlife agencies is being undertaken. The loss of potential habitat would be adequately offset by the conservation of approximately 80.77 acres in the southern portion of the Study Area by the BPI Project. The conserved open space would benefit special-status bat species population regionally. As such, impacts on special-status bat species would be less than significant with mitigation under CEQA.

5.3 Sensitive Vegetation Communities

Appendix G(b) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

The Study Area contains four special-status vegetation communities, Southern Mixed Chaparral, Coastal Sage Scrub, Coast Live Oak Woodland, and Elderberry Stands. Southern Mixed Chaparral is synonymous with the MCVII Classification ***Rhus integrifolia*** Shrubland Alliance and Coastal Sage Scrub is synonymous with the MCVII Classification ***Encelia californica*** Shrubland Alliance. Both of these vegetation communities are ranked as a S3 vegetation community in the CDFW Natural Communities List. Coast Live Oak Woodland and Elderberry Stands are riparian associated vegetation communities and is considered sensitive under CEQA and the MSHCP Section 6.1.2 riparian/riverine resources.

Southern Mixed Chaparral is located in the proposed conserved open space area in the southern portion of the Project (Planning Area 6). Therefore, Southern Mixed Chaparral will not be impacted by the Project.

5.3.1 Sensitive Vegetation Communities – BPI Project Impacts

Coastal Sage Scrub is located along the western boundary of the BPI Project. The BPI Project will permanently impact approximately 0.16 acre of Coastal Sage Scrub. These impacts will add to the regional loss of this vegetation community, which may be considered as significant under CEQA. However, with the implementation and coverage of the Project under the MSHCP conservation goals, the BPI Project would have a less-than-significant impact on Coastal Sage Scrub with mitigation.

The BPI Project will permanently impact 1.13 acres of Coast Live Oak Woodland, which as a riparian community, is considered as a sensitive community under CEQA. The loss of riparian habitat is significant under CEQA and must be mitigated pursuant to Volume I, Section 6.1.2 of the MSHCP. With mitigation, the impact would be less than significant through participation and compliance with the MSHCP. Refer to the recommended mitigation as described below in Section 6.0 of this report.

None of the other vegetation communities to be impacted by the BPI Project are considered sensitive communities under CEQA [Exhibit 12 – Vegetation Impacts Map]. Table 5-1 provides

a summary of impacts to vegetation/land use types. Table 5-2 provides a summary of impacts to vegetation/land use types associated with the BPI Project's proposed offsite improvements.

Table 5-1. Vegetation/Land Use Types Impacts for the BPI Component of the Project (Onsite)

Vegetation/ Land Use Type	Permanent Impacts (acres)		Temporary Impacts (acres)	Avoided (acres)
	Business Park Industrial	Estate Residential (Business Park Industrial Grading)	Non-MSHCP Open Space	Conservation (Avoided)
Coast Live Oak Woodland	0.72	0.41	0.00	3.50
Elderberry Stands	0.03	0.00	0.00	0.00
Coastal Sage Scrub	0.01	0.11	0.07	0.87
Riversidean Sage Scrub/Mixed Chaparral	0.00	0.00	0.00	1.90
Disturbed Mixed Chaparral	0.21	0.95	0.19	13.80
Lower Montane Mixed Chaparral	0.11	0.30	0.19	0.21
Mixed Chaparral	3.44	4.64	0.17	30.73
Southern Mixed Chaparral	0.00	0.00	0.00	3.45
Saltbush Scrub	0.04	0.00	0.00	0.00
Disturbed/ Developed	16.07	0.81	0.96	0.31
Residential/ Urban/Exotic	1.62	0.00	0.00	0.00
Ruderal/ Non-native grassland	28.28	6.93	0.98	26.00
Total	**50.53**	**14.15**	**2.57**	**80.77**

Table 5-2. Vegetation/Land Use Types Impacts for the BPI Project's Offsite Improvement Areas

Vegetation/ Land Use Type	Permanent Impacts (acres)
	Business Park Industrial Offsite Impacts
Coast Live Oak Woodland	0.00
Elderberry Stands	0.02
Coastal Sage Scrub	0.04
Riversidean Sage Scrub/Mixed Chaparral	0.00
Disturbed Mixed Chaparral	0.07
Lower Montane Mixed Chaparral	0.00

Mixed Chaparral	0.00
Southern Mixed Chaparral	0.00
Saltbush Scrub	0.46
Disturbed/ Developed	10.52
Residential/ Urban/Exotic	0.14
Ruderal/ Non-native grassland	2.13
Total	**13.38**

5.3.1 Sensitive Vegetation Communities – Commercial Area

No development project is currently proposed in the Commercial area. Thus, this programmatic analysis assumes a maximum extent of impact.

Coastal Sage Scrub is located in the northern portion of the Commercial area. Assuming that a future commercial development project would fully disturb the area, approximately 0.21 acre of Coastal Sage Scrub would be impacted. These impacts will add to the regional loss of this vegetation community, which may be considered as significant under CEQA. However, with the implementation and coverage of the Project under the MSHCP conservation goals, the Project would not have a significant impact on Coastal Sage Scrub and would be less than significant with mitigation.

The Commercial area does not contain Coast Live Oak Woodland, so no impact to this vegetation community would occur.

Elderberry Stands are located on 0.52 acre of the Commercial area. Therefore, Elderberry Stands will be impacted if future commercial development results in impacts to this area. This vegetation community is considered riparian vegetation, impacts to which are considered significant under CEQA. If impacts to this vegetation community occur, the loss of riparian habitat would be significant and must be mitigated pursuant to CEQA, Volume I, Section 6.1.2 of the MSHCP, and Section 1602 of the California Fish and Game Code. With mitigation, impacts would be less than significant with mitigation through participation and compliance with the MSHCP. Refer to the recommended mitigation as described below in Section 6.0 of this report.

None of the other vegetation communities that could be impacted by the Commercial component of the Project are considered sensitive communities under CEQA [Exhibit 12 – Vegetation Impacts Map]. Table 5-3 provides a summary of impacts to vegetation/land use types.

Table 5-3. Vegetation/Land Use Types Impacts for Maximum Impact from the Commercial Component of the Project

Vegetation/ Land Use Type	Commercial
Coast Live Oak Woodland	0
Elderberry Savannah	0.52

Coastal Sage Scrub	0.21
Riversidean Sage Scrub/Mixed Chaparral	0
Disturbed Mixed Chaparral	0
Lower Montane Mixed Chaparral	0
Mixed Chaparral	0
Southern Mixed Chaparral	0
Saltbush Scrub	0.21
Disturbed/ Developed	0.04
Residential/ Urban/Exotic	0.16
Ruderal/Non-native grassland	4.40
Total	**5.54**

5.4 Wetlands

Appendix G(c) of the State CEQA guidelines asks if a project is likely to "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means."

The Study Area does not contain any state or federally protected wetlands. Therefore, the Project would have no impacts on state or federally protected wetlands.

5.5 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the State CEQA guidelines evaluate whether a project is likely to "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."

The Project will impact the lower portions of north-south ridges and canyons that terminate at the flat portion of the property at Green River Road that support the local movement of wildlife. However, as discussed above in Section 4.7 of this report, the City of Corona is currently pursuing a Criteria Refinement through the RCA and Wildlife Agencies to formally relocated PCL-1 west to coincide with the B Canyon area. As noted above, the processing of the Criteria Refinement coincides with the RCA's recent acquisition of approximately 740 acres of lands located south and west of the Specific Plan Project that contain B Canyon. The RCA issued Criteria Refinement Review Findings (CR# 24-01-10-01, dated February 20, 2024) in support of the Criteria Refinement and those Findings are currently being reviewed by the Wildlife Agencies, with the expectation that the Wildlife Agencies will provide concurrence in the next 30 days. The formal relocation of PCL-1 removes the Specific Plan Project site from the Linkage and thereby greatly reduces the relative importance of the Project site to facilitate wildlife movement and to connect Core A and Core B.

In further support of the assembly of PCL-1, the BPI Project proponent is proposing to conserve 80.77 acres of land within the southern half of the Project site. The proposed conservation is

contiguous with the lands recently acquired by the RCA for the MSHCP Reserve. The 80.77 acres of proposed conservation contains the structural topography and vegetative cover to facilitate regional wildlife movement. It also aligns with the wildlife linkage/corridor conservation goals of the MSHCP.

Furthermore, the BPI Project includes the construction of a wildlife fence between the proposed 80.77-acre conservation area and the remainder of the Project site to the north. The fencing will extend west to the Project site boundary and will continue north where the fencing will terminate at the Caltrans SR-91 easement. The proposed directional fencing will support the movement of wildlife east to west along the B Canyon route for PCL-1.

Temporary disturbances to wildlife movement may occur during construction; however, these disturbances would primarily occur during day-time hours during construction activities and would not interfere significantly with wildlife movement on a landscape level. The Project's consistency with the MSHCP and adherence to mandatory MSHCP requirements would reduce impacts to wildlife movement to a level of less than significant under CEQA. Additionally, no native wildlife nursery sites were observed within the Project area and therefore, no impacts to wildlife nursery sites would occur.

Evaluation of wildlife movement impacts from development in the Commercial area of the Project is speculative to evaluate until a development project is proposed and the details of its design are known. Impacts have the potential to be significant but cannot be determined with certainty until a development project is proposed and can be evaluated at a project level of detail.

The Project 's construction activities have the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 15). Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, potential impacts to native birds by the proposed Project would not be a significant impact under CEQA. The native birds with potential to nest within the Study Area are extremely common to the region and highly adapted to human landscapes (e.g., house finch, killdeer). The number of individuals potentially affected by the Project would not significantly affect regional, let alone local populations of such species. A measure is identified in Section 6.0 of this report to assure compliance with the MBTA and the Fish and Game Code, and this would avoid significant impacts to nesting birds.

5.6 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance."

The City of Corona 2020–2040 General Plan includes several goals and policies relating to biological resources (See Section 3.4 of this report). The goals and policies of the General Plan are intended for MSHCP consistency and to protect and preserve biological resources including plants and wildlife, vegetation communities, and wetlands and drainages.

The Project will not conflict with any local policies or ordinances protecting biological resources. The BPI Project Proponent is proposing permanent conservation of 80.77 acres of land within the southern half of the Study Area and will be consistent with the requirements of the MSHCP. The conservation of native land and compliance with the MSCHP in conjunction with avoidance, minimization, and mitigation measures described below in Section 6.0 of this report, will render the Project compliant with and not conflict with the biological resource policies of the City of Corona 2020–2040 General Plan.

5.7 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan." As discussed throughout this report, the Project is within the Western Riverside County MSHCP. Section 7.0 of this report analyzes compliance of the BPI Project with the Reserve Assembly and species/habitat requirements of the MSHCP at a project-specific level. Impacts to species/habitats with MSHCP requirements are summarized here. Through compliance with the applicable requirements, the Project will not conflict with the provisions of the MSHCP.

5.8 Jurisdictional Waters

5.8.1 Impacts to Corps and Regional Board Jurisdiction – BPI Project

Under the proposed BPI Project, a total of 2.10 acres of U.S. waters under Corps and Regional Board jurisdiction would be permanently impacted (all non-wetland waters), including 2.07 acres onsite and 0.03 acre offsite [Exhibit 13A – Regional Board Jurisdiction Impact Map]. Tables 5-4 (onsite impacts) and 5-5 (offsite improvements) below summarizes the impacts to Regional Board jurisdictional feature. Refer to Section 6.0, Recommended Mitigation/Avoidance Measures for measures to offset these impacts.

Table 5-4. BPI Project Impacts to Corps and Regional Board Jurisdiction (Onsite)

Drainage Name	Corps and Regional Board Non-Wetland Waters (acres)
Drainage System A	**0.31**
Drainage A	0.21
Tributary A1	0.04
Tributary A2	0.02
Tributary A3	0.01
Tributary A4	0.03
Drainage System B	**0.60**
Drainage B	0.56
Tributary B2	0.04
Drainage System C	**1.16**
Drainage C	0.97

Tributary C3	0.01
Tributary C4	0.18
Total	**2.07**

Table 5-5. BPI Project Impacts to Corps and Regional Board Jurisdiction (Offsite)

Drainage Name	Corps and Regional Board Non-Wetland Waters (acres)
Drainage System A	**0.02**
Drainage A	0.02
Drainage System B	**0.01**
Drainage B	0.01
Total	**0.03**

5.8.2 Impacts to CDFW Jurisdiction – BPI Project

Under the proposed BPI Project, a total of 3.66 acres of CDFW jurisdiction would be permanently impacted (2.51 acres non-riparian streambed and 1.15 acres riparian streambed) [Exhibit 13C – CDFW Jurisdiction Impact Map]. Tables 5-6 (onsite impacts) and 5-7 (offsite improvements) below summarize the impacts to each CDFW jurisdictional feature. Refer to Section 6.0, Recommended Avoidance Measures for measures to offset these impacts.

Table 5-6. BPI Project Impacts to CDFW Jurisdictional Waters (Onsite)

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total Impacts (acres)
Drainage System A	**0.41**	**0.02**	**0.43**
Drainage A	0.23	0.00	0.23
Tributary A1	0.08	0.02	0.10
Tributary A2	0.03	0.00	0.03
Tributary A3	0.01	0.00	0.01
Tributary A4	0.06	0.00	0.06
Drainage System B	**0.74**	**0.00**	**0.74**
Drainage B	0.63	0.00	0.63
Tributary B2	0.11	0.00	0.11
Drainage System C	**1.32**	**1.13**	**2.45**
Drainage C	1.06	0.41	1.47
Tributary C3	0.01	0.00	0.01
Tributary C4	0.25	0.72	0.97
Total	**2.47**	**1.15**	**3.62**

Table 5-7. BPI Project Impacts to CDFW Jurisdictional Waters (Offsite)

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total Impacts (acres)
Drainage System A	**0.02**	**0.00**	**0.02**
Drainage A	0.02	0.00	0.02
Drainage System B	**0.02**	**0.00**	**0.02**
Drainage B	0.02	0.00	0.02
Total	**0.04**	**0.00**	**0.04**

5.8.4 BPI Project Impacts to Impacts to MSHCP Riparian/Riverine Areas

Under the proposed BPI Project, a total of 3.66 acres of MSHCP Riparian/Riverine Areas would be permanently impacted (2.51 acres unvegetated riverine and 1.15 acres riparian) [Exhibit 14 – MSHCP Riparian/Riverine Areas Impact Map]. Tables 5-8 (onsite) and 5-9 (offsite) below summarize the impacts to each MSHCP jurisdictional feature. Refer to Section 6.0, Recommended Avoidance Measures for measures to offset these impacts.

Table 5-8. BPI Project Impacts to MSHCP Riparian/Riverine Areas (Onsite)

Drainage Name	Unvegetated Riverine (acres)	Riparian (acres)	Total Impacts (acres)
Drainage System A	**0.41**	**0.02**	**0.43**
Drainage A	0.23	0.00	0.23
Tributary A1	0.08	0.02	0.10
Tributary A2	0.03	0.00	0.03
Tributary A3	0.01	0.00	0.01
Tributary A4	0.06	0.00	0.06
Drainage System B	**0.74**	**0.00**	**0.74**
Drainage B	0.63	0.00	0.63
Tributary B2	0.11	0.00	0.11
Drainage System C	**1.32**	**1.13**	**2.45**
Drainage C	1.06	0.41	1.47
Tributary C3	0.01	0.00	0.01
Tributary C4	0.25	0.72	0.97
Total	**2.47**	**1.15**	**3.62**

Table 5-9. BPI Project Impacts to MSHCP Riparian/Riverine Areas (Offsite)

Drainage Name	Unvegetated Riverine (acres)	Riparian (acres)	Total Impacts (acres)
Drainage System A	**0.02**	**0.00**	**0.02**
Drainage A	0.02	0.00	0.02
Drainage System B	**0.02**	**0.00**	**0.02**
Drainage B	0.02	0.00	0.02
Total	**0.04**	**0.00**	**0.04**

Pursuant to Volume I, Section 6.1.2 of the MSHCP, projects must consider alternatives providing for 100-percent avoidance of riparian/riverine areas. If avoidance is infeasible, then the unavoidable impacts must be mitigated, and a Determination of Biologically Equivalent or Superior Preservation (DBESP) is required.

5.8.5 Maximum Extent of Impacts to Corps, Regional Board, and CDFW Jurisdiction, and Riparian/Riverine Areas – Commercial Area

No development project is currently proposed in the Commercial area. Thus, this programmatic analysis assumes a maximum extent of impact relying on the conceptual grading plan in the Green River Ranch Specific Plan. The Commercial area contains 0.12 acre of non-wetland waters potentially subject to the jurisdiction of the Corps, and subject to the jurisdiction of the Regional Board, summarized below in Table 5-10. In addition, the Commercial area contains 0.55 acre of CDFW jurisdiction and MSHCP Riparian/Riverine areas, summarized below in Table 5-11 (CDFW jurisdiction) and Table 5-12 (MSHCP Riparian/Riverine).

Table 5-10. Commercial Area Maximum Impacts to Corps and Regional Board Jurisdiction

Drainage Name	Corps and Regional Board Non-Wetland Waters (acres)
Drainage System A	**0.10**
Drainage A5	0.10
Drainage System B	**0.02**
Drainage B	0.02
Total	**0.12**

Table 5-11. Commercial Area Maximum Impacts to CDFW Jurisdiction

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total Impacts (acres)
Drainage System A	**0.22**	**0.12**	**0.34**
Tributary A5	0.22	0.12	0.34
Drainage System B	**0.01**	**0.20**	**0.21**
Drainage B	0.01	0.20	0.21
Total	**0.23**	**0.32**	**0.55**

Table 5-12. Commercial Area Maximum Impacts to MSHCP Riparian/Riverine Areas

Drainage Name	Unvegetated Riverine (acres)	Riparian (acres)	Total Impacts (acres)
Drainage System A	**0.22**	**0.12**	**0.34**
Tributary A5	0.22	0.12	0.34
Drainage System B	**0.01**	**0.20**	**0.21**
Drainage B	0.01	0.20	0.21
Total	**0.23**	**0.32**	**0.55**

5.9 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to adjacent native open space. Potential indirect effects associated with development include water quality impacts associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational activities (including off-road vehicles and hiking), pets, dumping, etc. Temporary, indirect effects may also occur resulting from construction-related activities.

The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of measures pursuant to the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP). These guidelines are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The BPI Project will implement measures consistent with the MSHCP guidelines to address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;

- Invasives;
- Barriers; and
- Grading/Land Development.

Furthermore, it is expected that future development in the Commercial area would be consistent with the guidelines but because no development project is proposed in the Commercial area at this time, a project-level consistency determination is premature to conduct, and the Commercial area is evaluated programmatically.

5.9.1 Drainage

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

The BPI Project's contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to runoff and water quality during construction. Furthermore, the BPI Project will drain away from the MSHCP Conservation Area to be located to the south and will drain towards Green River Road.

5.9.2 Toxics

Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. Measures such as those employed to address drainage issues shall be implemented. The proposed BPI Project will implement a SWPPP that will address runoff during construction. Furthermore, the BPI Project will drain away from the MSHCP Conservation Area to be located to the south and will drain towards Green River Road. As such, toxics will not be introduced to the MSHCP Conservation Area as a result of project-generated runoff.

5.9.3 Lighting

Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the MSHCP Conservation Area from direct night lighting. All night lighting within the BPI Project footprint will be down-shielded such that the BPI Project will not illuminate the

adjacent open space, including the western wildlife connection path. This will ensure that ambient lighting within the MSHCP Conservation Area does not increase post-project.

5.9.4 Noise

Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards. The proposed BPI Project is not expected to project noise upwards into the MSHCP Conservation Area to the south based on the topography post-Project. Furthermore, the fence to be constructed as part of the BPI Project along the western wildlife connection path will be screened with vegetation to create a natural noise buffer.

5.9.5 Invasive Species

Projects adjacent to the MSHCP Conservation Area shall avoid the use of invasive plant species in landscaping, including invasive, non-native plant species listed in Volume I, *Table 6-2* of the MSHCP.

5.9.6 Barriers

Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass or dumping in the MSHCP Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms.

A wildlife fence will be constructed along the southern edge of the BPI Project that will turn north and follow the western edge of the Project site and terminate at the SR-91 Caltrans easement. The fence will direct wildlife travelling from the south to the connection path towards Green River Road.

5.9.7 Grading/Land Development

The MSHCP states that manufactured slopes associated with development shall not extend into the MSHCP Conservation Area. The graded slopes associated with the BPI Project that would occur within the Estate Residential parcel will not extend into the MSHCP Conservation Area. Instead, the above-referenced Residentially-Zone Open Space will serve as a buffer between the grading for the BPI Project and the MSHCP Conservation Area.

5.10 Cumulative Impacts to Biological Resources

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in

addition to the impacts of related projects in the area, would be considered potentially significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project.

Anticipated cumulative impacts are addressed by the MSHCP, which, as currently adopted, addresses 146 "Covered Species" that represent a broad range of habitats and geographical areas within western Riverside County, including threatened and endangered species and regionally- or locally-sensitive species that have specific habitat requirements and conservation and management needs. The MSHCP addresses biological impacts for take of Covered Species within the MSHCP area. Impacts to Covered Species and establishment and implementation of a regional conservation strategy and other measures included in the MSHCP are intended to address the federal, state, and local mitigation requirements for these species and their habitats. Specifically, Section 4.4 of the MSHCP states that:

> *The MSHCP was specifically designed to cover a large geographical area so that it would protect numerous endangered species and habitats throughout the region. It is the projected cumulative effect of future development that has required the preparation and implementation of the MSHCP to protect multiple habitats and multiple endangered species.*

Impacts to the special-status vegetation communities identified in Section 5.3 could be potentially cumulatively significant, prior to mitigation. These vegetation communities are Coast Live Oak Woodland and Coastal Sage Scrub for the BPI Project and Coastal Sage Scrub and Elderberry Savannah for future development in the Commercial area), and Riparian/Riverine resources (Tables 5-2 and 5-3 above). For those non-riparian/riverine vegetation communities, the MSHCP provides full mitigation for proposed impacts. For the proposed impacts to riparian/riverine resources, the MSHCP requires equivalent or superior preservation that would be detailed in a DBESP. As presented in Section 6.0, the BPI Project would mitigate 3.04 acres of riparian/riverine resources (1.11 acres of riparian and 1.93 acres of unvegetated streambed). This would mitigate impacts to a level of less than significant under CEQA and would be consistent with MSHCP requirements in that equivalent or superior preservation is provided. For future development in the Commercial area, mitigation would also be required based on the future development plan prior to future development. Refer to Section 6.0 for details.

The proposed BPI Project would remove several Coulter's matilija poppy, a non-listed special-status plant species that is covered and adequately conserved by the MSHCP. The removal of Coulter's matilija poppy by the BPI Project would not pose a cumulatively considerable contribution to the regional decline of this species.

Impacts to the following animal species would be potentially cumulatively significant, prior to mitigation, as a result of the loss of potential habitat for these species: Crotch's bumble bee, least Bell's vireo, Cooper's hawk, yellow warbler, southern California rufous-crowned sparrow, western mastiff bat, western yellow bat, coast horned lizard, coast patch-nosed snake, coastal whiptail, orangethroat whiptail, red-diamond rattlesnake, and southern California legless lizard.

Some of these species are fully covered species under the MSHCP and as such any proposed impacts would be fully mitigated under the MSHCP. For others such as the bat species, impacts would be potentially cumulatively significant, however the Project is proposing permanent natural land conservation in the southern portion of the Project site. With implementation of Project mitigation in combination with the Project's proposed design feature of open space conservation, the potential for the Project to make a cumulatively considerable contribution to the regional decline of any of these species would not occur.

5.11 Programmatic Impacts to Biological Resources – Commercial Area and Estate Residential Area

The following is a general programmatic discussion on the expected future development of the Commercial parcel and the potential for development in the Estate Residential Parcel of the Green River Ranch Specific Plan. As is discussed above, the Commercial parcel is located north of Green River Road and south of State Route 91. The Estate Residential parcel is located south of the BPI Project footprint and north of the proposed conservation associated with the BPI Project.

5.11.1 Commercial Parcel

The development of the Commercial parcel has the potential to impact jurisdictional waters (Corps, Regional Board, and CDFW jurisdiction), including riparian habitat. Once a project design has been developed for the Commercial parcel, a jurisdictional delineation confirmation and impact analysis should be performed to specify the exact impacts to jurisdictional waters due to developing all or a portion of the parcel. Impacts to jurisdictional waters will require authorization from the respective agencies and mitigation will be required to offset the loss of waters. The waters are also considered MSHCP riparian/riverine areas and will require mitigation and the approval of a DBESP.

The least Bell's vireo was detected within the Commercial parcel during the focused surveys conducted for the overall Study Area. The vireo is a MSHCP Covered Species, however the loss of habitat with long-term conservation value for the vireo will require mitigation and the approval of a DBESP.

The Commercial parcel is within the MSHCP Criteria Area, specifically Cells 1702 and 1704. The future development of the Commercial parcel will require the HANS process to determine which portions of the property, if any, would be required for Reserve Assembly. In addition, development of the Commercial parcel will require a separate JPR for the RCA to evaluate project consistency with other aspects of the MSHCP, including Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), and Section 6.3.2 (Additional Survey Needs and Procedures).

5.11.2 Estate Residential Parcel

The Estate Residential parcel is located south of the BPI Project and north of the proposed conservation associated with the BPI Project. The Estate Residential parcel is divided into two components: 1) the area to be graded as to facilitate the construction of the BPI Project (14.15 acres), and 2) additional open space referred to in this report as Residentially-Zoned Open Space (6.26 acres). The area to be graded as part of the BPI Project contains jurisdictional waters, but those areas would be impacted and mitigated by the BPI Project if it were to precede any future development of the Estate Residential parcel. However, in the event that the BPI Project were to be delayed and development of the Estate Residential would proceed first, then a separate jurisdictional delineation should be performed to determine impacts specific to the Estate Residential parcel's development. In that scenario, the proponent of the Estate Residential project would need to obtain separate authorizations from the Corps, Regional Board, and CDFW.

The Estate Residential parcel is located within the MSHCP Criteria Area, specifically Cells 1702 and 1704. Although the future development area for the Estate Residential parcel is intended to be first graded is conjunction with the BPI Project, future development of Estate Residential parcel would require a separate JPR to be reviewed by the RCA to determine project consistency with other aspects of the MSHCP, including Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), and Section 6.3.2 (Additional Survey Needs and Procedures). As part of consistency with MSHCP Section 6.1.2, any MSHCP riparian/riverine areas not previously impacted by the BPI Project would require the approval of a DBESP. Furthermore, the area of Residentially-Zoned Open Space may require inclusion in the MSHCP Conservation Area to support Reserve Assembly, and development of the Estate Residential parcel would be subject to the Urban/Wildland Interface Guidelines (MSHCP Section 6.1.4) to address potential indirect effects such as lighting and noise.

6.0 RECOMMENDED MITIGATION/AVOIDANCE MEASURES – BPI PROJECT

The following discussion provides project-specific mitigation/avoidance measures for actual or potential impacts to special-status resources associated with the BPI component of the Project.

6.1 Burrowing Owl

The Study Area contains suitable habitat for burrowing owls; however, burrowing owls were not detected onsite during focused surveys. MSHCP Objective 6 for burrowing owls requires that pre-construction surveys occur prior to site grading. As such, the following measure is recommended to avoid direct impacts to burrowing owls and to ensure consistency with the MSHCP.

- **Pre-Construction Survey.** A 30-day pre-construction survey for burrowing owls is required prior to future ground-disturbing activities (e.g., vegetation clearing, clearing

and grubbing, tree removal, site watering, equipment staging, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the Study Area prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate in the future with the RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owls are found, the same coordination described above will be necessary.

6.2 Nesting Birds

The Study Area contains vegetation with the potential to support native nesting birds. As discussed above, the California Fish and Game Code and MBTA prohibits mortality of native birds, including eggs. The following measure is recommended to avoid mortality to nesting birds. Potential impacts to native birds was not considered a biologically significant impact under CEQA; however, to comply with federal and state law, the following is recommended:

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within three days prior to any disturbance of the site, including disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests.

6.3 Coastal California Gnatcatcher

The Project site contains habitat with the potential to support the coastal California gnatcatcher. To maintain compliance with the MSHCP the following measures are recommended to avoid impacts to the coastal California gnatcatcher.

- Prior to construction, focused protocol surveys for the coastal California gnatcatcher are required to determined presence/absence of this species within the proposed Business Park Industrial Project.
- If the coastal California gnatcatcher is deemed absent per the focused protocol surveys and provided there are no nesting birds, protected by the MBTA and California Fish and Game Code, or as detected in avoidance measure under Section 6.2 Nesting Birds, then vegetation removal within suitable coastal California gnatcatcher habitat may commence. If the coastal California gnatcatcher are determined present per the focused protocol surveys, then Special Terms and Conditions 5B from USFWS Permit TE-088609-0 would be applicable. Condition 5B states “Coastal California gnatcatcher - Clearing of

occupied habitat within Public/Quasi-Public (PQP) lands and the Criteria Area between March 1 and August 15 is prohibited."

6.4 Crotch Bumble Bee

As discussed above, Crotch bumble bee was detected at the BPI Project site and grading will impact approximately 10.42 acres of scrub vegetation and approximately 6.88 acres of non-native grassland with the potential to support Crotch bumble bee. Given the sensitivity of the bumble bee, the loss of habitat may be potentially significant under CEQA. Regarding the unresolved CESA status of the bumble bee, if the bumble bee is still a Candidate species or has been confirmed as a State listed species at the time of Project site disturbance, then prior to the issuance of a grading permit that would remove Crotch bumble bee habitat:

- The BPI Project proponent shall have conveyed or have an agreement to convey approximately 50.96 acres of various scrub habitats and 26 acres of non-native grassland in the southern portion of the Project site to the RCA, which constitutes avoidance of suitable habitat.
- If the land to be conserved in the southern portion of the Project site has not been conveyed to the RCA and no agreement is yet in place to convey the property, the Project proponent shall coordinate with CDFW to address the extent of impacts and determine whether an ITP for Crotch bumble bee would be required. If an ITP were required, then mitigation may be required by CDFW as part of the ITP process, and the conservation of the comparable open space habitat would be presented to support the ITP.

6.5 Jurisdictional Waters

The BPI Project will permanently impact a total of 2.10 acres of potential waters of the U.S. (potential Corps jurisdiction), which are also Regional Board jurisdiction (all non-wetland waters). The BPI Project will also permanently impact a total of 3.66 acres of CDFW jurisdiction (2.51 acres non-riparian streambed and 1.15 acres riparian streambed).

- Impacts to 3.66 acres of CDFW jurisdiction (including 2.10 acres of potential Corps/Regional Board jurisdiction) shall be mitigated at a 3:1 ratio (10.98 acres) through a combination of onsite restoration and preservation, and offsite mitigation (the purchase of available mitigation credits at the Riverpark Mitigation Bank). The onsite mitigation will consist of the restoration of 2.57 acres of riparian oak woodland and the preservation of 6.36 acres of oak woodlands and streams. The balance of mitigation will consist of the purchase of 4.62 acres of mitigation bank credits.

6.6 MSHCP Riparian/Riverine Areas

The BPI Project will impact 3.66 acres of MSHCP riparian/riverine resources (2.51 acres unvegetated riverine and 1.15 acres riparian). Impacts to riparian/riverine areas shall be mitigated at a minimum 3:1 ratio, subject to approval of the RCA and Wildlife Agencies, and include the following:

- **DBESP.** A DBESP analysis shall be submitted to and approved by the Wildlife Agencies (USFWS, CDFW) to approve impacts to MSHCP riparian/riverine areas.

- Impacts to 3.66 acres of MSHCP riparian/riverine areas, including 2.51 acres of unvegetated riverine areas and 1.15 acres of riparian habitat, shall be mitigated at a 3:1 ratio (10.98 acres) through a combination of onsite restoration and preservation, and offsite mitigation (the purchase of available mitigation credits at the Riverpark Mitigation Bank). The onsite mitigation will consist of the restoration of 2.57 acres of riparian oak woodland and the preservation of 6.36 acres of oak woodlands and streams. The balance of mitigation will consist of the purchase of 4.62 acres of mitigation bank credits.

7.0 MSHCP CONSISTENCY ANALYSIS – BPI PROJECT

The purpose of this section is to provide an analysis of the proposed BPI Project with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed BPI Project with respect to the Project's consistency with MSHCP Reserve assembly requirements, Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.1 Project Relationship to Reserve Assembly

The BPI Project occurs within the MSHCP Temescal Area Plan, specifically in Subunit 1 (Santa Ana River to Santa Ana Mountains), Criteria Cells 1702, 1704, 1811, and 1812 [Exhibit 5A – MSHCP Overlay Map]. Lands described for conservation within these Criteria Cells are intended support the assembly of Proposed Constrained Linkage 1 ("PCL-1") and Proposed Constrained Linkage 2 ("PCL-2") further to the east. As described above in Section 1.4.2, the City of Corona is currently pursuing a Criteria Refinement through the RCA and Wildlife Agencies to formally relocated PCL-1 west to coincide with the B Canyon area. The processing of the Criteria Refinement coincides with the RCA's recent acquisition of approximately 740 acres of lands located south and west of the Specific Plan Project that contain B Canyon. The RCA issued Criteria Refinement Review Findings (CR# 24-01-10-01, dated February 20, 2024) in support of the Criteria Refinement and those Findings are currently being reviewed by the Wildlife Agencies, with the expectation that the Wildlife Agencies will provide concurrence. The formal relocation of PCL-1 removes the Specific Plan Project site from the Linkage and thereby greatly reduces the relative importance of the Project site to facilitate wildlife movement and to connect Core A and Core B. Even with the approval of the Criteria Refinement, i.e., the relocation of PCL-1, the BPI Project is still subject to JPR for the RCA to determine the Project's overall consistency with the MSHCP; however, the BPI Project would no longer be required to conserve lands in support of the original PCL-1 alignment. Regardless, in association with the Business Park Industrial Project, the proponent would conserve approximately 80.77 acres of land within the southern half of the Specific Plan to contribute to the MSHCP Reserve. The conserved lands would be dedicated to the RCA and managed and protected in perpetuity.

7.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The proposed BPI Project will directly impact (permanently and temporarily) approximately 3.66 acres of MSHCP riparian/riverine areas, including 1.15 acres of riparian vegetation and 2.51 acres of unvegetated riverine areas. The functions of impacted MSHCP riparian areas must be replaced such that the resulting project is "biologically equivalent or superior" to the existing site conditions. A DBESP must be approved by the wildlife agencies (USFWS and CDFW) for the proposed BPI Project. Subject to the approval of a DBESP, the BPI Project will be consistent with MSHCP Volume I, Section 6.1.2 of the MSHCP.

7.3 Protection of Narrow Endemic Plants

Volume I, Section 6.1.3 of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Areas (NEPSSA), site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present. The Study area occurs within the MSHCP NEPSSA Survey Area 7. To satisfy MSHCP survey requirements pursuant to Sections 6.1.3, a habitat assessment and focused survey were performed required for the following target narrow endemic plant species:

- San Diego ambrosia
- Brand's phacelia
- San Miguel savory

None of the three NEPSSA plant species were detected during focused plant surveys and are therefore considered absent from the Project site.

7.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area. To minimize such edge effects, the guidelines shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

As discussed in Section 5.0 of this report, the BPI Project will implement applicable measures to minimize indirect impacts to the adjacent MSHCP Conservation Area, including to address noise, lighting and barriers. With the implementation of these measures, the proposed BPI Project will be consistent with Section 6.1.4 of the MSHCP.

7.5 Additional Survey Needs and Procedures

The Project site is within the MSHCP burrowing owl survey area. To satisfy MSHCP survey requirements pursuant to Section 6.3.2, GLA biologists performed focused burrowing owl surveys within areas of suitable habitat from March to May 2020. GLA biologists did not observe burrowing owls, or evidence of burrowing owls (e.g., cast pellets, preened feathers, or whitewash clustered at a burrow) during the focused surveys; therefore, the species was confirmed absent. As described in Section 6.1 above, pre-construction surveys will be conducted consistent with the MSHCP objectives for the burrowing owl.

Besides the burrowing owl survey area, the Project site is not within any other survey area requiring assessments pursuant to *Volume 1, Section 6.3.2*, including the CAPSSA, mammal survey area, or amphibian survey area. With the implementation of the pre-construction owl survey measure, the Project will be consistent with Section 6.3.2 of the MSHCP.

7.6 Conclusion of MSHCP Consistency

As outlined above, the proposed BPI Project will be consistent with the biological requirements of the MSHCP; specifically pertaining to the Project's relationship to reserve assembly, Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), and Section 6.3.2 (Additional Survey Needs and Procedures).

8.0 PROGRAMATIC MITIGATION – COMMERCIAL AND ESTATE RESIDENTIAL DEVELOPMENT

No specific development project is proposed in the Commercial parcel (Specific Plan Planning Area 4) or the Estate Residential parcel (Specific Plan Planning Area 5). As part of the discretionary review and approval process to be undertaken by the City of Corona for the approval of development in these areas as part of future Precise Plans, the following will be required to address impacts to and mitigation for biological resources:

- Updated jurisdictional delineation and calculation of impacts to jurisdictional waters and MSHCP riparian/riverine resources.
- Updated biological surveys – updated surveys will be performed for those species determined absent during the baseline surveys, including burrowing owl and MSHCP Narrow Endemic Plant species.
- JPR – Development of the Commercial parcel and/or the Estate Residential parcel would require JPR through the RCA, with concurrence review of JPR Findings by the Wildlife Agencies (USFWS, CDFW).
- DBESP – Impacts to MSHCP resources, including riparian/riverine areas and least Bell's vireo (Commercial parcel), will require the approval of a DBESP by the Wildlife Agencies. Impacts to MSHCP riparian/riverine resources will require mitigation.
- Regulatory permits – Impacts to jurisdictional waters will require permits/authorizations as applicable, including a Section 404 permit from the Corps, a Section 401 Water Quality Certification from the Regional Board, and a Section 1602 Streambed Alteration Agreement from CDFW. Impacts to jurisdictional waters will require mitigation.

9.0 REFERENCES

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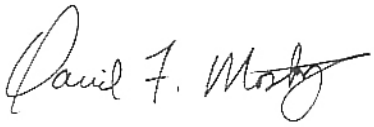
10.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



Signed:_____ Date: 4/2/24

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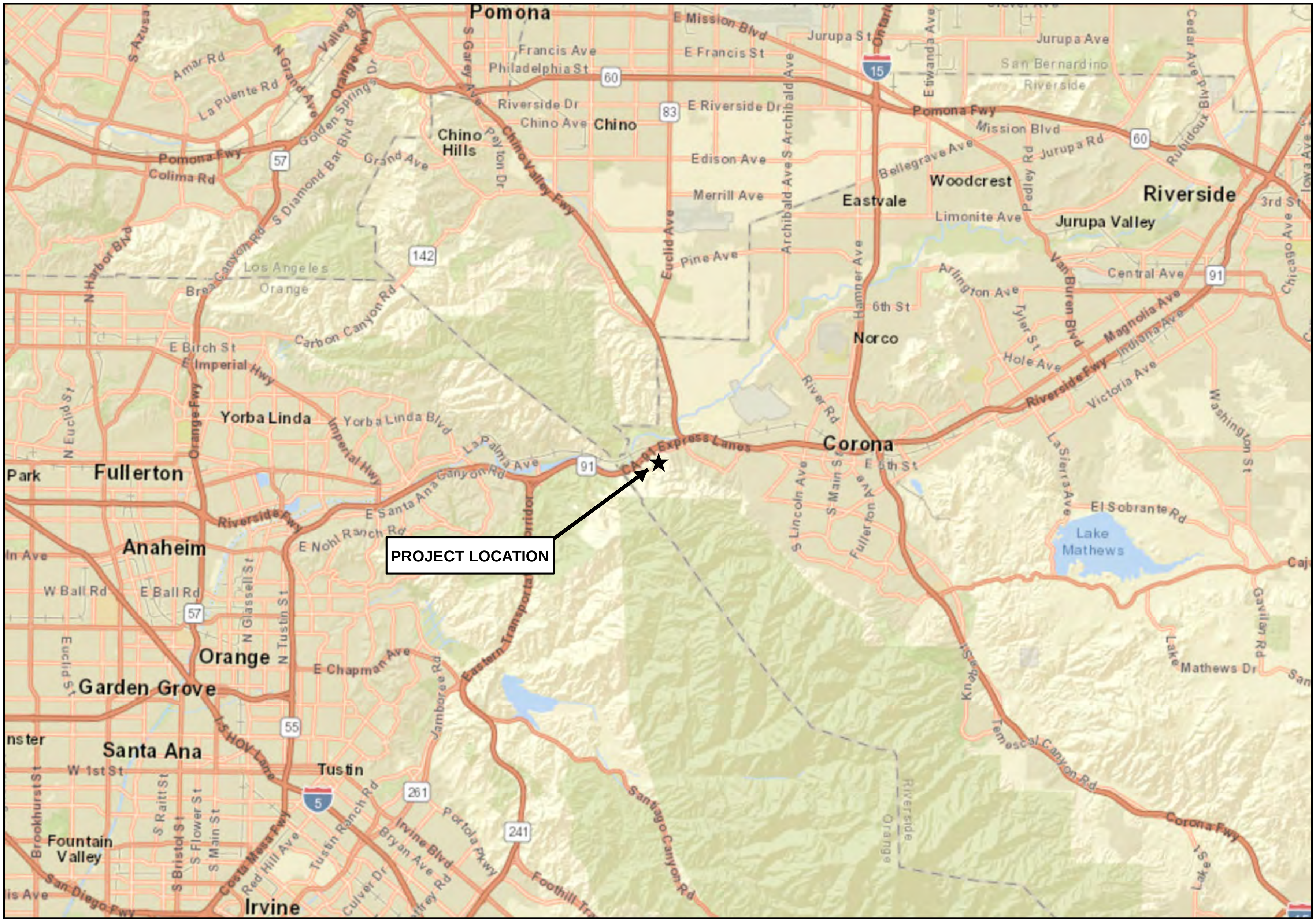
Source: ESRI World Street Map



N

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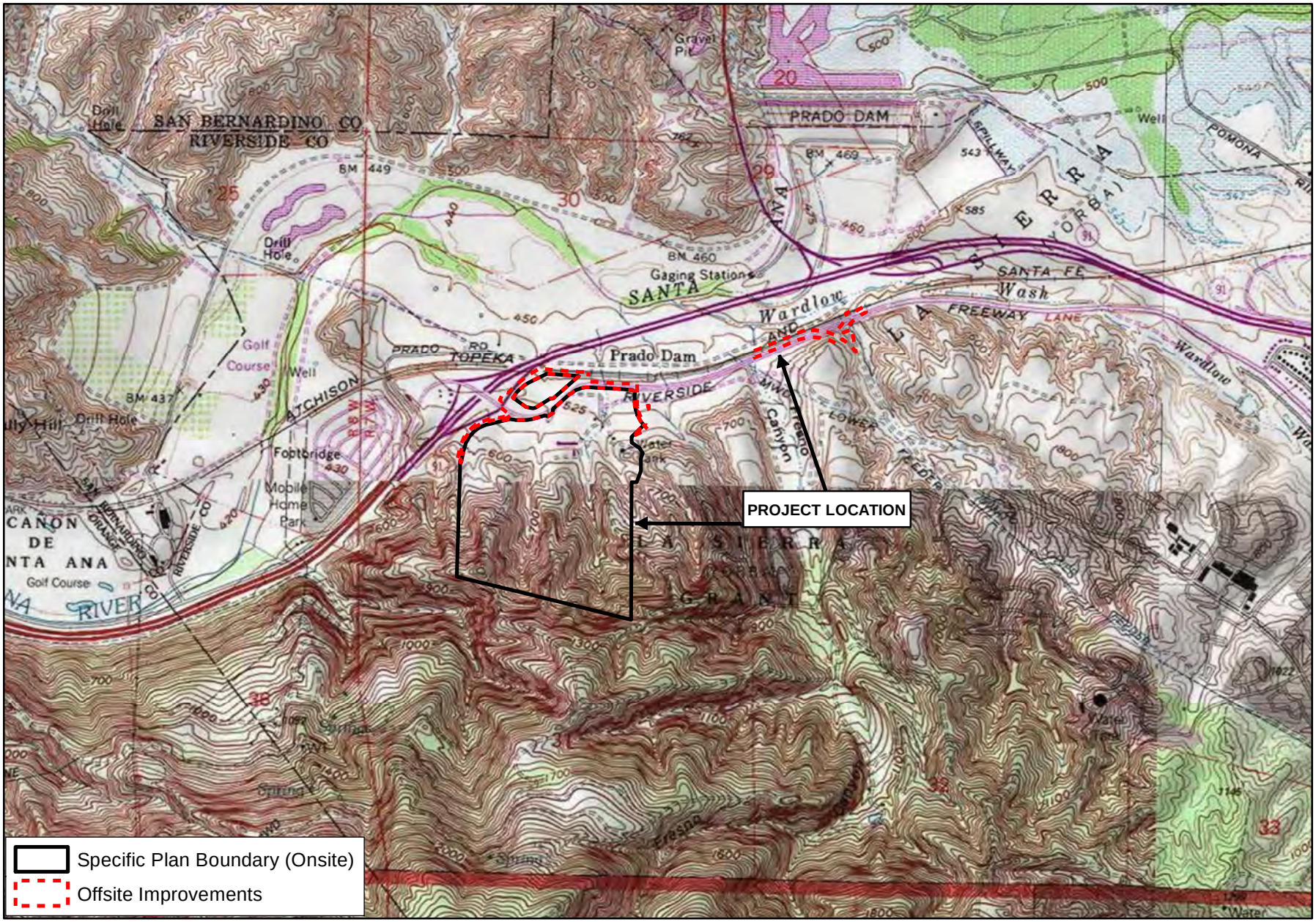
GREEN RIVER RANCH SPECIFIC PLAN

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Prado Dam & Black Star Canyon, CA quadrangles

N

0 1,000 2,000 4,000 Feet

GREEN RIVER RANCH SPECIFIC PLAN

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Specific Plan Boundary (Onsite)

Offsite Improvements

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: July 31, 2023

GREEN RIVER RANCH SPECIFIC PLAN

Aerial Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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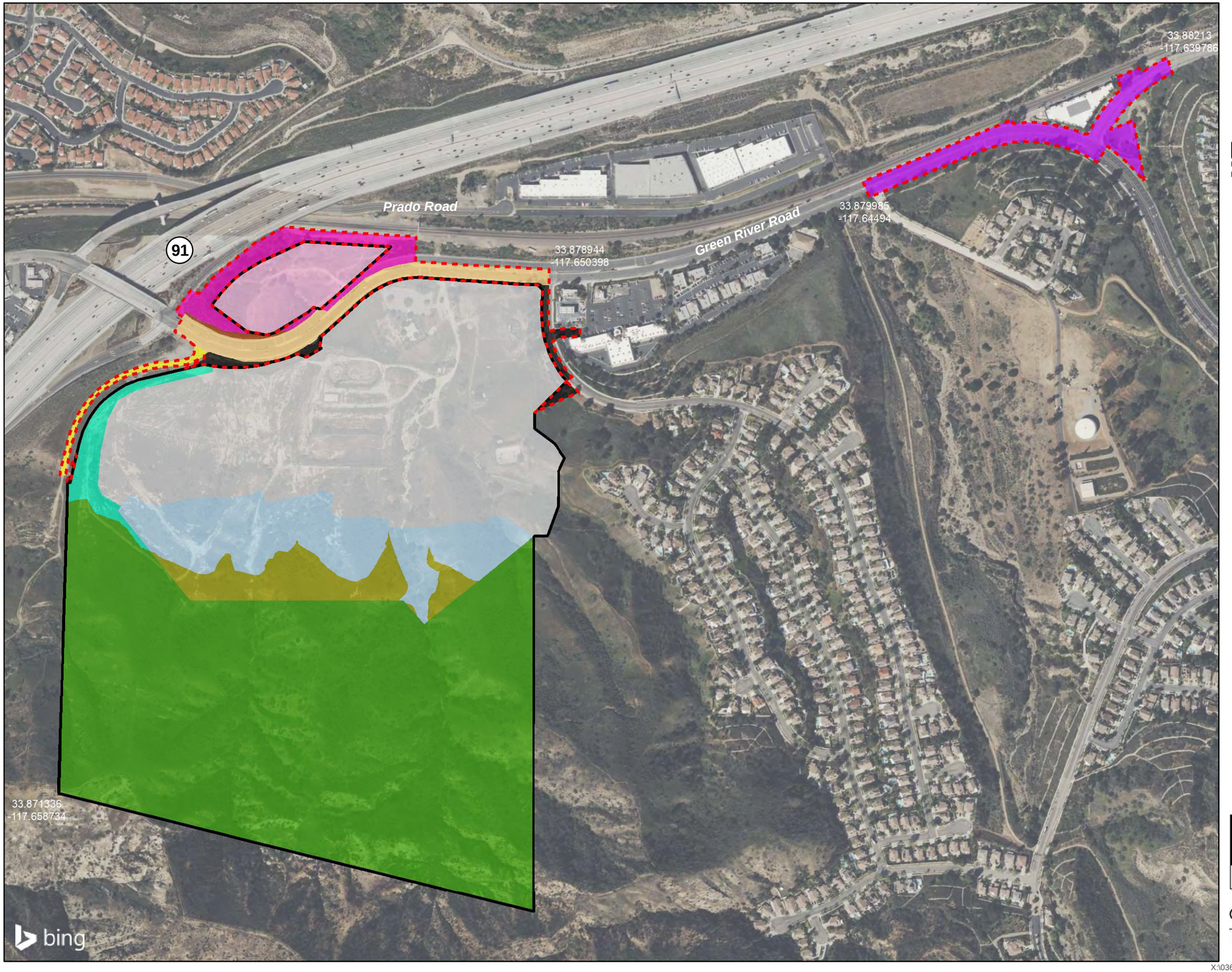

- Specific Plan Boundary (Onsite)
- Offsite Improvements
- Business Park Industrial (Onsite)
- Commercial (Onsite)
- Estate Residential Zoning – Industrial Project Grading (Onsite)
- Residentially Zoned Open Space (Deed Restriction)
- Proposed MSHCP Conservation
- Non-MSHCP Open Space (Onsite)
- Business Park Industrial (Offsite)
- Commercial (Offsite)
- Fresno Road (Offsite)
- Green River Road Permanent Impacts (Offsite)
- Green River Road Temporary Impacts (Offsite)
- Utility Improvement (Offsite)

N

0 250 500 1,000
Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 27, 2024

GREEN RIVER RANCH SPECIFIC PLAN

Specific Plan Project Components Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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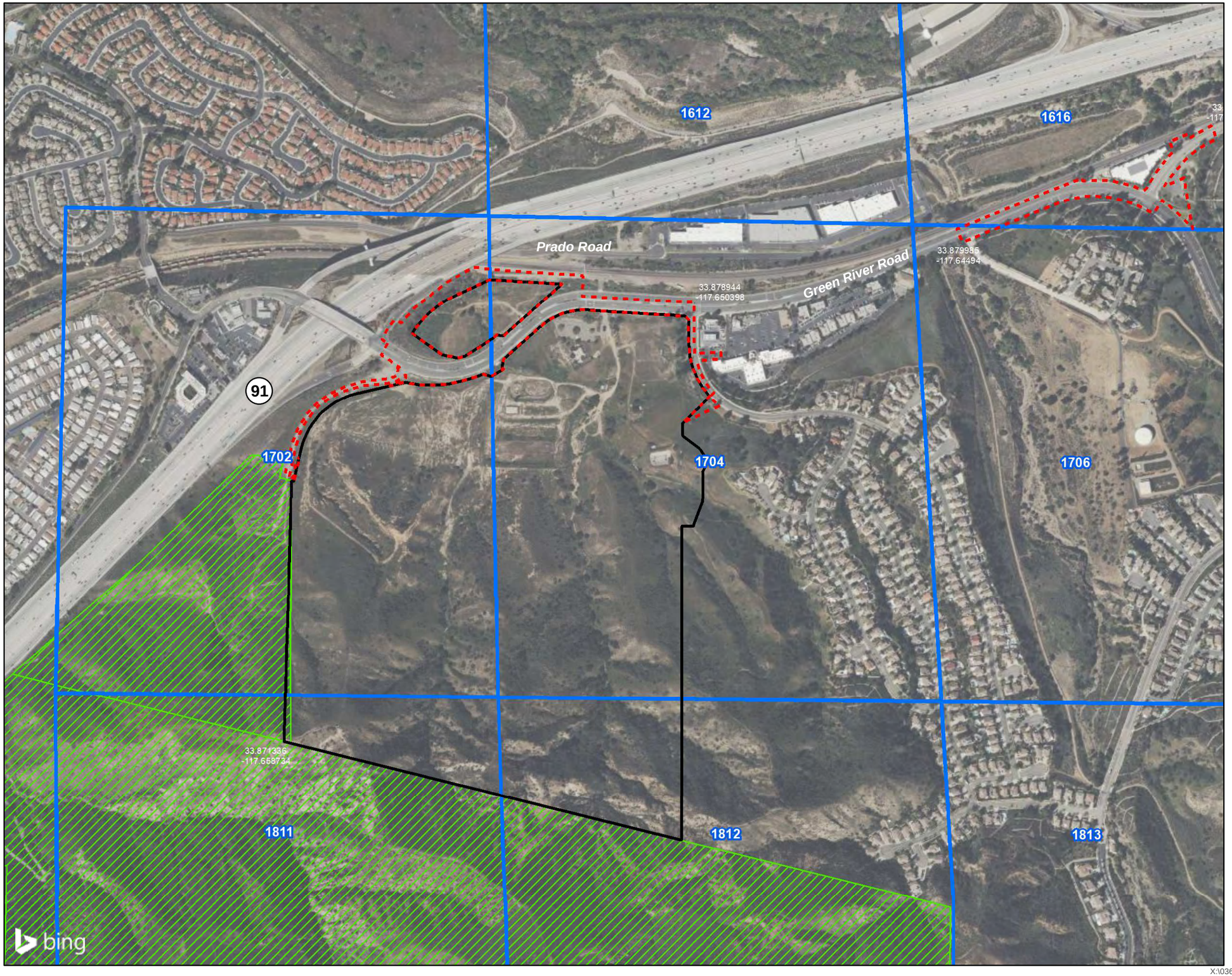

Specific Plan Boundary (Onsite)

Offsite Improvements

Criteria Cells

Existing Conserved Lands

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Feet

1 inch = 600 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 27, 2024

GREEN RIVER RANCH SPECIFIC PLAN

MSHCP Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 5A

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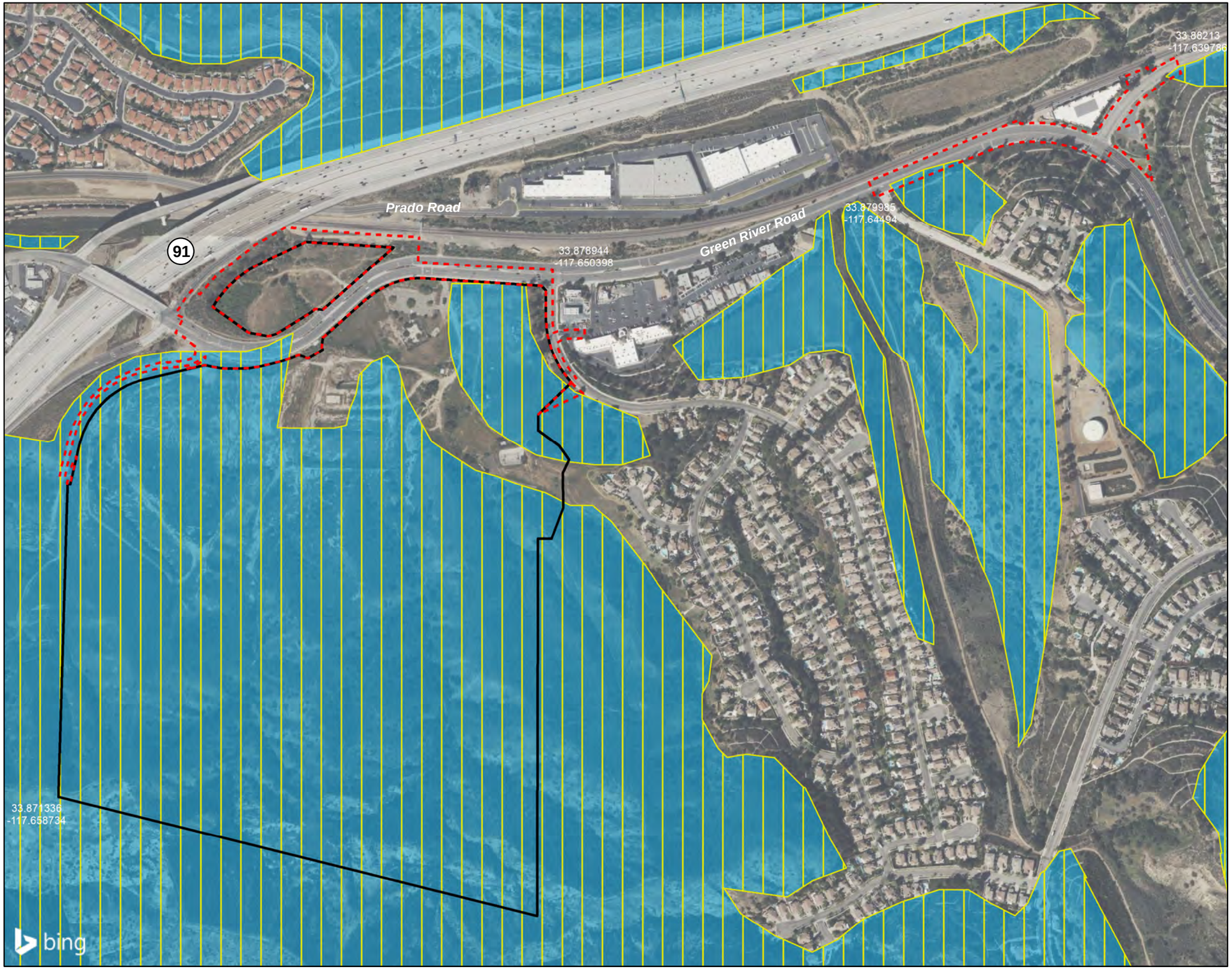

Specific Plan Boundary (Onsite)

Offsite Improvements

Burrowing Owl Survey Area

Narrow Endemic Plant Species Survey Area

N

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Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: July 31, 2023

GREEN RIVER RANCH SPECIFIC PLAN

MSHCP Survey Area Map

GLENN LUKOS ASSOCIATES

Exhibit 5B

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Specific Plan Boundary (Onsite)

Offsite Improvements

Transect Location

Burrow Complex

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

GREEN RIVER RANCH SPECIFIC PLAN

Burrowing Owl Survey Results Map

GLENN LUKOS ASSOCIATES

Exhibit 6

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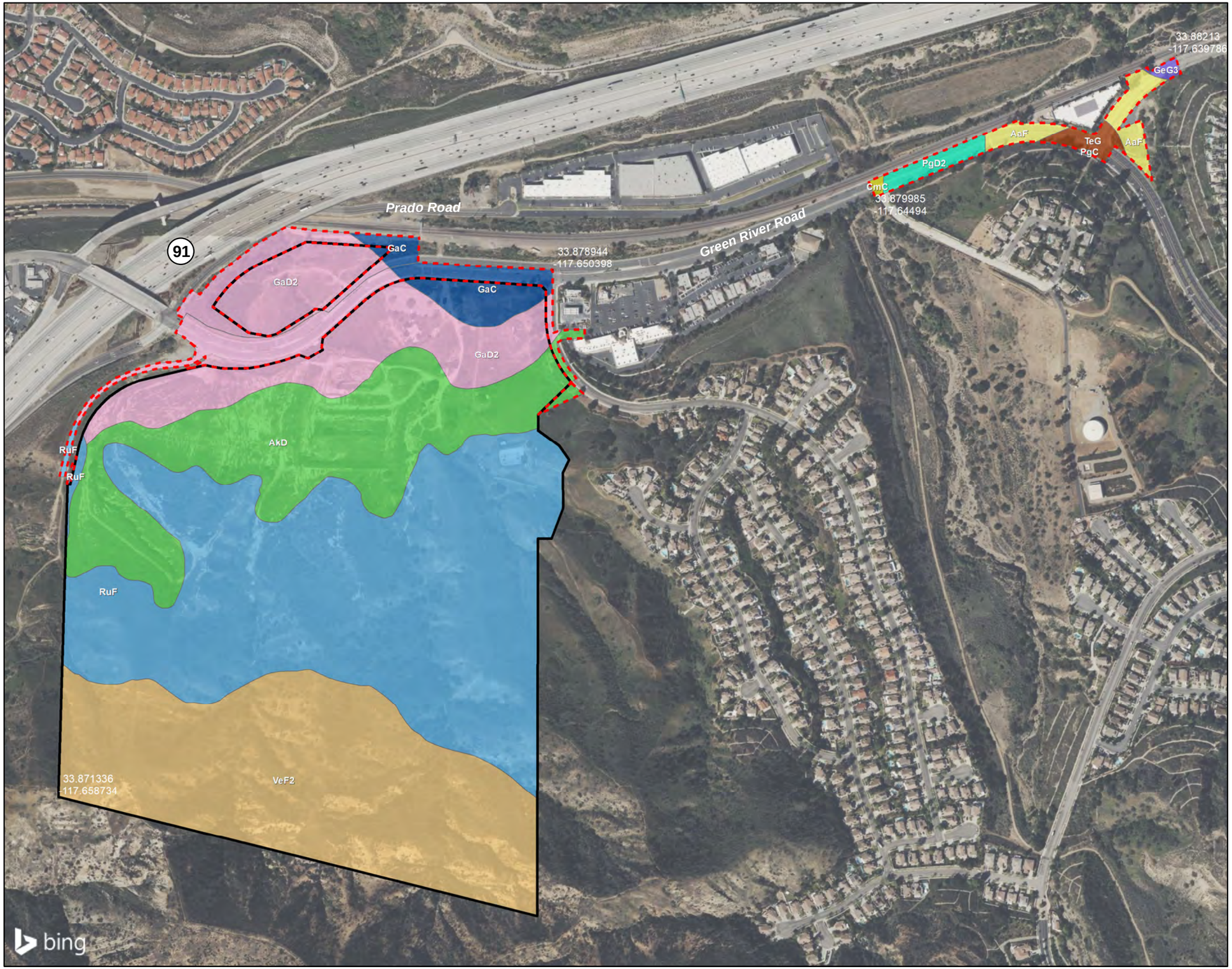


- Specific Plan Boundary (Onsite)
- Offsite Improvements
- AaF - Altamont clay, 5 to 50 percent slopes
- AkD - Arbuckle loam, 8 to 15 percent slopes
- CmC - Cortina cobbly loamy sand, 2 to 8 percent slopes
- GaC - Garretson very fine sandy loam, 2 to 8 percent slopes
- GaD2 - Garretson very fine sandy loam, 8 to 15 percent slopes, eroded
- GeG3 - Gaviota rocky fine sandy loam, 25 to 75 percent slopes, severely eroded
- PgC - Perkins gravelly loam, 5 to 8 percent slopes
- PgD2 - Perkins gravelly loam, 8 to 15 percent slopes, eroded
- RuF - Rough broken land
- TeG - Terrace escarpments
- VeF2 - Vallecitos loam, thick solum variant, 15 to 50 percent slopes, eroded

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

GREEN RIVER RANCH SPECIFIC PLAN

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\0363-THE REST\0544-04GREN\544-4_GIS\SoilsGIS\544-4_Soils_SP.mxd

- Specific Plan Boundary (Onsite)
- Offsite Improvements
- Coast Live Oak Woodland
- Coastal Sage Scrub
- Disturbed Mixed Chaparral
- Disturbed/Developed
- Elderberry Savannah
- Lower Montane Mixed Chaparral
- Mixed Chaparral
- Residential/Urban/Exotic
- Riversidean Sage Scrub/Mixed Chaparral
- Ruderal/Non-native grassland
- Saltbush Scrub
- Southern Mixed Chaparral

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

GREEN RIVER RANCH SPECIFIC PLAN

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 8

X:\0363-THE REST\0544-04GREN\544-4_GIS\VegetationGIS\544-4 VegetationLayout_SP.mxd

Photograph 1: Representative photo of ephemeral drainage feature within the Study Area depicting incised sandy bottomed channel. View facing southern portion of Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 2: Representative photo of ephemeral drainage feature within the Study Area depicting incised sandy bottomed channel. Photograph taken March 02, 2020.

Photograph 3: Representative photo of ephemeral drainage features within steep canyons at southern portion of the Study Area. View facing east towards Drainage System C. Photograph taken March 02, 2020.

Photograph 4: Representative photo of ephemeral drainage features within the Study Area depicting transition from mountainous southern property boundary to central portion of the Study Area. View facing northeast towards State Route 91. Photograph taken March 02, 2020.

GLENN LUKOS ASSOCIATES

GREEN RIVER RANCH SPECIFIC PLAN

Site Photographs

Photograph 5: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 6: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 7: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photo looking southeast towards Drainage system C. Photograph taken March 02, 2020.

Specific Plan Boundary (Onsite)

Offsite Improvements

No Stream Course

Corps Non-Wetland Waters of the U.S.

1 Width in Feet

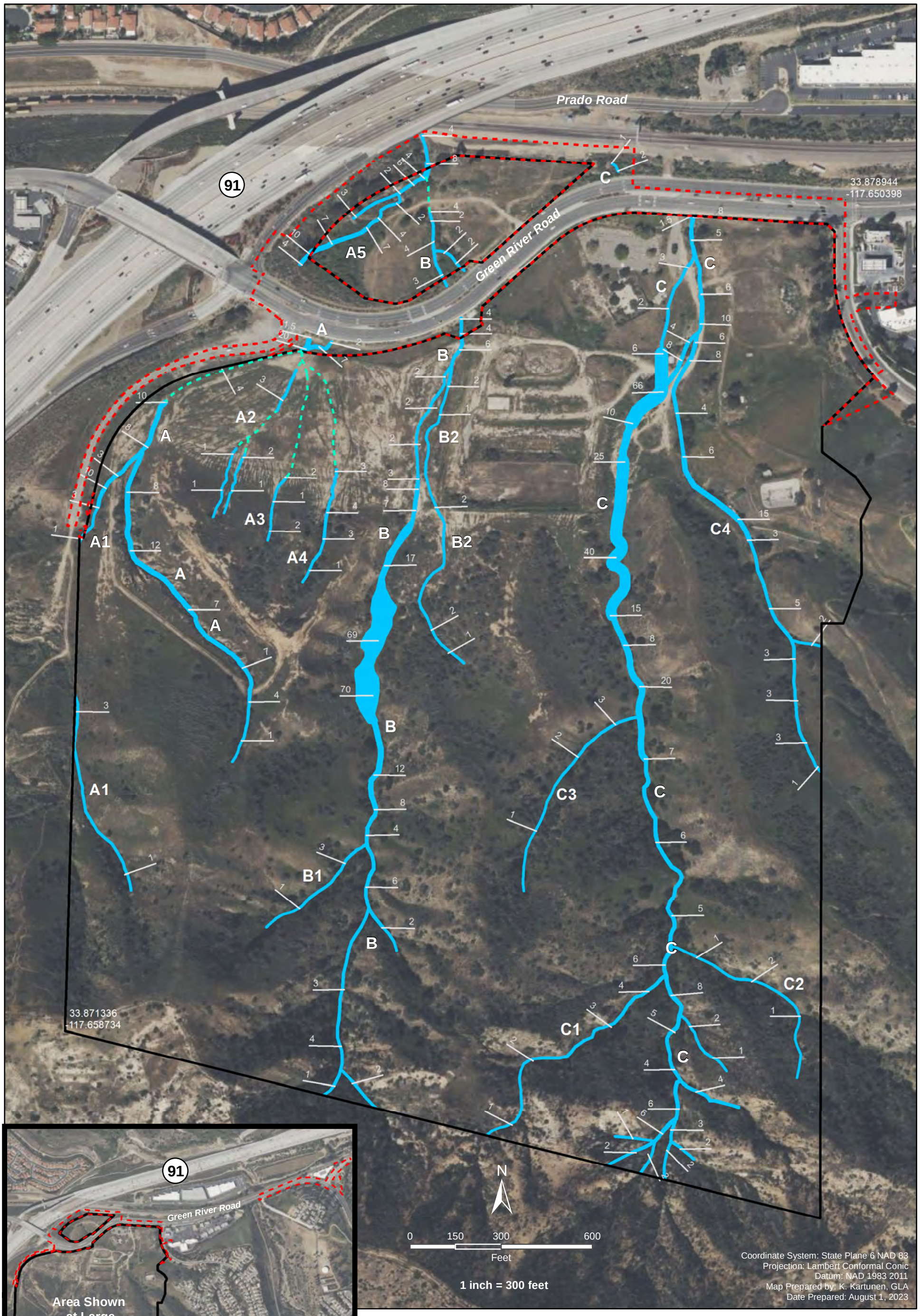
GREEN RIVER RANCH SPECIFIC PLAN

Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 10A

X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 Corps_REV1Layout.mxd



GREEN RIVER RANCH SPECIFIC PLAN

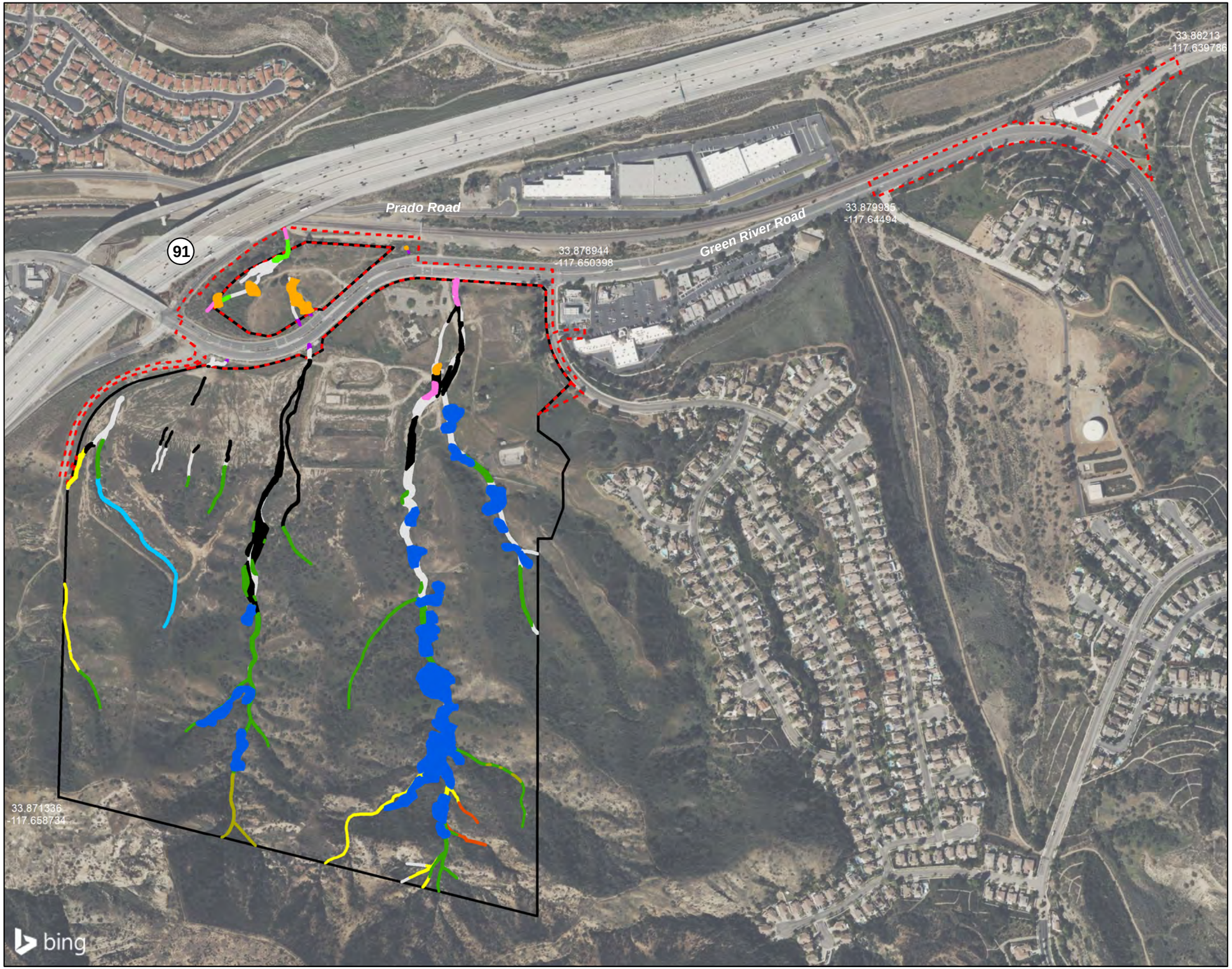
RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 10B

X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 RWQCB_REV1Layout.mxd

Prado Road
Green River Road
91
33.878944
-117.650398
33.871336
-117.658734
A
A1
A2
A3
A4
A5
B
B1
B2
C
C1
C2
C3
C4
N
0 150 300 600
Feet
1 inch = 300 feet
Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023
Area Shown at Large
KEY MAP
Not to Scale
bing
Specific Plan Boundary (Onsite)
Offsite Improvements
CDFW Non-Riparian Stream
CDFW Riparian
No Stream Course
1 Width of Non-Riparian Stream
GREEN RIVER RANCH SPECIFIC PLAN
CDFW Jurisdictional Delineation Map
GLENN LUKOS ASSOCIATES
Exhibit 10C
X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 CDFW_REV1Layout.mxd



Specific Plan Boundary (Onsite)

Offsite Improvements

MSHCP Riverine

- Coastal Sage Scrub
- Disturbed Mixed Chaparral
- Disturbed/Developed
- Elderberry Savannah
- Lower Montane Mixed Chaparral
- Mixed Chaparral
- Residential/Urban/Exotic
- Riversidean Sage Scrub/Mixed Chaparral
- Ruderal/Non-native grassland
- Southern Mixed Chaparral

MSHCP Riparian

- Coast Live Oak Woodland
- Saltbush Scrub

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

GREEN RIVER RANCH SPECIFIC PLAN

MSHCP Riparian/Riverine Areas Map

GLENN LUKOS ASSOCIATES

Exhibit 11

X:\0363-THE REST\0544-04GREN\544-4_GIS\MSHCP_GIS\544-4 RipRivLayout_SP.mxd

- Specific Plan Boundary (Onsite)
- Offsite Improvements
- Project Footprint
- Coast Live Oak Woodland
- Coastal Sage Scrub
- Disturbed Mixed Chaparral
- Disturbed/Developed
- Elderberry Savannah
- Lower Montane Mixed Chaparral
- Mixed Chaparral
- Residential/Urban/Exotic
- Riversidean Sage Scrub/Mixed Chaparral
- Ruderal/Non-native grassland
- Saltbush Scrub
- Southern Mixed Chaparral

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

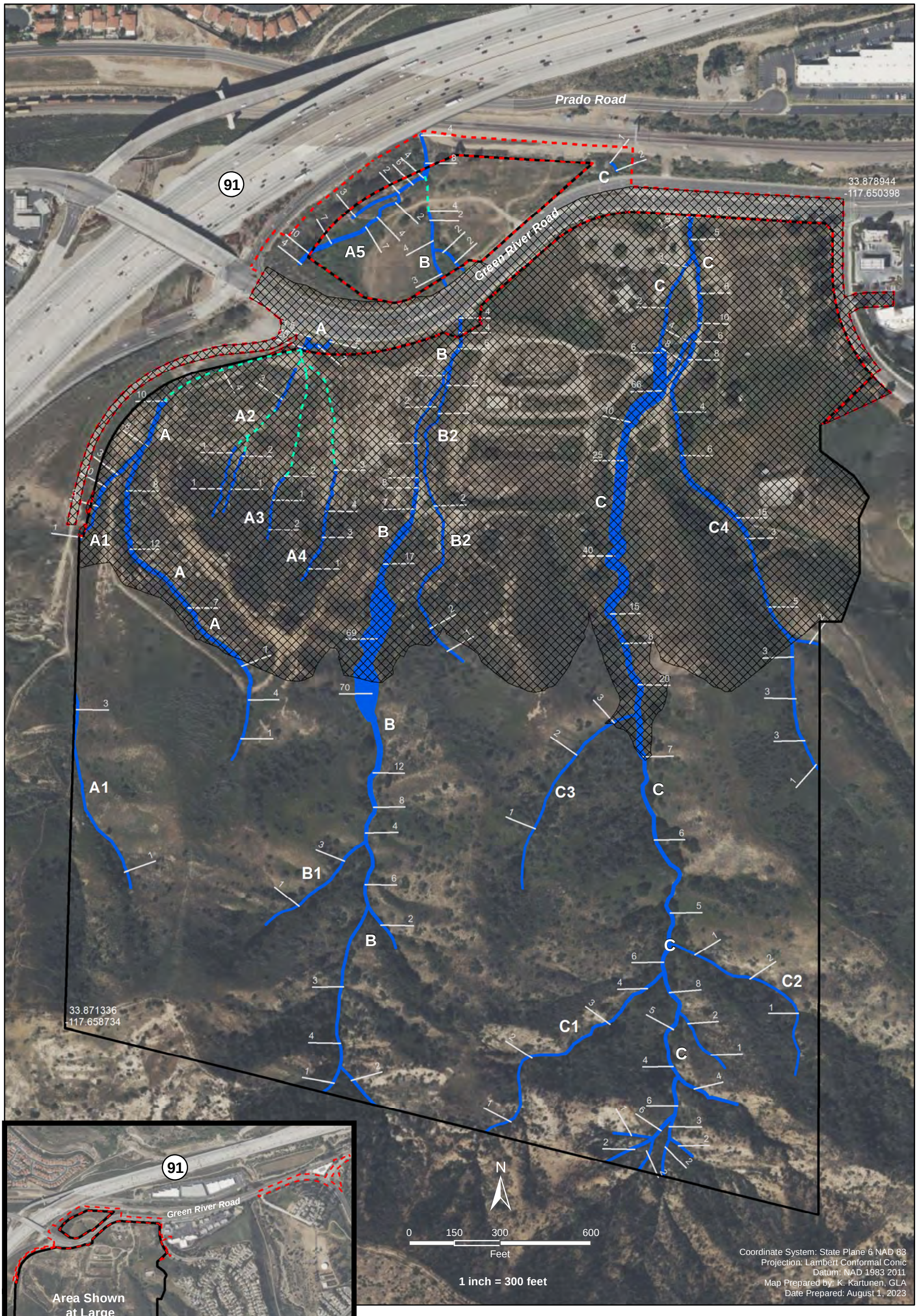
GREEN RIVER RANCH SPECIFIC PLAN

Vegetation Impacts Map

GLENN LUKOS ASSOCIATES

Exhibit 12

X:\0363-THE REST\0544-04GREN\544-4_GIS\ImpactsGIS\544-4 VegetationImpactsLayout_SP.mxd



Specific Plan Boundary (Onsite)

Offsite Improvements

Project Footprint

No Stream Course

Corps Non-Wetland Waters of the U.S.

1 Width in Feet

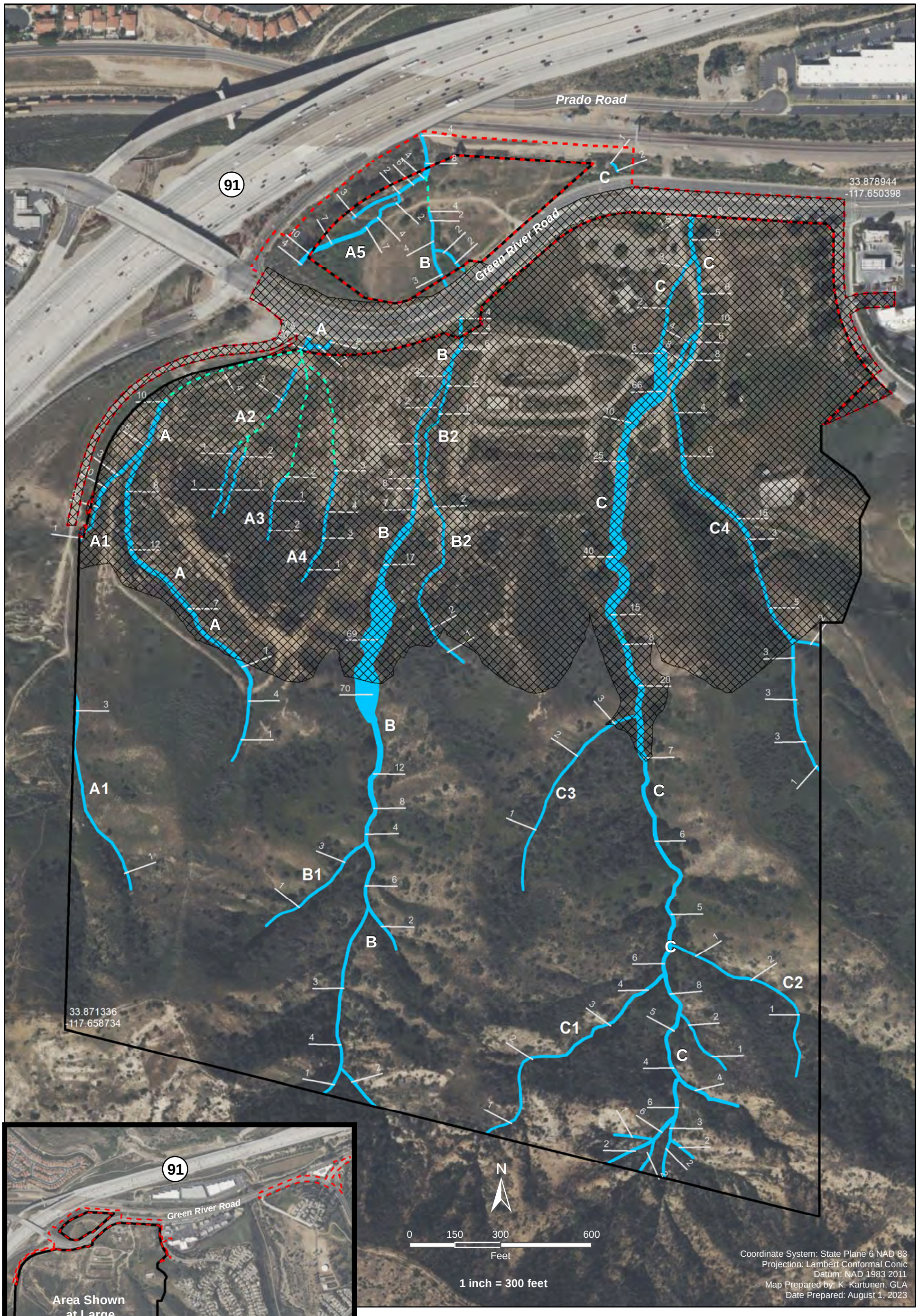
GREEN RIVER RANCH SPECIFIC PLAN

Corps Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 13A

X:\0363-THE REST\0544-04GREN\544-4_GIS\ImpactsGIS\544-4 CorpsImpactsLayout.mxd



Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

Specific Plan Boundary (Onsite)
Offsite Improvements
Project Footprint
No Stream Course
RWQCB Non-Wetland Waters of the State
1 Width in Feet

GREEN RIVER RANCH SPECIFIC PLAN

RWQCB Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 13B

X:\0363-THE REST\0544-04GREN\544-4_GIS\ImpactsGIS\544-4 RWQCBImpactsLayout.mxd

Prado Road

Green River Road

91

33.878944
-117.650398

33.871336
-117.658734

N

0 150 300 600
Feet

1 inch = 300 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

- Specific Plan Boundary (Onsite)
- Offsite Improvements
- Project Footprint
- CDFW Non-Riparian Stream
- CDFW Riparian
- No Stream Course
- 1 Width of Non-Riparian Stream

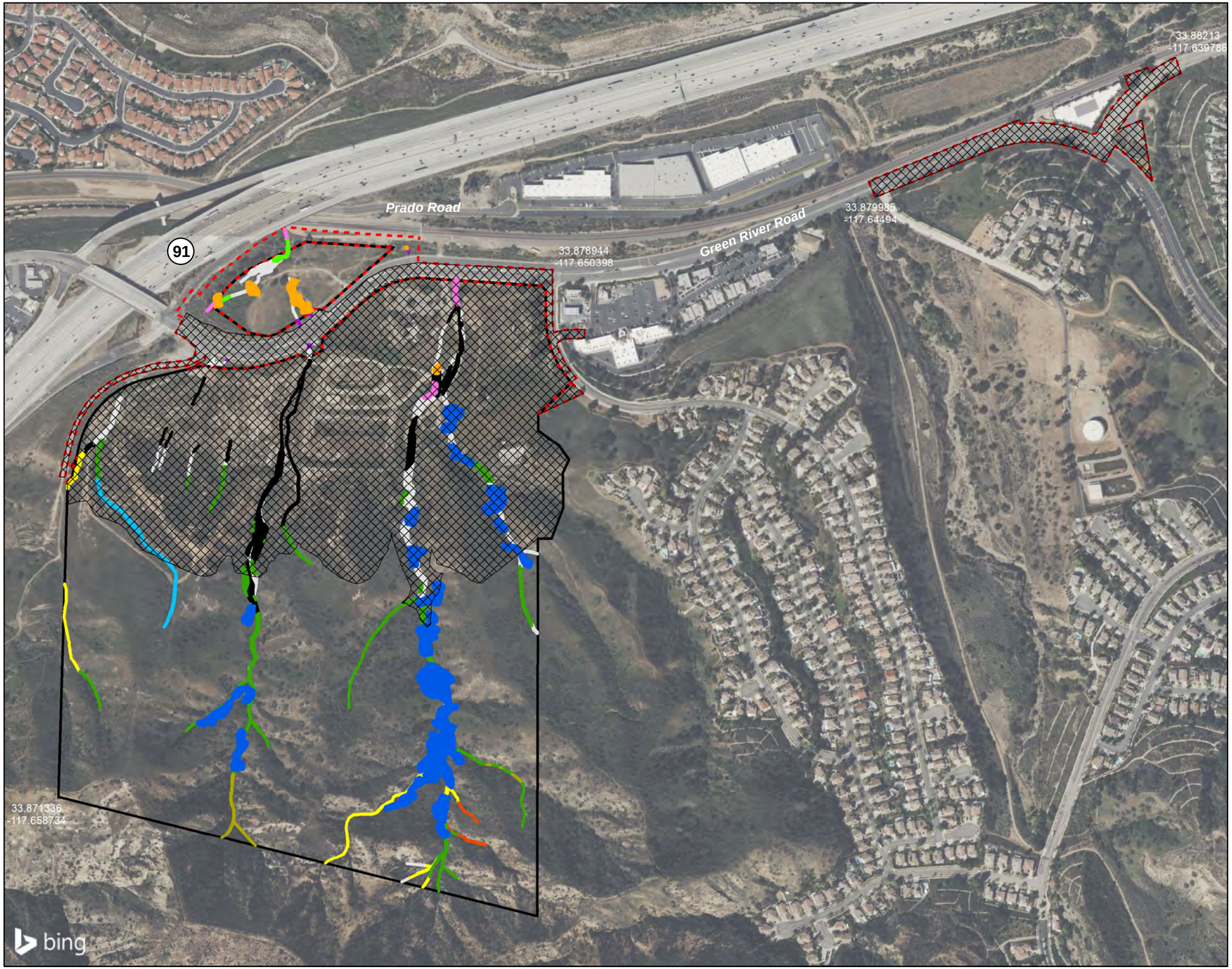
GREEN RIVER RANCH SPECIFIC PLAN

CDFW Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 13C

X:\0363-THE REST\0544-04GREN\544-4_GIS\ImpactsGIS\544-4 CDFWImpactsLayout.mxd



Specific Plan Boundary (Onsite)

Offsite Improvements

Project Footprint

MSHCP Riverine

- Coastal Sage Scrub
- Disturbed Mixed Chaparral
- Disturbed/Developed
- Elderberry Savannah
- Lower Montane Mixed Chaparral
- Mixed Chaparral
- Residential/Urban/Exotic
- Riversidean Sage Scrub/Mixed Chaparral
- Ruderal/Non-native grassland
- Southern Mixed Chaparral

MSHCP Riparian

- Coast Live Oak Woodland
- Saltbush Scrub

N

0 250 500 1,000

Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: August 1, 2023

GREEN RIVER RANCH SPECIFIC PLAN

MSHCP Riparian/Riverine Areas Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 14

X:\0363-THE REST\0544-04GREN\544-4_GIS\ImpactsGIS\544-4 RipRivImpactsLayout_SP.mxd

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Project site. Taxonomy typically follows the Angiosperm Phylogeny Group (APG), which in some cases differs from The Jepson Manual (2012). Common plant names are taken from Baldwin et al (2012), Munz (1974), and Roberts et al (2004) and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
MAGNOLIOPHYTA	**FLOWERING PLANTS**
MONOCOTYLEDONS	**MONOCOTS**
AGAVACEAE	**Agave Family**
Hesperoyucca whipplei	Chaparral yucca
ARECACEAE	**Palm Family**
* *Phoenix canariensis*	Canary Island date palm
POACEAE	**Grass Family**
* *Avena barbata*	slender wild oat
* *Avena fatua*	common wild oat
* *Avena sativa*	cultivated oat
* *Bromus hordeaceus*	soft chess
* *Bromus madritensis* subsp. *rubens*	foxtail chess
* *Cynodon dactylon*	Bermuda grass
Elymus condensatus	giant wildrye
Festuca perennis	*Italian* rye grass
Hordeum murinum	foxtail barley
Lamarckia aurea	goldentop
Pennisetum setaceum	fountaingrass
Schismus barbatus	common mediterranean grass
EUDICOTYLEDONS	**EUDICOTS**
ADOXACEAE	**Elderberry Family**
Sambucus nigra subsp. *caerulea*	Mexican elderberry
AIZOACEAE	**Carpet-Weed Family**
* *Mesembryanthemum nodiflorum*	small-flowered ice plant

AMARANTHACEAE		**Amaranth Family**
	Amaranthus blitoides	prostrate pigweed
ANACARDIACEAE		**Sumac Family**
	Malosma laurina	laurel sumac
	Rhus integrifolia	lemonade berry
*	*Schinus molle*	Peruvian pepper tree
APIACEAE		**Carrot Family**
*	*Conium maculatum*	poison hemlock
*	*Foeniculum vulgare*	sweet fennel
	Sanicula arguta	sharp-toothed sanicle
	Sanicula bipinnatifida	purple sanicle
	Tauschia arguta	southern tauschia
ASTERACEAE		**Sunflower Family**
*	*Anthemis cotula*	dog mayweed
	Artemisia californica	California sagebrush
	Artemisia dracunculus	tarragon
	Baccharis pilularis	coyote bush
	Baccharis salicifolia	mulefat
*	*Carduus pycnocephalus*	Italian thistle
*	*Centaurea melitensis*	tocalote
	Corethrogyne filaginifolia	common sand aster
*	*Cotula australis*	Australian brass-buttons
	Deinandra fasciculata	fascicled tarweed
	Encelia californica	California encelia
	Ericameria pinifolia	pine-bush
	Erigeron canadensis	Canada horseweed
	Hazardia squarrosa	saw-toothed goldenbush
*	*Helminthotheca echioides*	bristly ox-tongue
	Heterotheca grandiflora	telegraph weed
*	*Hypochaeris glabra*	smooth cat’s-ear
	Isocoma menziesii var. *menziesii*	Menzies’ goldenbush
	Lasthenia glabrata ssp. coulteri	Coulter's goldfields
	Layia platyglossa	tidy tips
	Malacothrix saxatilis var. tenuifolia	short leaved cliff aster
	Matricaria discoidea	pineapple weed
	Oncosiphon piluliferum	stinknet
	Pseudognaphalium beneolens	cudweed
	Pseudognaphalium canescens	Wright's cudweed
	Pseudognaphalium microcephalum	Wright's cudweed
	Senecio vulgaris	common groundsel
	Sonchus oleraceus	sow thistle
	Stephanomeria virgata	twiggy wreath plant
	Verbesina encelioides	golden crownbeard

BORAGINACEAE		**Borage Family**
	Amsinckia intermedia	common fiddleneck
	Cryptantha intermedia	common cryptanth
	Eucrypta chrysanthemifolia	spotted eucrypta
	Phacelia distans	common phacelia
	Phacelia minor	wild canterbury bells
	Plagiobothrys nothofulvus	rusty haired popcorn flower
BRASSICACEAE		**Mustard Family**
*	*Brassica nigra*	black mustard
*	*Capsella bursa-pastoris*	shepherd's purse
*	*Hirschfeldia incana*	summer mustard
	Lepidium nitidum	shining pepper grass
*	*Raphanus sativus*	wild radish
	Sisymbrium irio	London rocket
CARYOPHYLLACEAE		**Pink Family**
	Silene laciniata subsp. *major*	Mexican pink
	Silene gallica	common catchfly
	Spergularia bocconi	Boccone's sand spurry
	Stellaria media	chickweed
CHENOPODIACEAE		**Goosefoot Family**
	Chenopodium album	lambs quarters
	Chenopodium californicum	California goosefoot
	Salsola tragus	Russian thistle
CONVOLVULACEAE		**Morning-Glory Family**
	Calystegia macrostegia	morning-glory
CUCURBITACEAE		**Gourd Family**
	Marah macrocarpus	wild cucumber
EUPHORBIACEAE		**Spurge Family**
	Euphorbia albomarginata	rattlesnake spurge
*	*Ricinis communis*	castor bean
FABACEAE		**Legume Family**
	Acmispon glaber	deerweed
	Lupinus bicolor	lupine
	Lupinus excubitus	Grape lupine
	Medicago polymorpha	California burclover
	Trifolium willdenovii	tomcat clover

FAGACEAE		**Beech Family**
	Quercus agrifolia var. *agrifolia*	coast live oak
	Quercus berberidifolia	California scrub oak
GERANIACEAE		**Geranium Family**
*	*Erodium botrys*	long-beaked filaree
*	*Erodium cicutarium*	red-stemmed filaree
HIPPOCASTANACEAE		**Buckeye Family**
	Aesculus californica	California buckeye
LAMIACEAE		**Mint Family**
*	*Lamium amplexicaule*	common henbit
*	*Marrubium vulgare*	horehound
	Salvia apiana	white sage
	Salvia mellifera	black sage
MALVACEAE		**Mallow Family**
	Malacothamnus fasciculatus	chaparral bush mallow
*	*Malva parviflora*	cheeseweed
MYRSINACEAE		**Myrsine Family**
*	*Lysimachia arvensis*	scarlet pimpernel
NYCTAGINACEAE		**Four O'Clock Family**
	Mirabilis laevis	California wishbone bush
PAPAVERACEAE		**Poppy Family**
	Romneya coulteri	Coulter's matilija poppy
PHRYMACEAE		**Monkeyflower Family**
	Diplacus aurantiacus	sticky monkeyflower
PLANTAGINACEAE		**Plantain Family**
	Antirrhinum nuttallianum	Nuttall's snapdragon
	Keckiella antirrhinoides	yellow bush-penstemon
	Plantago erecta	California plantain
POLEMONIACEAE		**Phlox Family**
	Gilia achilleifolia	California gilia
POLYGONACEAE		**Buckwheat Family**
	Eriogonum fasciculatum	California buckwheat
	Eriogonum gracile	slender eriogonum
	Rumex hymenosepalus	wild rhubarb

RHAMNACEAE		**Buckthorn Family**
	Ceanothus megacarpus var. *megacarpus*	bigpod lilac
ROSACEAE		**Rose Family**
	Adenostoma fasciculatum	chamise
	Heteromeles arbutifolia	toyon
RUBIACEAE		**Madder Family**
	Galium angustifolium	narrow-leaved bedstraw
	Galium aparine	common bedstraw
SOLANACEAE		**Nightshade Family**
*	*Nicotiana glauca*	tree tobacco
	Solanum douglasii	Douglas' nightshade
	Solanum xanti	chaparral nightshade
TAMARICACEAE		**Tamarisk Family**
*	*Tamarix ramosissima*	Mediterranean tamarisk
URTICACEAE		**Nettle Family**
*	*Urtica urens*	dwarf nettle
VIOLACEAE		**Violet Family**
	Viola pedunculata	johnny jump-ups

APPENDIX B
FAUNAL COMPENDIUM

The faunal compendium lists species that were either observed within or adjacent to the Study Area (denoted by a '*'), or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFW 2016); AOU (2009) and CDFW (2016) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFW (2016) for reptiles and amphibians; and CDFW (2016) for mammals.

HYMENOPTERA	**BEES**
APIDAE	**Bees**
Bombus crotchii	Crotch's bumblebee
LEPIDOPTERA	**BUTTERFLIES**
PAPILIONIDAE	**Swallowtails**
Papilio rutulus	western tiger swallowtail
PIERIDAE	**Whites and Sulphurs**
****Pieris rapae***	cabbage white
NYMPHALIDAE	**Brush-Footed Butterflies**
Coenonympha tullia	common ringlet
Nymphalis antiopa	mourning cloak
REPTILIA	**REPTILES**
ANGUIDAE	**Alligator Lizards And Relatives**
Elgaria multicarinata	southern alligator lizard
COLUBRIDAE	**Colubrid Snakes**
Pituophis catenifer	gopher snake
PHRYNOSOMATIDAE	**Phrynosomatid Lizards**
Uta stansburiana	common side-blotched lizard
Sceloporus occidentalis	western fence lizard

AVES	BIRDS
ODONTOPHORIDAE	**New World Quail**
Callipepla californica	California quail
CATHARTIDAE	**New World Vultures**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**Hawks And Old World Vultures**
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
FALCONIDAE	**Caracaras And Falcons**
Falco sparverius	American kestrel
COLUMBIDAE	**Pigeons And doves**
Zenaida asiatica	white-winged dove
Zenaida macroura	mourning dove
CUCULIDAE	**Cuckoos, Roadrunners, and Anis**
Geococcyx californianus	greater roadrunner
APODIDAE	**Swifts**
Aeronautes saxatilis	white-throated swift
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**Woodpeckers And Allies**
Picoides nuttallii	Nuttall's woodpecker
TYRANNIDAE	**Tyrant Flycatchers**
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyrannus verticalis	western kingbird
VIREONIDAE	**Vireos**
Vireo bellii pusillus	least Bell's vireo
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo
CORVIDAE	**Crows And Jays**
Corvus brachyrhynchos	American crow

Corvus corax	common raven
ALAUDIDAE	**Larks**
Eremophila alpestris	California horned lark
HIRUNDINIDAE	**Swallows**
Petrochelidon pyrrhonota	cliff swallow
Stelgidopteryx serripennis	northern rough-winged swallow
PARIDAE	**Chickadees And Titmice**
Baeolophus inoratus	oak titmouse
AEGITHALIDAE	**Long-Tailed Tits And Bushtits**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren
REGULIDAE	**Kinglets**
Regulus calendula	ruby-crowned kinglet
SYLVIIDAE	**Old World Warblers And Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
TURDIDAE	**Thrushes**
Sialia mexicana	western bluebird
TIMALIIDAE	**Babblers**
Chamaea fasciata	wrentit
MIMIDAE	**Mockingbirds And Thrashers**
Mimus polyglottos	northern mockingbird
PARULIDAE	**Wood Warblers And Relatives**
Dendroica coronata	yellow-rumped warbler
Dendroica petechia	yellow warbler
Geothlypis trichas	common yellowthroat
Vermivora celata	orange-crowned warbler
Wilsonia pusilla	Wilson's warbler
EMBERIZIDAE	**Emberizids**
Aimophila ruficeps	rufous-crowned sparrow
Junco hyemalis	dark-eyed junco
Melospiza melodia	song sparrow
Passerculus sandwichensis	savannah sparrow
Pipilo crissalis	California towhee

Pipilo maculatus	spotted towhee
CARDINALIDAE	**Cardinals, Grosbeaks And Allies**
Passerina caerulea	blue grosbeak
Pheucticus melanocephalus	black-headed grosbeak
Piranga ludoviciana	western tanager
ICTERIDAE	**Blackbirds**
Icterus bullockii	Bullock's oriole
Icterus cucullatus	hooded oriole
Sturnella neglecta	western meadowlark
FRINGILLIDAE	**Fringilline And Cardueline Finches and Allies**
Carpodacus mexicanus	house finch
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
LEPORIDAE	**Rabbits And Hares**
Sylvilagus audubonii	desert (Audubon's) cottontail
GEOMYIDAE	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
MURIDAE	**Mice, Rats And Voles**
Peromyscus maniculatus	deer mouse
SCIURIDAE	**Squirrels, Chipmunks, And Marmots**
Spermophilus beecheyi	California ground squirrel
CANIDAE	**Foxes, Wolves And Allies**
Canis latrans	coyote
Urocyon cinereoargenteus	gray fox (Scat)
FELIDAE	**Cats**
Lynx rufus	bobcat
Puma concolor	mountain lion
CERVIDAE	**Deer, Elk And Allies**
Odocoileus hemionus	mule deer

Taxonomy and nomenclature are based on the following.

Butterflies: Taxonomy and phylogeny is based on Jonathan Pelham. 2008. Catalogue of the Butterflies of the United States and Canada. Journal of Research on the Lepidoptera 40: xiv + 658 pp.

North American Butterfly Association (2001. NABA checklist & English names of North American butterflies, second edition. North American Butterfly Association, Morristown, New Jersey.).

Amphibians and reptiles: Crother, B.I. et al.(2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. ***Herpetological Circular*** 29; and 2003 update.) for species taxonomy and nomenclature; Stebbins, R.C. (2003. A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston.) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998. The A.O.U. Checklist of North American Birds, seventh edition. American Ornithologists' Union, Washington D.C.; and 2000, 2002, 2003, and 2004 supplements.).

Mammals: Grenfell, W.E., Parisi, M.D. and McGriff, D. (2003. Complete list of amphibians, reptiles, birds and mammals in California. California Department of Fish and Game. http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf).

The faunal compendium lists species that were either observed within or adjacent to the Study Area (denoted by a '*'), or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFG 2003); AOU (1998) and CDFG (1990) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFG (1990) for reptiles and amphibians; and CDFG (1990) for mammals.

Special status species are denoted by a !

GLENN LUKOS ASSOCIATES
Regulatory Services

December 3, 2021
[Revised March 20, 2023]

Jeremy Mape
Western Realco
500 Newport Center Drive, Suite 630
Newport Beach, California 92660

SUBJECT: Jurisdictional Delineation for Green River Ranch Specific Plan, City of Corona, Riverside County, California

Dear Mr. Mape:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction for the above-referenced property.[1]

The Study Area comprises the Green River Ranch Specific Plan as well as offsite improvements. The Study Area is located in the City of Corona, Riverside County [Exhibit 1 – Regional Map] and comprises approximately 176.87 acres and contains one blue-line stream as depicted on the U.S. Geological Survey (USGS) topographic maps Prado Dam and Blackstar Canyon, California [Exhibit 2 – Vicinity Map]. On March 7, April 29, May 5, June 4, and June 5, 2020, Senior Regulatory Specialist Jason Fitzgibbon of Glenn Lukos Associates, Inc. (GLA) examined the Study Area to determine the presence and limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. In September 2022 and January 2023, Director of Regulatory Services Thienan Pfeiffer reviewed updated aerial images of the Study Area. This report has been revised from the original to include the current definition of waters of the United States[2] and to reflect current site conditions following the three-year period since the initial field delineation was conducted.

[1] This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries.
[2] "Waters of the United States" as defined in Corps regulations at 33 CFR Part 328.3(a) and provided in Section II.A of this report take effect March 20, 2023.

Enclosed are three 300-scale maps [Exhibit 3A – 3C] that depict the areas of Corps, Regional Board, and CDFW jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4.

Potential Corps jurisdiction within the Study Area totals approximately 3.03 acres of water of the United States, none of which consists of federal wetlands. The are 18,790 linear feet of stream present.

Potential Regional Board jurisdiction within the Study Area totals approximately 3.03 acres, none of which consist of State wetlands. Of the total 3.03 acres, all comprise Corps jurisdiction. There are 18,790 linear feet of stream present.

Potential CDFW jurisdiction within the Study Area totals approximately 8.30 acres, of which 4.66 acres consist of vegetated riparian habitat. CDFW jurisdiction includes all areas within Corps and/or Regional Board jurisdiction. A total of 18,790 linear feet of stream is present.

I. METHODOLOGY

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, the previously cited USGS topographic map, and a soils map were examined to determine the locations of potential areas of Corps, Regional Board, and CDFW jurisdiction. Suspected jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils and hydrology. Where applicable, reference was made to the 2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States[3] (OWHM Manual) to identify the width of Corps jurisdiction, and suspected federal wetland habitats within the Study Area were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[4] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[5] Reference was also made to the 2019 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of

[3] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States
[4] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.
[5] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

the State (State Board Wetland Definition and Procedures) to identify suspected State wetland habitats.[6]

While in the field, the potential limits of jurisdiction were recorded with a sub-meter GPS enabled device in conjunction with a color aerial photograph using visible landmarks. Following completion of the initial field delineation in March 2020, aerial photographs were reviewed again in September 2022 and January 2023.

The National Cooperative Soil Survey (NCSS) has mapped the following soil types as occurring in the general vicinity of the Study Area [Exhibit 5]:

Altamont clay, 25 to 50 percent slopes

The Altamont series consists of deep, well drained soils that formed in material weathered from fine-grained sandstone and shale. Altamont soils are on uplands, hills and mountains. Some Altamont soils are on slides on mountain slopes. Used for livestock grazing and dry farmed grains, mainly barley. The principal vegetation is annual grasses, forbs, and scattered oak trees.

Arbuckle loam, 8 to 15 percent slopes

The Arbuckle series consists of very deep, well drained soils that formed in alluvial materials from mainly conglomerate and metasedimentary rocks. Arbuckle soils are on low terraces. These soils are utilized for dryland and irrigated orchards, irrigated row and field crops, dry farmed grain, and for range. Natural vegetation is annual grasses and forbs, either alone or as an understory with oaks (Quercus sp.) in stands ranging from open to dense.

Cortina cobbly loamy sand, 2 to 8 percent slopes

The Cortina series consists of very deep, somewhat excessively drained soils on alluvial fans and floodplains. These soils formed in gravelly alluvium from mixed rock sources. Slope ranges from 0 to 15 percent. Used for livestock grazing as irrigated pasture and alfalfa, and for vineyards, fruit orchards, citrus fruits, milo and olives. Vegetation on uncultivated areas is annual grasses, forbs, valley oak, sycamore and black walnuts.

Garretson very fine sandy loam, 2 to 15 percent slopes

The Garretson series is a member of the fine-loamy, mixed, nonacid, thermic family of Typic

[6] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

Xerorthents. Typically, Garretson soils have brown and yellowish brown, slightly acid, gravelly very fine sandy loam and gravelly loam A horizons and yellowish brown, brown and grayish brown, slightly acid and neutral, gravelly loam C horizons. These soils are used for the production of deciduous fruit, citrus fruit, avocados, irrigated field crops, alfalfa, and for home sites. Naturalized vegetation in untilled areas is annual grasses and forbs. Native vegetation is woodland and scrub.

Gaviota rocky fine sandy loam, 25 to 75 percent slopes

The Gaviota series consists of very shallow or shallow, well drained soils that formed in material weathered from hard sandstone or meta-sandstone. Gaviota soils are on hills and mountains and have slopes of 2 to 100 percent. These soils are used mostly for livestock grazing. Some of the less sloping areas are cropped to dryland grain. Natural vegetation is scrub and grasslands.

Perkins gravelly loam, 5 to 15 percent slopes

The Perkins series consists of very deep, well drained soils that formed in alluvium derived from mixed rock sources. Perkins soils are on terraces and have slopes of 0 to 30 percent. Perkins soils are fine-loamy, mixed, superactive, thermic Mollic Haploxeralfs. Used for growing field crops, citrus, olives, pasture, small grain, hay and range and home site development. Dominantly, plants are naturalized grasses and forbs. The principal native plants are live oak, California sagebrush, blue oak, valley oak, and shrubs.

Rough broken land

Rough broken land consists of very steep land broken by numerous drainage channels. In most places it is not stony. It occurs in gulches and on mountainsides. This land type is used primarily for watershed and wildlife habitat but can be used also for pasture and woodland. Rough broken land has material of a silt loam or sandy loam texture in the upper part. Beneath this is a layer of loamy material. In some places this land is gravelly in the upper part and very gravelly in the lower part.

Terrace escarpements

Terrace escarpments consist of long, narrow, rocky areas that rise abruptly. This land type consists of steep faces that separate the terraces from the lower lying land. The faces are typically composed of soft sandstones, hard shales, or hard, weather-resistant, fine-grained sandstones. Vegetation is often sparse and dominated by shrubs or grasses. In seepage areas

water grasses grow while walnuts and oaks may also grow. Areas of terrace escarpments are used mainly for watershed and as wildlife habitat.

Vallecitos loam, thick solum variant, 15 to 50 percent slopes, eroded

The Vallecitos series consists of shallow, well drained soils formed from metamorphic bedrock. Vallecitos soils are on hills. These soils are used mainly for livestock grazing.

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

(1) Waters which are:
  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
  (ii) The territorial seas; or
  (iii) Interstate waters, including interstate wetlands;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraphs (a)(1) or (2) of this section:
  (i) That are relatively permanent, standing or continuously flowing bodies of water; or
  (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section;

(4) Wetlands adjacent to the following waters:
  (i) Waters identified in paragraph (a)(1) of this section; or
  (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3)(i) of this section and with a continuous surface connection to those waters; or

(iii) Waters identified in paragraph (a)(2) or (3) of this section when the wetlands either alone or in combination with similarly situated water in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section:

(i) That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3)(i) of this section; or

(ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section.

Corps regulations at 33 CFR Part 328.3(b) exclude the following from being "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) above:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned

and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(c)(4) as:

> ...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

"Adjacent wetlands" are defined by 33 CFR 328.3(c)(2) as those wetlands that are "bordering, contiguous, or neighboring" other waters of the United States, and include those "separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like..."

The term "significantly affect" is defined by 33 CFR 328.3(c)(6) as:

A material influence on the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section. To determine whether waters, either alone or in combination with similarly situated waters in the region, have a material influence on the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section, the functions identified in paragraph (c)(6)(i) of this section will be assessed and the factors identified in paragraph (c)(6)(ii) of this section will be considered:

(i) Functions to be assessed:

(A) Contribution of flow;

(B) Trapping, transformation, filtering, and transport of materials (including nutrients, sediment, and other pollutants);

(C) Retention and attenuation of floodwaters and runoff;

(D) Modulation of temperature in waters identified in paragraph (a)(1) of this section; or

(E) Provision of habitat and food resources for aquatic species located in waters identified in paragraph (a)(1) of this section;

(ii) Factors to be considered:

(A) The distance from a water identified in paragraph (a)(1) of this section;

(B) Hydrologic factors, such as the frequency, duration, magnitude, timing, and rate of hydrologic connections, including shallow subsurface flow;

(C) The size, density, or number of waters that have been determined to be similarly situated;

(D) Landscape position and geomorphology; and

(E) Climatological variables such as temperature, rainfall, and snowpack.

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(c)(1) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;

- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

2. Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of "waters of the United States" in Corps regulations was modified.
On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the Clean Water Act.

The written opinion notes that the court's previous support of the Corps' expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc*.) was for a wetland that <u>abutted</u> a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

> *In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.*

Therefore, we believe that the court's opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the Clean Water Act (regardless of any interstate commerce connection). However, the Corps and EPA have issued a joint memorandum which states that they are interpreting the ruling to address only the migratory bird issue and leaving the other interstate commerce clause nexuses intact.

B. <u>Regional Water Quality Control Board</u>

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[7] and waters of the

[7] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of

State. Waters of the United States are defined above in Section II.A and waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The following wetlands are waters of the State:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state;*[8] *and*
3. *Artificial wetlands*[9] *that meet any of the following criteria:*

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the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[8] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

[9] Artificial wetlands are wetlands that result from human activity.

a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
b. Specifically identified in a water quality control plan as a wetland or other water of the state;
c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[10]

[10] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines wildlife to include "all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities, including the habitat upon which they depend for continued viability" (FGC Division 0.5, Chapter 1, section 89.5. Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

III. RESULTS

The Green River Ranch Specific Plan is comprised of two parcels of land divided by Green River Road. The northern portion of the Study Area is located to the north of Green River Road, east of California State Route 91 (SR-91), and south of Prado Dam Road. This area is relatively flat and undeveloped with disturbed areas along the perimeter, specifically to the north where the property abuts a rail line. The southern portion of the Study Area is located to the south of Green River Road, where a relatively flat semi-developed area that was once an active horse ranch extends into the Santa Ana Mountains along the southern property boundary. The horse ranch use was discontinued circa 2020 along with maintenance activities once associated with the ranch such as grading and vegetation clearing.

Elevations within the Study Area range from approximately 525 feet above mean sea level (MSL) at Green River Road to over 2,500 feet above MSL in the southcentral portion of the site.

The southern portion of the Study Area is comprised of the lower sections of steep canyons that are characteristic of the Santa Ana Mountains. As these canyons descend to the north into the Study Area, the banks flatten out into narrow streambeds that are ultimately captured in a series of pipes and culverts on the south side of Green River Road. Where the drainages traverse the flat developed areas to the south of Green River Road, flows generally appear as erosional gullies, swales, or other undefined sheet flow as a result of horse ranch operations. However, during the three-year period since the horse ranch was removed and the original field delineation was conducted, certain distinct flow patterns have re-emerged. Jurisdictional drainage descriptions provided below and depicted in Exhibits 3A – 3C capture the current condition of the Study Area.

Potential jurisdictional features associated with the Study Area include three major drainage systems, referred to herein as Drainage Systems A, B, and C. Each of these systems includes small tributaries that feed into the larger drainages and are sometimes connected to the system by non-jurisdictional swale-like features that do not possess an OHWM or obvious bed, bank, or channel. Drainage Systems A, B, and C are described in more detail below.

A. Corps Jurisdiction

Potential Corps jurisdiction within the Study Area totals approximately 3.03 acres of water of the United States (18,790 linear feet), none of which consists of federal wetlands. All of the jurisdictional features within the Study Area are ephemeral streams that convey flows only in response to direct precipitation (i.e., rain). Flows from the jurisdictional features within the Study Area are conveyed northwards, then off-site and presumably to the Santa Ana River, a Relatively Permanent Water (RPW). The Santa Ana River is ultimately tributary to the Pacific Ocean, a Traditional Navigable Water (TNW).

The boundaries of potential Corps jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 3A].

1. Drainage System A

Potential Corps jurisdiction associated with Drainage System A totals approximately 0.48 acre, none of which consists of federal wetlands. Drainage System A originates within the Study Area and meanders in a northerly direction for approximately 4,690 linear feet before ultimately discharging outside of the Study Area and into the Santa Ana River via a series of culverts and pipes. This drainage system is comprised of a main drainage feature (Drainage A) and several other streams, erosional gullies, and noncontiguous rills that traverse across the Study Area (Tributaries A1 – A5). Drainage System A and its tributaries comprise an ephemeral drainage

complex that consists of a sandy substrate supporting an OHWM ranging from one to twelve feet in width.

The downstream segments of Tributaries A1 – A4 are conveyed as undefined sheet flow across the flat semi-developed area that was part of the former horse ranch. The historical erosional gullies and swales are still evident, and while the area is no longer actively maintained, the soil compaction in this area is such that indicators of an OHWM are not discernable.

2. Drainage System B

Potential Corps jurisdiction associated with Drainage System B totals approximately 1.01 acres, none of which consists of federal wetlands. This drainage system is comprised of a main drainage feature (Drainage B) and other streams that traverse across the Study Area (Tributaries B1 – B2). Drainage System B is an ephemeral drainage complex that originates at the southern boundary of the Study Area and meanders in a northerly direction for approximately 4,928 linear feet before converging with Drainage System A in the northern portion of the Study Area. The upstream portion of Drainage System B is part of a steep canyon supporting an OHWM ranging from one to twelve feet in width. The downstream portion of Drainage System B flattens out as it traverses the flat semi-developed area and consists of a sandy substrate supporting an OHWM ranging from one to 70 feet in width.

As depicted in Exhibit 3A, the central portion of Drainage B supports a wide channel of up to 70 feet in width. This area appeared to have been graded and filled when the field delineation was originally conducted in 2020, presumably to impound flows as part of maintenance activities associated with the horse ranch. With those uses discontinued for the past three years, flow patterns in Drainage B have re-emerged across the disturbed area.

3. Drainage System C

Drainage System C is the most significant drainage system within the Study Area in terms of area and potential streamflow during rain events. Potential Corps jurisdiction associated with Drainage System C totals approximately 1.53 acres, none of which consists of federal wetlands. This drainage system is comprised of a main drainage feature (Drainage C) and other streams that traverse across the Study Area (Tributaries C1 – C4). Drainage System C is an ephemeral drainage complex that originates within the Study Area and meanders in a northerly direction for approximately 9,172 linear feet before flowing offsite and presumably entering the Santa Ana River through a series of culverts and pipes. The majority of Drainage System C is part of a steep canyon supporting an OHWM width ranging from one to eight feet. The downstream portion of

Drainage System C flattens out as it traverses the Study Area and consists of a sandy substrate supporting an OHWM ranging from one to sixty-six feet in width.

Table 1: Summary of Potential Corps Jurisdiction

Drainage Name	Corps Non-Wetland Waters of the U.S. (acres)	Corps Wetland Waters of the U.S. (acres)	Total Corps Jurisdiction (acres)	Length (linear feet)
Green River Ranch Specific Plan (Onsite)				
Drainage System A	**0.44**	0.00	**0.44**	**4,362**
Drainage A	0.24	0.00	0.24	1,399
Tributary A1	0.07	0.00	0.07	1,059
Tributary A2	0.02	0.00	0.02	606
Tributary A3	0.01	0.00	0.01	224
Tributary A4	0.02	0.00	0.02	396
Tributary A5	0.08	0.00	0.08	678
Drainage System B	**1.00**	0.00	**1.00**	**4,823**
Drainage B	0.93	0.00	0.93	3,283
Tributary B1	0.02	0.00	0.02	440
Tributary B2	0.05	0.00	0.05	1,100
Drainage System C	**1.53**	0.00	**1.53**	**9,138**
Drainage C	1.22	0.00	1.22	5,094
Tributary C1	0.05	0.00	0.05	887
Tributary C2	0.02	0.00	0.02	708
Tributary C3	0.03	0.00	0.03	739
Tributary C4	0.21	0.00	0.21	1,710
Total ** excludes system subtotals*	**2.97**	**0.00**	**2.97**	**18,323**
Offsite Improvements				
Drainage A	0.02	0.00	0.02	141
Drainage A1	0.001	0.00	0.001	16
Tributary A5	0.02	0.00	0.02	171
Drainage B	0.01	0.00	0.01	105
Drainage C	0.001	0.00	0.001	34
TOTAL	**0.06**	0.00	**0.06**	**467**

*Acreages have been rounded to the nearest one-hundredth of one acre; as such, the reported total acreage of all jurisdictional features may not match the individual sums due to rounding.

B. Regional Water Quality Control Board Jurisdiction

Regional Board jurisdiction within the Study Area totals 3.03 acres, none of which is State wetland. A total of 18,790 linear feet of ephemeral stream is present. All 3.03 acres of non-wetland waters of the State within the Study Area are Waters of the United States.

There are several non-jurisdictional swales, erosional gullies, and noncontinuous rills in the Study Area that do not support any beneficial uses identified in the Regional Board Basin Plan. These features do not exhibit an OHWM and do not support a defined bed, bank, and/or channel with the potential to support aquatic resources. These features are not considered waters of the State and would not be regulated pursuant to Section 13260 of the CWC.

Table 2 below summarizes Regional Board jurisdictional waters within the Study Area and are described in detail above. The boundaries of potential Regional Board jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 3B].

1. Drainage System A

Regional Board jurisdiction associated with Drainage System A totals approximately 0.48 acre, none of which consists of State wetlands.

2. Drainage System B

Regional Board jurisdiction associated with Drainage System B totals approximately 1.01 acres, none of which consists of State wetlands.

3. Drainage System C

Regional Board jurisdiction associated with Drainage System C totals approximately 1.53 acres, none of which consists of State wetlands.

Table 2: Summary of Regional Board Jurisdiction

Drainage Name	Regional Board Non-Wetland Waters (acres)	Regional Board Wetlands (acres)	Total Regional Board Jurisdiction (acres)	Length (linear feet)
Green River Ranch Specific Plan (Onsite)				
Drainage System A	**0.44**	0.00	**0.44**	**4,362**
Drainage A	0.24	0.00	0.24	1,399

Tributary A1	0.07	0.00	0.07	1,059
Tributary A2	0.02	0.00	0.02	606
Tributary A3	0.01	0.00	0.01	224
Tributary A4	0.02	0.00	0.02	396
Tributary A5	0.08	0.00	0.08	678
Drainage System B	**1.00**	0.00	**1.00**	**4,823**
Drainage B	0.93	0.00	0.93	3,283
Tributary B1	0.02	0.00	0.02	440
Tributary B2	0.05	0.00	0.05	1,100
Drainage System C	**1.53**	0.00	**1.53**	**9,138**
Drainage C	1.22	0.00	1.22	5,094
Tributary C1	0.05	0.00	0.05	887
Tributary C2	0.02	0.00	0.02	708
Tributary C3	0.03	0.00	0.03	739
Tributary C4	0.21	0.00	0.21	1,710
TOTAL ** excludes system subtotals*	**2.97**	**0.00**	**2.97**	**18,323**

Offsite Improvements				
Drainage A	0.02	0.00	0.02	141
Drainage A1	0.001	0.00	0.001	16
Tributary A5	0.02	0.00	0.02	171
Drainage B	0.01	0.00	0.01	105
Drainage C	0.001	0.00	0.001	34
Total	**0.06**	0.00	**0.06**	**467**

*Acreages have been rounded to the nearest one-hundredth of one acre; as such, the reported total acreage of all jurisdictional features may not match the individual sums due to rounding.

C. CDFW Jurisdiction

Potential CDFW jurisdiction within the Study Area totals approximately 8.30 acres, of which 4.66 acres consist of vegetated riparian habitat and 3.64 acres consist of non-riparian habitat. CDFW jurisdiction includes all areas within Corps and/or Regional Board jurisdiction. A total of 18,790 linear feet of stream is present. All of the jurisdictional features within the Study Area are ephemeral streams that convey flows only in direct response to precipitation (i.e., rain).

Table 3 below summarizes potential CDFW jurisdictional waters within the Study Area. A description of the CDFW jurisdictional drainage features is outlined below. The boundaries of potential CDFW jurisdiction are depicted on the enclosed jurisdictional delineation map [Exhibit 3C].

1. Drainage System A

Potential CDFW jurisdiction associated with Drainage System A totals approximately 0.89 acres, of which 0.14 acre consists of riparian vegetation. Drainage System A originates within the Study Area and meanders in a northerly direction for approximately 4,690 linear feet before ultimately discharging offsite into the Santa Ana River via a series of culverts and pipes. This drainage system is comprised of a main drainage feature (Drainage A) and other streams, erosional gullies, and noncontinuous rills that traverse across the Study Area (Tributaries A1 – A5). Drainage System A and its associated tributaries comprise an ephemeral drainage complex that consists of a sandy substrate supporting a bed, bank, and channel ranging from one to thirty-nine feet in width. Vegetation associated with Drainage System A includes California sagebrush, black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), black mustard (*Brassica nigra*), red brome (*Bromus madritensis* spp. *rubens*) and rip-gut brome (*Bromus diandrus*). The riparian vegetation associated with Drainage System A consists of elderberry (*Sambucus nigra*).

There are areas associated with Drainage System A that clearly do not support a defined bed, bank, or channel and are considered non-jurisdictional. The downstream segments of Tributaries A1 – A4 are conveyed as undefined sheet flow across the flat semi-developed area that was part of the former horse ranch. The historical erosional gullies and swales are still evident, and while the area is no longer actively maintained, the soil compaction in this area is such that streamcourse characteristics are not discernable.

2. Drainage System B

Potential CDFW jurisdiction associated with Drainage System B totals approximately 2.02 acres, of which 0.82 acre consists of riparian vegetation. This drainage system is comprised of a main drainage feature (Drainage B) and other streams that traverse across the Study Area (Tributaries B1 and B2). Drainage System B is an ephemeral drainage complex that originates at the southern boundary of the Study Area and meanders in a northerly direction for approximately 4,928 linear feet before converging with Drainage System A in the northern portion of the Study Area. The upstream portion of Drainage System B is part of a steep canyon supporting a bed, bank, and channel ranging from one to fifteen feet in width. The downstream portion of Drainage System B flattens out as it traverses the Study Area and consists of a sandy substrate supporting a bed, bank, and channel ranging from one to 70 feet in width. Vegetation associated with Drainage System B includes red brome, rip-gut brome, mulefat (*Baccharis salicifolia*), elderberry, and ceanothus. The riparian vegetation associated with Drainage System B consists of coast live oak (*Quercus agrifolia*).

As depicted in Exhibit 3B, the central portion of Drainage B supports a wide channel of up to 70 feet in width. This area appeared to have been graded and filled when the field delineation was originally conducted in 2020, presumably to impound flows as part of maintenance activities associated with the horse ranch. With those uses discontinued for the past three years, flow patterns in Drainage B have re-emerged across the disturbed area.

3. Drainage System C

Drainage System C is the most significant drainage system within the Study Area in terms of area, potential streamflow during rain events, and riparian vegetation. Potential CDFW jurisdiction associated with Drainage System C totals approximately 5.39 acres, of which 3.70 acres consist of riparian vegetation. This drainage system is comprised of a main drainage feature (Drainage C) and several other streams and erosional gullies that traverse across the Study Area (Tributaries C1 – C4). Drainage System Cis an ephemeral drainage complex that originates within the Study Area and meanders in a northerly direction for approximately 9,172 linear feet before flowing offsite and presumably entering the Santa Ana River through a series of culverts and pipes. The majority of Drainage System C is part of a steep canyon supporting a bed, bank, and channel width ranging from one to twelve in width. The downstream portion of Drainage System C flattens out as it traverses the Study Area and consists of a sandy substrate and supports a bed, bank, and channel ranging from two to sixty-six feet in width. Vegetation associated with Drainage System C includes toyon (*Heteromeles arbutifolia*), ceanothus, coast live oak, California sagebrush, black sage, and laurel sumac. The riparian vegetation associated with Drainage System C consists of coast live oak.

Table 3: Summary of Potential CDFW Jurisdiction

Drainage Name	CDFW Non-Riparian Stream (acres)	CDFW Riparian Stream (acres)	Total CDFW Jurisdiction (acres)	Length (linear feet)
Green River Ranch Specific Plan (Onsite)				
Drainage System A	**0.70**	**0.12**	**0.82**	**4362**
Drainage A	0.29	0.00	0.29	1,399
Tributary A1	0.12	0.02	0.14	1,059
Tributary A2	0.03	0.00	0.03	606
Tributary A3	0.01	0.00	0.01	224
Tributary A4	0.06	0.00	0.06	396
Tributary A5	0.19	0.10	0.29	678
Drainage System B	**1.18**	**0.82**	**2.00**	**4,823**
Drainage B	1.04	0.57	1.61	3,283
Tributary B1	0.02	0.25	0.27	440

Tributary B2	0.12	0.00	0.12	1,100
Drainage System C	**1.68**	**3.70**	**5.38**	**9,138**
Drainage C	1.22	2.72	3.94	5,094
Tributary C1	0.05	0.20	0.25	887
Tributary C2	0.03	0.003	0.03	708
Tributary C3	0.05	0.001	0.05	739
Tributary C4	0.33	0.78	1.11	1,710
TOTAL ** excludes system subtotals*	**3.56**	**4.64**	**8.20**	**18,323**

Offsite Improvements				
Drainage A	0.02	0.00	0.02	141
Drainage A1	0.003	0.00	0.003	16
Tributary A5	0.03	0.02	0.05	171
Drainage B	0.02	0.00	0.02	105
Drainage C	0.003	0.003	0.01	34
Total	**0.08**	**0.02**	**0.10**	**467**

*Acreages have been rounded to the nearest one-hundredth of one acre; as such, the reported total acreage of all jurisdictional features may not match the individual sums due to rounding.

If you have any questions about this letter report, please contact Thienan Pfeiffer at (949) 340-9088.

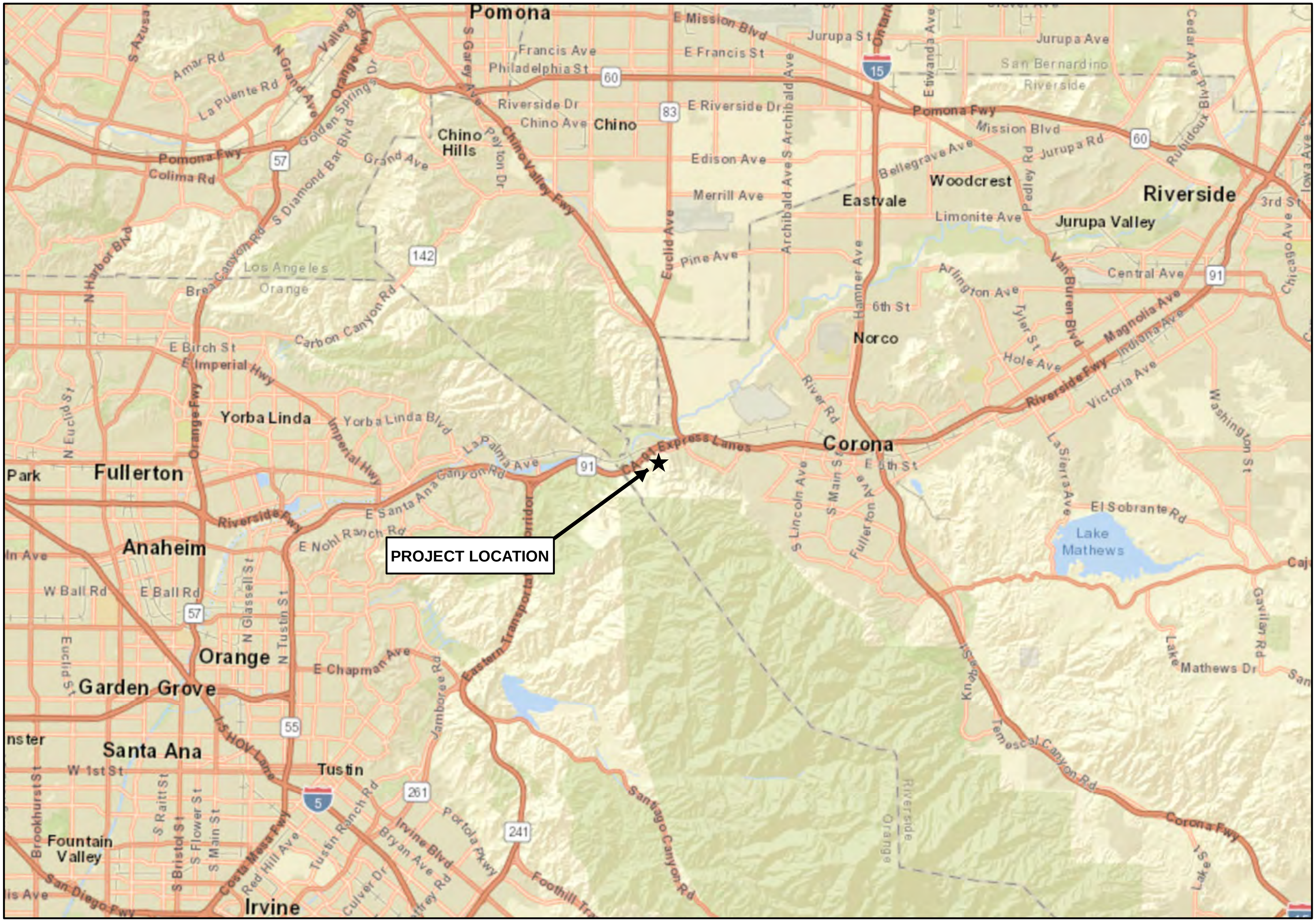
Sincerely,

GLENN LUKOS ASSOCIATES, INC.

Thienan Pfeiffer
President

p:0544-4c.JD

Source: ESRI World Street Map



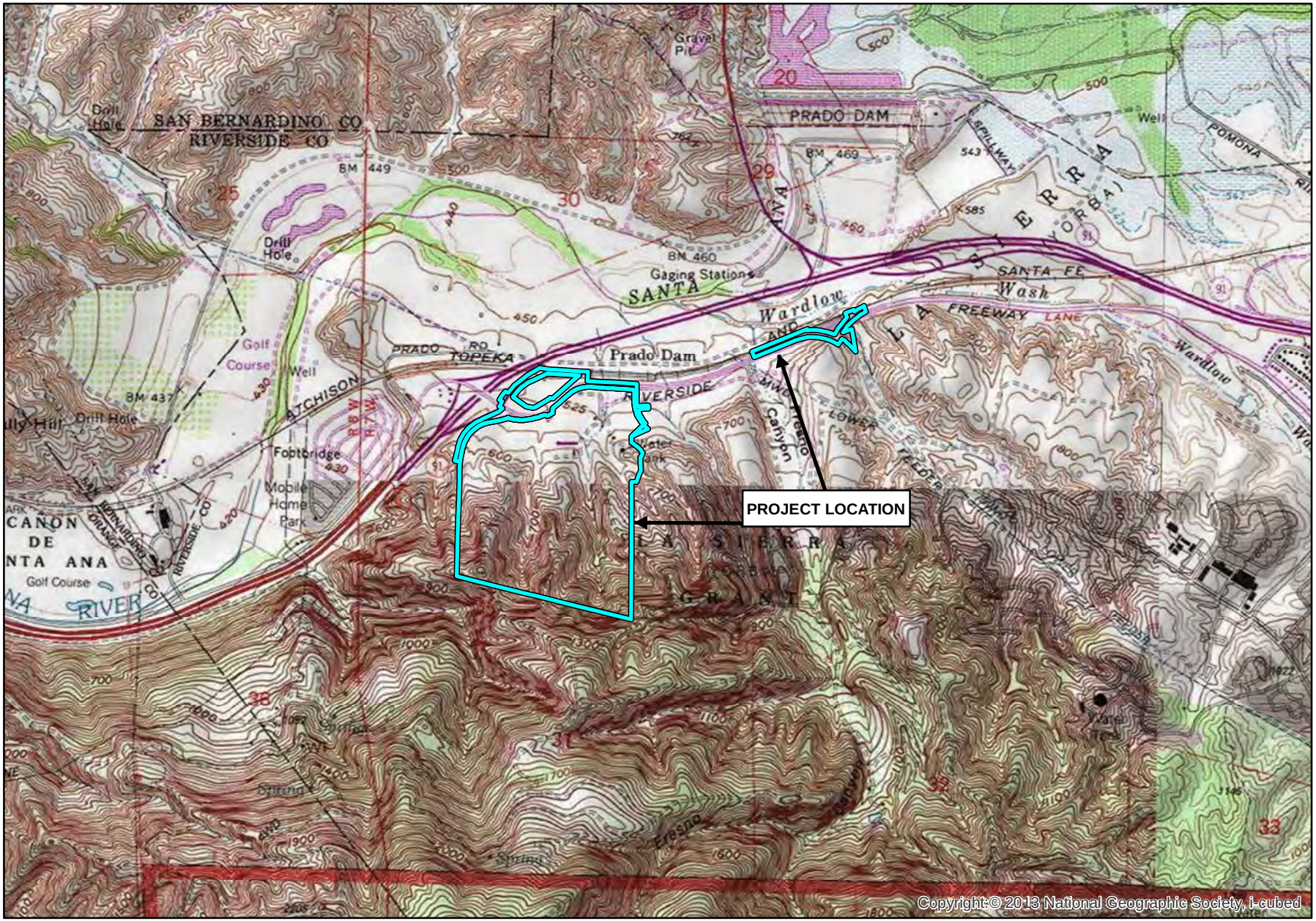
N
0 2 4 8 Miles

GREEN RIVER RANCH SPECIFIC PLAN

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Prado Dam & Black Star Canyon, CA quadrangles

N

0 1,000 2,000 4,000 Feet

GREEN RIVER RANCH SPECIFIC PLAN

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Specific Plan Boundary (Onsite)

Offsite Improvements

No Stream Course

Corps Non-Wetland Waters of the U.S.

1 Width in Feet

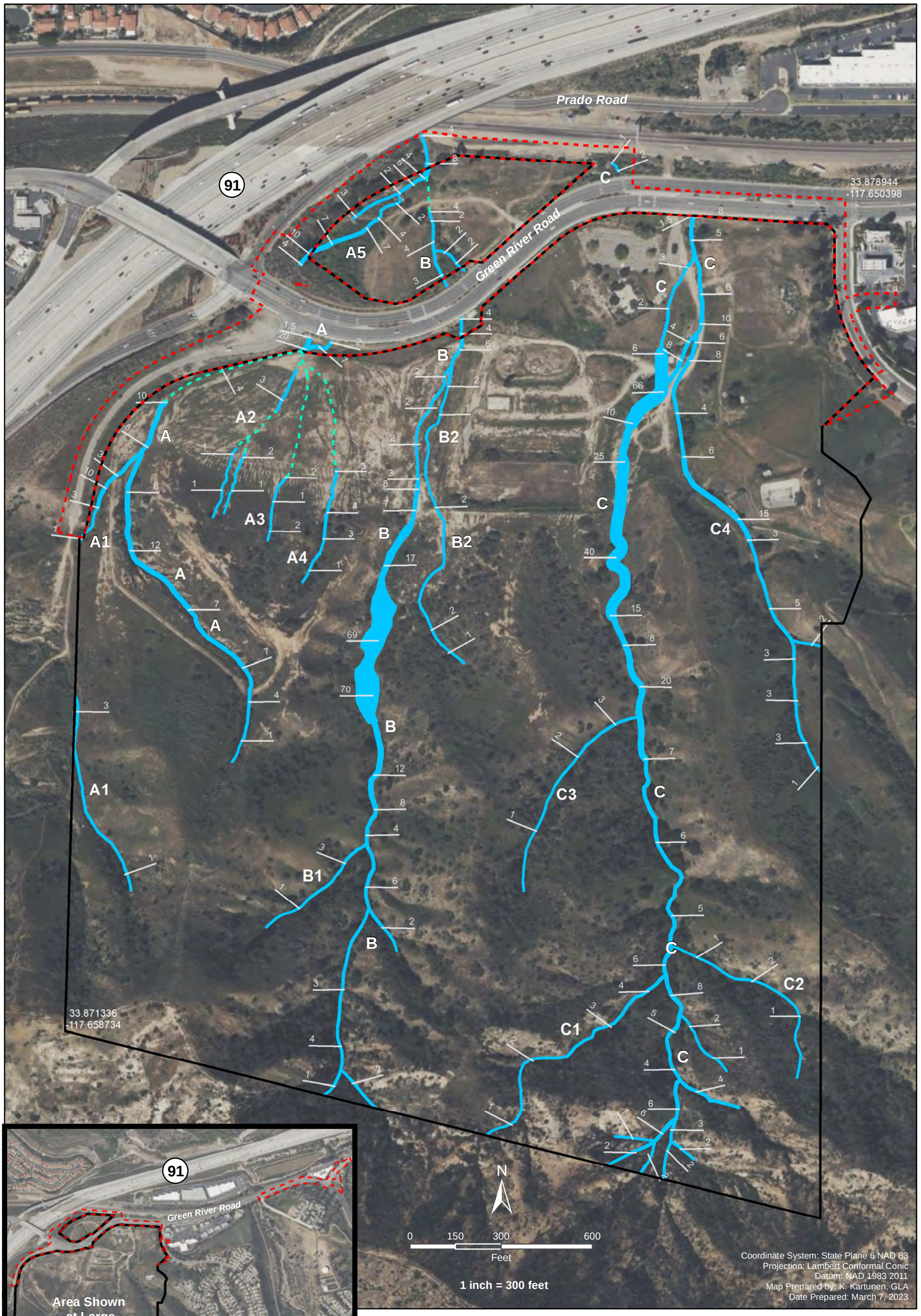
GREEN RIVER RANCH SPECIFIC PLAN

Corps Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 Corps_REV1Layout.mxd



Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 7, 2023

Specific Plan Boundary (Onsite)

Offsite Improvements

No Stream Course

RWQCB Non-Wetland Waters of the State

1 Width in Feet

GREEN RIVER RANCH SPECIFIC PLAN

RWQCB Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 RWQCB_REV1Layout.mxd

Prado Road

Green River Road

91

33.878944
-117.650398

33.871336
-117.658734

A
A1
A2
A3
A4
A5
B
B1
B2
C
C1
C2
C3
C4

N

0 150 300 600
Feet

1 inch = 300 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 7, 2023

Specific Plan Boundary (Onsite)
Offsite Improvements
CDFW Non-Riparian Stream
CDFW Riparian
No Stream Course
1 Width of Non-Riparian Stream

GREEN RIVER RANCH SPECIFIC PLAN

CDFW Jurisdictional Delineation Map

GLENN LUKOS ASSOCIATES

Exhibit 3C

X:\0363-THE REST\0544-04GREN\544-4_GIS\DelineationGIS\REV1\544-4 CDFW_REV1Layout.mxd

Photograph 1: Representative photo of ephemeral drainage feature within the Study Area depicting incised sandy bottomed channel. View facing southern portion of Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 2: Representative photo of ephemeral drainage feature within the Study Area depicting incised sandy bottomed channel. Photograph taken March 02, 2020.

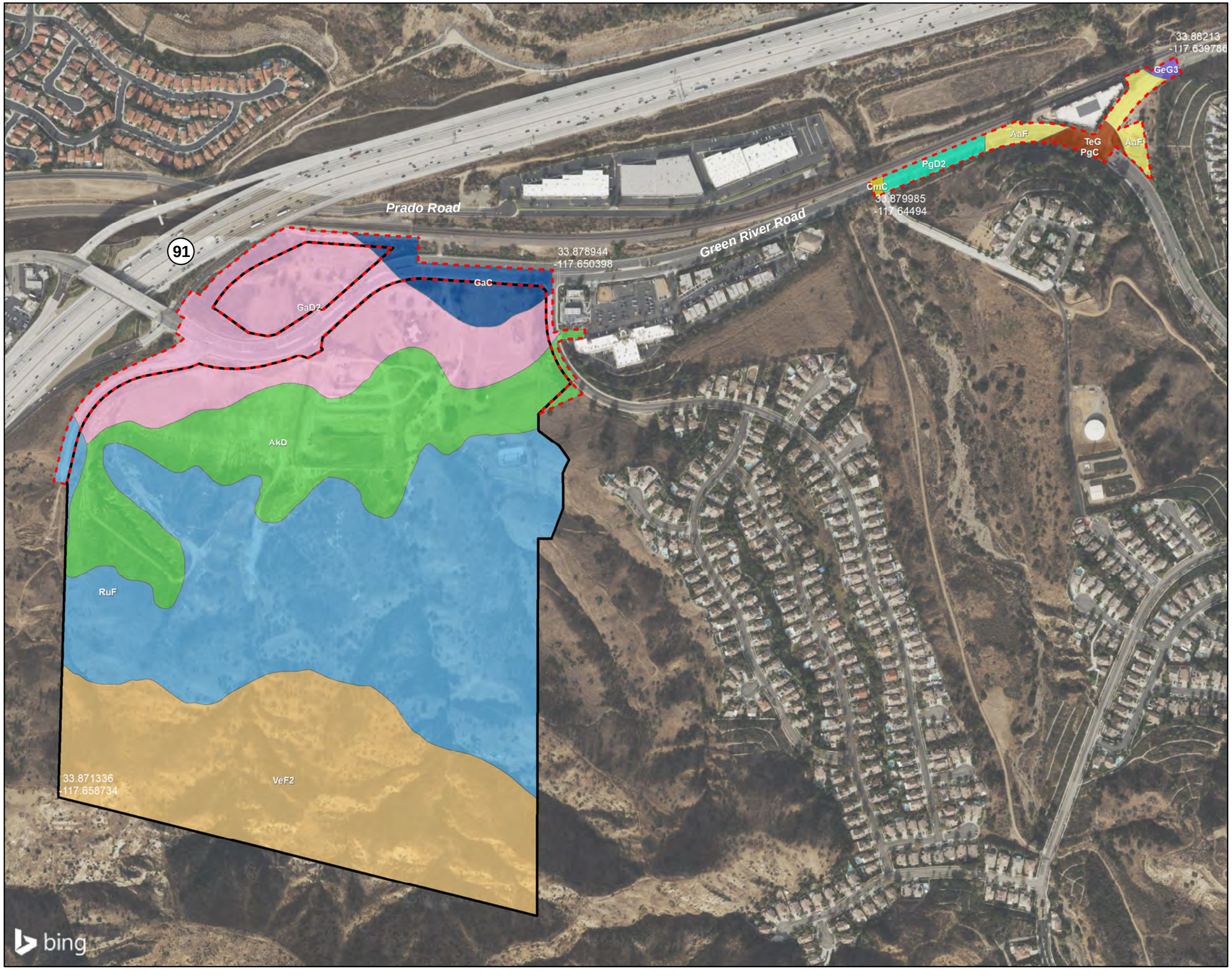
Photograph 3: Representative photo of ephemeral drainage features within steep canyons at southern portion of the Study Area. View facing east towards Drainage System C. Photograph taken March 02, 2020.

Photograph 4: Representative photo of ephemeral drainage features within the Study Area depicting transition from mountainous southern property boundary to central portion of the Study Area. View facing northeast towards State Route 91. Photograph taken March 02, 2020.

Photograph 5: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 6: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photograph taken March 02, 2020.

Photograph 7: Representative photo of ephemeral drainage feature within the southern, mountainous portion of the Study Area that abuts Santa Ana Mountains. Photo looking southeast towards Drainage system C. Photograph taken March 02, 2020.



- Specific Plan Boundary (Onsite)
- Offsite Improvements
- AaF - Altamont clay, 5 to 50 percent slopes
- AkD - Arbuckle loam, 8 to 15 percent slopes
- CmC - Cortina cobbly loamy sand, 2 to 8 percent slopes
- GaC - Garretson very fine sandy loam, 2 to 8 percent slopes
- GaD2 - Garretson very fine sandy loam, 8 to 15 percent slopes, eroded
- GeG3 - Gaviota rocky fine sandy loam, 25 to 75 percent slopes, severely eroded
- PgC - Perkins gravelly loam, 5 to 8 percent slopes
- PgD2 - Perkins gravelly loam, 8 to 15 percent slopes, eroded
- RuF - Rough broken land
- TeG - Terrace escarpments
- VeF2 - Vallecitos loam, thick solum variant, 15 to 50 percent slopes, eroded

N

0 250 500 1,000
Feet

1 inch = 500 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: K. Kartunen, GLA
Date Prepared: December 1, 2021

GREEN RIVER RANCH SPECIFIC PLAN

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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Criteria Refinement Review Findings

CR #: 24-01-10-01
Date: 02/20/2024

Permittee:	**City of Corona**
Case Information:	**Relocation of Proposed Constrained Linkage 1**
Described Land to be Removed:	**82.8 acres**
Described Land to Remain:	**245.5 acres**
Undescribed Replacement Land:	**465.7 acres**

Consistency Statement for Criteria Refinement: ***Based on the equivalency analysis set forth by Section 6.5 of the MSHCP, included herein, the proposed relocation of Proposed Constrained Linkage 1 is consistent with the MSHCP based on the equivalent and/or superior biological value of the proposed undescribed Replacement Lands.***

Applicable Core/Linkage – Conservation/Replacement Lands: Proposed Constrained Linkage 1
Area Plan: Temescal Canyon Area Plan

Sub-Unit	Cell Group	Cell
SU 1- Santa Ana River to Santa Ana Mountains	Independent	1702 1704 1811 1812 1896 1898

Proposed Constrained Linkage 1 Location

Proposed Constrained Linkage 1 (hereafter referred to as existing PCL-1 in this document) is located within the northwestern portion of Riverside County near the San Bernardino and Orange County lines, south of State Route 91 (SR-91) (Exhibit A). Existing PCL-1 is located in the northwest portion of the Plan Area (Exhibit B).

Criteria Refinement Analysis Documentation

Criteria Refinement submittal material provided by the Permittee included a Criteria Refinement Analysis Relocation of Proposed Constrained Linkage 1 (*CR Analysis*), prepared by Glenn Lukos Associates, Inc. (GLA; December 12, 2023). The following Appendices to the *CR Analysis* were also provided as follows: Potential Wildlife Linkages affecting Mindeman Ranch Property (Appendix A; Beier, August 29, 2004); Corona 850 Study Area, Wildlife Movement Study (Appendix B; GLA, July 20, 2007); and Movement Patterns of Bobcats and Coyotes after Widening of CA-71 near CA-91 in Southern California (Appendix C; Boydston and Crooks 2013).

Reserve Assembly – Criteria Description

Conservation lands described for the assembly of PCL-1 is located within Criteria Cells 1702, 1704, 1811, 1812, 1896, and 1898 of Subunit 1 (Santa Ana River to Santa Ana Mountains) of The Temescal Canyon Area Plan. For each of these Cells, lands described for conservation would contribute to the assembly of PCL-1 and connect Existing Core A (Prado Basin/Santa Ana River) with Existing Core B (Cleveland National Forest). MSHCP Section 3.2.3 defines a constrained linkage as a "constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use." The MSHCP defines a Core as "a block of Habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more Covered Species."

As stated in Section 3.2.3 of the MSHCP, "Proposed Constrained Linkage 1 is located in the northwest portion of the Plan Area. The Linkage connects Existing Core A (Prado Basin/Santa Ana River) with Existing Core B (Cleveland National Forest) to the south. Existing urban development constrains the Linkage at its northern terminus; the Linkage is unconstrained in the south. In addition, SR-91 intersects this Linkage at its northern border. Despite this, Proposed Constrained Linkage 1 likely provides for movement of mountain lion and bobcat from the Santa Ana Mountains to the Chino Hills area beyond the Plan Area. Maintenance of contiguous habitat blocks with appropriate refugia for resting, such as rockpiles, brushpiles, windfalls, hollow snags and hollow trees, is important for dispersal of juveniles in this proposed Linkage. In addition, the Linkage has a relatively low P/A ratio (79 feet per acre) compared to other MSHCP Constrained Linkages, and the Linkage is surrounded by a Rural Mountainous planned land use designation. Thus, Edge Effects will be somewhat mitigated by these factors. Guidelines Pertaining to Urban/Wildlands Interface for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators are presented in Section 6.1 of this document [MSHCP]. In addition, as SR-91 intersects the Linkage at its northern terminus, an adequate wildlife underpass or overpass may need to be implemented to ensure movement of species in this area and to reduce the chance of mortality from vehicle collision."

Per MSHCP Volume I, Section 3.3.16, the applicable criteria description (herein referred to as "MSHCP Criteria") for each Cell in PCL-1 is presented in Table 1.

Table 1. Cell Criteria for Proposed Constrained Linkage 1

Cell (Independent)	Cell Acreage	Criteria	Acreage Described for Conservation (Low-Range to High-Range)
1702	187.1	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on coastal sage scrub and grassland. Areas conserved within this Cell will be connected to coastal sage scrub habitat proposed for conservation in Cells #1704 to the east	37.4 to 56.1

Table 1. Cell Criteria for Proposed Constrained Linkage 1

Cell (Independent)	Cell Acreage	Criteria	Acreage Described for Conservation (Low-Range to High-Range)
		and #1811 to south. Conservation within this Cell will range from 20%-30% of the Cell focusing on the eastern portion Cell.	
1704	185.4	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on coastal sage scrub. Areas conserved within this Cell will be connected to coastal sage scrub habitat proposed for conservation in Cells #1812 and #1702 to the south and west. Conservation within this Cell will be approximately 5% focusing on the southwestern portion of the Cell.	9.2
1811	146.5	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on coastal sage scrub, chaparral, and water. Areas conserved within this Cell will be connected to uplands proposed for conservation to the south, east, and north in Cells #1896, #1812, and #1702. Conservation within this Cell will range from 50% -60% focusing on the eastern portion of the Cell.	73.2 to 87.9
1812	146.5	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on coastal sage scrub and chaparral. Areas conserved within this Cell will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cells #1898, #1811, and C ell #1704 to the south, west, and north. Conservation within this Cell will range from 25% - 35% focusing on the western portion of the Cell.	36.6 to 51.2
1896	144.1	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on chaparral and coastal sage scrub. Areas conserved within this Cell will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cells #1898 and #1811 to the east and north. Conservation within this Cell will range from 5%-15% focusing on the northeastern portion of the Cell.	7.2 to 21.6

Table 1. Cell Criteria for Proposed Constrained Linkage 1

Cell (Independent)	Cell Acreage	Criteria	Acreage Described for Conservation (Low-Range to High-Range)
1898	144.0	Conservation within this Cell will contribute to assembly of Proposed Constrained Linkage 1. Conservation within this Cell will focus on chaparral and coastal sage scrub. Areas conserved within this Cell will be connected to chaparral and coastal sage scrub habitat proposed for conservation in Cell #1812 to the north. Conservation within this Cell will range from 50%-60% focusing on the eastern and northern portions of the Cell.	72.0 to 86.4

Criteria Refinement Introduction

Criteria Refinements may be initiated by Permittees, or at the request of private entities to Permittees if agreed to by the applicable Permittee, either for the purpose of correcting minor discrepancies or inaccuracies or for evaluating a proposed alternative conservation configuration that is of equivalent or superior benefit to Covered Species. As part of any Criteria Refinement, Replacement Lands must be proposed that are quantitatively and qualitatively equivalent or superior to the land impacted or being removed that is described for conservation. Such Criteria Refinements may involve changes to Cores and Linkages as long as it is demonstrated that the refinements would clearly benefit Covered Species and would be consistent with MSHCP policies and species objectives.

Purpose of Criteria Refinement

The existing alignment of PCL-1 is unconstrained to the south, but there are existing land uses that constrain PCL-1 at its northern terminus, including SR-91, the BNSF railroad line, and Green River Road. Therefore, the existing configuration does not adequately facilitate wildlife movement as intended by the MSHCP (i.e., to provide a linkage between the Santa Ana Mountains and the Prado Basin, and to provide a linkage between the Santa Ana Mountains and the Chino Hills). However, according to the *CR Analysis*, past biological studies have identified and evaluated a less constrained linkage area west of the existing alignment of PCL-1. This area is not described for conservation by the MSHCP and is hereafter referred to as alternate PCL-1.

The alternate PCL-1 alignment would comprise a portion of described land to remain, existing MSHCP Conserved Lands, and Undescribed Replacement Land that is to be acquired by the RCA as further detailed below. The alternate PCL-1 would provide connection to Prado Basin and the Chino Hills and exceed the minimum conservation goal for the combined independent Cells but would also exceed the high-range goal of the targeted conservation range. Furthermore, as described below in the *Equivalency Requirements* section, the alternative conservation configuration would shift conservation to the west and would still

functionally contribute to PCL-1. The existing and alternate PCL-1 alignments do not each represent distinctly separate alignments. Moreover, 245.5 acres are shared between the two alignments, with 82.7 acres being removed from the northern portion of the existing PCL-1 alignment and 465.7 acres being added in replacement, mostly to the west and connecting to the B Canyon Undercrossing at SR-91. According to the *CR Analysis*, the alternate PCL-1 alignment is superior to the existing PCL-1 alignment in achieving connection the Chino Hills because 1) it is not impacted by Green River Road; 2) it crosses SR-91 rather than running alongside the freeway for a stretch of approximately 1,200 feet; 3) wildlife would navigate the BNSF railroad line from SR-91 instead of navigating both obstacles sequentially; 4) wildlife could use the existing footbridge across the Santa Ana River; and 5) it leads to Aliso Canyon, which is the largest canyon in Chino Hills State Park, and therefore is a natural travel corridor for mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), and other wildlife. Therefore, this conservation configuration would provide equivalent or superior biological value, as compared to leaving to the existing alignment of PCL-1, with the applicable MSHCP Criteria and policies, as summarized further below.

According to the *CR Analysis*, a total of 711.2 acres of land would be assembled for the alternate PCL-1, consisting of 245.5 acres of Described Land to Remain and 465.7 acres of Undescribed Land Replacement Land (Exhibit E). The existing PCL-1 begins at the boundary with Core B (Cleveland National Forest) and extends north across undeveloped land, Green River Road, and SR-91, connecting with Existing Core A just north of SR-91 (Exhibit B). The alternate PCL-1 would also begin at the boundary with Core B and extend across undeveloped land before connecting to the existing undercrossing at SR-91, with existing MSHCP Reserve lands to the north of SR-91. Approximately 538.4 acres of the 711.2-acre total of alternate PCL-1 would be associated with the six Criteria Cells, with an additional approximately 172.8 acres located outside of, but adjacent to, the Criteria Area.

Approximately 82.8 acres of the described lands would not be part of alternate PCL-1, as these lands represent the northernmost part of the existing alignment that would be removed as part of the Criteria Refinement (Exhibit E). As required by the MSHCP, all lands to be proposed as replacement via a Criteria Refinement must not be described for conservation by the existing Cell Criteria. In place of those lands to be removed, approximately 292.9 acres of land would be added in alternate locations of the six Criteria Cells (i.e., areas not described for conservation) in addition to the 172.8 acres of lands to be conserved that are not in Criteria Cells, for a total of 465.7 acres of Undescribed Replacement Land.

Equivalency Requirements pursuant to Section 6.5 of the MSHCP

The following sections are based on information provided in the *CR Analysis.* These sections provide the required equivalency analysis which compares the area described for conservation for PCL-1 to the area being proposed for the alternate PCL-1, including Undescribed Replacement Lands. The areas proposed as described conservation to remain also factor into parts of the discussion where they support the alternative conservation configuration, including ensuring connectivity between existing conserved lands and those proposed for conservation/replacement.

The equivalency requirements address the following categories: 1) effects on habitats; 2) effects on covered species; 3) effects on core areas; 4) effects on linkages and constrained linkages; 5) effects on non-contiguous habitat blocks; 6) effects on MSHCP configuration and management; 7) effects on ecotones and other conditions affecting species diversity; 8) equivalent or greater acreage; and 9) control over mitigation property being offered under the equivalency analysis.

1) EFFECTS ON HABITATS

The MSHCP Criteria identifies Habitats (vegetation communities) described for conservation to benefit Covered Species present or with the potential to occur. The Criteria Cells associated with the existing alignment of PCL-1 include three Habitat types intended to be conserved throughout the Cells, specifically coastal sage scrub, chaparral, and grassland[1]. Refer to *CR Analysis* Section 5.1 for a detailed evaluation and comparison regarding the total amount of Habitats (vegetation communities) described for conservation by the applicable MSHCP Criteria, including described areas to be removed from PCL-1, and lands to be added to support the assembly of the alternative PCL-1 alignment.

Note that the evaluations/comparisons used in this section of these Findings were performed using vegetation mapping conducted by GLA (2006/2007, 2014/2015 and in 2020) as well as using MSHCP 1994 Rough Step vegetation baseline. The GLA mapping was used to evaluate the actual vegetation communities (Habitats), and the purpose of using the 1994 Rough Step vegetation baseline was to demonstrate that the proposed Criteria Refinement would still satisfy the applicable Rough Step requirements for the described Habitats.

Vegetation Communities[2]

Existing PCL-1

Based on *CR Analysis* Section 5.1, vegetation communities mapped in for the existing PCL-1 alignment include 16.7 acres of residential/urban/exotic, 5.5 acres of coastal sage scrub, 250.7 acres of chaparral, 45.8 acres of non-native grassland, 0.5 acres of riparian, and 9.1 acres of coast live oak woodland, totaling 328.3 acres.

Alternative PCL-1

Based on *CR Analysis* Section 5.1, vegetation communities mapped for the alternate PCL-1 alignment include 21.2 acres of residential/urban/exotic, 55.1 acres of coastal sage scrub, 546.2 acres of chaparral, 69.7 acres of non-native grassland, 0.7 acres of riparian forest, and 18.4 acres of coast live oak woodland, totaling 711.2 acres.

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1 The habitat accounts described in MSHCP Volume II, Section C, recognize two subassociations of grasslands (Valley and Foothill Grassland and Non-Native Grassland). The existing alignment of PCL-1 and alternate PCL-alignment contain only non-native grasslands and do not support native grasslands. As such, all references to grasslands pertain to non-native grasslands.

2 GLA (2006/2007, 2014/2015 and in 2020).

The Criteria Refinement would remove 82.8 acres of described lands, specifically 11.5 acres of residential/urban/exotic, 2.0 acres of coastal sage scrub, 37.4 acres of chaparral, 30.3 acres of non-native grassland, 1.1 acres of coast live oak woodland, and 0.5 acres of riparian. The Criteria Refinement would conserve 465.8 acres of Undescribed Replacement Land, specifically, 16.0 acres of residential/urban/exotic (increase of 4.5 acres), 51.6 acres of coastal sage scrub (increase of 49.6 acres), 332.9 acres of chaparral (increase of 295.5 acres), 54.2 acres of non-native grasslands (increase of 23.9 acres), 10.4 acres of coast live oak woodland (increase of 9.3 acres), and 0.7 acres of riparian (increase of 0.2 acres).

Vegetation Communities Summary

Overall, approval of the Criteria Refinement would substantially increase the overall Covered Habitats described in the MSHCP for PCL-1, including coastal sage scrub (increase of 49.6 acres), chaparral (increase of 295.5, and grassland (23.9). In addition, the Undescribed Replacement Lands proposed for the alternate alignment would include Habitats (i.e., coast live oak woodland) not characterized in the Cell Criteria for assembly of PCL-1. The total amount of lands to be conserved for the alternate PCL-1 alignment would increase by 382.9 acres, with an overall total conservation of 711.2 acres versus existing PCL-1 described acreage of 328.3 acres, with most gains consisting of chaparral vegetation, but also including coastal sage scrub, grassland, and the coast live oak woodland. Also, refer below to 2 *Effects on Covered Species* of these Findings, as well as *CR Analysis* Section 5.2, for additional details regarding the species supported by these vegetation communities.

Rough Step 1994 Vegetation Communities

The existing PCL-1 alignment and alternate PCL-1 are located within Rough Step Unit 1 (Exhibit C). According to the MSHCP 2021 Annual Report, in Rough Step Unit 1 there are three vegetation communities that have Rough Step acreage goals: coastal sage scrub; grasslands; and riparian scrub, woodland, forest. The below discussion only addressed these three vegetation communities.

Existing PCL-1

Based on the 1994 vegetation communities, and as further described in *CR Analysis* Section 5.1, the existing PCL-1 alignment includes 127.0 acres of coastal sage scrub, 179.0 acres of chaparral, and 14.5 acres of grassland, totaling 328.3 acres.

Alternative PCL-1

Based on *CR Analysis* Section 5.1, 1994 vegetation communities mapped for the alternate PCL-1 alignment includes 119.9 acres of coastal sage scrub, 539.5 acres of chaparral, 50.8 acres of grassland, and 1.0 acres of riparian forest, totaling 711.2 acres.

Rough Step 1994 Vegetation Communities Summary

The Criteria Refinement would decrease the conservation of coastal sage scrub in PCL-1 by 7.1 acres, increase the conservation of chaparral and grassland by 360.6 acres and 41.8 acres, respectively and introduce 1.0 acre of riparian forest to PCL-1. Overall, the Criteria Refinement would substantially increase the overall Covered Habitats described in the MSHCP for PCL-1.

The *CR Analysis* Tables 5-2 (1994 baseline) and 5-3 (GLA mapping) provide a breakdown of Habitats for the areas proposed for removal versus areas additional lands proposed as replacement to support the alternate alignment. Also, refer below to 2 *Effects on Covered Species* of these Findings, as well as *CR Analysis* Section 5.2, for additional details regarding the species supported by these vegetation communities.

In total, the 1994 vegetation that would be conserved under alternate PCL-1 would be at least equivalent in biological value compared to the total area of vegetation described (also based on 1994 vegetation) by the MSHCP, when considering the combined conservation of vegetation communities along with the Covered Species discussed below in 2 *Effects on Covered Species*.

Soils[3]

Existing PCL-1

Soils within existing PCL-1 include Arbuckle loam, Exchequer-Rock outcrop complex, Garretson very fine sandy loam, Gaviota very fine sandy loam, Rough broken land, and Vallecitos loam (Exhibit D).

Alternative PCL-1

Soils within the alternate PCL-1 include Arbuckle loam, Blasingame loam, Cieneba-Rock outcrop complex, Exchequer-Rock outcrop complex, Garretson gravelly very fine sandy loam, Gaviota very fine sandy loam, Rough broken land; and Vallecitos loam (Exhibit D).

Soils Summary

Because soils on the described lands to be removed as compared to the Undescribed Replacement Lands are similar, and Undescribed replacement lands would result in a substantial increase in overall Habitats conserved, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on soils that support associated Planning Species and Habitats.

[3] USDA/NRCS Soils 2022.

Overall Summary - Effects on Habitats

In summary, the Criteria Refinement would result in the conservation of lands that would be equivalent or superior in acreages of Habitats provided, as well as providing equivalent or superior biological functions and values as compared to the described lands to be removed. Also, refer below to 2 *Effects on Covered Species* of these Findings, as well as *CR Analysis* Section 5.2, for additional details regarding the species supported by the Habitats proposed to be conserved/replaced as described above.

2) EFFECTS ON COVERED SPECIES

Planning Species

MSHCP Section 3.2.3 identifies the following Planning Species for PCL-1 that would utilize portions of PCL-1 for movement from the Santa Ana Mountains to the Chino Hills area beyond the Plan Area: Cooper's hawk (*Accipiter cooperii*), coastal California gnatcatcher (*Polioptila californica californica*), bobcat, and mountain lion.

The following analysis discusses the Planning Species that do or do not have potential to occur at the alternate PCL-1 and compares the lands described for conservation by the MSHCP versus what would be conserved/replaced and how the alternative conservation configuration would support these species, if applicable.

Avian Species

Based on the *CR Analysis* and the presence of suitable vegetation communities, the avian Planning Species, specifically Cooper's hawk and coastal California gnatcatcher have a potential to occur within alternate PCL-1.

Cooper's Hawk. According to the *CR Analysis*, the predominant habitat types in both the existing and alternate PCL-1 alignments contain live-in habitat for Cooper's hawk consisting of scrub vegetation, chaparral, as well as grassland, oak woodland and miscellaneous riparian habitats. The Criteria Refinement would result in an overall increase of live-in habitat for Cooper's hawk, specifically, based on the GLA vegetation mapping, an overall increase of 49.6 acres of coastal sage scrub, 295.5 acres of chaparral, 23.8 acres of non-native grassland, 9.3 acres of coast live oak woodland, and 0.2 acres of riparian, for an overall increase in 378.4 acres. As such, the alternate alignment would be superior in providing live-in habitat for Cooper's hawk.

Coastal California Gnatcatcher. PCL-1 is intended to provide live-in and dispersal habitat for coastal California gnatcatcher, including sage scrub habitats, as well as chaparral, grassland, and riparian habitats located adjacent to sage scrub habitats. According to the *CR Analysis*, the Criteria Refinement would result in an overall increase of live-in habitat for coastal California gnatcatcher. Specifically, based on the GLA vegetation mapping, approval of the Criteria Refinement would result in an overall increase of 49.6 acres of coastal sage scrub, 295.5 acres of chaparral, 23.8 acres of non-native grassland, 9.3 acres of coast live oak woodland, and 0.2 acres of riparian, for an

overall increase in 378.4 acres. The alternate PCL-1 alignment contains the greater amount of suitable habitat for gnatcatcher compared with the existing PCL-1 alignment, and therefore the alternative PCL-1 alignment is considered superior as both live-in and dispersal habitat for gnatcatcher.

Large Mammals

Mountain Lion and Bobcat. According to the *CR Analysis*, the alternate PCL-1 alignment is superior for the movement of medium to large-size mammals, including mountain lion and bobcat (and their prey), and to achieve the goal of connecting Core A and the Chino Hills with Core B with regards to wildlife movement and gene flow. Both species have been documented within the alternate PCL-1 alignment, including at the B Canyon Undercrossing at the SR-91 (depicted as "Underpass A" on Attachment A, GLA Wildlife Movement). According to the *CR Analysis*, the Criteria Refinement would result in an overall increase of live-in habitat for mountain lion and bobcat. Approximately 690.0 acres of the 711.2 total acreage for the alternative alignment would represent live in habitat for both species, which represents an increase of 378.4 acres compared with the existing PCL-1 alignment. Specifically, based on the GLA vegetation mapping, approval of the Criteria Refinement would result in an overall increase of 49.6 acres of coastal sage scrub, 295.5 acres of chaparral, 23.8 acres of non-native grassland, 9.3 acres of coast live oak woodland, and 0.2 acres of riparian. All habitat types are included in the acreage of live-in habitat except for the residential/urban/exotic category, although the disturbed portions of the site (i.e., the dirt roads) would facilitate the movement of both species.

The topography of the alternate PCL-1 alignment is conducive to north-south movement, including along dirt access roads, ridgelines, and drainage features that orient north to south from the Cleveland National Forest to SR-91. In contrast, the southern portion of the existing PCL-1 alignment crosses a series of steep, east-west canyons and ridgelines, which is not ideal to support the overall goal of north-south movement. As is reflected in the term "constrained" linkage, present movement along the existing PCL-1 alignment is severely constrained at the northern end due to the SR- 91, the railroad, and Green River Road. In comparison, the alternate PCL-1 alignment is far less constrained with no movement constraints existing between the Cleveland National Forest and the B Canyon Undercrossing at the SR-91 (depicted as "Underpass A" on Attachment A). Beyond the SR-91, the railroad spans the Santa Ana River and adjacent access roads, allowing wildlife to pass under the railroad tracks. For alternate PCL-1, the existing culvert at the B Canyon Undercrossing is currently large enough to accommodate movement, and size of the culvert would be further increased by the future Caltrans SR-91 improvements planned at the B Canyon location.

Other Covered Species

In addition to the Planning Species specifically addressed above, the MSHCP identifies other Covered Species for which habitat assessments/surveys are required based on designated survey areas and/or based on the presence of suitable habitat. A discussion of other species is provided below, consistent with MSHCP Volume I, Section 6.1.2 *Riparian/Riverine Areas and Vernal Pools*, Section 6.1.3 *Protection of Narrow Endemic Plant Species Survey Areas*, and Section 6.3.2 *Additional Survey Needs and Procedures*.

Section 6.1.2 Species. As discussed in *CR Analysis* Section 5.2.2, in 2020 GLA detected least Bell's vireo (*Vireo bellii pusillus*) utilizing elderberry-dominated riparian habitat totaling approximately 0.5-acre located north of Green River Road within the existing PCL-1 alignment. This habitat would be removed from PCL-1 as a result of the Criteria Refinement; however, alternate PCL-1 would result in the addition of 0.7-acre of riparian habitat that has potential to support least Bell's vireo, although the species has not been detected in those areas in the past. The remaining species (southwestern willow flycatcher (*Empidonax traillii extimus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and listed fairy shrimp species) are not expected to occur in either alignment due to the lack of suitable habitat. As such, the Criteria Refinement would not have a positive or negative effect on these species.

In addition to these species, Section 6.1.2 identifies other species that are to be protected, including the following:

- Amphibians – arroyo toad (*Anaxyrus californicus*), mountain yellow-legged frog (*Rana muscosa*), California red-legged frog (*Rana draytonii*)
- Birds – bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus anatum*)
- Fish – Santa Ana sucker (*Catostomus santaanae*)
- Plants – Brand's phacelia (*Phacelia stellaris*), California Orcutt grass (*Orcuttia californica*), California black walnut (*Juglans californica*), Coulter's matilija poppy (*Romneya coulteri*), Engelmann oak (*Quercus engelmannii*), Fish's milkwort (*Polygala cornuta* var. *fishiae*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*), lemon lily (*Lilium parryi*), Mojave tarplant (*Deinandra mohavensis*), mud nama (*Nama stenocarpa*), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*), Orcutt's brodiaea (*Brodiaea orcuttii*), Parish's meadowfoam (*Limnanthes alba* ssp. *parishii*), prostrate navarretia (*Navarretia prostrata*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), San Miguel savory (*Clinopodium chandleri*), Santa Ana River woolly-star (*Eriastrum densifolium ssp. sanctorum*), slender-horned spine flower (*Dodecahema leptoceras*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), spreading navarretia (*Navarretia fossalis*), thread-leaved brodiaea (*Brodiaea filifolia*), vernal barley (*Hordeum intercedens*)

Neither the existing nor alternate alignments for PCL-1 contain suitable habitat for any of the above-referenced species, except for San Miguel savory which is further discussed below. Because vegetation communities on the described lands to be removed as compared to the Undescribed Replacement Lands are similar, and Undescribed replacement lands would result in a substantial increase in Habitats conserved, the

Criteria Refinement would not be expected to have either a positive or negative effect on these Section 6.1.2 species.

Section 6.1.3 Species. The majority of the existing PCL-1 alignment and all of the alternate PCL-1 alignment are located within the Narrow Endemic Plant Species Survey Area (NEPSSA), which addresses the following species: San Diego ambrosia, Brand's phacelia, and San Miguel savory. Focused plant surveys were conducted by GLA on both the existing and alternate PCL-1 alignments in 2006, 2014 and in 2020 for the portion of the existing alignment to be removed. No NEPSSA species were found. Neither San Diego ambrosia nor Brand's phacelia is expected to occur due to a lack of suitable habitat, although San Miguel savory has a potential to occur primarily in the lands proposed for the alternate PCL-1 alignment. Based on the above discussion, and because the vegetations communities on the described lands to be removed as compared to the Undescribed Replacement Lands are similar, the Criteria Refinement would not be expected to have either a positive or negative effect on Section 6.1.3 NEPSSA species, specifically San Diego ambrosia, Brand's phacelia, and San Miguel savory.

Section 6.3.2 Species. Section 6.3.2 identifies additional species to be addressed if located within applicable survey areas, including plants associated with a Criteria Area Species Survey Area (CASSA) for plants, burrowing owl (*Athene cunicularia*) survey area, amphibian survey areas and mammal survey areas. The existing and alternate PCL-1 alignments are not in the CASSA for plants, amphibian or mammal survey areas. No further discussion is provided for these. The northern half of the existing and alternative alignments are in the survey area for burrowing owl, although the majority is not suitable to support burrowing owls due to the topography and vegetation densities. GLA conducted focused burrowing owl surveys in 2020 for the portion of the existing PCL-1 alignment to be removed but did not detect burrowing owls. Based on the above discussion, and because the vegetations communities on the described lands to be removed as compared to the Undescribed Replacement Lands are similar, approval of the Criteria Refinement would not be expected to have either a positive or negative effect on Section 6.3.2 species.

3) EFFECTS ON CORE AREAS (AS IDENTIFIED ON THE MSHCP CORE AND LINKAGE MAP, *FIGURE 3-2*)

The proposed Criteria Refinement would not adversely affect MSHCP Core Areas. As discussed above, PCL-1 is intended to connect Core A (Prado Basin) with Core B (Cleveland National Forest). Core A is located north of the SR-91 and the Santa Ana River, whereas Core B is adjacent to the existing and alternate PCL-1 alignments to the south. The alternate PCL-1 alignment would more effectively facilitate the connection of Cores A and B, and therefore would have a positive effect by maintaining the movement of wildlife between the Core areas. Refer to discussion above in *Effects on Core Areas* relative to wildlife movement.

4) EFFECTS ON LINKAGES AND CONSTRAINED LINKAGES (AS IDENTIFIED ON THE MSHCP CORE AND LINKAGE MAP, *FIGURE 3-2*)

The effectiveness of the existing alignment of PCL-1 and an alternate PCL-1 alignment was analyzed in meeting the stated MSHCP goals for PCL-1, including the potential to connect with the Prado Basin and the Chino Hills [*CR Analysis*, Appendix A]. In addition, GLA performed a wildlife movement study in 2006 and 2007 for the property that evaluated existing PCL-1 and alternate PCL-1, referred to at that time as the "Corona 850" property [*CR Analysis*, Appendix B]. GLA's study documented areas of wildlife movement from the Cleveland National Forest through the alternative PCL-1 alignment and to SR-91. The movement patterns of bobcat and coyote (*Canis latrans*) were further studied after the widening of State Route 71 (SR-71) near SR-91 that included analysis of camera data for other underpasses in the vicinity, including the underpass at B Canyon (named SR 91 u17 by Boydston and Crooks [2013]) within the alternate PCL-1 alignment [*CR Analysis*, Appendix C].

According to Dr. Beier's study and GLA's 2006/2007 wildlife movement study (*CR Analysis*, Appendix A and Appendix B), the alternate PCL-1 alignment has been documented as an important linkage for wildlife movement and is less constrained than the existing PCL-1 for its connection to the Chino Hills. The alternate PCL-1 provides both upland and riparian linkage routes to the Santa Ana River (and beyond to the Chino Hills) via the Green River Golf Course (existing MSHCP Reserve lands). The primary constraint along the alternate PCL-1 route is represented by the crossing of SR-91, where north of SR-91, wildlife must cross the Santa Ana River floodplain, and then the Green River Golf Course before reaching the Chino Hills. According to *CR Analysis*, Appendix A, Dr. Beier noted that wildlife such as bobcats and mountain lions would readily cross the golf course at night and would likely use an existing mobile home park footbridge that spans the Santa Ana River.

The movement of wildlife under SR-91 via alternate PCL-1 is currently achieved at two undercrossings. The B Canyon Undercrossing, as depicted on Attachment A of these Findings as "Underpass A," consists of a culvert that is approximately 340 feet long, 12 feet high and 12 feet wide. Future California Department of Transportation (Caltrans) improvement plans for SR-91 at this location are under study. A second existing undercrossing (a vehicle access tunnel) is located approximately 1,600 feet from the B Canyon Undercrossing (refer to "Underpass B" as depicted on Attachment A). The vehicle access tunnel is approximately 170 feet long, 16 feet wide, and 14 feet high. Based on accessibility to these undercrossings, the B Canyon Undercrossing is judged the primary undercrossing for wildlife. According to the *CR Analysis*, although the B Canyon Undercrossing was not found in its wildlife movement study to be of high use for coyote or bobcat movement, Boydston and Crooks (2013) found relatively high use of surrounding underpasses (not including the vehicle access tunnel) by these two species as well gray fox (*Urocyon cinereoargenteus*) suggesting that these species are in the local vicinity and therefore could use the B Canyon Undercrossing. In addition, Beier and Barret (1993) recorded two radio-collared mountain lions using the B Canyon Undercrossing. MSHCP monitoring that has occurred since the Boydston and Crooks (2013) field studies has documented mule deer (*Odocoileus hemionus*) and higher bobcat use than found by

Boydston and Crooks (2013); hence concluding the B Canyon Undercrossing could be another critical connectivity linkage for the entire suite of large mammals.

In summary, the proposed Criteria Refinement would have a positive effect on PCL-1 by designating a superior, alternate alignment to connect Core A with Core B, thereby supporting the overall goal of PCL-1. The alternate PCL-1 alignment is less constrained for wildlife movement than the existing PCL-1; is more conducive to the north-south movement needed to support the connectivity goals of PCL-1; and contains a greater amount of habitat types applicable to the Planning Species for PCL-1, including coastal sage scrub, chaparral, grassland, coast live-oak woodland, and riparian habitats.

5) EFFECTS ON NON-CONTIGUOUS HABITAT BLOCKS (AS IDENTIFIED ON THE MSHCP CORE AND LINKAGE MAP, *FIGURE 3-2*)

The MSHCP defines a "Non-Contiguous Habitat Block" as a "block of Habitat not connected to other Habitat areas via a Linkage or Constrained Linkage." The proposed Criteria Refinement would not affect Non-Contiguous Habitat Blocks, as none are present in the area.

6) EFFECTS ON MSHCP CONSERVATION AREA CONFIGURATION AND MANAGEMENT (SUCH AS INCREASES OR DECREASES IN EDGE)

Per the MSHCP, "edge effects" are defined as "adverse direct and indirect effects to species, Habitats and Vegetation Communities along the natural urban/wildlands interface. May include predation by meso-predators (including native and non-native predators), invasion by exotic species, noise, lighting, urban runoff, and other anthropogenic impacts (trampling of vegetation, trash and toxic materials dumping, etc.)." MSHCP Section 3.2.3 states that PCL-1 is surrounded by a Rural Mountainous planned land use designation, thus Edge Effects would be somewhat mitigated by these factors.

The proposed Criteria Refinement would conserve a larger intact block of land than is currently described by the MSHCP for PCL-1. This makes management of the lands easier and reduces potential edge effects. The Criteria Refinement would result in an equivalent or superior Reserve configuration with less management efforts necessary to control edge effects.

7) EFFECTS ON ECOTONES (defined as areas of adjoining Vegetation Communities, generally characterized by greater biological diversity) AND OTHER CONDITIONS AFFECTING SPECIES DIVERSITY (such as invasion by exotics)

Ecotones are defined by the MSHCP as areas of adjoining vegetation communities generally characterized by greater biological diversity. More specifically, ecotones are transitional areas between two different vegetation communities where, in the area of overlap between the two communities, there is often greater biological diversity given that the transitional areas exhibit aspects of both communities. As described in *CR Analysis* Section 5.1.7, both the existing and alternate PCL-1 alignments contain ecotonal areas, including transitional areas between upland habitats and riparian habitats, and between scrub habitats and grassland

habitats. Therefore, the proposed Criteria Refinement would have a net positive effect in conservation of ecotones areas.

8) EQUIVALENT OR GREATER ACREAGE CONTRIBUTED TO THE MSHCP CONSERVATION AREA

The MSHCP requires a Criteria Refinement contribute an equal or greater acreage to the Reserve using lands not described for conservation (i.e., Undescribed Replacement Lands) to offset areas described for conservation that are being proposed for replacement. As described above under *Purpose of the Criteria Refinement* of these Findings, and summarized in the *CR Analysis*, the proposed Criteria Refinement would result in approximately 382.9 acres of lands coming into the MSHCP Conservation Area that are not described for conservation to compensate for the removal of approximately 82.8 acres of described lands from existing PCL-1. The Criteria Refinement would result in a greater acreage to the Reserve.

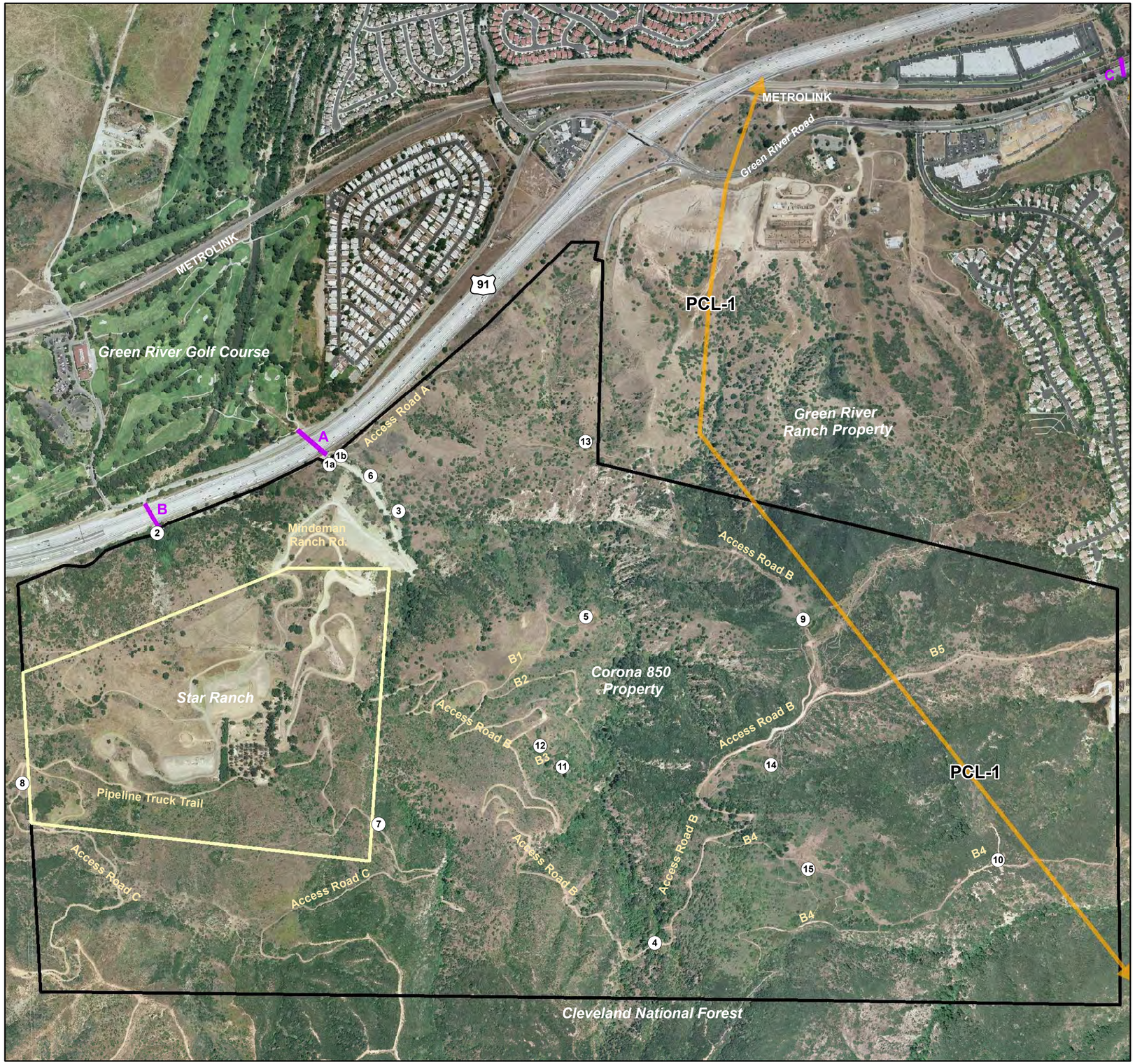
9) APPLICANT MUST DEMONSTRATE AGREEMENTS OR CONTROL OVER MITIGATION PROPERTY BEING OFFERED UNDER THE EQUIVALENCY ANALYSIS

The MSHCP requires for Criteria Refinements that applicants have control over lands to be used as replacement for described conservation lands to be remove pursuant to the Criteria Refinement. The replacement lands presented in this Criteria Refinement are in the process of being acquired by the RCA to address the long-standing wildlife connectivity issues of existing PCL-1. Approximately 38.7 acres (APN 101-180-036) is already conserved as Additional Reserve Lands (ARL; B Canyon 1), and the remaining lands (672.50 acres) are pending acquisition from the RCA as ARL.

BS/TC

Attachment A

GLA Wildlife Movement



Camera Station

	1a	1b	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bobcat *(Lynx rufus)*		●	●	●	●	●	●	●	●	●	●		●		●	
Coyote *(Canis latrans)*	●	●	●	●	●	●	●	●	●	●			●			
Gray Fox *(Urocyon cinereoargenteus)*		●		●	●	●		●		●	●	●	●		●	
Mountain Lion *(Puma concolor)*				●	●											
Mule Deer *(Odocoileus hemionus)*				●	●	●		●	●	●	●	●		●		
Raccoon *(Procyon lotor)*		●	●	●			●	●						●		
Striped Skunk *(M. mephitis)*			●	●	●	●	●	●							●	
Virginia Opossum *(Didelphis virginiana)*			●	●			●									

--Camera was destroyed/vandalized--

- Corona 850 Property
- Star Ranch Property
- Underpass
- Proposed Constrained Linkages

N

0 425 850

Feet

CORONA 850

Species Detected at Camera Locations

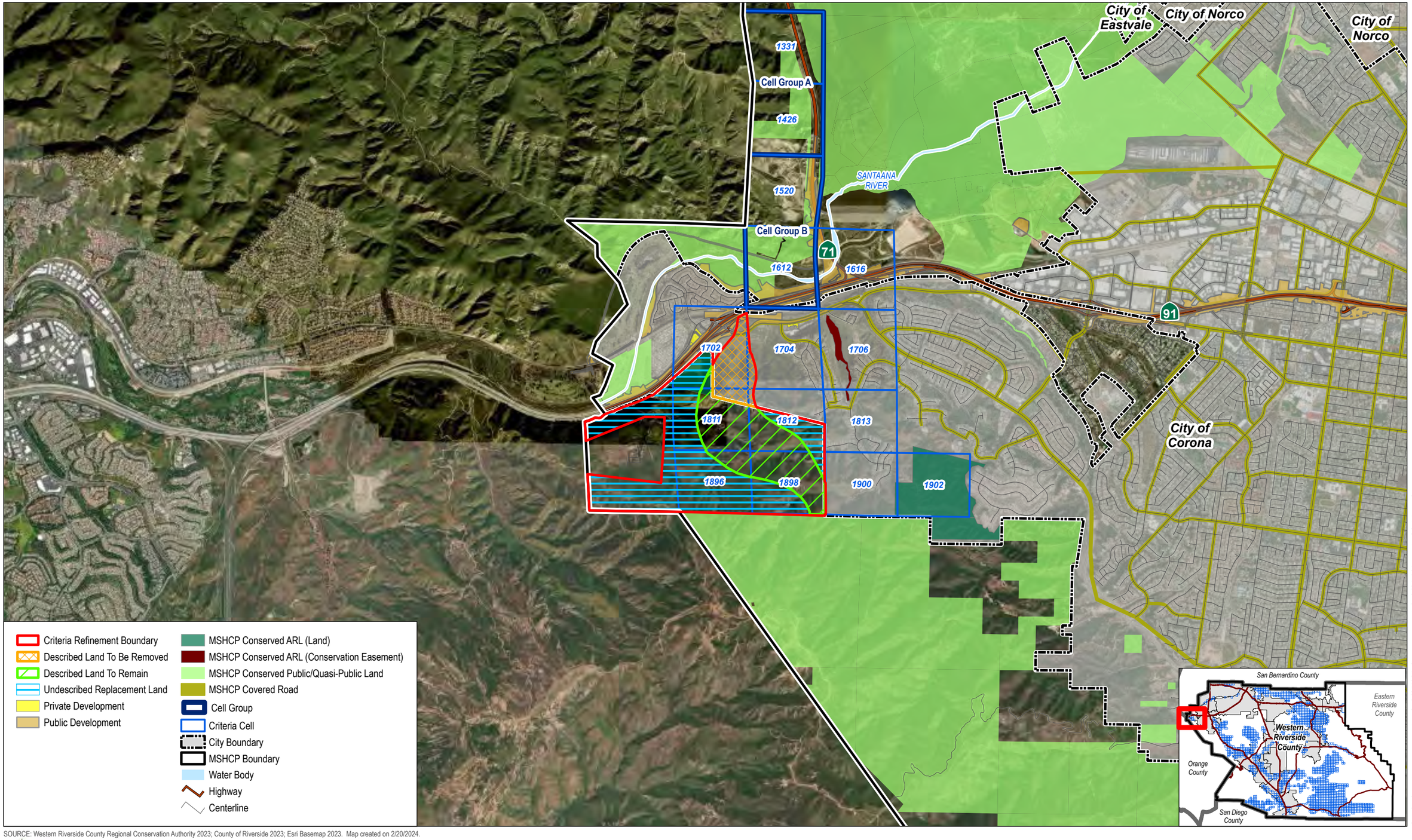
GLENN LUKOS ASSOCIATES

Exhibit 6

X:\0363-THE REST\0385-22CORO\385-22GIS\BioGIS\Wildlife\385-22CameraSpeciesMap05-10-07.mxd
June 26, 2007

Exhibit A

Regional Map



G:\RCA\CRITERIA_REFINEMENT\CR24011001_GreenRiverRanch\CR24011001_FINDINGSEXHIBITS.aprx

SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; Esri Basemap 2023. Map created on 2/20/2024.

Regional Conservation Authority
Western Riverside County

r43014
Permittee: City of Corona
Relocation of Proposed Constrained Linkage 1

0 1,000 2,000 Feet

EXHIBIT A

CR Log No. 24-01-10-01- Regional

Exhibit B

Vicinity Map with MSHCP Schematic Cores and Linkages

CR Log No. 24-01-10-01

MSHCP Boundary

Proposed Linkages
- Constrained Linkage
- Linkage
- Existing Channel

Existing Cores & Linkages
- Constrained Linkage
- Core
- Linkage
- Noncontiguous Habitat Block

Proposed Cores & Habitat Blocks
- Core
- Proposed Extension of Existing Cores
- Noncontiguous Habitat Block

SOURCE: Western Riverside County Regional Conservation Authority (WRC-RCA). Map created on 2/20/2024

Regional Conservation Authority
Western Riverside County

r43014
Permittee: City of Corona
Relocation of Proposed Constrained Linkage 1

0 2 4 Miles

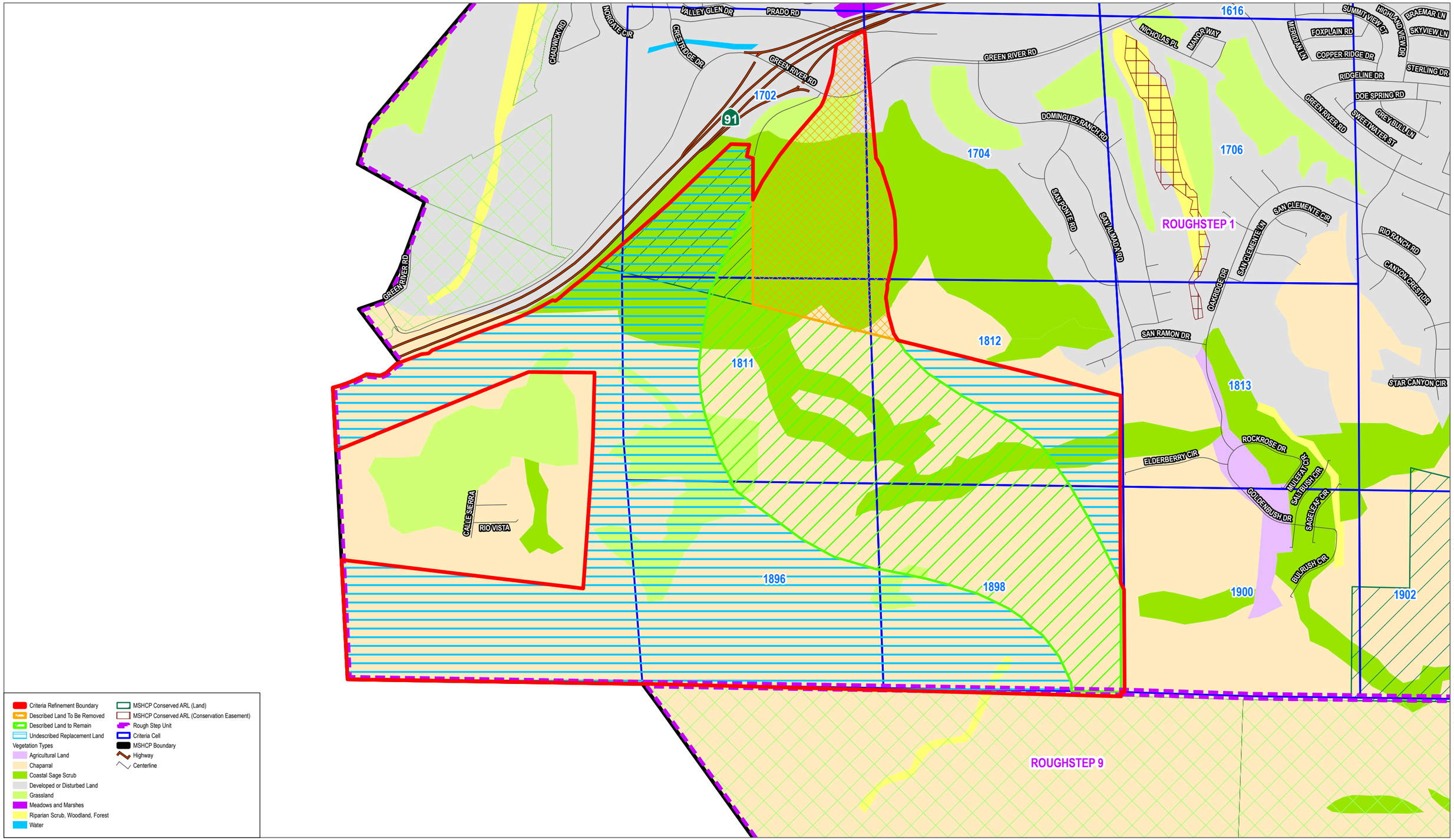
G:\RCA\CRITERIA_REFINEMENT\CR24011001_GreenRiverRanch\CR24011001_FINDINGSEXHIBITS.aprx

EXHIBIT B

CR Log No. 24-01-10-01- Vicinity Map with MSHCP Schematic Cores and Linkages

Exhibit C

MSHCP 1994 Baseline Vegetation



SOURCE: WRC-RCA MSHCP Baseline Vegetation (1994). Map created on 2/20/2024.

G:\RCA\CRITERIA_REFINEMENT\CR24011001_GreenRiverRanch\CR24011001_FINDINGSEXHIBITS.aprx

Regional Conservation Authority
Western Riverside County

r43014
Permittee: City of Corona
Relocation of Proposed Constrained Linkage 1

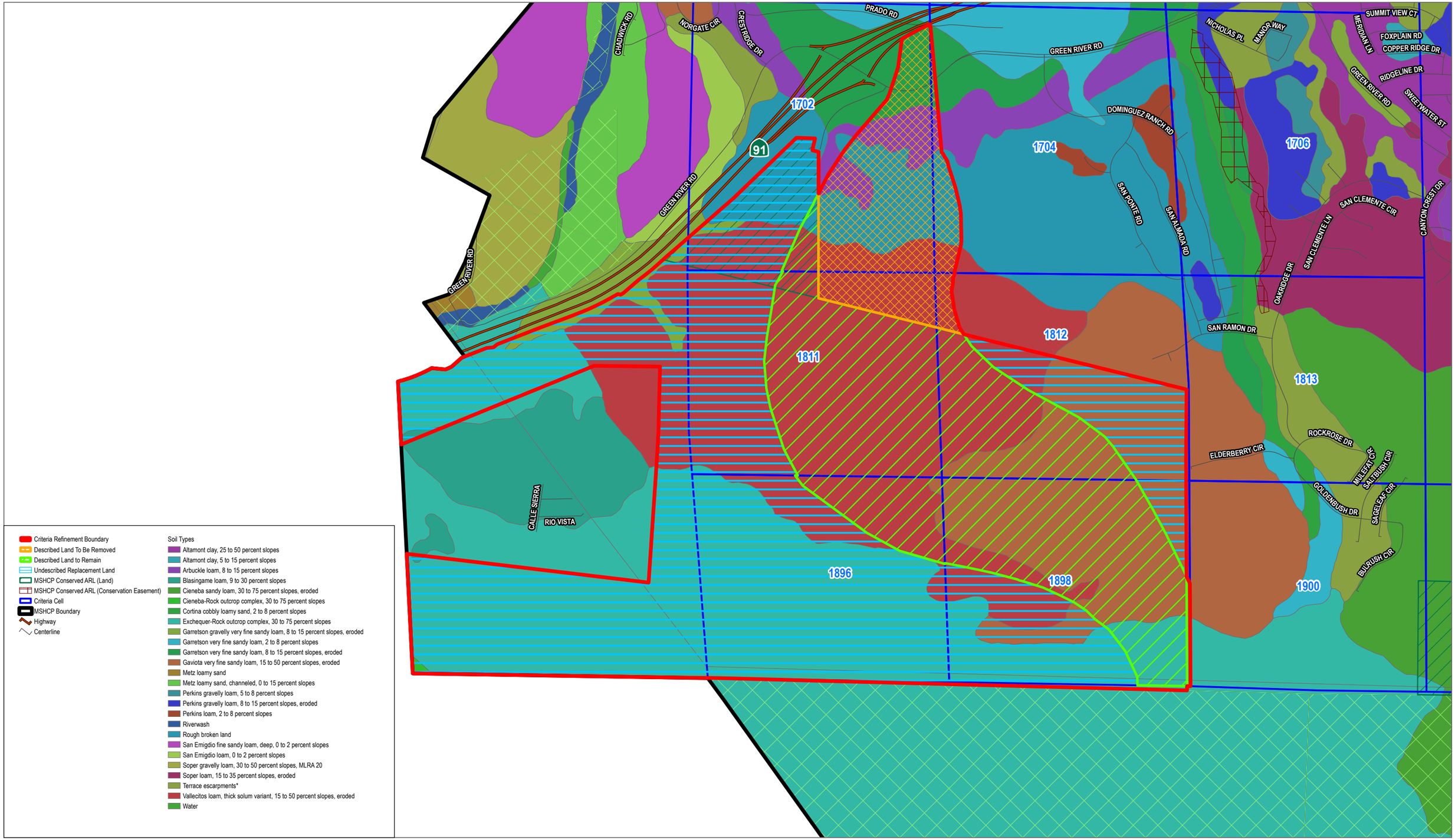
0 750 1,500 Feet

EXHIBIT C

CR Log No. 24-01-10-01- MSHCP 1994 Baseline Vegetation

Exhibit D

Soil



SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; USDA/NRCS Soils 2022

Regional Conservation Authority
Western Riverside County

r43014
Permittee: City of Corona
Relocation of Proposed Constrained Linkage 1

0 750 1,500 Feet

EXHIBIT D
CR Log No. 24-01-10-01- Soil

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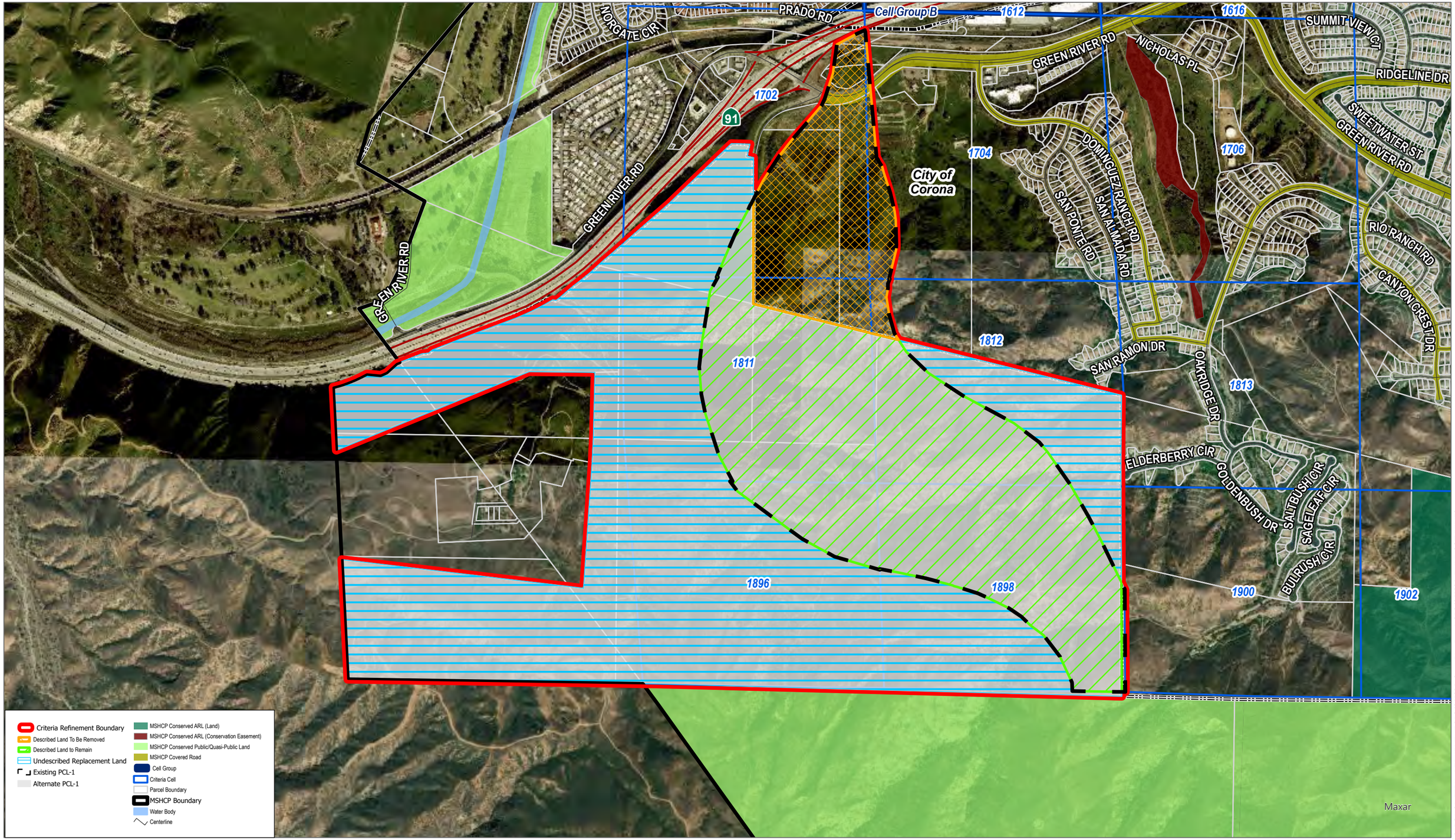
Exhibit E

Criteria Refinement Detail



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SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; Esri Basemap 2023. Map created on 2/20/2024.

Regional Conservation Authority
Western Riverside County

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Relocation of Proposed Constrained Linkage 1

0 750 1,500 Feet

EXHIBIT E

CR Log No. 24-01-10-01- Criteria Refinement Detail