BIOTA REPORT

CASTAIC CREEK SEGMENT OF SANTA CLARA RIVER SIGNIFICANT ECOLOGICAL AREA TAPIA RANCH DEVELOPMENT PROJECT TAPIA CANYON ROAD BRIDGE REPLACEMENT

LOCATED NEAR THE COMMUNITY OF CASTAIC, UNINCORPORATED LOS ANGELES COUNTY, CALIFORNIA

APNs 2865-012-916, 2865-012-917, 2865-021-800, 2865-021-902

Prepared for:

Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012
Contact: Alejandrina Baldwin, Principal Planner, Subdivisions
Office Telephone: (213) 974-6433, Direct Telephone: (213) 647-2464
Email: abaldwin@planning.lacounty.gov

Prepared By:

Glenn Lukos Associates, Inc.
1940 E. Deere Avenue, Suite 250
Santa Ana, California 92705
Contact: Tony Bomkamp and Stephanie Cashin
Telephone: (949) 837-0404

Applicant:

Anton Austin
DACA-Castaic LLC
1565 Hotel Circle South, Suite 310.
San Diego, California 92108
Office: (951) 444-5600, Mobile: (714) 366-3828

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SUMMARY OF PROJECT IMPACTS AND MITIGATION

The Tapia Canyon Road Bridge Replacement Project proposes to replace the existing culverted crossing of Castaic Creek with a bridge that would include four arches (each approximately 65 feet wide) with a clear height of approximately 17 feet over the top of Castaic Creek channel invert and be designed to accommodate a 50-year storm event. The proposed bridge would cross a portion Castaic Creek that is designated as a Significant Ecological Area (SEA), specifically, the Castaic Creek overlay of the Castaic Area Community Standards District (CSD) as depicted by Figure 22.312-G: Area 5—Castaic Creek Area of the Castaic CSD. The area of SEA proposed to be impacted during construction covers 8.08 acres (of which 6.61 acres is considered permanent, and 1.47 acres is considered temporary for a temporary construction easement). In addition to the Project impact areas, the total area studied for the Project includes a 200-foot buffer required for projects in an SEA; the Project impact areas and SEA buffer together encompass 16.66 acres. The proposed bridge will be constructed within the existing roadway footprint so there would be no expansion of the bridge beyond the existing culverted roadway. Construction activities in the 6.61-acre area will include installation of protection in the form of buried riprap topped with three feet of native substrate as well as exposed riprap. Because of the permanent placement of structures, remedial grading, and potential for future vegetation removal for maintenance, impacts within these 6.61 acres are considered permanent. Impacts in the 1.47-acre temporary construction easement will be restored following construction.

Project impacts will include removal of vegetation, permanent and temporary impacts to special-status plants and animals, and permanent and temporary impacts to jurisdictional waters of the U.S. and waters of the State. Mitigation will follow the SEA recommendations by SEA Category (i.e., Categories 1 – 5) that will be satisfied through onsite restoration of temporary impacts and offsite restoration or preservation within the Santa Clara River SEA.

The Project will permanently impact 0.27 acre of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance, 0.05 acre of Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance, 0.23 acre of Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance, 0.42 acre of California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance, 0.35 acre of California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance, 1.87 acres of Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance, 0.39 acre of Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance, 0.92 acre of Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands, 0.31 acre of Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Herbaceous Stands, 0.06 acre of Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance, and 0.75 acre of Sandy Wash. Permanent impacts will be mitigated through a combination of preservation and, if necessary, habitat restoration of 16.44 acres of riparian and alluvial habitat and 2.68 acres of upland scrub and grassland at an offsite mitigation area in the Santa Clara River SEA.

The Project will temporarily impact up to 1.47 acres in a temporary construction easement required by the County of Los Angeles. The easement extends at least 15 feet from the limit of disturbance for permanent impacts. Such impacts are provisional but are included in this analysis under the assumption that the 1.47 acres will be fully impacted. However, impacts in the temporary construction easement will be avoided to the greatest extent possible. Any temporary

impacts in the temporary construction easement will be restored following construction and will be mitigated through a combination of preservation and, if necessary, habitat restoration at an offsite mitigation area in the Santa Clara River SEA of up to 2.65 acres of riparian and alluvial habitats and 0.37 acres of upland scrub habitats.

The Project will impact approximately 75 individuals of one non-listed special-status plant species, white rabbit tobacco (CRPR 2B.2). Impacts to white rabbit tobacco will be mitigated through 1) seeding in the Project impact area following construction, and 2) reestablishment of 375 individuals at an offsite mitigation area in the Santa Clara River SEA.

The Project will impact a total of 23 SEA Protected Trees, including three heritage trees, which occur within grading limits and/or within the tree protected zone (TPZ). The Project has potential to impact 5 additional SEA Protected Trees in the temporary construction easement. Mitigation would consist of replacement at a ratio of 2:1 onsite or offsite in the SEA.

The Project will permanently impact habitat with potential to support special-status wildlife species. For California legless lizard and southern grasshopper mouse, permanent impacts to 2.93 acres of habitat with the potential to support these species will be mitigated through offsite preservation at 4:1 of potentially suitable habitat for these species within the Santa Clara River SEA. For the coast horned lizard and coastal whiptail, permanent impacts to 4.09 acres of habitat with potential to support these species shall be offsite preservation at 4:1 of potentially suitable habitat for these species. For the least Bell's vireo, permanent impacts to 1.53 acres of cottonwood forest, arroyo willow thickets, sandbar willow thickets, cattail marshes, and tamarisk thickets with potential to support this species shall be mitigated through preservation of offsite lands with suitable habitat for this species a ratio of 5:1. For the yellow warbler, permanent impacts to 1.53 acres of cottonwood forest, arroyo willow thickets, sandbar willow thickets, cattail marshes, and tamarisk thickets with potential to support this species shall be mitigated through preservation of offsite lands within the Santa Clara River SEA with suitable habitat for this species a ratio of 4:1. For the San Diego desert woodrat, permanent impacts to 2.64 acres of habitat with the potential to support this species consisting of sage scrub and scale broom scrub habitats shall be mitigated through preservation of offsite lands within the Santa Clara River SEA with suitable habitat for this species a ratio of 4:1. For permanent impacts to 5.61 acres of foraging habitat for special-status avian and bat species that were either detected onsite or have potential to occur, including loggerhead shrike, northern harrier, olive-sided flycatcher, golden eagle, white tailed kite, California leaf-nosed bat, spotted bat, Townsend's big-eared bat, and mastiff bat, as well as common raptor species, shall be mitigated through preservation of offsite lands within the Santa Clara River SEA at a mitigation ratio of at least 1:1. Temporary impact areas comprising wildlife habitat in the temporary construction easement, if such impacts occur, will be mitigated at the same ratios above through a combination of onsite restoration and offsite preservation in the SEA.

The Project has potential to result in direct take of several special-status species, including species that are listed or proposed for listing under the California and Federal Endangered Species Acts: Crotch's bumble bee (State Candidate Endangered), monarch butterfly (Federal Candidate), least Bell's vireo (State Endangered, Federal Endangered), burrowing owl (State Candidate), American badger (California Species of Special Concern), and Southern California

mountain lion (State Candidate). The Project includes avoidance measures specific to each of the above species to avoid direct take, which may include pre-construction surveys and seasonal avoidance. If direct take is unavoidable, the measures include requirements for consultation with the California Department of Fish and Wildlife and United States Fish and Wildlife Service to obtain take authorization. Additionally, a measure is included to mitigate for potential indirect impacts to nesting least Bell's vireo from construction noise.

The Project, as designed, will impact jurisdictional waters in Castaic Creek, including up to 0.90 acres of non-wetland Corps and Regional Board jurisdiction and 4.41 acres of CDFW jurisdiction, of which 1.67 acres consist of vegetated riparian habitat. The Project will mitigate impacts to Castaic Creek through purchase of credits at an agency-approved mitigation bank and/or permittee-responsible mitigation within the Santa Clara River SEA.

1.0 INTRODUCTION

1.1 Background and Scope of Work

This Biota Report provides an impact analysis and mitigation measures for the Tapia Canyon Road Bridge replacement ("Proposed Bridge Project") over Castaic Creek, which is a component of the approximately 1,197-acre Tapia Ranch Development Project ("Proposed Project"). The analysis in this report is based upon the results of general and focused biological surveys contained in the Biological Constraints Analysis for the Proposed Bridge Project dated September 2024. The Proposed Bridge Project is located in the Santa Clara River Significant Ecological Area (SEA), and the triggering overlay for this analysis is the depiction of Castaic Creek as it appears in Figure 22.312-G: Area 5—Castaic Creek Area of the Castaic Community Standards District (CSD).

The Proposed Project includes the approximately 1,167-acre Tapia Canyon Property and approximately 30 acres of proposed off-site improvements, which includes the Tapia Canyon Road Bridge replacement. The Proposed Bridge Project, which is in the SEA, is located north of the City of Santa Clarita, in unincorporated Los Angeles County, California [Exhibit 1 – Regional Map and Exhibit 2 – Vicinity Map]. The Castaic Creek portion of the Tapia Ranch property is located within portions of parcels with the following Assessors Parcel Numbers (APNs): 2865-012-916, 2865-012-917, 2865-021-800 [Exhibit 3 – Project Site Map]. The Proposed Bridge Project is located on Tapia Canyon Road immediately east of Interstate 5 and west of Charlie Canyon Road; no address is associated with the site.

This report builds upon the Biological Constraints Report that was previously prepared for the Proposed Bridge Project that discussed existing conditions and inventoried sensitive biological resources associated with the Tapia Canyon Road bridge that crosses Castaic Creek [Exhibit 4 – SEA Biological Constraints Map]. This report includes an analysis of impacts to biological and jurisdictional resources, and proposed measures to reduce Proposed Project-related impacts to a level of less than significant under the California Environmental Quality Act (CEQA) and ensure consistency with SEA Conditional Use Permit (CUP) compatibility criteria.

Methods of the study include a review of relevant literature, general and focused 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), and the California Native Plant Society (CNPS). Additionally, this report is consistent with the Los Angeles County SEA Ordinance Implementation Guide (SEA Guide; County of Los Angeles, 2020) specifically for the offsite Tapia Canyon Road bridge replacement area, which is the only Proposed Project component in the SEA.

The field studies focused on a number of primary objectives that would comply with CEQA presence/absence requirements, including (1) general reconnaissance surveys and vegetation mapping; (2) floristic plant surveys; (3) general wildlife surveys; (4) habitat assessments and focused surveys for special status plant species; (5) habitat assessments and focused surveys for special status wildlife species; and (6) jurisdictional delineation. Observations of plant and wildlife species were recorded during each of the above-mentioned survey efforts and are included [Appendix A; Floral Compendium, and Appendix B; Faunal Compendium].

Project Applicant:

Anton Austin
DACA-Castaic LLC
1565 Hotel Circle South, Suite 310
San Diego, California 92108
Office: (951) 444-5600
Mobile: (714) 366-3828

1.2 Castaic Creek Tapia Canyon Road Bridge Replacement Project Location

The Proposed Bridge Project in the Santa Clara River SEA comprises approximately 16.66 acres north of the City of Santa Clarita within unincorporated Los Angeles County, California. The 16.66 acres include the 6.61-acre proposed offsite Tapia Canyon Road Bridge replacement and road improvement footprint, a 1.47-acre Temporary Construction Easement (TCE), and a 200-foot buffer that is required to be evaluated for development within SEAs; the portion of the buffer within the SEA covers 8.58 acres. Note that the portion of the buffer that extends beyond the SEA to the east and west is not included in the 8.58 acres. The SEA buffer, TCE, and Bridge Project footprint includes APN parcels 2865-012-916, 2865-012-917, 2865-021-902, and 2865-021-800 [Exhibit 3]. Table 1-1 below summarizes Bridge Project acreages for each APN.

Table 1-1. Summary of APNs for the Project

APN	SEA Buffer (acres)	Temporary Construction Easement (acres)	Bridge Project Footprint (acres)
2865-012-916	0.17	0.01	0.07
2865-012-917	4.01	0.57	2.11

APN	SEA Buffer (acres)	Temporary Construction Easement (acres)	Bridge Project Footprint (acres)
2865-021-902	3.59	0.57	3.27
2865-021-800	0.82	0.38	0.40
Tapia Canyon Road ROW/No APN	0	0	0.75
Total	**8.58**	**1.47**	**6.61**
*The column totals differ from the sum of the parts due to rounding error.			

The Proposed Bridge Project is located within Sections 25 and 36 of Township 5N, Range 16W, of the U.S. Geological Survey (USGS) topographic map Newhall, California [Exhibit 2]. Topography within the overall Tapia Ranch Project Site includes prominent ridgelines to the north and south and is mountainous in vicinity of the Project Site. The topography of the Proposed Bridge Project site is generally flat with the elevation in the approximate range of 1,100 feet above mean sea level (AMSL).

Land uses in the Castaic Creek overlay of the Castaic Creek CSD and associated 200-foot buffer areas include Castaic Creek and adjacent terraces and the Tapia Canyon Road concrete crossing that will be replaced by the proposed bridge structure. The current crossing includes multiple culverts that cause a restriction in flows due to the downcutting caused by the culverts.

1.3 Bridge Replacement Project Description

Approximately 700 feet east of the intersection of Tapia Canyon Road and Castaic Road is an existing closed-conduit culvert crossing on Tapia Canyon Road (Los Angeles County Bridge No. 2085). The previous crossing at this location was severely damaged and partially washed out in 2004-2005 and was replaced by a temporary road crossing that currently remains in place. The Proposed Bridge Project would remove the existing closed-conduit culvert crossing and construct an “all weather” open-bottom arch culvert bridge in the same location, as depicted on Appendix C – Proposed Tapia Canyon Road Replacement Bridge. The new bridge would be within the same general alignment as the existing bridge, near the confluence of the Castaic Creek and Charlie Canyon drainage course. The proposed structure would contain four arches (each approximately 65 feet wide) with a clear height of approximate 17 feet over the top of the Castaic Creek channel invert and be designed to accommodate a 50-year storm event. The arches would be made of concrete while the footings and headwalls would be made of structural concrete and rebar. Riprap would be placed throughout to prevent scour at the inlet, outlet, piers, and roadway embankments, with some of the riprap exposed directly adjacent to the bridge. To the north and south of the bridge, a 3-foot-thick section of earthen material would be placed over a 5-foot-thick armoring layer of riprap. The design of the proposed replacement bridge would comply with all applicable L.A. County Department of Public Works (LACDPW) standards and with Section 503.2.6, Title 32 (Los Angeles County Fire Code) of the L.A. County Code. Compliance with those requirements would be verified by LACDPW prior to the approval of the

final subdivision map and throughout the construction process. Exhibit 4B depicts the Project limits of disturbance as an overlay to the vegetation map.

Construction of a new creek crossing would require the removal of the existing bridge, the provision of temporary vehicular and non-vehicular access bridge (to retain emergency and non-emergency access at all times) and include the temporary and/or permanent relocation of those functional utilities and pipelines impacted by those actions. The separate temporary bridge would be constructed to allow continuous east-west access across Castaic Creek during construction of the permanent Tapia Canyon Road Bridge and would then be removed. Additionally, physical access to the existing Castaic Creek channel would be required for the demolition and removal of the existing bridge to provide temporary support for the replacement bridge's falsework. Dewatering of the creek may be required for construction of the replacement bridge and for the installation of the associated rock slope and channel protection. If required, temporary dewatering structures would include earthen berms, placed a minimum of 10 feet from the bridge, connected by culverts, to maintain flows within Castaic Creek. The dewatering plan would allow normal flows within Castaic Creek to pass Tapia Canyon Road. The dewatering system and creek crossing would be completely removed once the permanent replacement bridge is constructed. Remedial grading north and south of the Bridge would also be required [Appendix C – Bridge Plan].

Following construction of the bridge and associated roadway and installation of 5-foot-thick armoring layer of riprap, the area would be covered with a 3-foot layer of earth consisting of substrate that currently occurs within Castaic Creek. The Project footprint would then be seeded with component riparian and upland species, including with white rabbit tobacco (*Pseudognaphalium leucocephalum*), the one sensitive plant within the construction footprint. Although the impacted areas in the Proposed Bridge Project footprint are expected to support native habitat after construction (except where permanent above-ground structures and materials will be placed), all impacts in the Project footprint are considered permanent for purposes of this analysis because of the future potential for maintenance that could result in habitat removal.

In addition to the permanent impacts in the Project footprint, the Project may temporarily remove habitat within a TCE required by the County of Los Angeles that extends at least 15 feet from the outer limit of the Project footprint. Such impacts are provisional and will be avoided to the greatest extent possible during construction but are addressed in this analysis under the assumption that the entire TCE would be fully impacted.

The new bridge would cross a portion Castaic Creek that is designated as a Significant Ecological Area (SEA), specifically, the Castaic Creek overlay of the CSD as depicted by Figure 22.312-G: Area 5—Castaic Creek Area of the Castaic CSD. SEAs are officially designated areas within Los Angeles County identified as having irreplaceable biological resources. The SEA designation does not confer protection or preservation, nor does it prohibit development. The SEA ordinance establishes the permitting, design standards, and review process for development within SEAs. The SEA Overlay's purpose is to ensure that the portions of the site within an SEA designation are appropriately considered as part of Project development. Development of the new creek crossing as part of the Proposed Project would require a SEA CUP, because it is

subject to the Castaic CSD which requires an SEA-CUP for construction within Castaic Creek, thus it requires review by SEATAC.

1.3.1 Proposed Disturbance Schedule

The following proposed disturbance schedule provides the anticipated duration of each construction activity. The anticipated start date has not been determined pending Project approvals.

Table 1-2. Proposed Disturbance Schedule

Construction Activity	Duration (work days)
Asphalt demolition and onsite reprocessing	10
Fine Grading/Utilities Trenching	20
Bridge Construction	171
Bridge Demolition and Onsite Reprocessing	10
Striping	34
Finishing/Landscaping	34

1.3.2 Permits Requested

The Project will be seeking the following permits or authorizations:

- Conditional Use Permit in accordance with the SEA Guidelines and requirements
- Section 404 Permit from the Corps
- Section 401 Water Quality Certification from the Los Angeles RWQCB
- Section 1602 Streambed Alteration Agreement from CDFW
- Biological Opinion for potential incidental take of least Bell's vireo pursuant to Section 7 of the FESA

1.3.3 Project Alternatives

No alternative bridge design is being evaluated for the Project; the only project alternative is a "No Project" Alternative for which the existing culverted road crossing would be retained. As otherwise noted, the current road crossing includes culverts that are situated well above the Castaic Creek channel, substantially limiting passage of fish during low and moderate flows and precluding use of the culverts by small mammals and reptiles for movement up- and down-stream through the Project site. The proposed bridge structure includes four 65-foot-wide spans each with 17-foot-high clearances and a three-foot support between each span as depicted on the bridge plans attached as Appendix C. In terms of ecological function, the proposed bridge structure is superior to the existing crossing as it will provide full passage for fish during all flow regimes and will provide passage for all sizes of terrestrial wildlife including small, medium, and large mammals as well as reptiles and would enhance functions such as seed dispersal. In short,

the proposed bridge structure provides for a substantial functional lift for all biological functions adversely affected by the current structure.

2.0 REGULATORY FRAMEWORK

The Proposed Bridge Project is subject to state and federal 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; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

2.1 Federal Regulatory Programs

2.1.1 Federal Endangered Species Act (FESA)

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.

Federal 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.

2.1.2 Federal Clean Water Act

Under Section 404 of the CWA, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. Pursuant to the September 8, 2023 definition for Waters of the U.S., 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;

(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 that are relatively permanent, standing or continuously flowing bodies of water;

(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) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section 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) of this section.

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.*

<u>Wetland Definition Pursuant to Section 404 of the Clean Water Act</u>

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 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.

2.1.3 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13.[1] As such, the removal of habitat during the avian nesting season exhibits potential for removing active nests, which would result in a violation of the MBTA.

2.2 State of California Regulatory Programs

2.2.1 State of California 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

[1] Department of the Interior, Fish and Wildlife Service. November 1, 2013. 50 CFR Parts 10 and 21 General Provisions; Revised List of Migratory Birds; Final Rule. *Federal Register,* Vol. 78, No. 212.

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.

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 1913 of the California Fish and Game Code provides that notification is required prior to disturbance.

State and Federal Take Authorizations for 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.

2.2.2 California Fish and Game Code Section 1600

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 fish as "a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals" (FGC Division 0.5, Chapter 1, section 45), and wildlife as "all wild animals, birds, plants, fish, amphibians, reptiles, and related ecological communities, including the habitat upon which the wildlife depend for its 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.

2.2.3 California Fish and Game Code Section 3503

Section 3503 of the California Fish and Game Code states:

> *It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.*

In addition, Section 3503.5 states:

> *It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*

As such, the removal of habitat during the avian nesting season exhibits potential for removing active nests, which would result in a violation of Section 3503 of the California Fish and game Code.

2.2.4 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[2] and waters of the 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. CWA Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

[2] 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 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.

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;[3] and
3. Artificial wetlands[4] 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;
    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

[3] "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.
[4] Artificial wetlands are wetlands that result from human activity.

xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.

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.

2.3 California Environmental Quality Act

2.3.1 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 assigns California Rare Plant Ranks (CRPR) to species categorized as List 1A, 1B, or 2A and 2B of the CNPS *Inventory of Rare and Endangered Plants in California* because such plants may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants that are regionally important such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

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

Federally Designated Special-Status Species

Some years ago, 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 and C3 species are no longer considered as candidate species and are no longer maintained in list form by the USFWS, nor are they formally protected. 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 Category 1 candidates)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species 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
- FP State Fully Protected
  SP State Protected
- SSC California Species of Special Concern

CNDDB Global/State Ranking

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 about how rare a species/community is, and is 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. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 are considered to be common. If the exact 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 Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Ninth 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. In partnership with CDFW, CNPS has developed five categories of rarity that are summarized in Table 2-1.

Table 2-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions.

CRPR	Comments
List 1A – Presumed Extinct in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California and either rare or extinct elsewhere based on a lack of observation or detection for many years.
List 1B – Rare 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.
List 2A – Presumed Extinct in California, More Common Elsewhere	Species thought to be extinct in California but more common outside of California
List 2B - Rare or Endangered in California, More Common Elsewhere	Species, which are generally rare in California but more common outside California.

CRPR	Comments
List 3 – Need More Information	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 list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
List 4 – Plants of Limited Distribution	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 List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 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 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.

2.4 Local Policies/Ordinances

2.4.1 The County of Los Angeles Significant Ecological Area Ordinance

The Los Angeles County SEA Ordinance was developed and adopted as part of the 1980 County General Plan to protective biodiversity on a countywide level (Los Angeles County Regional Planning 2020). The SEA Ordinance, including the boundary, goals, and policies, was updated in 2015, as part of The General Plan 2035. Projects that are located within an SEA are subject to SEA Technical Advisory Committee (SEATAC) review, and generally require an SEA Conditional Use Permit (SEA CUP) unless it is determined through SEATAC review that a project is consistent with SEA Development Standards. In support of this process, the Implementation Guide was issued on January 16, 2020. The SEA CUP now incorporates review of the SEA Protected Tree Standards, incorporating the Protected Tree Permit otherwise administered under the Los Angeles County Oak Tree Ordinance.

All projects that are located within an SEA must provide a Burden of Proof statement detailing how a project will meet each required SEA finding. Burden of Proof statements provide details as to how a project meets the findings, either through project design elements or mitigation measures to:

- Be highly compatible with the SEA Resources, including the preservation of natural open space areas and providing for the long-term maintenance of ecosystem functions;

- Avoid or minimize impacts to the SEA Resources and wildlife movement through one or more of the following: avoiding habitat fragmentation, minimizing edge effects, or siting development in the least sensitive location;
- Buffer important habitat areas from development by retaining sufficient natural vegetation cover and/or natural open spaces and integrating sensitive design features;
- Maintain the ecological and hydrological functions of water bodies, watercourses, and their tributaries;
- Ensure that roads, access roads, driveways, and utilities do not conflict with Priority Biological Resources, habitat areas or migratory paths; and
- Promote the resiliency of the SEA to the greatest extent possible. For purposes of this finding, SEA resiliency cannot be preserved when the proposed development may cause any of the following:

    a. Significant unmitigated loss of contiguity or connectivity of the SEA;
    b. Significant unmitigated impact to a Priority Biological Resource;
    c. Removal of habitat that is the only known location of a new or rediscovered species; or
    d. Other factors as identified by SEATAC.

2.4.2 The County of Los Angeles Oak Tree Ordinance

The County of Los Angeles Oak Tree Ordinance (Ordinance) was established to recognize oak trees as having significant ecological, historical, and aesthetic value. The goal of the ordinance is to preserve and maintain healthy oak trees by creating favorable conditions for their longevity.

The following sections describe the basic requirements of the Ordinance. Please refer to the entire County of Los Angeles Oak Tree Ordinance for detailed permit requirements.

Section 22.56.2050 states that the Ordinance was established:

> *"**(a)** to recognize oak trees as significant historical, aesthetic and ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and manmade landscape, enhancing the value of property, and the character of the communities in which they exist; and **(b)** to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as heritage oak trees, for the benefit of current and future residents of Los Angeles County…"'*

Section 22.56.2060 states that damaging or removing oak trees is prohibited:

> ***A.*** *Except as otherwise provided in Section 22.56.20.70, a person shall not cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured for and one-half feet above mean natural grade; in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured for and one half feet above mean natural grade, on any lot or parcel of land within the unincorporated area of Los Angeles County, or (b) any tree that has been provided as a replacement tree, pursuant to Section*

22.56.2180, on any lot or parcel of land within the unincorporated area of Los Angeles County, unless an oak tree permit is first obtained as provided by this Part 16.

B. *"Damage," as used in this Part 16, includes any act causing or tending to cause injury to the root system or other parts of the tree, including, but not limited to, burning, application of toxic substances, operation of equipment or machinery, or by paving, changing the natural grade, trenching or excavating within the protected zone of an oak tree.*

C. *"Protected zone," as used in this Part 16, shall mean that area within the dripline of an oak tree and extending therefrom to a point at least five feet outside of the dripline, or 15 feet from the trunks of a tree, whichever distance is greater.*

2.4.3 The County of Los Angeles Oak Woodland Conservation Management Plan

The County of Los Angeles established the Los Angeles County Oak Woodlands Conservation Management Plan (LA County Oak Plan) and Oak Woodlands Conservation Management Plan Guide to preserve and restore oak woodlands in perpetuity with no net loss and promote conservation within the development process to mitigate loss of oak woodlands. The LA County Oak Plan includes the following definitions: Oak Tree is defined as any native tree in the genus *Quercus*, including shrub species, that are a part of a woodland, greater than 5 inches diameter at breast height (dbh) are protected. Oak Stand is a physical unit with not set size but includes a group of similar oaks growing in a continuous pattern and includes diverse structure and age distribution. Oak Woodlands include oak stands of two or more trees and the understory with greater than 10 percent cover. Oak Savanna consists of an open grassland with oaks as the dominant tree species.

2.4.4 The County of Los Angeles Audubon Society Sensitive Bird Species

The Los Angeles Audubon Society (Los Angeles Audubon) is a citizen conservation organization devoted to the enjoyment and protection of bird species in the County of Los Angeles. In 2008, the Los Angeles Audubon convened the Los Angeles County Sensitive Bird (CSB) Species Working Group to develop a Los Angeles County specific list of sensitive and watchlist species similar to the California Bird Species of Special Concern (BSSC). The Los Angeles Audubon wanted to highlight species in need of conservation management and provide information including distribution, habitat use by common and rare species, point out population declines associated with urban and suburban development. The CSB list includes species targeted for County specific conservation concerns including breeding, wintering, and location. The CSB list is divided into two parts and a Los Angeles County Bird Watchlist. The CSB Part I include County Sensitive Bird Species, while Part II includes County Sensitive Bird Species also listed by other agencies. Bird species may be listed multiple times depending on the conservation concern.

3.0 IMPACTS

As noted in the Project description, replacement of the existing culverted structure that provides access across Castaic Creek will include a bridge with four arches, each approximately 65 feet wide and 17 feet in height. The Bridge Project includes installation of above-grade and below-grade riprap, the latter of which will be buried with native substrate from the site and provide a minimum three feet of cover over the below-grade riprap, allowing for seeding of removed vegetation, including sensitive alluvial scrub and white rabbit tobacco. Native vegetation is also expected to passively revegetate in the 6.61-acre area following construction. Due to remedial grading that will alter the current contours of Castaic Creek and the placement of riprap armoring, inlet/outfall structures, and maintenance access roads in Castaic Creek, as well as the potential for future maintenance that could remove native habitat, impacts to the 6.61-acre portion of the Bridge Project footprint are considered as permanent. The entire 1.47-acre TCE is presumed to be temporarily impacted for purposes of this analysis; however, impacts during construction in the TCE will be avoided to the greatest extent possible and revegetated following construction, and mitigation acreages for the TCE will ultimately be based upon actual impacts.

Replacement of the existing crossing, which largely blocks movement of aquatic species during storm events or discharge from the Castaic Reservoir and also blocks movement of small mammals and reptiles within Castaic Creek, will result in a significant enhancement of both aquatic movement and movement for small mammals and reptiles while enhancing movement by large mammals such as coyote, bobcat, and mountain lion. Thus, relative to wildlife movement at all relevant scales, the bridge replacement project is "self-mitigating." In certain instances addressed below, the loss of certain vegetation alliances and associated impacts to special-status species are considered significant and are addressed in accordance with the SEA Guidelines.

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the project. Project-related impacts can occur in two forms, direct and indirect (albeit temporary in this instance). Direct impacts are considered those that involve the loss, modification, or disturbance of plant communities (even temporarily), which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, 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 off-site 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 invasives, 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.

3.1 California Environmental Quality Act

Thresholds of Significance

Environmental impacts relative 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 to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, insure 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, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for purposes 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.

Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 2018 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 Wildlife 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 Wildlife or U.S. Fish and Wildlife Service.*
>
> *c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (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.*

3.2 Impacts to Vegetation Associations

Impacts to vegetation alliances and land uses associated with the Bridge Project total 8.08 acres, of which 6.61 acres is permanent and 1.47 acres is for the TCE [Exhibit 4B]. The 6.61-acre permanent Bridge Project footprint includes impacts to 0.99 acre of existing development/roadway and 5.62 undeveloped acres within Castaic Wash and adjacent terraces. The 1.47-acre TCE includes 0.17 acre of existing development and 1.30 undeveloped acres. Table 3-1 below summarizes impacts to vegetation and land uses associated with Bridge Project implementation and includes SEA Resource Categories and recommended preservation ratios for each of those categories. In addition, the table below differentiates impacts to each vegetation type that occur within Water Resources as defined in the SEA Ordinance Implementation

Guide.[5] Regardless of the vegetation type, impacts to Water Resources, which is a Category 1 resource, are subject to a recommended preservation ratio of 5:1. A discussion of impacts to each vegetation type follows the table.

[5] For rivers and streams, the edge of the SEA Water Resources is defined as the "outside edge of riparian vegetation (i.e. dripline) on either side of the active channel. If riparian vegetation is absent or sparse, use bed and bank of the active channel inclusive of any braided channel conditions."

Table 3-1. Summary of Impacts to Vegetation Alliances/Land Use Impacts

Vegetation/Land Use Type	CACode Global/State Rank SEA Category Recommended Preservation Ratio	Outside Water Resources			Water Resources SEA Category 1 5:1 Preservation Ratio			Total Impacts
		Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total (Acres)	
Forest and Woodland Habitats								
Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance	61.130.00 G4 S3 Category 3 3:1	0.07	0.03	0.10	0.20	0.02	0.22	**0.32**
Shrubland Habitats								
Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance	61.201.00 G4 S4 Category 4 2:1	0	0	0	0.05	0	0.05	**0.05**
California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance	32.040.00 G5 S5 Category 4 2:1	0.39	0	0.39	0.03	0	0.03	**0.42**
California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance	32.015.00 G5 S5 Category 4 2:1	0.35	0	0.35	0	0	0	**0.35**
Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance	63.510.00 G4 S4 Category 4 2:1	0.06	0	0.06	0.17	0.06	0.23	**0.29**
Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance	32.070.00 G3 S3 Category 3 3:1	0.48	0.21	0.69	1.39	0.17	1.56	**2.25**

Vegetation/Land Use Type	CACode Global/State Rank SEA Category Recommended Preservation Ratio	Outside Water Resources			Water Resources SEA Category 1 5:1 Preservation Ratio			Total Impacts
		Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total (Acres)	Permanent Impacts (Acres)	Temporary Impacts (Acres)	Total (Acres)	
Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands*	63.810.00 GNA/SNA** Category 5 1:1	0	0	0	0.92	0.17	1.09	**1.09**
Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance	37.070.00 G5 S5 Category 4 2:1	0.29	0.37	0.66	0.10	0	0.10	**0.76**
Grassland and Herbaceous Habitats								
Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Herbaceous Stands	42.026.00 GNA/SNA Category 4 2:1	0.31	0	0.31	0	0	0	**0.31**
Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance	52.050.00 G5 S5 Category 4 2:1	0	0	0	0.06	0	0.06	**0.06**
Other Land Use/Cover Types								
Sandy Wash	N/A Category 1 5:1	0	0	0	0.75	0.27	1.02	**1.02**
Developed Areas	N/A	0.97	0.17	1.14	0.02	0	0.02	**1.16**
Total Vegetation/Land Use Acreage		**2.92**	**0.78**	**3.70**	**3.69**	**0.69**	**4.38**	**8.08**

* Although Tamarisk Thickets occurs entirely within mapped Water Resources, it is subject to the 1:1 preservation ratio for Category 5 Resources provided that mitigation consists of native riparian species with similar habitat structure.
** GNA/SNA (global/state rank not applicable) is the designation used by CDFW for Semi-Natural Stands, which do not have global or state ranks.

Forest and Woodland Vegetation Communities

Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance

The Bridge Project would result in impacts to 0.32 acre of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance, of which 0.27 acre is permanent and 0.05 is in the TCE. This vegetation alliance has a rarity ranking of G4 S3, which indicates that it is regarded as rare to uncommon, and it is also a riparian-associated community that is considered special status by CDFW. Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance occurs both inside and outside of Water Resources in Castaic Creek. This vegetation alliance is a Category 3 resource under SEA guidelines, which recommend a 3:1 preservation ratio for impacts (0.10 acre) where outside of Water Resources; the impacted area within Water Resources (0.22 acre) in Castaic Creek is subject to a 5:1 preservation ratio as a Category 1 Resource. Impacts to 0.32-acre of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Shrubland Vegetation Communities

Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance

The Bridge Project would result in impacts to 0.05 acre of Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance, all of which is permanent. The vegetation community has a rarity ranking of G4 S4, which indicates that it is uncommon but not rare; however, as a riparian-associated community it is considered special status under CEQA. Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance occurs entirely within Water Resources in Castaic Creek and is therefore subject to a 5:1 preservation ratio as a Category 1 Resource. Impacts to 0.05-acre of Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance

The Bridge Project would result in impacts to 0.42 acre of California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance, all of which is permanent. The vegetation community has a rarity ranking of G5 S5, which indicates that it is common, widespread, and abundant. California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance occurs both inside and outside of Water Resources in Castaic Creek. This vegetation alliance is a Category 4 resource under the SEA guidelines, which recommend a 2:1 preservation ratio for impacts (0.39 acre) where outside of Water Resources; the impacted area within Water Resources (0.03 acre) in Castaic Creek is subject to a 5:1 preservation ratio as a Category 1 Resource. Although California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance is not considered a special-status community by CDFW, mitigation for impacts to 0.42 acre of this community would be required be SEA Guidelines and would be considered significant prior to mitigation

under threshold e) of the CEQA Checklist as it would "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance

The Bridge Project would result in impacts to 0.35 acre of California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance, all of which is permanent and outside of Water Resources. The vegetation community has a rarity ranking of G5 S5, which indicates that it is common, widespread, and abundant, and it is not considered a special-status habitat by CDFW. However, California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance is a Category 4 resource under the SEA guidelines, which recommend a 2:1 preservation ratio for impacts to this community. Although California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance is not considered a special-status community by CDFW, mitigation for impacts to 0.35 acre of this community would be required by SEA Guidelines and would be considered significant prior to mitigation under threshold e) of the CEQA Checklist as it would "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Sandbar willow thickets/*Salix exigua* Shrubland Alliance

The Bridge Project would result in impacts to 0.29 acre of sandbar willow/*Salix exigua* shrubland alliance, of which 0.23 acre is permanent and 0.06 acre is in the TCE. This vegetation community occurs both inside and outside of Water Resources in Castaic Creek and has a rarity ranking of G4 S4, which identifies it as a Category 4 resource. As a Category 4 community, SEA guidelines recommend a 2:1 preservation ratio for impacts (0.06 acre) to this community where outside of Water Resources; the impacted area within Water Resources (0.23 acre) is subject to a 5:1 preservation ratio as a Category 1 Resource. As a G4 S4 community, this community is regarded as uncommon but not rare; however, it is considered as a special-status community by CDFW as a riparian-associated community. Therefore, impacts to 0.23-acre of sandbar willow/*Salix exigua* shrubland alliance would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance

The Bridge Project would result in impacts to 2.25 acres of Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance, of which 1.87 acres is permanent and 0.38 acre is in the TCE. This vegetation community occurs both inside and outside of Water Resources in Castaic Creek and has a rarity ranking of G3S3, which identifies this habitat as a Category 3 resource. As a Category 3 resource, SEA guidelines recommend a 3:1 preservation ratio for impacts (0.69 acre)

to this community where outside of Water Resources; the impacted area within Water Resources (1.56 acre) is subject to a 5:1 preservation ratio as a Category 1 Resource. As a G3 S3 community, this community is regarded as rare to uncommon and is considered as a special-status community by CDFW. Therefore, impacts to 2.25 acres of Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Tamarisk thickets/*Tamarisk* spp. Semi-natural Shrubland Stands

The Bridge Project would result in impacts to 1.09 acres of tamarisk thickets/*Tamarix spp.* Semi-natural Shrubland Stands, of which 0.92 acre is permanent and 0.17 acre is in the TCE, and all of which is inside Water Resources. The SEA guidelines identify plant communities such as Tamarisk Thickets as Category 5 resources based on the lack of rarity ranking and predominance of non-native and invasive species; however, this community offers ecological services to wildlife, particularly riparian birds. Accordingly, although this community occurs within a Water Resource area, a 1:1 preservation ratio of native riparian habitat with similar habitat structure is recommended. Additionally, although this community is not sensitive, it is regulated by CDFW as a riparian-associated community. Therefore, impacts to 1.09 acre of tamarisk thickets/*Tamarisk* spp. Semi-natural Shrubland Stands would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance

The Bridge Project would result in impacts to 0.76 acre of Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance, of which 0.39 acre is permanent and 0.37 acre is in the TCE. This vegetation community occurs both inside and outside of Water Resources in Castaic Creek and has a rarity ranking of G5 S5, which indicates that it is common, widespread, and abundant. Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance is a Category 4 resource under the SEA guidelines, which recommend a 2:1 preservation ratio for impacts (0.66 acre) where outside of Water Resources; the impacted area within Water Resources (0.10 acre) is subject to a 5:1 preservation ratio as a Category 1 Resource. Although Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance is not considered a special-status community by CDFW, mitigation for impacts to 0.76-acre of this community would be required by SEA Guidelines and would be considered significant prior to mitigation under threshold e) of the CEQA Checklist as it would "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

Grassland and Herbaceous Vegetation Communities

Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Stands

The Bridge Project would result in impacts to 0.31 acre of Wild Oats and Annual Brome Grasslands, all of which is permanent and outside of Water Resources. This vegetation community has no rarity ranking, is dominated by non-native species, and is not considered sensitive by CDFW. The 0.31 acre of Wild Oats and Annual Brome Grasslands that occurs within the SEA is identified as a Category 4 resource by the SEA guidelines, which recommend a 2:1 mitigation ratio of restoration/establishment of native vegetation for impacts to this community. Impacts to this community would be considered significant prior to mitigation under threshold e) of the CEQA Checklist as it would "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines to reduce proposed impacts to below a level of significance under CEQA.

Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance

The Bridge Project would result in impacts to 0.06 acre of Southern Cattail Marshes, all of which is permanent and inside of Water Resources. This vegetation community has a rarity ranking of G5 S5, which indicates that it is common, widespread, and abundant. However, because Southern Cattail Marshes occurs with Water Resources, it is considered a Category 1 resource under the SEA guidelines and therefore 5:1 preservation is recommended. Additionally, Southern Cattail Marshes is considered special-status by CDFW as a riparian-associated community. Therefore, impacts to 0.06-acre of Southern Cattail Marshes would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to reduce proposed impacts to below a level of significance under CEQA.

Other Land Use/Cover Types

Sandy Wash

The Bridge Project would result in impacts to 1.02 acre of sandy wash, of which 0.75 acre is permanent and 0.27 acre is in the TCE, and all of which is in Water Resources. Sandy Wash has no rarity ranking; however, the sand and cobble streambed offers ecological services to wildlife and adjacent vegetation. As such, impacts to sandy wash would be potentially significant under CEQA and is further discussed below in the jurisdictional impacts section. Additionally, sandy wash is best classified as SEA Category 1 as a Water Resource. SEA Category 1 guidelines recommend a 5:1 preservation ratio for impacts to this land-use type. A Project-specific measure is included in Section 4.0 of this report to address consistency with SEA guidelines and reduce proposed impacts to below a level of significance under CEQA.

3.3 Special Status Habitats

The CNDDB identifies the following eleven special-status vegetation communities/habitats within the Newhall quadrangle and the eight surrounding quadrangles (Green Valley, Mint Canyon, Oat Mountain, San Fernando, Santa Susana, Val Verde, Warm Springs Mountain, and Whitaker Peak): California walnut woodland, mainland cherry forest, Riversidean alluvial fan sage scrub, Southern California threespine stickleback stream, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, and valley oak woodland.

Four special-status habitats as classified by the CNDDB have been detected within the Bridge Project footprint: Riversidean alluvial fan sage scrub, southern cottonwood riparian forest, and southern willow scrub. One additional habitat present within the Bridge Project is considered special status by CDFW as it consists of riparian vegetation associated with a stream: coastal and valley freshwater marsh. The CNDDB uses the Holland mapping standard for vegetation classification; however, the vegetation mapping for the Bridge Project follows the MCVII; therefore, a summary of vegetation equivalence for these mapping conventions is provided below in Table 3-2.

Table 3-2. Summary of Impacts to Special-Status Habitats for the Project

CNDDB Vegetation Type	MCVII Vegetation Type	Temporary TCE Impacts (Acres)	Permanent Impacts (Acres)
Coastal and valley freshwater marsh G3S2.1	Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance (52.050.00) G5S5	0	0.06
No equivalent CNDDB type; best characterized as sandbar willow scrub	Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance (61.209.00) G5S4	0.06	0.23
Riversidian alluvial fan sage scrub G1S1.1	Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance (32.070.00) G3S3	0.38	1.87
Southern cottonwood willow riparian forest G3S3.2	Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance (61.130.00) G4S3	0.05	0.27
Southern willow scrub G3S2.1	Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance (61.201.00) G4S4	0	0.05
Total		0.49	2.48

3.4 Additions and Subtractions of SEA Land

The Bridge Project will not result in any appreciable additions or subtractions of SEA Land. The Bridge Project involves the construction of a new bridge to replace an existing culverted crossing

that will not extend beyond the current road crossing footprint. Due to remedial grading that will alter the current contours of Castaic Creek and the placement of riprap armoring, inlet/outfall structures, and maintenance access roads in Castaic Creek, as well as the potential for future maintenance that could impact native habitat, impacts in the 6.61-acre Bridge Project footprint are considered as permanent. However, because there will be no loss of hydrological resources or connectivity, and because both water flow and wildlife movement will be enhanced by construction of the Bridge Project, there will be no addition or subtraction of SEA land.

3.5 Impacts to Special-Status Plant Resources

The Bridge Project will impact 75 individuals of one non-listed special-status plant species, white rabbit tobacco (CRPR 2B.2, SEA Category 1). No other special-status plant species are expected to occur in the Bridge Project limits of disturbance. Impacts to white rabbit tobacco are depicted by Exhibits 4A and 4C.

Table 3-3. Summary of Impacts to Special-Status Plant Species for the Bridge Project

Species Name	Status	Anticipated Impacts
White rabbit tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: Rank 2B.2	75 Individuals

White Rabbit Tobacco (*Pseudognaphalium leucocephalum*)

The Bridge Project is expected to impact 75 individuals of white rabbit tobacco (CRPR 2B.2) all of which are located within Castaic Creek and the Santa Clara River SEA. Based on the CRPR 2B.2 designation, this species is a Category 1 resource, and as a CRPR 2B.2 species, it is considered rare, threatened, or endangered in California, but more common elsewhere; therefore, impacts to this species would be potentially significant prior to mitigation under CEQA. The SEA Category 1 recommended mitigation ratio is 5:1, for a total minimum of 375 individuals of white rabbit tobacco to be replaced.

As proposed, the Bridge Project will avoid three population clusters located within the SEA analysis buffer and the majority of the much larger population detected downstream in 2018. A Project-specific measure is included in Section 4.0 of this report to address SEA guidelines recommended for restoration, mitigation, and preservation and reduce proposed impacts to below a level of significance under CEQA.

3.6 Impacts to SEA Protected Trees

Of the 44 SEA Protected Trees that occur within the Bridge Project footprint and SEA buffer, a total of 23 SEA Protected Trees, including three heritage trees, occur within grading limits and/or within the tree protected zone (TPZ), and 5 trees occur within the TCE [Exhibit 4D]. Trees for which the Bridge Project footprint encroaches into the TPZ are considered as “directly impacted” as set forth by the Los Angeles County SEA Ordinance. Direct impacts include tree

removal, root damage, soil excavation and compaction, grade changes, loss of canopy, and trunk wounds. It is expected that the 5 SEA Protected Trees in the TCE would be fully avoided during construction; however, any trees directly impacted as defined above would be subject to the same replacement ratios as the trees in the permanent Bridge Project footprint. Impacts to 20 non-heritage and 3 heritage protected trees and impacts to the 5 trees in the TCE, if such impacts occur, would be considered as potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report to address SEA guidelines for recommended restoration, mitigation, and preservation and reduce proposed impacts to below a level of significance under CEQA.

Table 3-4 below provides a summary of proposed impacts to SEA protected trees located within the Bridge Project site.

Table 3-4. Summary of Impacts to SEA Protected Trees

Common Name	Scientific Name	Protected Non-Heritage Tree Impacts	Protected Heritage Tree Impacts	TCE Non-Heritage Tree Potential Impacts	TCE Heritage Tree Potential Impacts
California sycamore	*Platanus racemosa*	1	--	--	--
Blue elderberry	*Sambucus nigra* ssp. *caerulea*	1	--	1	--
Fremont cottonwood	*Populus fremontii*	10	3	3	--
Sandbar willow	*Salix exigua*	8	--	--	--
Red willow	*Salix laevigata*	--	--	1	--
TOTAL		**20**	**3**	**5**	**0**

3.7 Impacts to Special-Status Wildlife Resources

Appendix G(a) of the CEQA guidelines considers whether 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." For this Biota Report, several factors were considered when determining whether the Project would have a substantial adverse effect on a special-status species, including the range/distribution of the species, the relative sensitivity of the species, the size and geographic context of the Project site, the amount of habitat for each species and the context of use of the site. The loss of habitat for a special-status species is not considered as a substantial adverse effect, and therefore a potentially significant impact, simply because there is an impact. That impact must be shown to have a substantial adverse effect on the resource. In the case of an individual species, the effect of the habitat loss must be substantial and adverse relative to the range of the species, i.e., that the loss of habitat by a particular development activity would adversely affect the species as a whole or local populations that contribute to the biodiversity of a particular region (i.e., a species is "locally rare" and not simply the affect that a development activity would have on a specific individual).

The project will temporarily impact suitable habitat for several special-status species that were either detected during biological surveys or for which suitable habitat occurs as summarized in Table 3-5. Following the table is an analysis of impacts for each species.

Table 3-5. Summary of Impacts to Special-Status Species for the Bridge Project

Species Name	Status	Habitat Requirements	Anticipated Impacts
Invertebrates			
Crotch's bumble bee *Bombus crotchii*	Federal: None State: SC	Historically known to occur across much of southern California including the inner Coast Range of California and margins of the Mojave Desert. Suitable habitat includes coastal sage and desert scrub, chaparral, grassland, and wet and dry meadows	Impacts to suitable habitat; species was not detected and habitat is not occupied.
Monarch – California overwintering population *Danaus plexippus plexippus* pop. 1	Federal: FPT State: none	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	Impacts to suitable habitat for foraging only; does not occur for overwintering .
Amphibians			
Western spadefoot *Spea hammondii*	Federal: FPT State: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Impacts to suitable habitat; however, species is not known to occur. Species not detected during past focused surveys in the SEA; however, species is opportunistic and can exploit new breeding pools when they become available when there is a nearby source population. Potential source population present within larger development area. (BonTerra 2006).
Reptiles			
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC	Chaparral and coastal sage scrub in open areas with friable soils.	Impacts to suitable habitat.
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Impacts to suitable habitat

Species Name	Status	Habitat Requirements	Anticipated Impacts
California legless lizard *Anniella sp.*	Federal: None State: SSC	Occurs primarily in areas with moist sandy or loose organic soil, or where there is plenty of leaf litter. Associated with coastal sage scrub, chaparral, coastal dunes, valley/foothill grasslands, oak woodlands, and pine forests.	Impacts to suitable habitat
Birds			
Bank swallow *Riparia riparia*	Federal: None State: ST County: CSB	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine textured sandy soils near streams, rivers, lakes, or ocean to dig nesting holes.	No direct or habitat impacts for this species as it occurs only as a migrant.
Burrowing owl *Athene cunicularia*	Federal: none State: SC, SSC County: CSB	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.	Impacts to suitable foraging habitat only
California condor *Gymnogyps californianus*	Federal: FE State: SE, FP County: CSB	Nests on high mountain cliff faces. Scavenges in habitats ranging from Pacific beaches to mountain forests and meadows. Forages up to 100 miles from roost/nest.	No direct or habitat impacts for this species.
Golden eagle (nesting & wintering) *Aquila chrysaetos*	Federal: None State: CFP County: CSB	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Impacts to suitable foraging habitat
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE County: CSB	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Impacts to suitable breeding habitat
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: None State: SSC County: CSB	Occurs in the central valley and throughout coastal southern regions. Perch sites are essential components of its habitat and are associated with open areas that have well dispersed bushes and trees.	Impacts to suitable foraging habitat

Species Name	Status	Habitat Requirements	Anticipated Impacts
Northern harrier (nesting) *Circus hudsonius*	Federal: None State: SSC County: CSB	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands. Nests on the ground in dense clumps of vegetation.	Impacts to suitable foraging habitat
Olive-sided flycatcher (nesting) *Contopus cooperi*	Federal: None State: SSC County: CSB	Breeds in California in open montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds.	Impacts to suitable foraging habitat
Swainson's hawk *Buteo swainsoni*	Federal: None State: ST County: CSB	Migrant along the coast of southern California. Breeding range generally restricted to the Central Valley, extreme northeast California, and Mono and Inyo counties, although it has more recently bred in the Antelope Valley. Typical breeding habitat consists of open areas such as grasslands and agricultural fields with scattered groves of trees.	No direct or habitat impacts for this species.
Vaux's swift (nesting) *Chaetura vauxi*	Federal: None State: SSC County: None	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams. Roosts communally, often in structures like chimneys, smoke stacks, and water tanks.	No direct or habitat impacts for this species.
White-tailed kite *Elanus leucurus*	Federal: None State: FP County: CSB	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Impacts to suitable foraging habitat
Yellow warbler *Setophaga petechia*	Federal: None State: SSC County: CSB	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.	Impacts to suitable breeding and foraging habitat
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC	Prefers open scrub and grassland habitat with friable soils for digging.	Impacts to suitable foraging habitat.

Species Name	Status	Habitat Requirements	Anticipated Impacts
California leaf-nosed bat *Macrotus californicus*	Federal: None State: SSC WBWG: H	Occurs in the deserts of California, southern Nevada, Arizona, and Baja California. Roosts and maternity colonies in caves, mines, and buildings with temperatures that often exceed 28°C.	Impacts to foraging habitat
California mountain lion *Puma concolor californica*	Federal: None State: SC	A wide variety of habitats ranging from montane coniferous forest to low elevation desert scrublands.	Impacts to suitable habitat with the potential to support mountain lion movement
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Impacts to suitable habitat
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC	Desert scrub habitats with low to moderate shrub cover and friable soils for digging.	Impacts to suitable habitat.
Spotted bat *Euderma maculatum*	Federal: None State: SSC WBWG: H	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting.	Impacts to suitable foraging habitat
Townsend's big-eared bat *Corynorhinus townsendii*	Federal: None State: SSC WBWG: H	Occurs throughout the western U.S. in habitats including coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian, active agricultural, and coastal habitats. Generally, roosts in caves and cave-like habitat, including buildings, bridges, rock crevices, and hollow trees.	Impacts to suitable foraging habitat
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H	Prefers habitat edges and mosaics with trees that are protected from above and open from below with open areas for foraging. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests.	Impacts to suitable foraging habitat

STATUS

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

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

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

Invertebrates

The Bridge Project will remove habitat that has potential to support two special-status invertebrate species, Crotch's bumble bee (State Candidate Endangered) and monarch butterfly (Federal Candidate).

Crotch's Bumble Bee

Portions of Castaic Wash and associated terraces support potentially suitable habitat for Crotch's bumble bee. Although Crotch's bumble bee was not detected during presence/absence surveys and is not expected to occur due to a lack of preferred floral resources, future occurrence cannot be ruled out. If the species were detected prior to the start of construction, coordination with CDFW would be required to address potential impacts, which may include obtaining an ITP or including the Bridge Project footprint in the ITP expected for the greater Tapia Ranch Project. A Project-specific measure for pre-construction surveys and consultation with CDFW is included in Section 4.0 of this report to address potential take of Crotch's bumble bee.

The Bridge Project footprint and TCE contain 5.90 acres of suitable habitat (forest/woodland, shrubland, and grassland and herbaceous habitats) that could potentially be used by Crotch's bumble bee. The SEA guidelines state that "for the purposes of the SEA Program, both the protected species and their occupied habitat are Category 1 SEA Resources." However, since the species was not detected during focused surveys, the suitable habitat is not considered occupied. Therefore, impacts to 5.90 acres of habitat with the potential to support this species would not be subject to SEA guidelines for Category 1 species and would not be considered significant under CEQA.

Monarch Butterfly

The Bridge Project footprint and TCE support potentially suitable foraging habitat for Monarch butterfly. As a federal candidate species, impacts that could result in take of Monarch butterfly do not require take authorization through Section 7 or Section 10 of the FESA. Suitable overwintering habitat does not occur within the Project impact footprint, and no distinctive stands of milkweed (*Asclepias* spp.) host plants were detected within the Project footprint, so no

direct take of Monarch butterfly is expected to occur as a result of the proposed Project; therefore, potential impacts to this species would not be significant under CEQA. A Project-specific measure is included in Section 4.0 of this report to address avoidance of Monarch butterfly if the species is listed under FESA prior to initiation of project impacts.

Amphibians

The Bridge Project will remove habitat that has low potential to support one special-status amphibian species, spadefoot toad.

Western spadefoot toad

The Bridge Project would impact 4.64 acres of habitat with marginal potential to support western spadefoot toad (SSC, FPT) consisting of sandy wash, scrub, riparian, and grassland habitats. No known breeding pools occur in and adjacent to Castaic Creek; therefore, impacts to 4.64 acres of habitat with marginal potential to support this species would not be potentially significant under CEQA.

Reptiles

The Bridge Project will remove habitat that supports or has the potential to support several special-status reptile species, including the California legless lizard, coast horned lizard, and coastal whiptail.

California Legless Lizard

The Bridge Project would impact 3.58 acres (2.93 acres permanent and 0.65 acre in the TCE) of habitat with the potential to support California legless lizard (SSC) consisting of sandy wash, scale broom scrub, and grassland habitats. Impacts to 3.58 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA.

California legless lizard is a Category 2 resource; SEA guidelines recommend preservation at a 4:1 ratio. All temporary disturbance of suitable habitat in the TCE up to 0.65 acre will be restored achieving a 1:1 preservation ratio, and additional offsite suitable habitat will be preserved at 3:1, thereby achieving a total 4:1 ratio for temporary impacts in the TCE. Permanent impacts to 2.93 acres will be offset by preservation of 11.72 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for this species. The proposed restoration of temporary disturbance in Castaic Creek together with the preservation of offsite lands would achieve a preservation ratio of suitable habitat for this species of at least 4:1 as required for Category 2 resources and would reduce potential Bridge Project impacts to this species to a level of less than significant under CEQA.

Given that the Bridge Project permanent impact area and TCE is contiguous with similar potentially suitable habitats, the permanent impact area will continue to provide habitat for this species following construction, the new bridge will improve biological function of Castaic Creek, and habitat represented by offsite preservation in the Santa Clara River SEA would be

part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species.

Coast Horned Lizard

The Bridge Project would impact 5.11 acres (4.09 acres permanent and 1.02 acres in the TCE) of habitat with the potential to support coast horned lizard (SSC) consisting of sandy wash, scale broom scrub, buckwheat scrub, California sagebrush scrub, yerba santa scrub, and grassland habitats. Impacts to 5.11 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA.

Coast horned lizard is a Category 2 resource; SEA guidelines recommend preservation at a 4:1 ratio. All temporary disturbance of suitable habitat in the TCE up to 1.02 acres will be restored achieving a 1:1 preservation ratio, and additional offsite suitable habitat will be preserved at 3:1, thereby achieving a total 4:1 ratio for temporary impacts in the TCE. Permanent impacts to 4.09 acres will be offset by preservation of 16.36 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for this species. The proposed restoration of temporary disturbance in Castaic Creek together with the preservation of offsite lands would achieve a preservation ratio of suitable habitat for this species of at least 4:1 as required for Category 2 resources and would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the Bridge Project permanent impact area and TCE are contiguous with similar potentially suitable habitats, the permanent impact area will continue to provide habitat for this species following construction, the new bridge will improve biological function of Castaic Creek, and habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species.

Coastal Whiptail

The Bridge Project would impact 5.11 acres (4.09 acres permanent and 1.02 acres in the TCE) of habitat with the potential to support coastal whiptail (SSC) consisting of sandy wash, scale broom scrub, buckwheat scrub, California sagebrush scrub, yerba santa scrub, and grassland habitats. Impacts to 5.11 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA.

Coastal whiptail is a Category 2 resource; SEA guidelines recommend preservation at a 4:1 ratio. All temporary disturbance of suitable habitat in the TCE up to 1.02 acres will be restored achieving a 1:1 preservation ratio, and additional offsite suitable habitat will be preserved at 3:1, thereby achieving a total 4:1 ratio for temporary impacts in the TCE. Permanent impacts to 4.09 acres will be offset by preservation of 16.36 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for this species. The proposed restoration of temporary disturbance in Castaic Creek together with the preservation of offsite lands would achieve a preservation ratio of suitable habitat for this species of at least 4:1 as required for

Category 2 resources and would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the Bridge Project permanent impact area and TCE is contiguous with similar potentially suitable habitats, the permanent impact area will continue to provide habitat for this species following construction, and the new bridge will improve biological function of Castaic Creek, and habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species.

Birds

The Bridge Project will remove habitat that supports or has the potential to support special-status bird species, including the least Bell's vireo, burrowing owl, and yellow warbler.

Least Bell's Vireo

One least Bell's vireo individual (FE, SE, CSB) was detected immediately south of the Bridge Project permanent impact footprint in Castaic Creek, with the individual detected in the TCE on one survey visit. No least Bell's vireo was detected within the Bridge Project permanent impact footprint; however, the Bridge Project footprint contains suitable habitat for least Bell's vireo. As a state and federally listed species when breeding and a Category 1 species, direct or indirect Project impacts on least Bell's vireo would require potential coordination with CDFW and USFWS. A Project-specific measure is included in Section 4.0 of this report to avoid direct take of least Bell's vireo and indirect construction-related impacts.

The Bridge Project would remove 1.81 acres (1.53 acres permanent and 0.28 acre in the TCE) of habitat with the potential to support least Bell's vireo in the form of cottonwood forest, arroyo willow thickets, sandbar willow thickets, cattail marshes, and tamarisk thickets within Castaic Creek. Direct impacts to 1.81 acres of potential habitat to support this species would be considered potentially significant prior to mitigation under CEQA. SEA guidelines recommend preservation of suitable breeding habitat at a 5:1 mitigation ratio. To achieve the 5:1 ratio, temporary disturbance in the TCE of up to 0.28 acre will be restored at 1:1, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 4:1. Permanent impacts to 1.53 acres will be offset by preservation of 7.65 acres to ensure a preservation ratio of at least 5:1, which would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species. It should also be noted that the new bridge will improve biological function of Castaic Creek, and that impacts will not result in permanent removal of least Bell's vireo habitat in Castaic Creek because suitable habitat in the permanent impact area is expected to passively revegetate following construction and any habitat removed from the TCE will be restored.

Burrowing Owl

A single transient burrowing owl (SC, SSC, CSB) was detected on one occasion in 2013 during the overlapping wintering and breeding season migration period; however, focused breeding surveys were negative following that detection. Although the Bridge Project footprint supports potentially suitable foraging habitat for burrowing owl, that area is not considered occupied by burrowing owl based on lack of subsequent detection, and no direct impacts to burrowing owl or breeding habitat is expected to occur as a result of the Bridge Project. The SEA guidelines state that "for the purposes of the SEA Program, both the protected species and their occupied habitat are Category 1 SEA Resources." Since the suitable habitat is not considered occupied, impacts to habitat with the potential to support this species would not be subject to SEA guidelines for Category 1 species and would not be considered significant under CEQA. Because of the State Candidate status, if it were to colonize the Project site in the future, Project activities that could result in "take" of burrowing owl would require coordination with CDFW. A Project-specific measure is included in Section 4.0 of this report to avoid direct take of burrowing owl.

Yellow warbler

The Bridge Project would remove 1.81 acres (1.53 acres permanent and 0.28 acre in the TCE) of habitat with the potential to support yellow warbler (SSC, CSB) consisting of cottonwood forest, willow riparian woodland, arroyo willow thickets, mulefat thickets, cattail marshes, and tamarisk thickets. Impacts to 1.81 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA. A Project-specific measure is included in Section 4.0 of this report that addresses direct and indirect impacts to riparian birds and their habitat.

SEA guidelines recommend preservation of suitable breeding habitat at a 4:1 mitigation ratio for Category 2 resources. To achieve the 4:1 ratio, temporary disturbance in the TCE of up to 0.28 acre will be restored at 1:1, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 3:1. Permanent impacts to 1.53 acres will be offset by preservation of 6.12 acres in the Santa Clara River SEA to achieve the required 4:1 ratio for Category 2 resources, which would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species within the Project. It should also be noted that the new bridge will improve biological function of Castaic Creek, and that impacts will not result in permanent removal of habitat for yellow warbler in Castaic Creek because suitable habitat in the permanent impact area is expected to passively revegetate following construction and any habitat removed from the TCE will be restored.

Mammals

The Bridge Project will remove habitat that supports or has the potential to support special-status mammals, including American badger, San Diego desert woodrat, southern grasshopper mouse

and Southern California mountain lion.

American badger

The Bridge Project would impact 6.92 acres of habitat with the potential to support American badger (SSC) foraging consisting of scrub, riparian, and grassland habitats as well as sandy wash. However, this species is not expected to utilize the Bridge Project site for live-in habitat, including for natal denning. Rather, this species has low potential to utilize the Bridge Project site for foraging and for local/regional movement. Because the Bridge Project will replace the existing road crossing with a significantly enhanced bridge structure, the Bridge Project will actually enhance the movement potential for American badger and will not result in a loss of foraging or movement potential. It should also be noted that the permanent impact area is expected to passively revegetate following construction and any temporary impacts in the TCE will be restored. Impacts to 6.92 acres of habitat with the potential to support this species would therefore not be significant under CEQA. A Project-specific measure is included in Section 4.0 of this report to avoid direct take of American badger.

San Diego desert woodrat

The Bridge Project would impact 3.02 acres (2.64 acres permanent and 0.48 acre in the TCE) of habitat with the potential to support San Diego desert woodrat (SSC) consisting of sage scrub and scale broom scrub habitats. Impacts to 3.02 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA.

SEA guidelines recommend preservation of suitable habitat at a 4:1 mitigation ratio. To achieve the 4:1 ratio, temporary disturbance in the TCE of up to 0.48 acre will be restored, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 3:1. Permanent impacts to 2.64 acres will be offset by preservation of an additional 10.56 acres offsite in the Santa Clara River SEA to ensure an overall preservation ratio consistent with SEA requirements. The proposed restoration of temporary disturbance in Castaic Creek together with proposed offsite habitat preservation in the Santa Clara River SEA would achieve the required 4:1 ratio for Category 2 resources and would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species within the Project. It should also be noted that the new bridge will improve biological function of Castaic Creek, and that impacts will not result in permanent removal of habitat for San Diego desert woodrat in Castaic Creek because suitable habitat in the permanent impact area is expected to passively revegetate following construction and any habitat removed from the TCE will be restored.

Southern California mountain lion

As a SC species, Bridge Project impacts resulting in direct take of California mountain lion could require an ITP under CESA through coordination with CDFW; however, no natal dens or cache

locations were detected during field efforts within the Bridge Project site. Therefore, no direct take of California mountain lion is expected to occur as a result of the Bridge Project. A Project-specific measure is included in Section 4.0 of this report to avoid direct take of California mountain lion.

The Bridge Project would impact up to 8.08 acres of lands with the potential to support mountain lion movement; however, the Bridge Project will restore temporarily impacted habitats onsite and will also replace the existing road crossing with a significantly enhanced bridge structure. Thus, the project will actually enhance the movement potential for mountain lion and will not result in a loss of foraging or movement potential. Therefore, impacts to 8.08 acres of habitat with the potential to support this species would not be significant under CEQA.

Southern grasshopper mouse

The Bridge Project would impact 3.58 acres (2.93 acres permanent and 0.65 acre in the TCE) of habitat with the potential to support southern grasshopper mouse (SSC) consisting of scale broom scrub, sandy wash, and grasslands. Impacts to 3.58 acres of habitat with the potential to support this species would be potentially significant prior to mitigation under CEQA.

SEA guidelines recommend preservation of suitable habitat at a 4:1 mitigation ratio for Category 2 resources. To achieve the 4:1 ratio, temporary disturbance in the TCE of up to 0.65 acre will be restored, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 3:1. Permanent impacts to 2.93 acres will be offset by preservation of an additional 11.72 acres offsite in the Santa Clara River SEA to ensure an overall preservation ratio of at least 4:1. The proposed restoration of temporary disturbance in Castaic Creek together with proposed offsite habitat preservation in the Santa Clara River SEA would achieve the required 4:1 ratio for Category 2 resources and would reduce potential Project impacts to this species to a level of less than significant under CEQA.

Given that the Bridge Bridge footprint is contiguous with similar potentially suitable habitats and the new bridge will improve biological function of Castaic Creek, and habitat represented by offsite preservation in the Santa Clara River SEA would be part of a large block of suitable habitat, the Project's proposed mitigation is appropriate to preserve suitable habitat for this species within the Project.

3.8 Impacts to Avian and Bat Foraging Habitat

The Bridge Project footprint totals 6.61 acres, of which 0.99 acre consists of existing development. Some of the 5.61 undeveloped acres comprise suitable foraging habitat for several avian and bat species; the portion of the 5.61 acres that is suitable for foraging by each species varies depending on their respective foraging habitat types. Special-status species with low to moderate potential to forage within the Bridge Project footprint that were not addressed above in Section 5.5 include loggerhead shrike (SSC, CSB), northern harrier (SSC, CSB), olive-sided flycatcher (SSC, CSB), golden eagle (CFP; CSB), white tailed kite (CFP, CSB), California leaf-nosed bat (SSC; WBWG: H) spotted bat (SSC, WBWG: H), Townsend's big-eared bat (SSC; WBWG H), and mastiff bat (SSC; WBWG: H).

In addition, this 5.61-acre undeveloped portion of the Bridge Project footprint represents suitable foraging habitat for several non-special-status raptor species. Impacts to 5.61 acres of foraging habitat for these species would be potentially significant prior to mitigation under CEQA. An additional 1.30 undeveloped acres occurs in the TCE and may be impacted during construction. As proposed, the Bridge Project will restore any impacts in the TCE and will preserve suitable offsite habitats for special status wildlife in the Santa Clara River SEA as described above at ratios ranging from 3:1 to 5:1. Additionally, the permanent impact area is expected to revegetate with native riparian and alluvial habitat and will continue to function as suitable foraging habitat following construction. Therefore, potential Project impacts to suitable foraging habitat will be reduced to a level of less than significant under CEQA.

3.9 Nesting Birds and Migratory Bird Treaty Act (MBTA) Considerations

The Project Site currently contains trees, shrubs, and groundcover that have the potential to support nesting birds protected by the MBTA and the California Fish and Game Code Section 3503. Direct impacts to a large variety of nesting birds are prohibited under the MBTA and Fish and Game Code. Direct impacts to those species of nesting birds would be considered a significant impact. With avoidance measures, direct impacts to nesting birds protected by the MBTA and Fish and Game Code would be fully avoided, and there would be no significant impacts to such nesting birds associated with the project[6]

3.10 Wildlife Movement

The Bridge Project, as proposed, will not impede connection to local and regional wildlife linkages. Upon completion of the Bridge Project, wildlife movement through the Project site will be enhanced for aquatic life during periods of stream flow, as well as for all mammals and herpetofauna such that the project impacts associated with the bridge replacement will be fully mitigated.

Accordingly, potential Project impacts to wildlife movement would be less than significant under CEQA.

3.11 Jurisdictional Impacts

Impacts to Corps and Regional Board Jurisdictional Waters

The proposed Tapia Canyon Bridge Replacement Project would permanently impact up to 0.71 acre of Corps and Regional Board jurisdictional waters over 820 linear feet, and temporarily

[6] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, 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.

impact up to 0.19 acre over 235 linear feet in the TCE, none of which consists of jurisdictional wetlands [Exhibit 8A – Corps/Regional Board Jurisdictional Impacts].

Table 3-6. Impacts to Corps/Regional Board Jurisdiction

	Corps Jurisdictional Impacts (Acres)			
Drainage	**Non-Wetland Waters**	**Wetland**	**Total Impacts**	**Length of Impacts (feet)**
Castaic Creek – Permanent Impact Footprint	0.71	0	0.90	820
Castaic Creek – TCE	0.19	0	0.19	235
Total	**0.90**	**0.00**	**0.90**	**1,055**

Impacts to CDFW Jurisdiction

The Bridge Project would impact a total of 4.41 acres of CDFW jurisdictional streambed, of which 1.67 acres consists of vegetated riparian habitat [Exhibit 8B – CDFW Jurisdictional Impacts].

Table 3-7. Impacts to CDFW Jurisdiction

	CDFW Jurisdictional Impacts (Acres)		
Drainage	**Non-Riparian Streambed**	**Riparian**	**Total CDFW Impacts**
Castaic Creek – Permanent Impact Footprint	2.30	1.41	3.71
Castaic Creek – TCE	0.44	0.26	0.70
Total	**2.74**	**1.67**	**4.41**

3.12 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to native open space. Because the Bridge Project consists of a bridge replacement that would not result in a change in land use, potential indirect effects associated with the proposed Project are generally limited to temporary indirect effects that may occur as a result of construction-related activities, such as construction noise. Given that the project replaces an inferior crossing of Castaic Creek with a bridge that will increase a variety of functions for wildlife and hydrology, there are no significant indirect impacts associated with the project.

3.13 Cumulative Impacts to Biological Resources

The combined impacts of the development of the Bridge Project and other projects in the region would result in substantial direct and indirect impacts on biological resources. Based on

the location, existing conditions, and the resources potentially affected, four of the related projects adjacent to the Bridge Project could result in adverse cumulative impacts to biological resources due to their location and size: the adjacent and related Tapia Ranch Development Project, the expansion of the Pitchess Detention Center to the south, the Tesoro Del Valle Residential Development (Tesoro) to the southeast, and the NorthLake Specific Plan (NorthLake) to the northwest (see Tapia Ranch Development Project and cumulative project numbers 4, 7 and 18 respectively). It is likely that future development of the four related projects would also result in the conversion of natural open space areas that presently support plants, wildlife, and other biological resources in the area. It is likely that the additional related projects would contribute significantly to the cumulative loss of biological resources in the Bridge Project area due to their size and potential to support special-status biological resources. However, with mitigation cumulative impacts would be reduced to less-than-significant.

The combined development of the Bridge Project and four related projects could potentially result in similar impacts to biological resources due to the regional nature associated with species and habitat. Direct impacts could potentially include loss or disturbance of native riparian habitat, native scrub habitat and special status plant and wildlife species, drainages, and wildlife movement within the Project area. Indirect impacts to biological resources could potentially include increases in disturbances such as traffic noise, vehicular traffic, and human interaction.

As discussed above, the Bridge Project would result in impacts on special status plant and wildlife species. As addressed in the mitigation section below, these impacts would be reduced to a level considered less than significant with mitigation, which includes onsite restoration of temporary impacts and offsite preservation of native alluvial, riparian, and upland scrub habitats. The mitigation proposed in the mitigation section would reduce all cumulative impacts to vegetation alliances to less-than-significant. While it is likely that some or many of the identified related projects, especially NorthLake and Tesoro, also have impacts on special status species, these impacts would be less than significant for the following reasons:

- The Bridge Project would not impact any federally or State-listed threatened or endangered species except for least Bell's vireo and impacts would be fully mitigated and would not contribute to significant cumulative impacts to this species.

- The western spadefoot toad is a sensitive species (SSC) known from the region, and the project has potential for temporary impacts to suitable habitat. However, this species is not known to occur and has not been detected during past focused surveys in the SEA. Nevertheless, this species is opportunistic and can exploit new breeding pools when they become available when there is a nearby source population. A potential source population is present within the proposed Tapia Ranch Open Space area; however it has not been detected in the proposed Tapia Ranch Development footprint (BonTerra 2006). Given that temporary impacts in the TCE will be restored and the 6.61-acre permanent impact footprint will be seeded and is expected to passively revegetate with native habitat, any potentially significant cumulative impacts to this species would be fully mitigated.

- The southern California mountain lion is a Candidate for listing under the CESA. Project impacts that would result in direct take of California mountain lion could require an Incidental Take Permit (ITP) under CESA through coordination with the California Department of Wildlife (CDFW); however, no natal dens or cache locations were detected during numerous field survey efforts over a period of years within the Project Site. Therefore, no direct take of California mountain lion is expected to occur resulting from the Bridge Project or other cumulative projects including the Tapia Ranch Development.

- The Bridge Project has potential to impact the CBB, although it was not detected during focused surveys within Castaic Creek and associated impact area. CBB was detected in the Tapia Ranch Development area. CBB is a State Candidate for listing under CESA and direct impact to this species would require an ITP from CDFW. Loss of individuals of this species could also contribute to cumulative impacts within the region as would loss of potential habitat. Impacts to habitat with the potential to support this species would result in potentially significant cumulative impacts before mitigation. With onsite reestablishment and offsite preservation of native vegetation alliances within the Tapia Ranch Open Space, any potentially significant cumulative impacts would be reduced to less than significant.

- The Bridge Project has potential to impact burrowing owl, although it was only detected once in 2013 as a transient individual and was not detected during subsequent focused surveys within Castaic Creek and associated impact area. Burrowing owl is a State Candidate for listing under CESA and "take" of this species would require an ITP from CDFW. Loss of individuals of this species could also contribute to cumulative impacts within the region as would loss of occupied habitat. Potential burrowing owl habitat associated with the Tapia Ranch Development Project is limited to a small portion of the offsite improvement area adjacent to and contiguous with habitat in Castaic Creek. No suitable habitat for this species occurs in the onsite portion of the Tapia Ranch Development, which would not contribute to cumulative impacts. Given that no occupied habitat is being impacted, there is no potential for cumulative impacts for burrowing owl.

- The Bridge Project has potential to impact potential foraging habitat for the Monarch butterfly, which is proposed for listing as Threatened under the FESA; however, unlike the CESA, direct impact to this species would not require a take permit from USFWS until or if it is listed. Loss of individuals of this species could contribute to cumulative impacts within the region, including the Tapia Ranch Development, as would loss of potential habitat. With onsite reestablishment and offsite preservation of native vegetation alliances any potentially significant cumulative impacts would be reduced to less than significant.

- The Bridge Project is expected to impact a total of 75 individuals of white rabbit tobacco (CRPR 2B.2) all of which are located within Castaic Creek and the Santa Clara River SEA, identifying this species as a Category 1 resource. As a CRPR 2B.2 species, it is considered rare, threatened, or endangered in California, but more common elsewhere; therefore, impacts to this species would be potentially significant prior to mitigation under CEQA. The SEA Category 1 recommended mitigation ratio is 5:1, for a total minimum of 375 individuals of white rabbit tobacco to be replaced. With replacement at a ratio of 5:1 any cumulative impacts to this species would be reduced to less than significant. This species

does not occur within the larger Tapia Ranch Development due to lack of alluvial scrub habitat, which would not contribute to cumulative impacts.

- The Bridge Project, as proposed, is expected to remove a total of 23 SEA Protected Trees, including three heritage trees, and 5 additional SEA Protected Trees are in the TCE. SEA Protected tree mitigation ratios are 2:1 per tree. Following tree replacement there will be a net increase of native trees in the region, reducing any potential cumulative impacts to less-than-significant. Similarly, the Tapia Ranch Development will replace protected trees in accordance with the County Tree Protection Ordinance and potentially cumulative impacts to protected trees would be reduced to less than significant.

- In addition to the wildlife species addressed above, the Bridge Project has potential to impact habitat for several SSC species including California legless lizard, coast horned lizard, coastal whiptail, yellow warbler, San Diego desert woodrat, and southern grasshopper mouse, and impact suitable foraging habitat for the loggerhead shrike, northern harrier, olive-sided flycatcher, golden eagle , white tailed kite, California leaf-nosed bat, spotted bat, Townsend's big-eared bat, and mastiff bat, that have a low to moderate potential to forage within the site. As proposed, the Bridge Project will restore all temporary impacts to habitat in the TCE for these species, as well as preserve additional offsite lands in the Santa Clara River SEA, reducing potential cumulative impacts to suitable foraging habitat to a level of less than significant. Potential cumulative impacts associated with the Tapia Ranch Development outside the SEA will be fully mitigated through dedication of Open Space and as such, any potential cumulative impacts are mitigated and would not contribute to significant cumulative impacts for the Bridge Project.

The proposed Bridge Project's impacts on riparian habitat are reduced to less than significant levels after mitigation. Specifically, impacts to riparian habitat associated with jurisdictional waters shall be mitigated with a combination of restoration/reestablishment in offsite lands in the Santa Clara River SEA. Other mitigation requires permits and/or agreements to be obtained from the CDFW and Regional Board (RWQCB), as well as the development of a Storm Water Pollution Prevention Plan (SWPPP) that incorporates BMPs for reducing or eliminating construction-related pollutants in the site runoff. Although these are Project-specific measures, they would serve to reduce cumulative impacts and, as such, cumulative impacts on riparian habitat and other sensitive vegetation types would be less than significant.

The related projects, including the Tapia Ranch Development project, are likely to reduce such impacts to less than significant through adherence to federal and State regulations. Such regulations normally require the region to not incur substantial losses of State or federally protected wetlands, their associated riparian habitat, or other jurisdictional waters. The cumulative impact on State and federally protected wetland resources is considered less than significant as the Proposed Project does not impact wetlands. Similarly, cumulative impacts on SEA Protected Trees, as protected under the County, are expected to be fully mitigated and result in a less than significant cumulative impact, similar to the Proposed Project.

3.14 Project Impact on the Integrity of the SEA

The Bridge Project will not impact the integrity of the SEA, as Bridge Project consists of the replacement of an existing crossing over Castaic Creek with a new bridge. Although some permanent structures including riprap, access roads, and inlet/outfall structures will be installed in previously undeveloped areas, the Bridge Project will provide a functional lift to Castaic Creek by enhancing fish passage and wildlife movement.

3.15 Discussion of Project Consistency with SEA CUP Compatibility Criteria

The following discussion demonstrates that the Project is consistent with the SEA CUP compatibility criteria.

1. That the requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas

   The Proposed Bridge Project is designed to be highly compatible with the biotic resources present in Castaic Creek. The proposed bridge structure will provide full passage for fish during all flow regimes and will provide passage for all sizes of terrestrial wildlife including small, medium, and large mammals as well as reptiles. Additionally, the proposed bridge would enhance functions such as seed dispersal. In short, the proposed bridge structure provides for a substantial functional lift for all biological functions adversely affected by the current structure.

2. That the requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state

   The Proposed Bridge Project is designed to maintain Castaic Creek in its natural state. Following bridge replacement, Castaic Creek will remain a soft-bottomed watercourse that supports riparian and alluvial scrub vegetation. Much of the proposed riprap armoring will be buried. Post-project flows will not be impeded as flows are impeded by the current culverts.

3. That the requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state

   The current road crossing includes culverts that are currently situated well above the Castaic Creek channel substantially limiting passage of fish during low and moderate flows and precluding use of the culverts by small mammals and reptiles for movement up- and down-stream through the Bridge Project site. The Proposed Bridge Project includes four 65-foot spans with a three-foot support between each span that will enhance wildlife movement through Castaic Creek.

4. That the requested development retains sufficient natural vegetative cover and/or open spaces to buffer critical resources, habitat areas, or migratory paths

Although considered permanent for purposes of this analysis to account for potential future maintenance, the majority of impacts to native vegetation associated with the Proposed Bridge Project are expected to revegetate. Any temporary impacts to native vegetation cover in the TCE will be restored following temporary impacts.

5. That the roads and utilities serving the proposed development are located and designed so as not to conflict with critical resources, habitat areas, or migratory paths

   No new utilities are proposed. Existing utility lines in the existing crossing and new utility lines will be routed through the Proposed Bridge. New proposed access roads will not impede streamflow or wildlife movement through Castaic Creek.

4.0 MITIGATION

The following discussion provides project-specific mitigation and avoidance measures for actual or potential impacts to special-status resources.

4.1 Native Vegetation

To mitigate for impacts to native vegetation communities associated with the approximately 6.61 acres that would be subject to permanent impacts and the 1.47 acres that may be impacted in the TCE, the Project Applicant shall provide for native habitat preservation and restoration, which shall include a combination of 1) restoration of up to 1.47 acres of native habitats in the TCE that may be temporarily impacted following completion of construction and 2) habitat restoration and/or preservation within offsite areas of the Santa Clara River SEA, and/or 3) purchase of credits from an approved mitigation bank within the Santa Clara River SEA.

The Project Applicant shall prepare a Habitat Mitigation and Monitoring Plan (HMMP) detailing the specific approach for habitat re-establishment/restoration and including detailed performance standards and monitoring requirements for each, following standard monitoring and reporting methods and performance standards. County DRP approval of the HMMP will be required prior to the onset of Project-related ground-disturbing activities. As temporary impacts in the 1.47-acre TCE are provisional, the HMMP shall include procedures for the Project Biologist to map and quantify temporary vegetation impacts that may occur in the TCE so that the appropriate mitigation acreage for such impacts can be determined. Finally, to maintain the habitat value of the 6.61-acre area following construction, the HMMP shall include provisions for all non-developed portions of the 6.61-acre area to be seeded with appropriate native riparian, alluvial, and/or upland scrub species. This area will not be subject to performance standards but will be included in the five-year maintenance program that includes non-native species removal.

Water Resources

The Project Applicant shall provide for offsite replacement of riparian and alluvial habitat types within Water Resources as defined by the SEA Guidelines at a 5:1 ratio for Category 1 Resources regardless of the SEA Resource Category for the individual vegetation types.

As mitigation for permanent removal of 2.75 acres of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance, Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance, California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance, Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance, Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance, Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance, Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance, and Sandy Wash in Water Resources, 13.75 acres (5:1 ratio) of riparian and alluvial habitats shall be preserved offsite in the Santa Clara River SEA.

As mitigation for temporary removal of up to 0.52 acre of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance, Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance, Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance, and Sandy Wash in Water Resources, the temporary impact area in the TCE will be restored with riparian and alluvial habitats. In addition, any temporary impacts in the TCE shall be mitigated through offsite preservation of riparian and alluvial habitats in the Santa Clara River SEA at a 4:1 preservation to impact ratio, which would total 2.08 acres if fully impacted.

As mitigation for permanent removal of 0.92 acre of Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands, 0.92 acre (1:1 ratio) of native riparian and alluvial habitats shall be preserved offsite in the Santa Clara River SEA. As mitigation for temporary removal of up to 0.17 acre of Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands, the temporary impact area in the TCE will be restored with native riparian and alluvial habitats at a 1:1 ratio.

Riparian Woodlands

The Project Applicant shall provide mitigation for permanent impacts to 0.07 acre of Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance located outside of Water Resources through offsite preservation of equivalent riparian habitat in the Santa Clara River SEA at a 3:1 ratio as required for SEA Category 3 biological resources. Temporary impacts of up to 0.03 acre shall be mitigated through restoration of the temporary impact area and through preservation of equivalent habitat in the Santa Clara River SEA at a 2:1 preservation to impact ratio.

Shrubland Habitats

The Project Applicant shall provide mitigation for permanent impacts to 0.06 acre of Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance located outside of Water Resources through offsite preservation of equivalent riparian habitat in the Santa Clara River SEA at a 2:1 ratio as required for SEA Category 4 biological resources.

The Project Applicant shall provide mitigation for permanent impacts to 0.39 acre of California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance located outside of Water Resources through offsite preservation of equivalent scrub habitat in the Santa Clara River SEA at a 2:1 ratio as required for SEA Category 4 biological resources.

The Project Applicant shall provide mitigation for permanent impacts to 0.35 acre of California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance located outside of Water Resources through offsite preservation of equivalent scrub habitat in the Santa Clara River SEA at a 2:1 ratio as required for SEA Category 4 biological resources.

The Project Applicant shall provide for mitigation for permanent impacts to 0.48 acres of Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance located outside of Water Resources through offsite preservation of equivalent habitat in the Santa Clara River SEA at a 3:1 ratio as required for SEA Category 3 biological resources. For temporary impacts to up to 0.21 acre of Scale Broom Scrub in the TCE, the Project Applicant will provide for onsite restoration of any temporary impacts as well as offsite preservation or habitat restoration within the SEA of equivalent habitat at a 2:1 ratio to ensure an overall 3:1 ratio for Scale Broom Scrub.

The Project Applicant shall provide mitigation for permanent impacts to 0.29 acre of Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance located outside of Water Resources through offsite preservation of equivalent habitat in the Santa Clara River SEA at a 2:1 ratio as required for SEA Category 4 biological resources. For temporary impacts to up to 0.37 acre of Yerba Santa Scrub in the TCE, the Project Applicant will provide for onsite restoration of any temporary impacts as well as offsite preservation or habitat restoration within the SEA of equivalent habitat at a 1:1 ratio to ensure an overall 2:1 ratio for Yerba Santa Scrub

Grassland and Herbaceous Habitats

The Project Applicant shall provide mitigation for permanent impacts to 0.31 acre of Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Herbaceous Stands located outside of Water Resources through offsite preservation of equivalent grassland, open scrub, or sandy wash habitat in the Santa Clara River SEA at a 2:1 ratio as required for SEA Category 4 biological resources.

4.2 Special-Status Plants

To offset impacts to special-status plant species, specifically for impacts to 75 individuals of white rabbit tobacco, the Project Applicant shall provide for offsite reestablishment within the SEA of 375 individuals for a 5:1 ratio as required for Category 1 resources. In addition, the onsite Project area will be reseeded following construction using plant material collected onsite; however, the onsite population will not be subject to monitoring or performance standards. For offsite seeding in the Santa Clara River SEA, the Project Applicant shall prepare a Rare Plant Translocation Plan for white rabbit tobacco. The Project Applicant shall be fully responsible for the implementation of the Translocation Plan until the offsite population has met the success criteria outlined in the program. Prior to issuance of the first permit which would allow for site disturbance (e.g., grading permit), the Translocation Plan shall be approved by the County DRP.

4.3 SEA Protected Trees

The Project Applicant shall provide mitigation for the removal of SEA Protected Trees as follows. At a minimum, the removal of any SEA Protected Tree shall require mitigation in the form of two replacement plantings (2:1 mitigation to impact ratio). Replacement trees shall be seedlings of the same species being removed and will be planted within an area where suitable growing conditions are present and where the trees will remain in perpetuity, which may include the Castaic Creek disturbance area or within Project landscaping. Undersized, naturally sprouted trees of the same species growing on-site may be protected or transplanted as replacement trees. The replacement trees will be nurtured and maintained in a condition of good health and will be monitored for a period of seven years. If any of the replacement plantings fail during the monitoring period, the Project will replant new replacement trees, ensuring survival in a condition of good health. Final planting numbers, locations, methods, and performance standards will be described in the HMMP, which will follow standard monitoring and performance standards. County approval of the HMMP will be required prior to the onset of Project-related ground-disturbing activities.

If it is determined that it is not feasible to provide the full number of required replacement plantings, the Project Applicant may pay into the Protected Tree Fund described in Chapter 3 of the SEA Ordinance Implementation Guide as follows:

> *If the County Biologist or Forester determines that replacement plantings on the project site is inappropriate (e.g. no adequate locations for plantings exist), they may recommend that the applicant pay into the Protected Tree Fund instead. The amount to be paid into the fund would be an amount equivalent to the resource value of the trees described in the Protected Tree Report. The resource value of the trees will be calculated according to the most current edition of the International Society of Arboriculture's "Guide for Plant Appraisal", and approved by the County Biologist or Forester. The applicant should consult with a qualified arborist or resource professional in calculating the value of SEA Protected Trees.*
>
> *The Protected Tree Fund will be used for projects related to native tree and woodland establishment and protection, including planting, establishing, and maintaining native trees on public lands, purchasing native tree woodlands, and/or purchasing sensitive native trees of ecological, cultural, or historic significance. Up to twenty percent of the funds collected may be used to study and identify appropriate programs for use of the fund. Programs can include for outreach and educational purposes.*

4.4 Special-Status Wildlife

To offset impacts to habitat with potential to support special-status wildlife species, the Project Applicant shall provide for restoration of temporary impacts in the TCE and offsite habitat preservation in the Santa Clara River SEA for the following species:

- For California legless lizard and southern grasshopper mouse, permanent impacts to 2.93 acres of habitat with the potential to support these species shall be mitigated through

preservation of 11.72 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for these species. All temporary disturbance of suitable habitat in the TCE up to 0.65 acre will be restored achieving a 1:1 preservation ratio, and additional offsite suitable habitat will be preserved at 3:1, thereby achieving a total 4:1 ratio for temporary impacts in the TCE.

- For the coast horned lizard and coastal whiptail, permanent impacts to 4.09 acres of habitat with potential to support these species shall be mitigated through preservation of 16.36 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for these species. All temporary disturbance of suitable habitat in the TCE up to 1.02 acres will be restored achieving a 1:1 preservation ratio, and additional offsite suitable habitat will be preserved at 3:1, thereby achieving a total 4:1 ratio for temporary impacts in the TCE.

- For the least Bell's vireo, permanent impacts to 1.53 acres of cottonwood forest, arroyo willow thickets, sandbar willow thickets, cattail marshes, and tamarisk thickets with potential to support this species shall be mitigated through preservation of 7.65 acres (5:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for this species. Temporary disturbance in the TCE of up to 0.28 acre will be restored at 1:1, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 4:1.

- For the yellow warbler, permanent impacts to 1.53 acres of cottonwood forest, arroyo willow thickets, sandbar willow thickets, cattail marshes, and tamarisk thickets with potential to support this species shall be mitigated through preservation of 6.12 acres (4:1 ratio) of offsite mitigation lands within the Santa Clara River SEA with suitable habitat for this species. Temporary disturbance in the TCE of up to 0.28 acre will be restored at 1:1, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 3:1.

- For the San Diego desert wood rat, permanent impacts to 2.64 acres of habitat with the potential to support this species consisting of sage scrub and scale broom scrub habitats shall be mitigated through preservation of 10.56 acres (4:1 ratio) of suitable habitat offsite in the Santa Clara River SEA. Temporary disturbance in the TCE of up to 0.48 acre will be restored, and additional offsite lands within the Santa Clara River SEA with suitable habitat for this species will be preserved at a ratio of 3:1.

- For impacts up to 6.92 acres of foraging habitat for special-status avian and bat species that were either detected onsite or have potential to occur, including loggerhead shrike, northern harrier, olive-sided flycatcher, golden eagle, white tailed kite, California leaf-nosed bat, spotted bat, Townsend's big-eared bat, and mastiff bat, as well as common raptor species, shall be mitigated through onsite restoration of temporary impacts in the TCE and through offsite preservation of additional offsite lands within the Santa Clara River SEA as described for the other impacted special-status species.

4.5 Crotch's Bumble Bee Take Authorization

The Crotch's bumble bee was not detected during focused surveys conducted in 2024 in Castaic Creek. However, this species has been documented nearby within the proposed Tapia Ranch Development Project. As a SCE species, the regulatory status of Crotch's bumble bee under CESA is currently under review at the date of this report. The following the proposed mitigation measure addresses Crotch's bumble bee:

> If Crotch's bumble bee becomes formally listed under CESA or is still SCE at the time of construction and prior to implementing Project-related ground-disturbing activities, the Project Applicant shall conduct focused surveys prior following accepted protocols prior to implementing Project-related ground-disturbing activities to confirm the presence/absence of the species. Focused surveys shall focus on the start of flight season in late February when annual floral resources emerge. A qualified biologist shall monitor phenology of floral resources to determine the appropriate time to initiate surveys. If the species is present, then the Project Applicant shall consult with CDFW to determine whether an ITP would be required. If present, any potential avoidance and minimization measures would be determined through coordination with CDFW.

4.6 Monarch Butterfly

As a FC species, Section 7 or Section 10 consultation is not required should the Project result in take of monarch butterfly. Additionally, take of the species is not expected being that the Project site does not support overwintering habitat for monarch butterfly. The following the proposed mitigation measure addresses monarch butterfly avoidance in the event that the species is listed under FESA prior to the start of construction:

> Should monarch butterfly become listed under FESA at the time of construction, a qualified biologist familiar with the species behavior and life history shall conduct a pre-disturbance survey for monarch butterfly, focused on the appropriate resources that have potential for use by monarch butterfly depending on the season. Since the site does not support overwintering habitat for the species, a pre-disturbance survey will not be warranted should construction activities begin between October and February. Should construction activities commence between March and September, a pre-disturbance survey will be conducted as a means to identify any potential breeding resources on site, primarily patches of milkweed (*Asclepias* spp.). Should any milkweed patches be detected that are actively being utilized by monarch butterfly (nectaring adult monarchs, feeding caterpillars, or plants bearing visible eggs or chrysalides), they will be avoided until it can be confirmed that eggs or caterpillars are not present, or until caterpillars have pupated into adults (a process that takes 20-35 days from egg to adulthood) and moved out of the Project impact footprint on their own accord.

4.7 Least Bell's Vireo Take Authorization and Avoidance

One least Bell's vireo was present in Castaic Creek immediately south of the disturbance footprint for the Proposed Bridge Replacement Project during the 2024 breeding season. The

Project will temporarily impact 1.53 acres of suitable habitat for least Bell's vireo. To obtain take authorization for impacts to suitable habitat directly adjacent to occupied habitat, and to avoid indirect noise impacts to breeding least Bell's vireo, the following measure will be implemented in consultation with the County DRP, USFWS, and CDFW:

- Prior to any Project related vegetation clearing or ground disturbance, the Project Applicant shall consult with USFWS and CDFW to determine if take authorization is necessary.

- To avoid noise impacts, construction activities within 300 feet of occupied habitat should occur between September 16 and March 14 to avoid the least Bell's vireo breeding season. If seasonal avoidance is not possible and work must occur between March 15 and September 15, the least Bell's vireo breeding season, an analysis showing that noise generated by construction activities would not exceed 60 dB hourly average at the edge of occupied habitat must be completed by a qualified acoustician prior to commencement of construction activities. Where construction activities would result in noise levels exceeding 60 dB hourly average at the edge of occupied least Bell's vireo habitat, additional measures must be implemented.

- At least two weeks prior to commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., walls, panels) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB hourly average at the edge of habitat occupied by least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60dB hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16). Construction noise monitoring shall continue to be monitored at least once weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB hourly average or to the ambient noise level if it already exceeds 60 dB hourly average. If not, other measures shall be implemented in consultation with the project biologist and the County DRP and USFWS, as necessary, to reduce noise levels to below 60 dB hourly average or to the ambient noise level if it already exceeds 60 dB hourly average. Such measures include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

4.8 Burrowing Owl Take Authorization and Avoidance

Burrowing owl is not expected to occur based on lack of detection other than a single transient individual detected in 2013. However, suitable wintering habitat is present within the Castaic Creek area. As a State Candidate species, the regulatory status of burrowing owl under CESA is currently under review at the date of this report. The following proposed mitigation measure addresses burrowing owl take avoidance in Castaic Creek:

A qualified biologist shall conduct pre-construction presence/absence take avoidance surveys for burrowing owls in accordance with the CDFW 2012 Staff Report, which includes an initial survey no less than 14 days prior to ground disturbance within suitable habitat and a final survey conducted within 24 hours prior to ground disturbance. If burrowing owls are detected on site and if burrowing owl becomes formally listed under CESA or retains SC status at the time of construction and prior to implementing Project-related ground-disturbing activities, then the Project Applicant shall consult with CDFW to determine potential take and whether an ITP would be required. If the burrowing owl is not formally listed under CESA and is no longer a State Candidate at the time of construction, consultation with CDFW for an ITP is not required. Regardless of the State listing status under CESA, any potential avoidance and minimization measures, which may include relocating/excluding the owls from the site outside of the breeding season following accepted protocols, would be determined through coordination with CDFW and the County DRP.

4.9 American Badger Avoidance

The following proposed mitigation measure is proposed to address American badger take avoidance:

A qualified biologist shall conduct pre-construction presence/absence survey for American badger within one day prior to ground disturbance within suitable habitat. If American badger is detected on site, then the Project Applicant shall consult with the County DRP and CDFW to develop a plan to exclude the badgers from the site outside of the breeding season following accepted protocols.

4.10 Southern California Mountain Lion Take Avoidance

As discussed previously, the Bridge Project site is expected to support mountain lion movement. However, the site is not expected to support natal denning due to frequent human disturbance including vehicular traffic on Tapia Canyon Road across Castaic Creek. As a SC species, the regulatory status of California Mountain lion under CESA is currently under review at the date of this report. The following proposed mitigation measure addresses Southern California Mountain Lion Take Avoidance:

If Southern California mountain lion becomes formally listed under CESA or remains a SC at the time of construction and prior to implementing Project-related ground-disturbing activities, the Project Applicant shall consult with CDFW to determine whether an ITP would be required. As the project is not expected to support denning, no minimization measures are proposed at this time. Any potential avoidance and minimization measures would be determined through coordination with CDFW.

4.11 Nesting Birds

Vegetation clearing should be conducted outside of the nesting season (February 1 through September 15). If avoidance of the nesting season is not feasible, then a qualified Project Biologist shall conduct a nesting bird survey within 4 days prior to any disturbance of the site, including vegetation clearing, demolition activities, and grading. If active nests are identified, the Biologist shall establish suitable buffers around the nests (special-status species and raptors buffer range from 200 feet up to 500 feet; and non-special-status bird species buffer a minimum of 25 feet; specific buffer widths to be determined by a qualified biologist). The Biologist may adjust the buffer widths to consider man-made or natural structures that reduce line-of-sight from the nest to disturbance areas, such as dense vegetation and landforms (i.e. cliffs or canyon slopes). The buffer areas shall be clearly identified with flagging or staking and avoided until the biologist removes the buffer. The Biologist will remove buffers when the nest is determined to be no longer active and the juvenile birds have fledged the nest and can fly and feed independently. The Project Biologist shall monitor active nests no less than once a week until the young have fledged. If no construction activity occurs for several days (4 days) at the site, the Project Biologist shall perform sweep of the immediate work area to ensure no new nests have been initiated, as well as monitor existing nests. The Project Biologist will be responsible for monitoring all nests found within the Project survey area. The Project Biologist may recommend additional measures if it is determined the buffer is not sufficient to avoid nest failure. The Biologist shall record the results of the recommended protective measures described above and shall submit a memo summarizing any nest avoidance measures to the County DRP to document compliance with applicable State and federal laws pertaining to the protection of native birds, including nesting raptors.

4.12 Jurisdictional Waters

Impacts to jurisdictional waters consisting of up to 0.90 acre of non-wetland waters of the U.S regulated by the Corps and Regional Board, and up to 4.41 acres (of which 1.67 acres is riparian) of streams regulated by CDFW shall be mitigated with a combination of onsite restoration of temporary impacts in the TCE within Castaic Creek, and through purchase of credits at an agency-approved mitigation bank and/or permittee-responsible mitigation within the Santa Clara River SEA.

For onsite restoration of temporary impacts and offsite permittee-responsible mitigation conducted at another location within the Santa Clara River SEA, if applicable, the Project Applicant shall be required to plan, implement, monitor, and maintain a Habitat Mitigation and Monitoring Program (HMMP) for the Project. The Project Applicant shall be fully responsible for the implementation of the HMMP until the restoration areas have met the success criteria outlined in the program. Prior to issuance of the first permit which would allow for site disturbance (e.g., grading permit), a detailed HMMP shall be prepared by a qualified biologist for approval by the County DRP.

5.0 MONITORING PROGRAM

The following discussion outlines a proposed, conceptual mitigation and monitoring program for impacts associated with the Bridge Project. The details of the mitigation and monitoring program will be set forth in the HMMP and Rare Plant Translocation Plan to be prepared for the Bridge Project and subject to final approvals.

Following construction of the bridge and other Project components as well as remedial grading, the native habitat in the permanently impacted portion of Castaic Creek will be revegetated through a combination of seeding with appropriate native species and passive revegetation from propagules entering the impact area from adjacent intact habitat, including upstream in Castaic Creek. Any impacts to habitat in the TCE would be replanted as described below. Seed of white rabbit tobacco (*Pseudognaphalium leucocephalum*), the only sensitive plant within the construction footprint, would be collected and seeded on to the substrate following construction.

Mitigation for the project includes onsite restoration of any impacts in the TCE that occur during construction and offsite mitigation within the Santa Clara River SEA for temporary and permanent impacts that will include the following options: offsite restoration (including establishment or reestablishment) of the target vegetation alliance(s), enhancement of the offsite vegetation alliance, and/or preservation of the offsite vegetation alliance. The proposed revegetation plant palettes will be set forth in the HMMP.

5.1 Mitigation Locations

Onsite Mitigation

As will be set forth in the HMMP, onsite mitigation will consist of revegetation of impacts in the TCE. Because of the dynamic nature of the alluvial system, any riparian/alluvial habitat impacted in the portion of Castaic Creek mapped as Water Resources would be revegetated with similar riparian or alluvial habitat; however, due to hydrological changes after construction, it is expected that the habitat composition may ultimately differ from what was impacted and planted/seeded. Upland scrub habitats, if impacted, would be revegetated with similar appropriate alliances. Areas vegetated with non-native vegetation types (tamarisk thickets, wild oats and annual brome grasslands) will be planted with appropriate native plant palettes.

In addition to habitat restoration in the TCE as necessary for temporary impacts, limited habitat restoration will occur in the permanent impact area. As discussed throughout this analysis, the 6.61-acre area Bridge Project footprint is considered as a permanent impact due to the placement of permanent structures and the potential for future maintenance. However, to ensure the continued habitat value of the 6.61-acre area, following construction, all non-developed areas will be seeded with appropriate native riparian, alluvial, and/or upland scrub species including white rabbit tobacco seed collected prior to the start of construction; this area will be subject to a five-year maintenance program that includes non-native species removal.

Offsite Mitigation

Offsite mitigation in the Santa Clara River SEA will include a combination of reestablishment, establishment, enhancement, and preservation of 16.44 acres of riparian and alluvial habitat to offset permanent impacts to 2.75 acres of native habitat in Water Resources at a 5:1 ratio, 0.92 acre of tamarisk scrub at a 1:1 ratio, 0.07 acre of cottonwood forest at a 3:1 ratio, 0.06 acre of sandbar willow thickets at a 2:1 ratio, and 0.48 acre of scale broom scrub at a 3:1 ratio. The 16.44 acres of riparian and alluvial habitat may include up to 3.75 acres of preservation of sandy wash or equivalent bare or sparsely vegetated sand or cobble substrate within the offsite mitigation area in the SEA.

Offsite mitigation will also include a combination of reestablishment, establishment, enhancement, and preservation of 2.68 acres of upland scrub and grassland habitats to offset permanent impacts to 0.39 acre of buckwheat scrub at a 2:1 ratio, 0.35 acre of sagebrush scrub at a 2:1 ratio, 0.29 acre of yerba santa scrub at a 2:1 ratio, and 0.31 acre of wild oats and annual brome grasslands at a 2:1 ratio. If sufficient existing area of scale broom scrub, buckwheat/sagebrush scrub, and yerba santa scrub are not available for preservation, habitat restoration would rely on the plant palettes that will be included in the HMMP.

For temporary impacts that may occur in the TCE, in addition to onsite restoration at a 1:1 ratio, offsite mitigation in the Santa Clara River SEA will include a combination of reestablishment, establishment, enhancement, and preservation of up to 2.56 acres of riparian and alluvial habitat to offset temporary impacts of up to 0.52 acre of native habitat in Water Resources at a 4:1 ratio, up to 0.03 acre of cottonwood forest at a 2:1 ratio, and up to 0.21 acre of scale broom scrub at a 2:1 ratio. The 2.56 acres of riparian and alluvial habitat may include up to 1.08 acres of preservation of sandy wash or equivalent bare or sparsely vegetated sandy or gravel substrate within the offsite mitigation area in the SEA.

Finally, in addition to onsite restoration at a 1:1 ratio, offsite mitigation may also include a combination of reestablishment, establishment, enhancement, and preservation of up to 0.37 acres of upland scrub to offset temporary impacts to 0.37 acre of yerba santa scrub at a 1:1 ratio.

Impacts to 75 individuals of white rabbit tobacco will be mitigated at the offsite mitigation area in the Santa Clara River SEA at a 5:1 ratio.

5.2 Measurement of Biological Response to Mitigation

To measure the biological response to the onsite and offsite mitigation efforts and ensure that the monitoring program is directly applicable to addressing impacts, the following methods will be implemented to collect data necessary to evaluate the effectiveness of the mitigation efforts.

5.2.1. Monitoring Methods

If habitat impacts occur in the TCE, those areas will be monitored for five years following the completion of mitigation installation unless final success criteria are met prior to this point in time. The offsite mitigation area in the Santa Clara River SEA will also be monitored for five years

following the completion of mitigation installation unless final success criteria are met prior to this point in time. The monitoring program will consist of the measurement of performance indicators and the assessment of these indicators relative to established performance criteria. In addition, non-native species removal in the 6.61-acre Project area will occur for five years following construction, although this area will not be subject to performance standards.

Qualified habitat restoration specialists, biologists, or horticulturists with appropriate credentials and experience in native habitat restoration shall perform monitoring. Continuity within the personnel and methodology of monitoring shall be maintained as much as possible to ensure comparable assessments.

Qualitative Monitoring

The Project Biologist will conduct qualitative monitoring surveys monthly for the first 18 months, and quarterly thereafter for the remainder of the five-year monitoring period for the TCE, if impacts occur, and offsite mitigation areas.

Qualitative surveys, consisting of a general site walkover and habitat characterization, will be completed during each monitoring visit. General observations, such as fitness and health of the planted species, pest problems, weed establishment, mortality, and drought stress, will be noted in each site walkover. The Project Biologist will also note observations on wildlife use and native plant recruitment for the purpose of later discussion in the annual reports. Records will be kept of mortality and other problems such as insect damage, weed infestation, and soil loss. The Project Biologist will determine remedial measures necessary to facilitate compliance with performance standards. All remedial measures undertaken will be referenced in the annual monitoring report to the County, Corps, CDFW, and Regional Board. A sample of a qualitative evaluation-monitoring sheet is provided in Appendix B.

While conducting qualitative surveys, the Project Biologist will record wildlife observations within the revegetated habitat. The development of quantitative measures for wildlife use is not necessary for this mitigation site, but general impressions of wildlife usage of any restoration area are considered among the success criteria.

Quantitative Monitoring

Quantitative monitoring methods include an annual census of dead and/or declining plant stock, and visual estimates of cover as well as field sampling techniques that are based in accordance with the methodology developed by the California Native Plant Society (CNPS).[7] Please refer to *A Manual of California Vegetation* for further details on this sampling method. Monitoring will assess the attainment of annual and final success criteria and identify the need to implement contingency measures in the event of failure.

[7] Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society.

Plant Survival Sampling Technique
An annual census of all installed container stock will be taken each year in the late fall or early winter. The number of missing, dead and/or declining plant stock will be recorded for each plant species installed within each plant community at the mitigation site. The percentage of surviving container stock will be calculated by subtracting the number of missing, dead, or declining container stock from the total number of container stock, by species, which were initially installed.

Vegetative Cover Sampling Technique
Percent canopy cover of the mitigation plantings will be measured by using the point-intercept sampling method centered in a 2-meter by 50-meter plot. At each 0.5-meter interval along each transect (beginning at the 50-cm mark and ending at 50-meter), a point is projected vertically into the vegetation. Each plant species intercepted by a point is recorded, providing a tally of hits for each species in the herbaceous, shrub, and tree canopies, making it possible to record more than 100 hits in any 50-meter transect. Percent cover for each species, according to vegetation layer (herb, shrub, and tree) can be calculated from these data. A list of all additional species within the 250 square-meter belt is subsequently made.

Two 2-meter by 50-meter long transects per acre will be used to monitor the development of the revegetation.

Photo-Documentation
Permanent stations for photo-documentation will be established prior to or during the first annual monitoring event. Photographs shall be taken each monitoring period from the same photo-point and in the same compass direction each year. Photographs shall reflect material discussed in the annual monitoring report.

5.2.2 Monitoring Schedule

It is anticipated that all mitigation site vegetation will be installed at the same time and will be on a common monitoring cycle. The initial monitoring will commence the first June/July following the first growing season after installation and every year thereafter until all five-year performance standards are met and the County, Corps, CDFW and Regional Board have accepted the project.

5.2.3 Annual Monitoring Reports

At the end of each of the five-year monitoring period growing seasons, for the duration of the monitoring period, an annual report will be prepared for submittal to the County, Corps, Regional Board, and CDFW. Since planting may not occur when planned, monitoring shall be tied to the actual implementation date (e.g., the first annual report shall be delivered on January 1st of the year following the first growing season after planting). These reports will assess both attainment of yearly target success criteria and progress toward final success criteria. These reports shall include the survival and/or replacement of tree and shrub container stock, percent cover of native vegetation, overall visual estimates of the heights of both tree and shrub species, and diversity data. These reports will also include the following:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year;
- A vicinity map indicating location of the mitigation site;
- A site plan identifying target habitat types and mitigation type, transect or quadrat locations, photo-point locations, photo-point geographic coordinates (latitude and longitude) and the compass direction in which the photograph was taken, and other information as appropriate;
- Copies of all ground photographs; and
- An analysis of all qualitative and quantitative monitoring data that includes a summary of the field data sheets.

5.3 Performance Standards

Performance Standards for both onsite and offsite restoration are provided in Tables 5-1 to 5-3 below.

Table 5-1. Performance Standards – Riparian and Wetland Habitats

Milestone Year	Assessment Criteria
Year 1	• 80% survival of the planted container stock • 30% absolute vegetative cover by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 2	• 100% survival of the container stock that survived the first year (unless offset by natural recruitment) • 40% absolute vegetative coverage by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 3	• 100% survival of the container stock that survived the first year (unless offset by natural recruitment) • 55% absolute vegetative cover by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 4	• 65% absolute vegetative cover by native species • Less than 5% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 5	• 75% vegetative cover by native species • Less than 5% vegetative cover by non-native species • 0% vegetative cover by invasive plant species

Table 5-2. Performance Standards – Sage Scrub and Scale Broom Scrub

Milestone Year	Assessment Criteria
Year 1	• 80% survival of the planted container stock • 20% absolute vegetative cover by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 2	• 100% survival of the container stock that survived the first year (unless offset by natural recruitment) • 30% absolute vegetative coverage by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 3	• 100% survival of the container stock that survived the first year (unless offset by natural recruitment) • 40% absolute vegetative cover by native species • Less than 10% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 4	• 50% absolute vegetative cover by native species • Less than 5% vegetative cover by non-native species • 0% vegetative cover by invasive plant species
Year 5	• 60% vegetative cover by native species • Less than 5% vegetative cover by non-native species • 0% vegetative cover by invasive plant species

Table 5-3. Performance Standards – White Rabbit Tobacco

Milestone Year	Assessment Criteria
Years 1–5	• At least 350 plants detected in at least one of the five monitoring years.

5.4 Alternatives for Failure to Meet Performance Standards

Should any of the onsite mitigation restoration fail to meet performance standards, the mitigation can be satisfied through purchase of like habitats within the SEA including within approved mitigation banks or within areas of land that is not already under conservation within the Santa Clara River SEA.

5.5 Schedule

Implementation of the mitigation project shall be, to the maximum extent practicable, be implemented immediately following installation of the riprap and placement of soil cover. Seed collection for white rabbit tobacco would occur during two seasons prior to impacts to ensure that sufficient seed is collected. Eradication of weedy plant species will begin immediately following completion of placement of soil cover. The Project Biologist will supervise and provide biological monitoring during project construction, site preparation, installation of plant materials,

and maintenance. Planting activities, including seeding of the white rabbit tobacco shall take place between October and December, if possible, to take advantage of natural rainfall and reduce erosion caused by bare graded areas.

The tasks outlined below in Table 5-4 provide an estimated schedule and phasing of restoration activities as well as necessary contracting requirements.

Table 5-4. Mitigation Implementation Schedule

Task	**Schedule/Timeline**
Contracting Requirements	July/August 2026
Seed Collection (as necessary)	Summer and Fall 2025 and 2026
Grading and Construction	Fall 2027
Site Preparation	Fall 2028
Plant/Seed Installation	Fall 2028

5.6 Responsible Parties

Applicant: Tapia Ranch Development
Contact: Anton Austin
DACA-Castaic LLC
1565 Hotel Circle South, Suite 310
San Diego, California 92108

5.7 Adaptive Management

If, during the monitoring period, a destructive natural occurrence occurs which damages or destroys 25-percent of the mitigation planting, then reconstruction, replanting, and monitoring will continue. Reconstruction, replanting, and monitoring would not be required if less than 25-percent of the plantings are damaged or destroyed, as the mitigation site will be considered established.

If a performance standard is not met for all or any portion of the mitigation project in any year, or if the approved success criteria are not met, the Project Biologist will prepare an analysis of the cause(s) of failure and, if determined necessary by the County, Corps, Regional Board, and CDFW, propose remedial actions for approval. If the compensatory mitigation site has not met one or more of the success criteria or performance standards, the responsible party's maintenance and monitoring obligations shall continue until the regulatory agencies give final approval the mitigation obligations have been satisfied.

6.0 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: February 25, 2025

Signed:  Date: February 25, 2025

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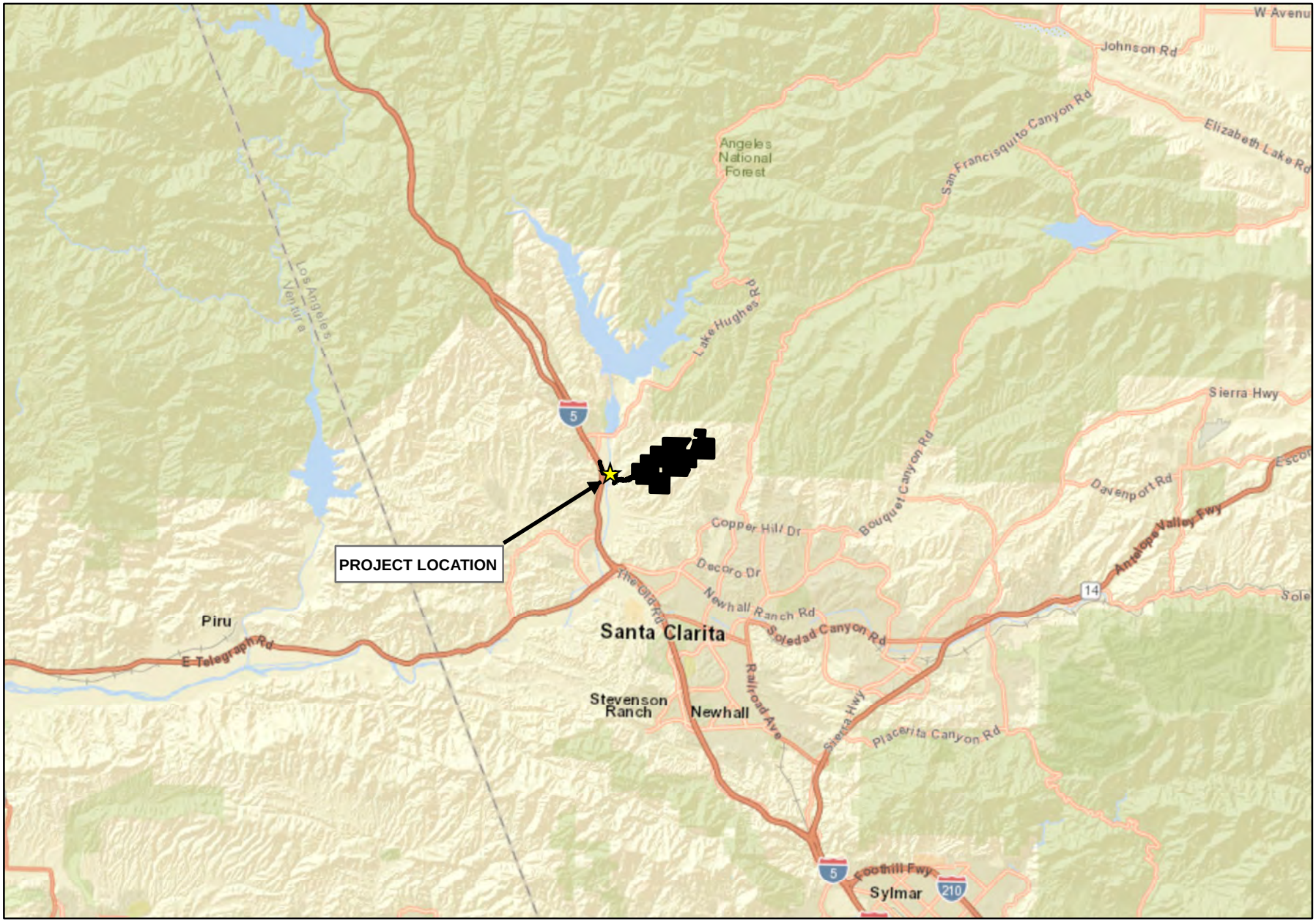


Source: ESRI World Street Map

N

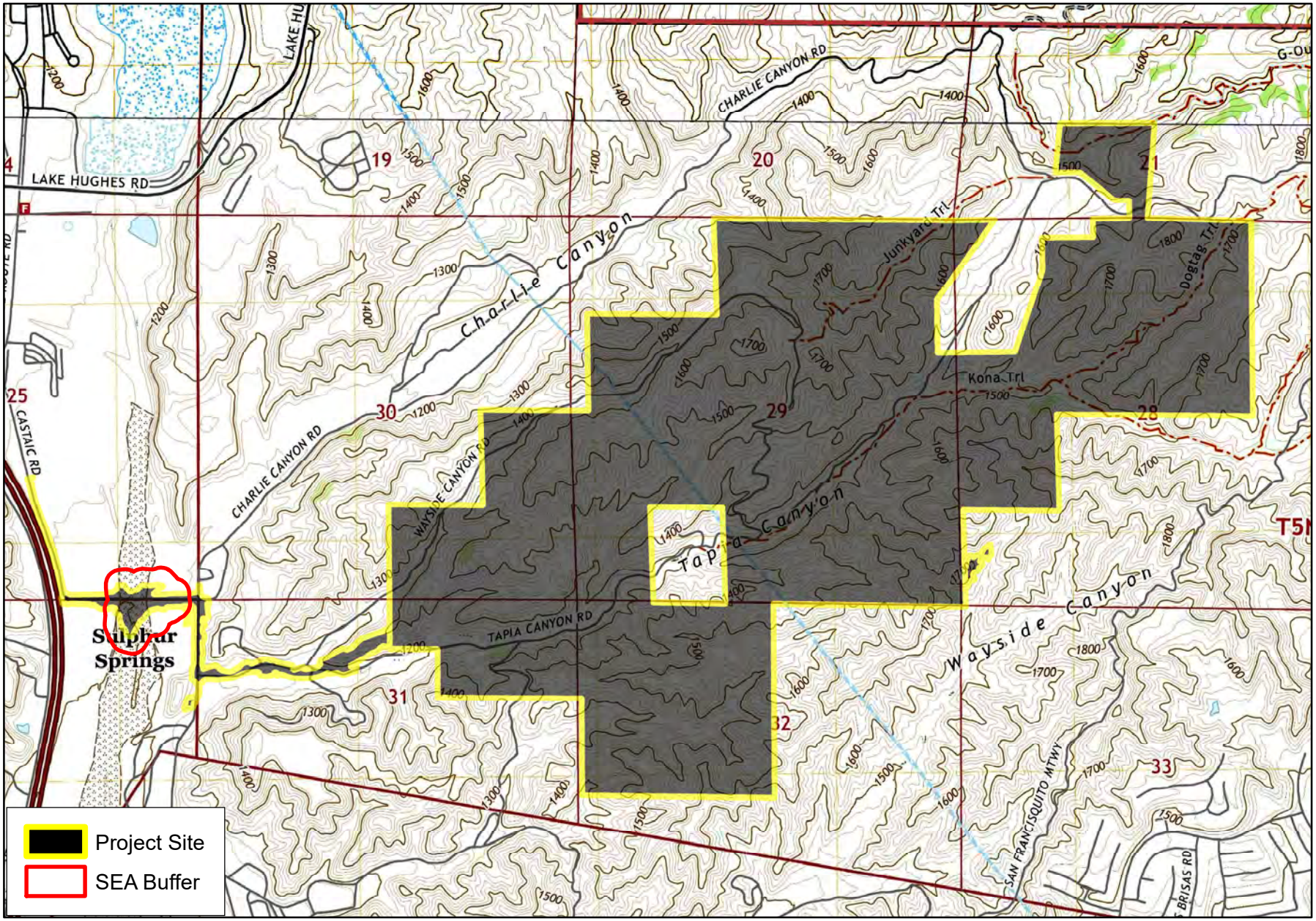
0 2 4 8 Miles

TAPIA RANCH DEVELOPMENT PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Newhall & Warm Springs Mountain, CA quadrangles

N

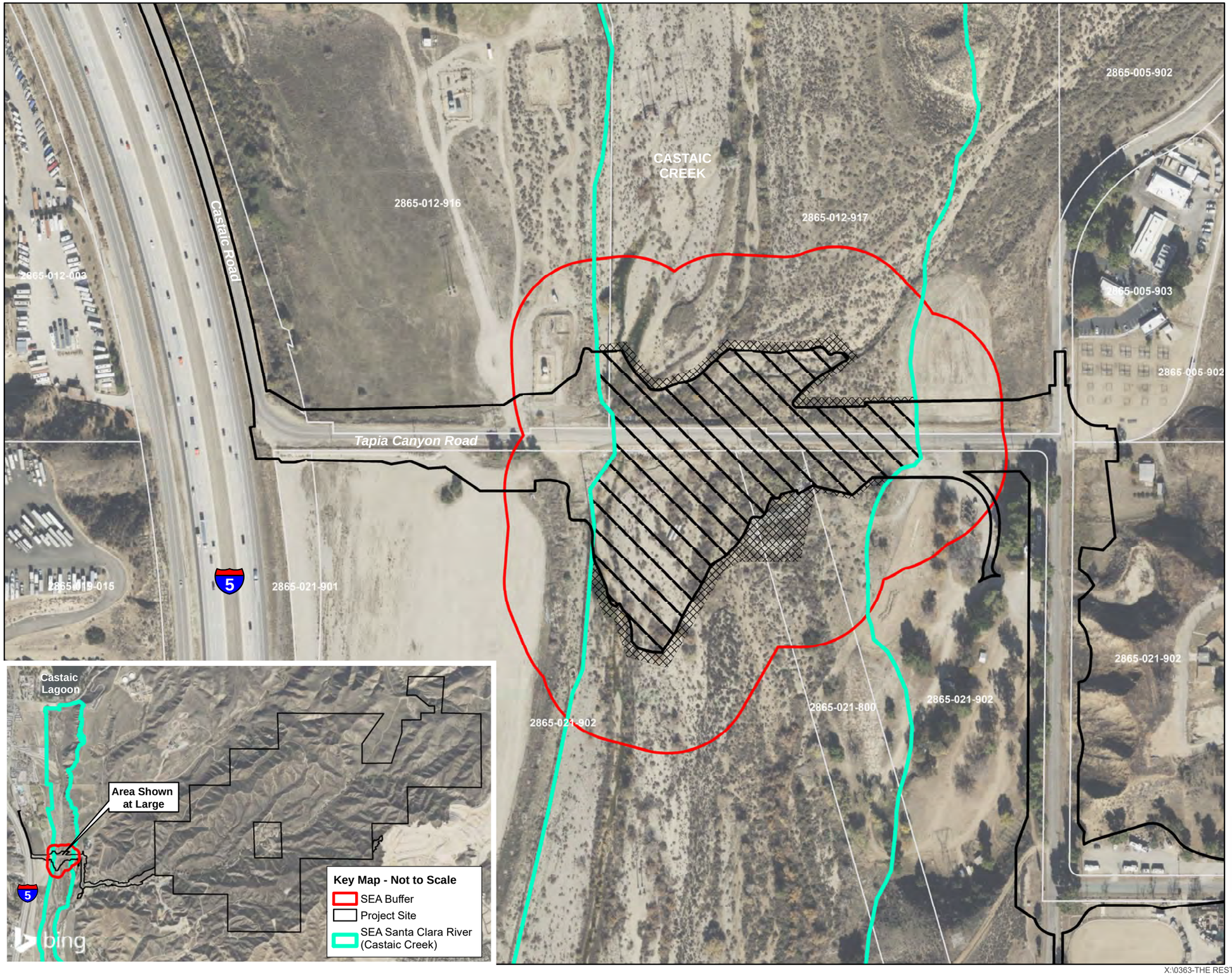
0 1,000 2,000 4,000 Feet

TAPIA RANCH DEVELOPMENT PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Project Site
Permanent Impact
Temporary Construction Easement
SEA Buffer
LA County Parcels
SEA Santa Clara River (Castaic Creek)

N

0 112.5 225 450
Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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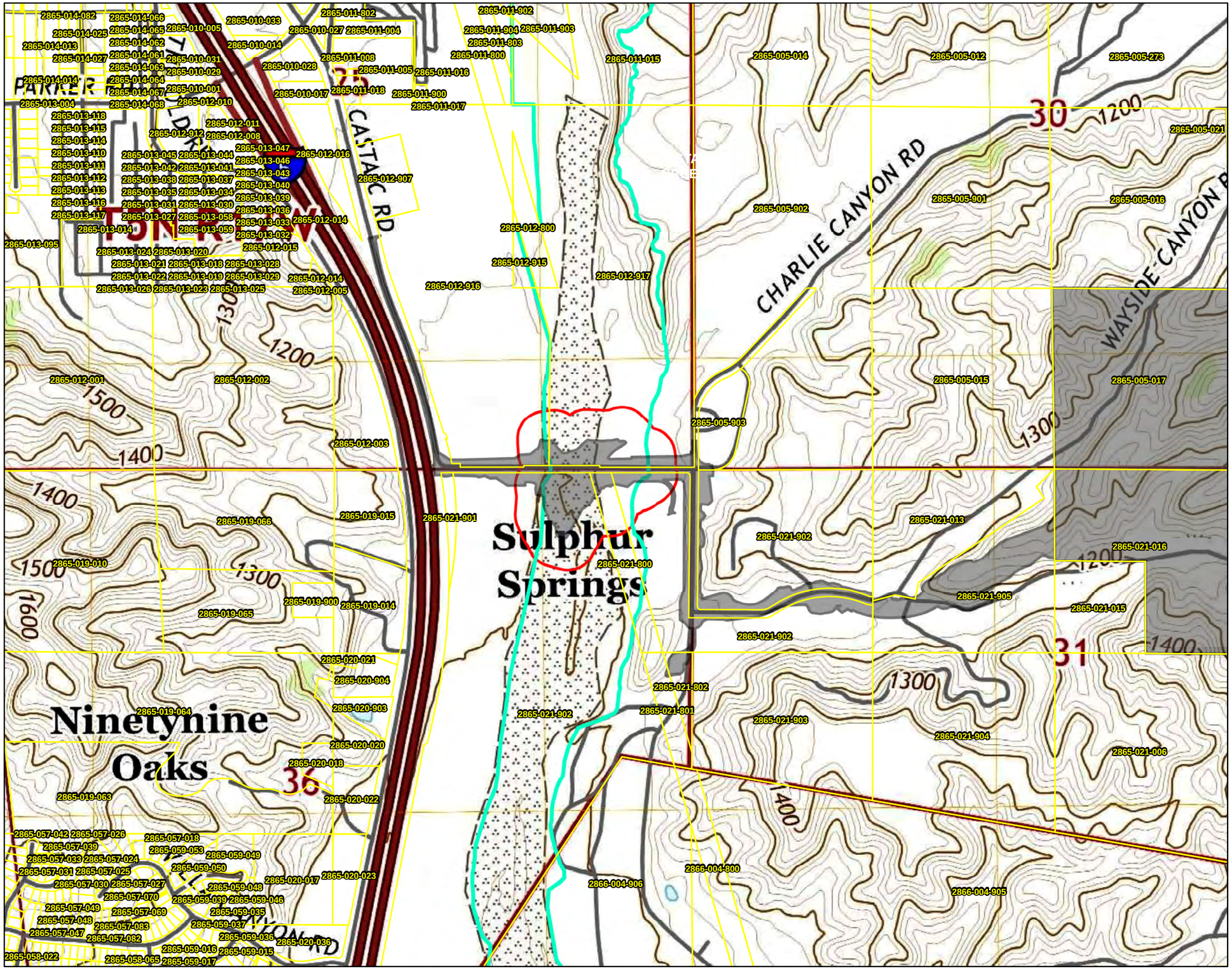

Project Site
SEA Buffer
LA County Parcels
SEA Santa Clara River (Castaic Creek)

N

0 350 700 1,400
Feet

1 inch = 700 feet

TAPIA RANCH DEVELOPMENT PROJECT

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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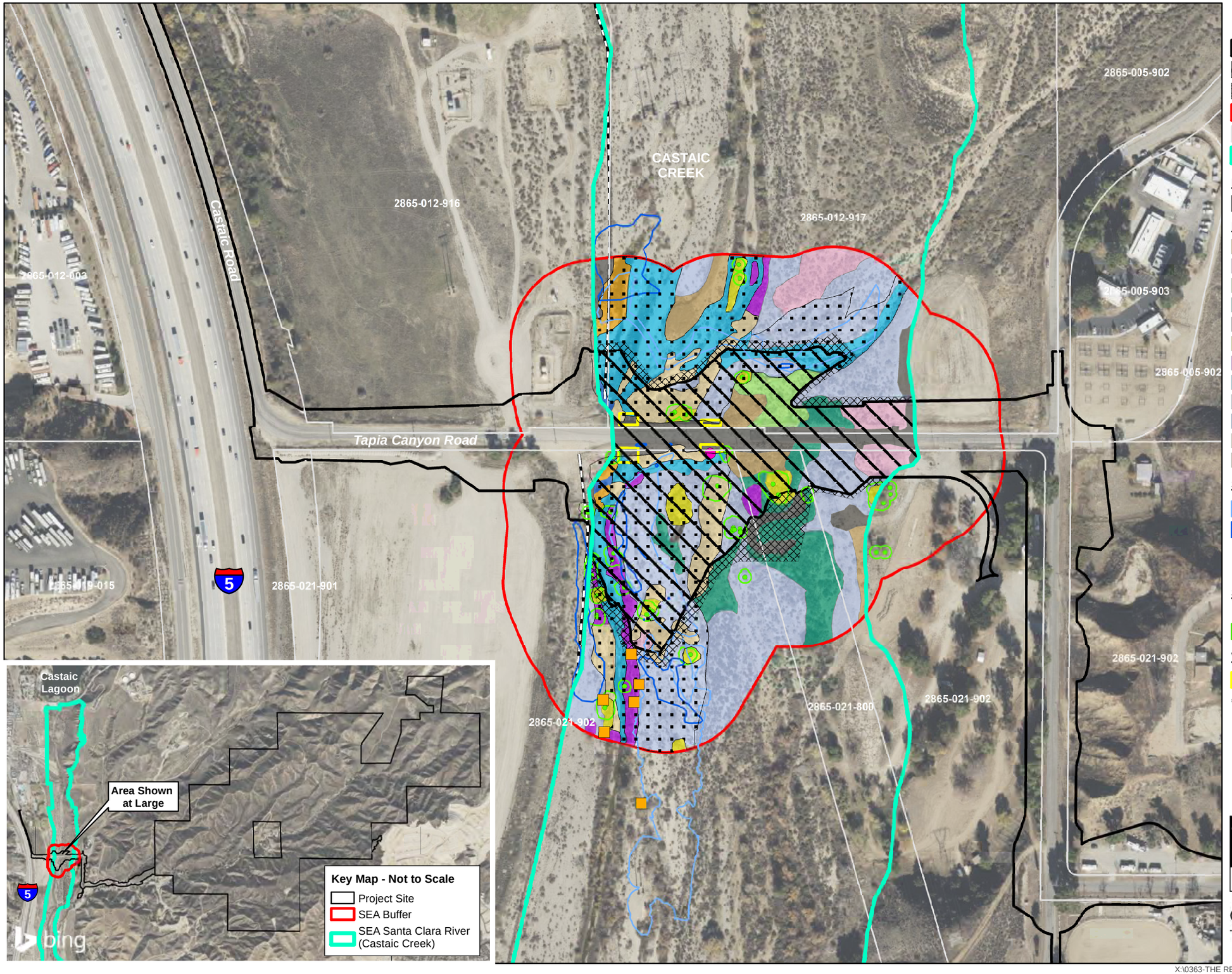

Project Site
Permanent Impact
Temporary Construction Easement
SEA Buffer
LA County Parcels
SEA Santa Clara River (Castaic Creek)

Hydrological Resources

Water Resources

Natural Communities

Arroyo Willow Thickets
California Buckwheat Scrub
California Sagebrush Scrub
Yerba Santa Scrub
Developed
Fremont Cottonwood Forest and Woodland
Sandbar Willow Thickets
Sandy Wash
Scale broom scrub
Southern Cattail Marshes
Tamarisk thickets
Wild oats and annual brome grasslands

Sensitive Species

White Rabbit Tobacco (2018) - Category 1
White Rabbit Tobacco (2022) - Category 1
Burrowing Owl – Category 2
Least Bell's Vireo Pair observed locations

SEA Protected Trees

SEA Tree
SEA Tree Protection Zone

Wildlife Movement Obstructions

Culverts
Erosional Fencing

0 112.5 225 450
Feet

1 inch = 225 feet

N

TAPIA RANCH DEVELOPMENT PROJECT

SEA Biological Constraints Map

GLENN LUKOS ASSOCIATES

Exhibit 4A

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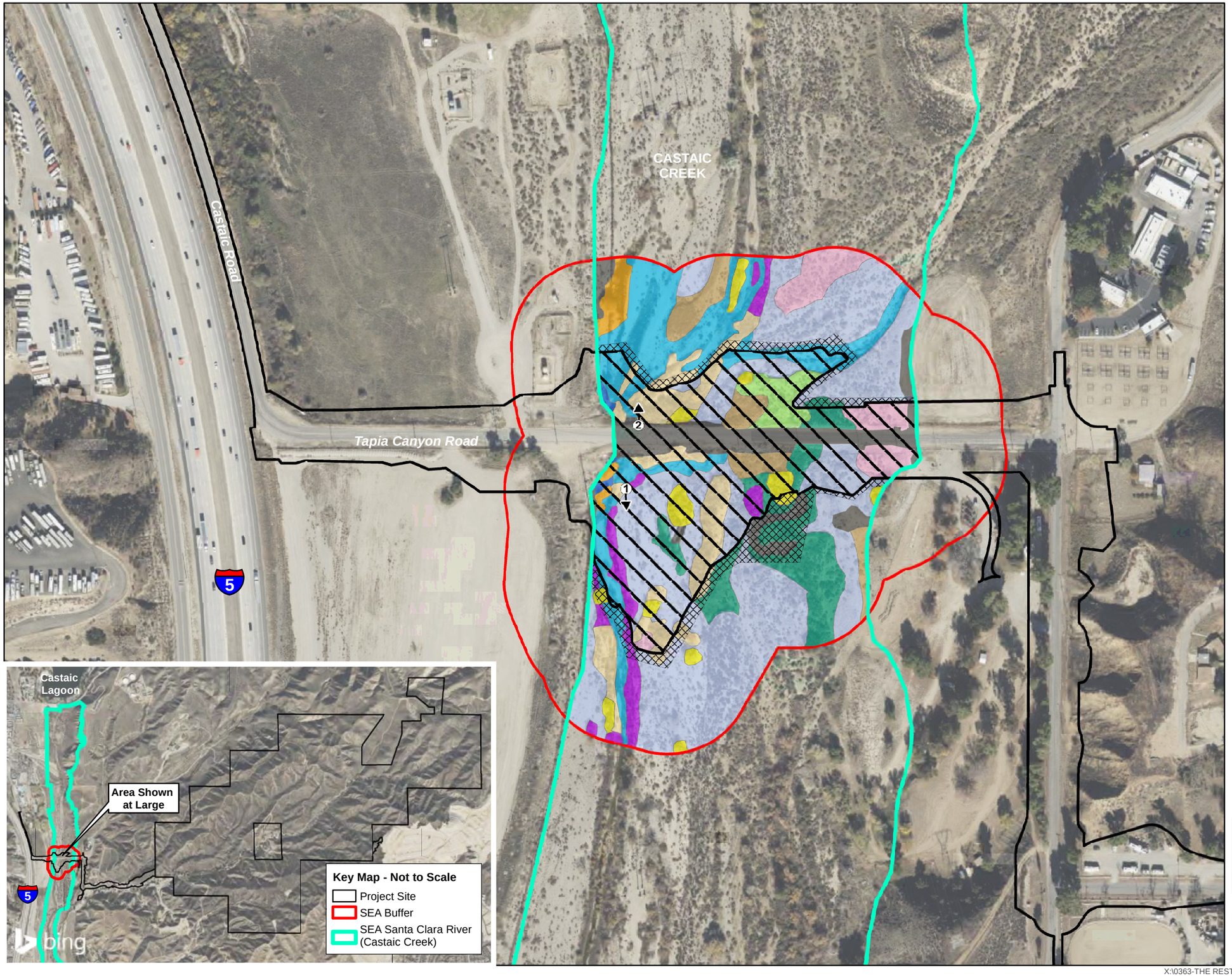

- Project Site
- Permanent Impact
- Temporary Construction Easement
- SEA Buffer
- SEA Santa Clara River (Castaic Creek)
- Arroyo Willow Thickets
- California Buckwheat Scrub
- California Sagebrush Scrub
- Yerba Santa Scrub
- Developed
- Fremont Cottonwood Forest and Woodland
- Sandbar Willow Thickets
- Sandy Wash
- Scale broom scrub
- Southern Cattail Marshes
- Tamarisk thickets
- Wild oats and annual brome grasslands
- Photo Location

N

0 112.5 225 450

Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 4B

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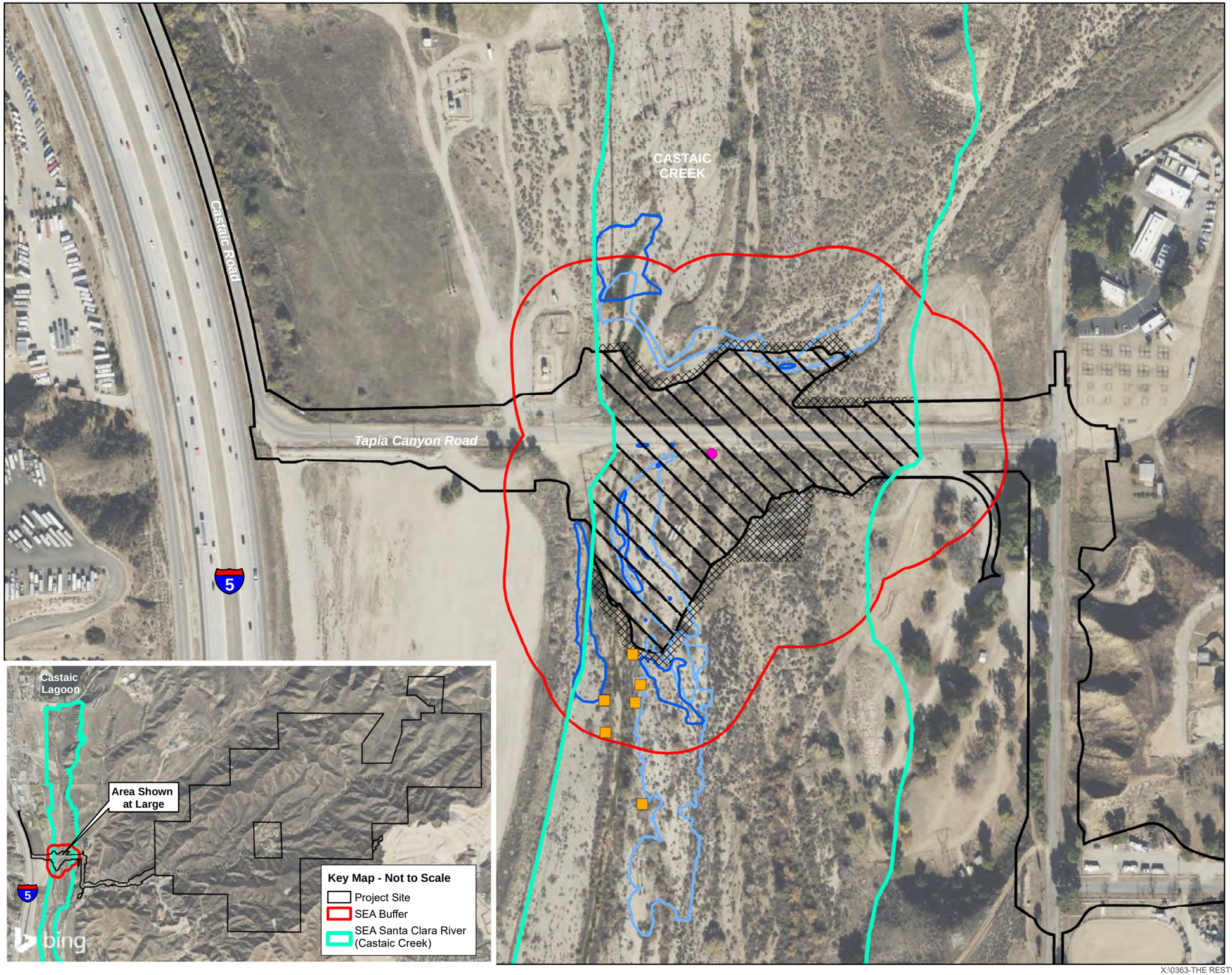

Project Site

Permanent Impact

Temporary Construction Easement

SEA Buffer

SEA Santa Clara River (Castaic Creek)

White Rabbit Tobacco (2018) - Category 1

White Rabbit Tobacco (2022) - Category 1

Least Bell's Vireo Pair observed locations

Burrowing Owl – Category 2

N

0 112.5 225 450

Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Sensitive Species Map

GLENN LUKOS ASSOCIATES

Exhibit 4C

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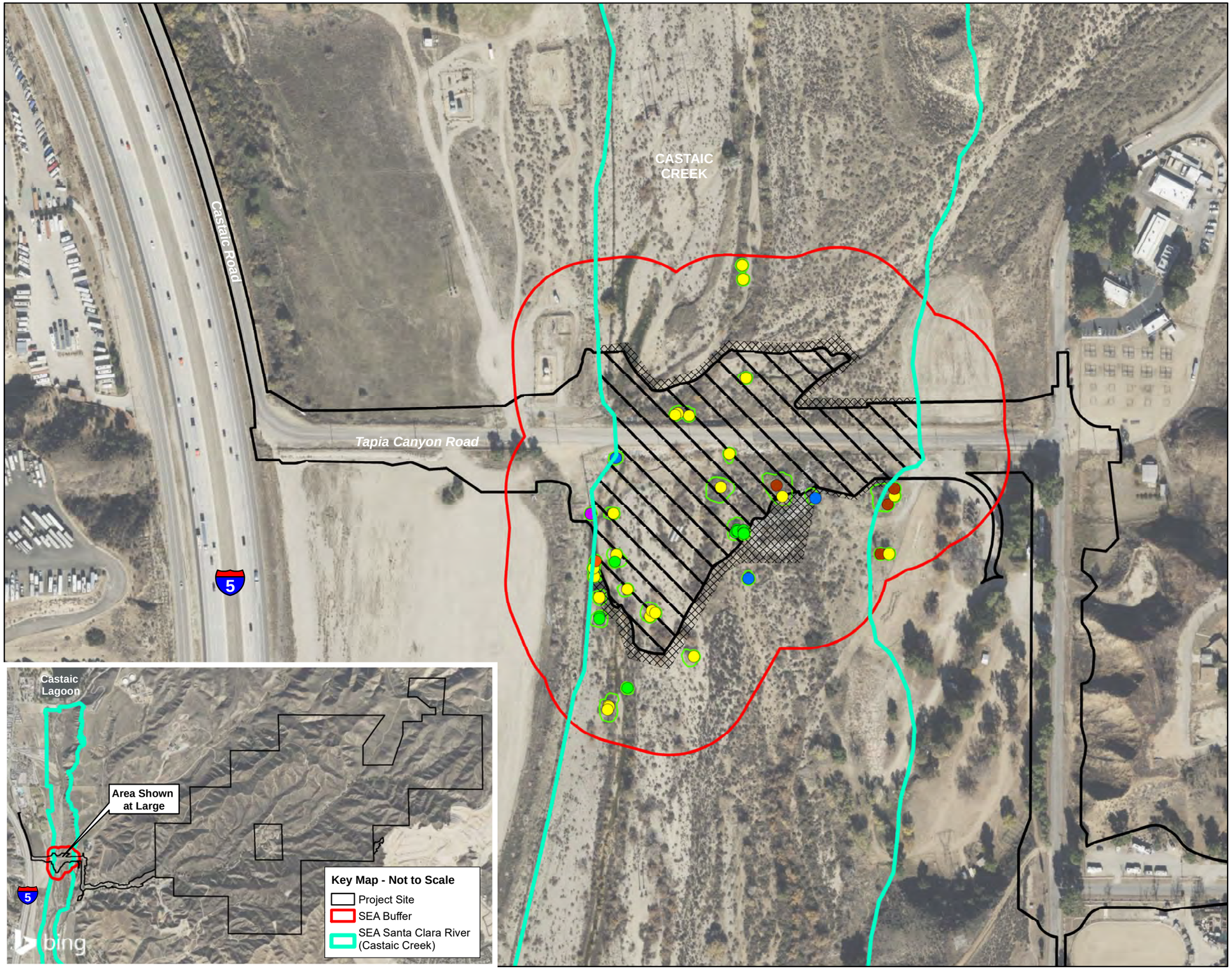


- Project Site
- Permanent Impact
- Temporary Construction Easement
- SEA Buffer
- SEA Santa Clara River (Castaic Creek)
- SEA Tree Protection Zone
- Cottonwood
- Elderberry
- Heritage Cottonwood
- Red Willow
- Sandbar Willow
- Sycamore

N

0 112.5 225 450

Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

SEA Protected Trees Map

GLENN LUKOS ASSOCIATES

Exhibit 4D

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\REV1\0365-27 SEATrees_REV1.mxd

Photograph 1: View of Castaic Creek, facing south downstream, at proposed off-site Tapia Canyon Road Bridge improvements area.

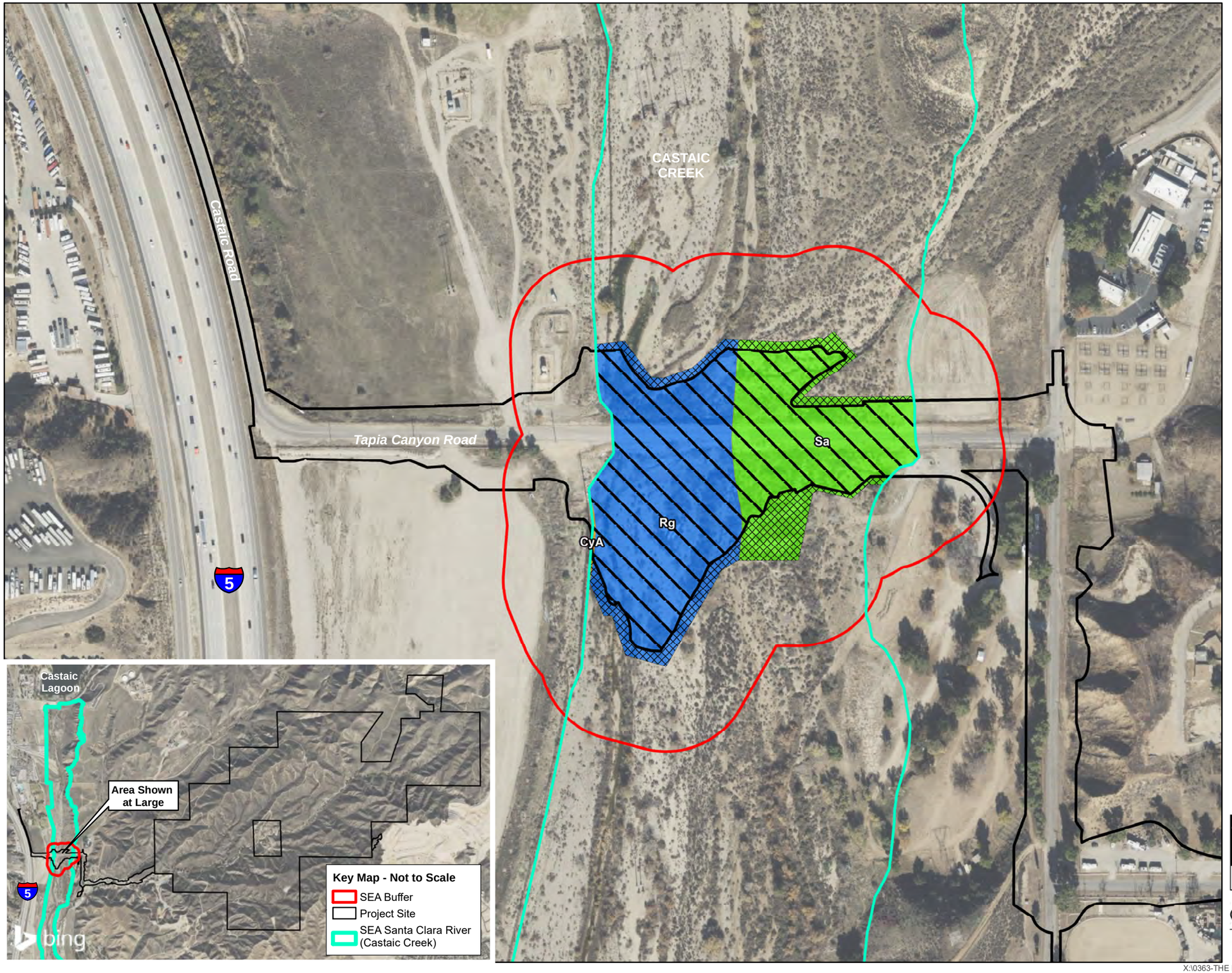
Photograph 2: View of Castaic Creek, facing north upstream, at proposed off-site Tapia Canyon Road Bridge improvements area. Non-native and invasive tamarisk (*Tamarix sp.*) trees are the dominant plant in view.

GLENN LUKOS ASSOCIATES

Exhibit 5

TAPIA RANCH DEVELOPMENT PROJECT

Site Photographs



- Project Site
- Permanent Impact
- Temporary Construction Easement
- SEA Buffer
- SEA Santa Clara River (Castaic Creek)
- CyA - Cortina sandy loam, 0 to 2 percent slopes
- Rg - Riverwash
- Sa - Sandy alluvial land

N

0 112.5 225 450

Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 6

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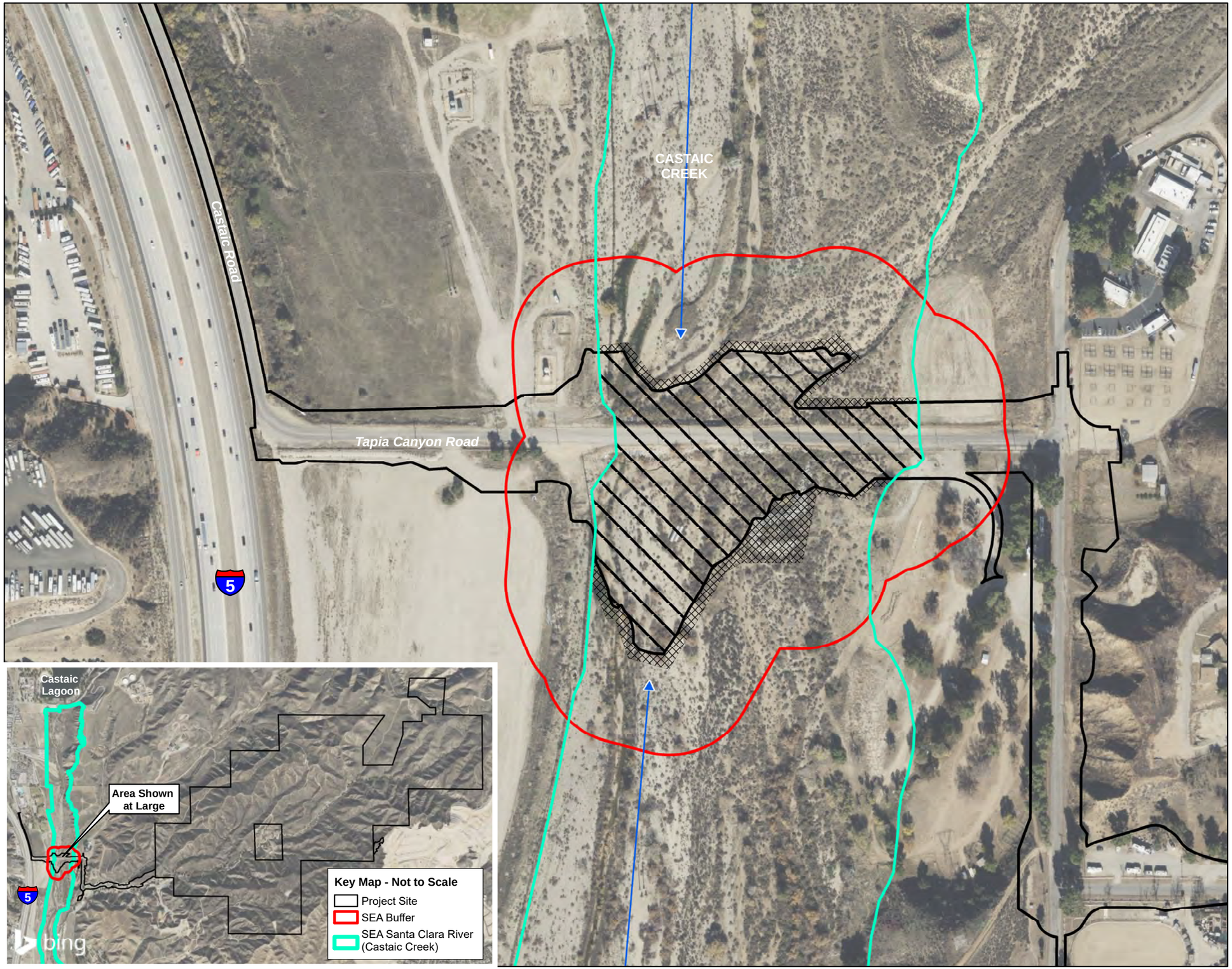

Project Site

Permanent Impact

Temporary Construction Easement

SEA Buffer

SEA Santa Clara River (Castaic Creek)

Build-out Wildlife Corridors

N

0 112.5 225 450

Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Wildlife Movement Map

GLENN LUKOS ASSOCIATES

Exhibit 7

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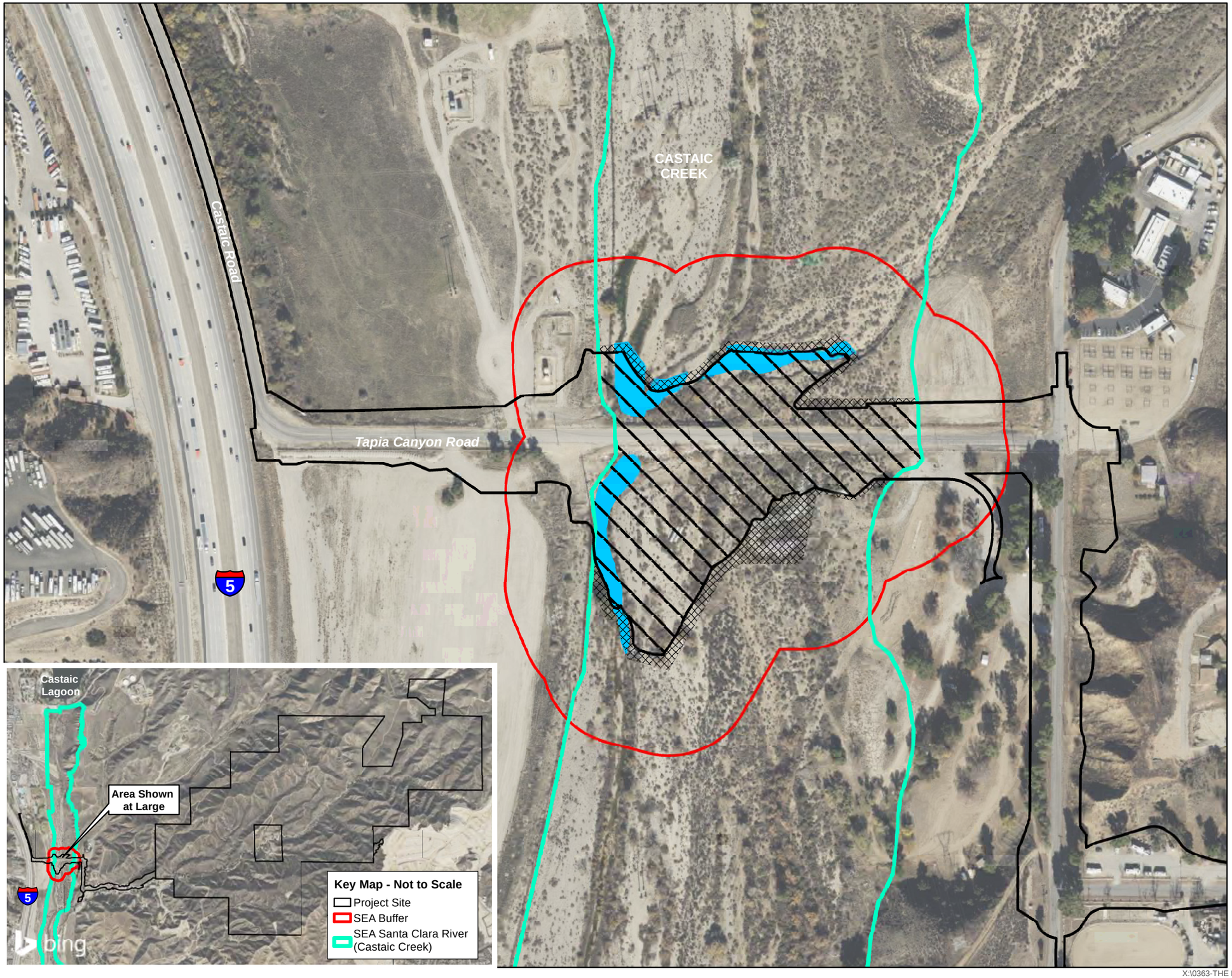


Project Development Footprint

SEA Santa Clara River (Castaic Creek)

SEA Buffer

Corps Non-Wetland Waters of the U.S./
RWQCB Non-Wetland Waters of the State

N

0 112.5 225 450

Feet

1 inch = 225 feet

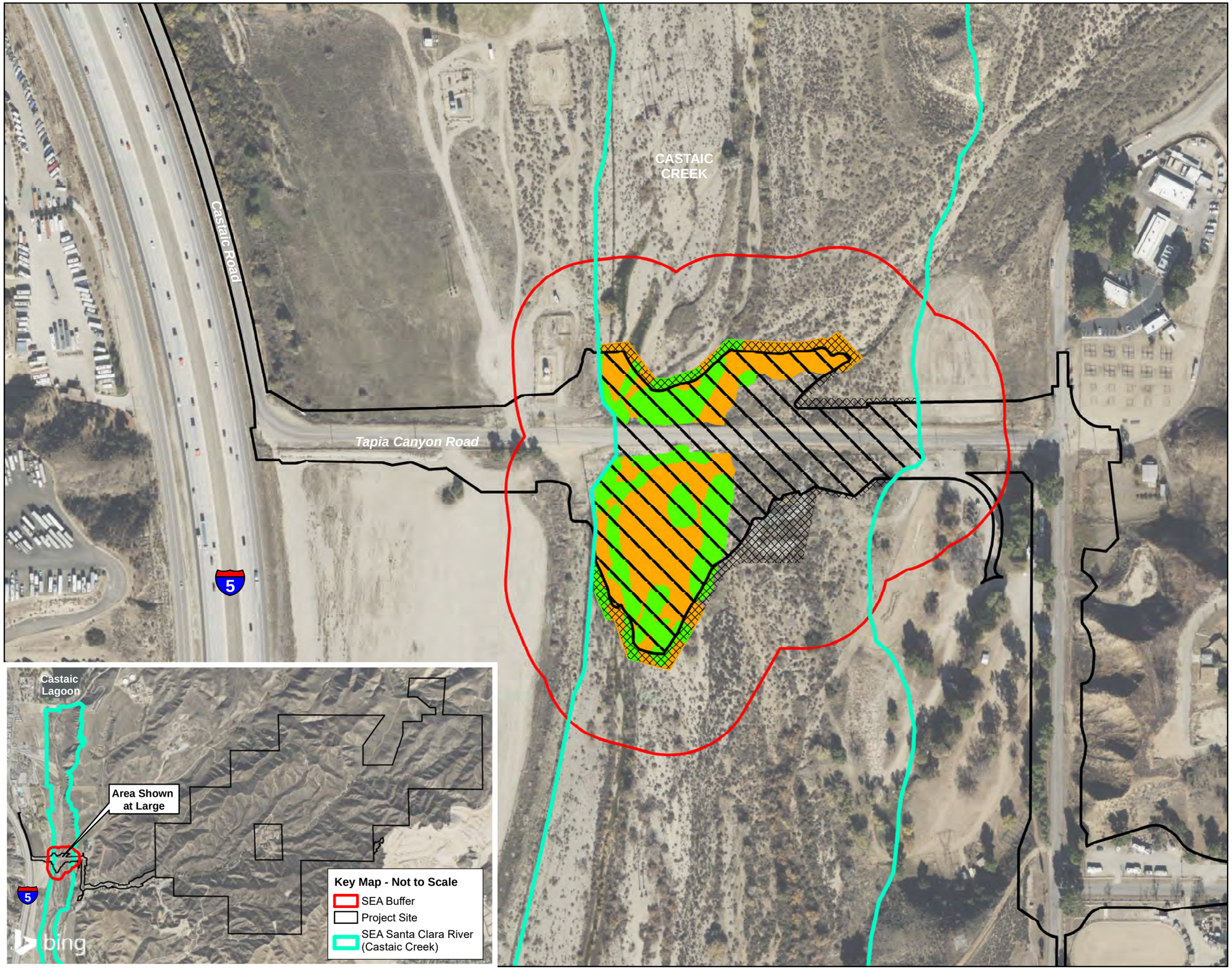
TAPIA RANCH DEVELOPMENT PROJECT

Corps/Regional Board JD Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\REV1\0365-27 SEACorps_REV1.mxd



Project Site
Permanent Impact
Temporary Construction Easement
SEA Buffer
SEA Santa Clara River (Castaic Creek)
CDFW Non-Riparian Stream
CDFW Riparian

N

0 112.5 225 450
Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

CDFW JD Map

GLENN LUKOS ASSOCIATES

Exhibit 8B

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\REV1\0365-27 SEACDFW_REV1.mxd

APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual Second Edition (Baldwin et. al. 2012) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory, Online Edition v-9.5 (CNPS 2024). Common plant names are taken from Hickman (1993), Munz (1974), Roberts et al. (2004), and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS
FERNS AND FERN ALLIES		
LYCOPODIOPHYTA	**CLUB MOSS AND ALLIES**	
Selaginellaceae	**Spike-Moss Family**	
Selaginella bigelovii	Bigelow's spike-moss	
GYMNOSPERMS		
CONIFEROPHYTA	**CONE-BEARING PLANTS**	
Cupressaceae	**Cypress Family**	
**Juniperus sp.*	ornamental juniper	
Pinaceae	**Pine Family**	
* *Pinus sp.*	pine	
MAGNOLIOPHYTA - FLOWERING PLANTS		
MONOCOTYLEDONS	**MONOCOTS**	
Agavaceae	**Agave Family**	
Chlorogalum pomeridianum var. pomeridianum	wavy-leaved soap plant	
Hesperoyucca whipplei	our lord's candle	
Arecaceae	**Palm Family**	
* *Washingtonia robusta*	Mexican fan palm	

Juncaceae	**Rush Family**	
Juncus bufonius	toad rush	
Poaceae	**Grass Family**	
* *Avena barbata*	slender wild oat	
* *Avena fatua*	common wild oat	
* *Bromus diandrus*	ripgut grass	
* *Bromus hordeaceus*	soft chess	
* *Bromus rubens*	foxtail chess	
* *Bromus tectorum*	cheatgrass	
* *Festuca myuros*	foxtail fescue	
* *Hordeum murinum* ssp. *leporinum*	hare barley	
* *Schismus barbatus*	Mediterranean grass	
Typhaceae	**Cat-Tail Family**	
Typha domingensis	southern cattail	
EUDICOTYLEDONS	**EUDICOTS**	
Amaranthaceae	**Amaranth Family**	
* *Amaranthus albus*	tumbling pigweed	
* *Chenopodium album*	lamb's quarters	
Chenopodium californicum	California goosefoot	
* *Chenopodium murale*	nettle-leaved goosefoot	
Anacardiaceae	**Sumac Family**	
* *Schinus molle*	Peruvian pepper tree	
* *Schinus terebinthifolius*	Brazilian pepper tree	
Apiaceae	**Carrot Family**	
Apiastrum angustifolium	mock parsley	
Asteraceae	**Sunflower Family**	
Artemisia californica	coastal sage brush	
Artemisia douglasiana	California mugwort	
Baccharis salicifolia	mulefat	
* *Centaurea melitensis*	tocalote	
Chaenactis glabriuscula	yellow pincushion	
Corethrogyne filaginifolia	common sand aster	

Deinandra fasciculata	fascicled tarweed	
* *Encelia farinosa*	brittlebush	
Erigeron canadensis	common horseweed	
Filago californica	California filago	
* *Filago gallica*	narrow-leaved filago	
Gutierrezia californica	California matchweed	
Hazardia squarrosa	saw-toothed goldenbush	
Hazardia squarrosa var. *grindeloides*	gum plant goldenbush	
Helianthus annuus	western sunflower	
Helianthus gracilentus	slender sunflower	
Heterotheca grandiflora	telegraph weed	
* *Hypochaeris glabra*	smooth cat's-ear	
Isocoma menziesii	Menzies' goldenbush	
* *Lactuca serriola*	prickly lettuce	
Lepidospartum squamatum	scale broom	
Malacothrix saxatilis	cliff malocothrix	
* *Matricaria discoides*	common pineapple weed	
Pseudognaphalium californicum	California cudweed	
Pseudognaphalium canescens	white everlasting	
* *Pseudognaphalium luteoalbum*	weedy cudweed	
Pseudognaphalium leucocephalum	white rabbit tobacco	CRPR 2B.2
Rafinesquia californica	California chicory	
Senecio flaccidus var. *douglasii*	sand-wash butterweed	
* *Senecio vulgaris*	common groundsel	
* *Sonchus oleraceus*	common sow-thistle	
Stephanomeria virgata ssp. *virgata*	tall wreath-plant	
Stylocline gnaphalioides	everlasting nest-straw	
Uropappus lindleyi	silver puffs	
Xanthium strumarium	common cocklebur	
Boraginaceae	**Borage Family**	
Amsinckia menziesii var. *intermedia*	common fiddleneck	
Amsinckia menziesii var. *menziesii*	rigid fiddleneck	
Cryptantha intermedia	common cryptantha	
Plagiobothrys nothofulvus	rusty popcorn flower	
Brassicaceae	**Mustard Family**	
* *Brassica nigra*	black mustard	
**Hirschfeldia incana*	shortpod mustard	
Lepidium nitidum	shining peppergrass	

* *Sisymbrium altissimum*	tumble mustard	
* *Sisymbrium irio*	London rocket	
* *Sisymbrium orientale*	oriental sisymbrium	
Thysanocarpus laciniatus	narrow leaved lacepod	
Caryophyllaceae	**Pink Family**	
* *Stellaria media*	common chickweed	
Crassulaceae	**Stonecrop Family**	
Crassula connata	sand pygmy-stonecrop	
Dudleya lanceolata	lance-leaved dudleya	
Euphorbiaceae	**Spurge Family**	
Croton setigerus	doveweed	
Euphorbia albomarginata	rattlesnake spurge	
Fabaceae	**Legume Family**	
Acmispon americanus	Spanish clover	
Acmispon glaber	deerweed	
Acmispon strigosus	strigose lotus	
Astragalus tricopodus	southern California locoweed	
Lupinus bicolor	miniature lupine	
Lupinus hirsutissimus	stinging lupine	
Lupinus truncatus	truncate lupine	
* *Medicago polymorpha*	California burclover	
* *Melilotus albus*	white sweetclover	
* *Melilotus indica*	yellow sweetclover	
**Trifolium albopurpureum*	rancheria clover	
Trifolium gracilentum var. *gracilentum*	pin-point clover	
Trifolium willdenovii	tomcat clover	
* *Vicia sativa* ssp. *sativa*	common vetch	
Geraniaceae	**Geranium Family**	
* *Erodium cicutarium*	red-stemmed filaree	
* *Erodium moschatum*	white-stemmed filaree	
Hydrophyllaceae	**Waterleaf Family**	
Eucrypta chrysanthemifolia	common eucrypta	
Nemophila menziesii var. *menziesii*	baby blue eyes	

Lamiaceae	**Mint Family**	
* *Marrubium vulgare*	horehound	
Salvia columbariae	chia	
Salvia mellifera	black sage	
Trichostema lanceolatum	vinegar weed	
Malvaceae	**Mallow Family**	
* *Malva parviflora*	cheeseweed	
Myrtaceae	**Myrtle Family**	
* *Eucalyptus* sp.	gum tree	
Namaceae	**Nama Family**	
Eriodictyon crassifolium	thick-leaved yerba santa	
Nyctaginaceae	**Four O'Clock Family**	
Mirabilis laevis var. *crassifolia*	California wishbone bush	
Onagraceae	**Evening Primrose Family**	
Camissoniopsis bistorta	southern suncup	
Camissoniopsis hirtella	hairy suncup	
Papaveraceae	**Poppy Family**	
Argemone munita	prickly poppy	
Eschscholzia californica	California poppy	
Phrymaceae	**Monkeyflower Family**	
Diplacus longiflorus	southern bush monkey flower	
Erythranthe guttata	seep monkey flower	
Mimetanthe pilosa	snouted monkey flower	
Platanaceae	**Sycamore Family**	
Platanus racemosa	western sycamore	
Polemoniaceae	**Phlox Family**	
Eriastrum sapphirinum	sapphire woolly-star	
Navarretia atractyloides	holly-leaved skunkweed	

Polygonaceae	**Buckwheat Family**	
Eriogonum elongatum var. *elongatum*	long-stemmed buckwheat	
Eriogonum fasciculatum var. *fasciculatum*	California buckwheat	
Eriogonum gracile	slender buckwheat	
Pterostegia drymarioides	granny's hairnet	
* *Rumex crispus*	curly dock	
Portulacaceae	**Purslane Family**	
Calyptridium monandrum	common pussypaws	
Claytonia perfoliata var. *perfoliata*	miner's lettuce	
Rhamnaceae	**Buckthorn Family**	
Rhamnus crocea	spiny redberry	
Rhamnus ilicifolia	holly-leaved redberry	
Rosaceae	**Rose Family**	
Heteromeles arbutifolia	toyon	
Prunus ilicifolia	holly-leaved cherry	
Rubiaceae	**Madder Family**	
Galium aparine	common bedstraw	
Salicaceae	**Willow Family**	
Populus fremontii	western cottonwood	
Salix exigua	narrow-leaved willow	
Salix laevigata	red willow	
Salix lasiolepis	arroyo willow	
Solanaceae	**Nightshade Family**	
Datura wrightii	jimsonweed	
* *Nicotiana glauca*	tree tobacco	
Solanum xanti	chaparral nightshade	
Tamaricaceae	**Tamarisk Family**	
* *Tamarix ramosissima*	Mediterranean tamarisk	
Viburnaceae		
Sambucus nigra ssp. *caerulea*	blue elderberry	

Appendix B

Faunal Compendium

Taxonomy and common names sourced from the California Wildlife Habitat Relationships System (CDFW 2016), the CNDDB for special status species, and the following taxa-specific sources: Pelham (2023) and NABA for butterflies, American Ornithological Society (2022) for birds; Collins and Taggart (2009) and Crother (2017) for reptiles and amphibians; and Wilson and Reeder (2005) for mammals.

* Non-native/Introduced species

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS
INVERTEBRATES		
Insecta, Order Lepidoptera, Family Hesperiidae – Skippers		
Erynnis funeralis	funereal duskywing	
Hylephila phyleus	fiery skipper	
Insecta, Order Lepidoptera, Family Nymphalidae – Brush-Footed Butterflies		
Adelpha californica	California sister	
Chlosyne gabbii	Gabb's checkerspot	
Danaus plexippus	Monarch	
Euphydryas chalcedona	variegated checkerspot	
Junonia coenia	common buckeye	
Vanessa atalanta	red admiral	
Vanessa cardui	painted lady	
Vanessa virginiensis	American lady	
Insecta, Order Lepidoptera, Family Papilionidae – Swallowtails		
Papilio eurymedon	pale swallowtail	
Papilio zelicaon	anise swallowtail	
Pterourus rutulus	western tiger swallowtail	
Insecta, Order Lepidoptera, Family Pieridae – Whites and Sulfurs		
Anthocharis sara	Pacific orangetip	
Colias eurytheme	orange sulphur	
Nathalis iole	dainty sulphur	
Pontia protodice	checkered white	
Zerene eurydice	California dogface	
Insecta, Order Lepidoptera, Family Riodinidae – Metalmarks		
Apodemia mormo	Mormon metalmark	

FISH		
Cyprinidae – Carp and Chub		
**Cyprinus carpio*	common carp	
AMPHIBIANS		
Bufonidae – True Toads		
Anaxyrus boreas halophilus	western toad	
Hylidae – Treefrogs and Allies		
Pseudacris cadaverina	California treefrog	
Pseudacris hypochondriaca	Baja California treefrog	
REPTILES		
Anguidae – Alligator Lizards		
Elgaria multicarinata	southern alligator lizard	
Crotalidae – Pit Vipers		
Crotalus oreganus helleri	Southern Pacific rattlesnake	
Phrynosomatidae – Phrynosomatid Lizards		
Sceloporus occidentalis longipes	Great Basin spiny lizard	
Uta stansburiana	common side-blotched lizard	
Teiidae – Whiptails		
Aspidoscelis tigris stejnegeri	coastal whiptail	SSC
BIRDS		
Accipitridae – Hawks, Eagles, Kites		
Accipiter cooperii	Cooper's hawk	
Buteo jamaicensis	red-tailed hawk	
Buteo lineatus	red-shouldered hawk	
Aegithalidae – Bushtits		
Psaltriparus minimus	bushtit	
Anatidae – Swans, Geese, Ducks		
Anas platyrhynchos	mallard	
Apodidae – Swifts		
Aeronautes saxatilis	white-throated swift	

Ardeidae – Herons, Egrets, and Bitterns		
Ardea herodias	great blue heron	
Butorides virescens	green heron	
Cardinalidae – Cardinals		
Passerina amoena	Lazuli bunting	
Passerina caerulea	blue grosbeak	
Pheucticus melanocephalus	black-headed grosbeak	
Piranga ludoviciana	western tanager	
Cathartidae – American Vultures		
Cathartes aura	turkey vulture	CSB
Charadriidae – Plovers and Relatives		
Charadrius vociferus	killdeer	
Columbidae – Pigeons, Doves		
Zenaida macroura	mourning dove	
Corvidae – Crows, Jays		
Aphelocoma californica	California scrub-jay	
Corvus brachyrhynchos	American crow	
Corvus corax	common raven	
Cuculidae – Anis, Cuckoos, Roadrunners		
Geococcyx californianus	greater roadrunner	
Falconidae – Falcons		
Falco sparverius	American kestrel	
Fringillidae – Finches		
Haemorhous mexicanus	house finch	
Spinus lawrencei	Lawrence’s goldfinch	
Spinus psaltria	lesser goldfinch	
Spinus tristis	American goldfinch	
Hirundinidae – Swallows, Martins		
Hirundo rustica	barn swallow	
Petrochelidon pyrrhonota	cliff swallow	
Stelgidopteryx serripennis	northern rough-winged swallow	
Icteridae – Blackbirds		
Agelaius phoeniceus	red-winged blackbird	
Icterus cucullatus	hooded oriole	

Mimidae – Mockingbirds, Thrashers		
Mimus polyglottos	northern mockingbird	
Toxostoma redivivum	California thrasher	
Odontophoridae – New World Quail		
Callipepla californica	California quail	
Parulidae – Wood Warblers		
Cardellina pusilla	Wilson's warbler	CSB
Geothlypis trichas	common yellowthroat	
Geothlypis tolmiei	MacGillivray's warbler	
Leiothlypis celata	orange-crowned warbler	
Leiothlypis ruficapilla	Nashville warbler	
Setophaga coronata	yellow-rumped warbler	
Setophaga nigrescens	black-throated gray warbler	
Setophaga occidentalis	hermit warbler	
Setophaga petechia	yellow warbler	SSC, CSB
Setophaga townsendi	Townsend's warbler	
Passerellidae – New World Sparrows		
Ammodramus savannarum	grasshopper sparrow	SSC, CSB
Melozone crissalis	California towhee	
Passerculus sandwichensis	savannah sparrow	
Pipilo maculatus	spotted towhee	
Zonotrichia atricapilla	golden-crowned sparrow	
Zonotrichia leucophrys	white-crowned sparrow	
Passeridae – Old World Sparrows		
Passer domesticus	house sparrow	
Picidae – Woodpeckers		
Melanerpes formicivorus	acorn woodpecker	
Picoides nuttallii	Nuttall's woodpecker	
Poliptilidae – Gnatcatchers		
Polioptila caerulea	blue-gray gnatcatcher	
Ptilogonatidae – Silky Flycatchers		
Phainopepla nitens	phainopepla	
Strigidae – Typical Owls		
Athene cunicularia	burrowing owl	SC, SSC, CSB

Sturnidae – Starlings and Mynahs		
**Sturnus vulgaris*	European starling	
Sylviidae – Sylvid Warblers		
Chamaea fasciata	wrentit	
Trochilidae – Hummingbirds		
Calypte anna	Anna's hummingbird	
Selasphorus sasin	Allen's hummingbird	
Troglodytidae –Wrens		
Thryomanes bewickii	Bewick's wren	
Troglodytes aedon	house wren	
Tyrannidae – Tyrant Flycatchers		
Empidonax difficilis	western flycatcher	
Myiarchus cinerascens	ash-throated flycatcher	
Sayornis nigricans	black phoebe	
Sayornis saya	Say's phoebe	
Tyrannus verticalis	western kingbird	
Tyrannus vociferans	Cassin's kingbird	
Vireonidae – Vireos		
Vireo bellii pusillus	least Bell's vireo	FE, SE
Vireo gilvus	warbling vireo	
MAMMALS		
Canidae – Dogs, Wolves, and Foxes		
Canis latrans	coyote	
Leporidae – Rabbits and Hares		
Sylvilagus audubonii	Audubon's (desert) cottontail	
Mephitidae – Skunks		
Mephitis mephitis	striped skunk	
Molossidae – Free-Tailed Bats		
Tadarida brasiliensis	Mexican free-tailed bat	
Procyonidae – Raccoons and Allies		
Procyon lotor	raccoon	

Sciuridae – Squirrels, Chipmunks, Marmots		
Otospermophilus beecheyi	California ground squirrel	
Vespertilionidae – Evening Bats		
Myotis californicus	California myotis	
Myotis yumanensis	Yuma myotis	

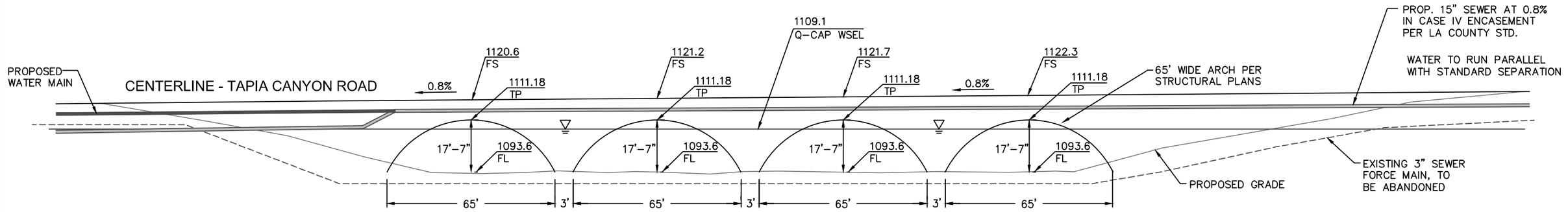
Special Status Designations

Federal
FE – Federally Endangered
FT – Federally Threatened
FPE – Federally Proposed Endangered
FPT – Federally Proposed Threatened
FC – Federal Candidate

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

Local
CSB – Los Angeles County Sensitive Bird Species

APPENDIX C – BRIDGE PLANS

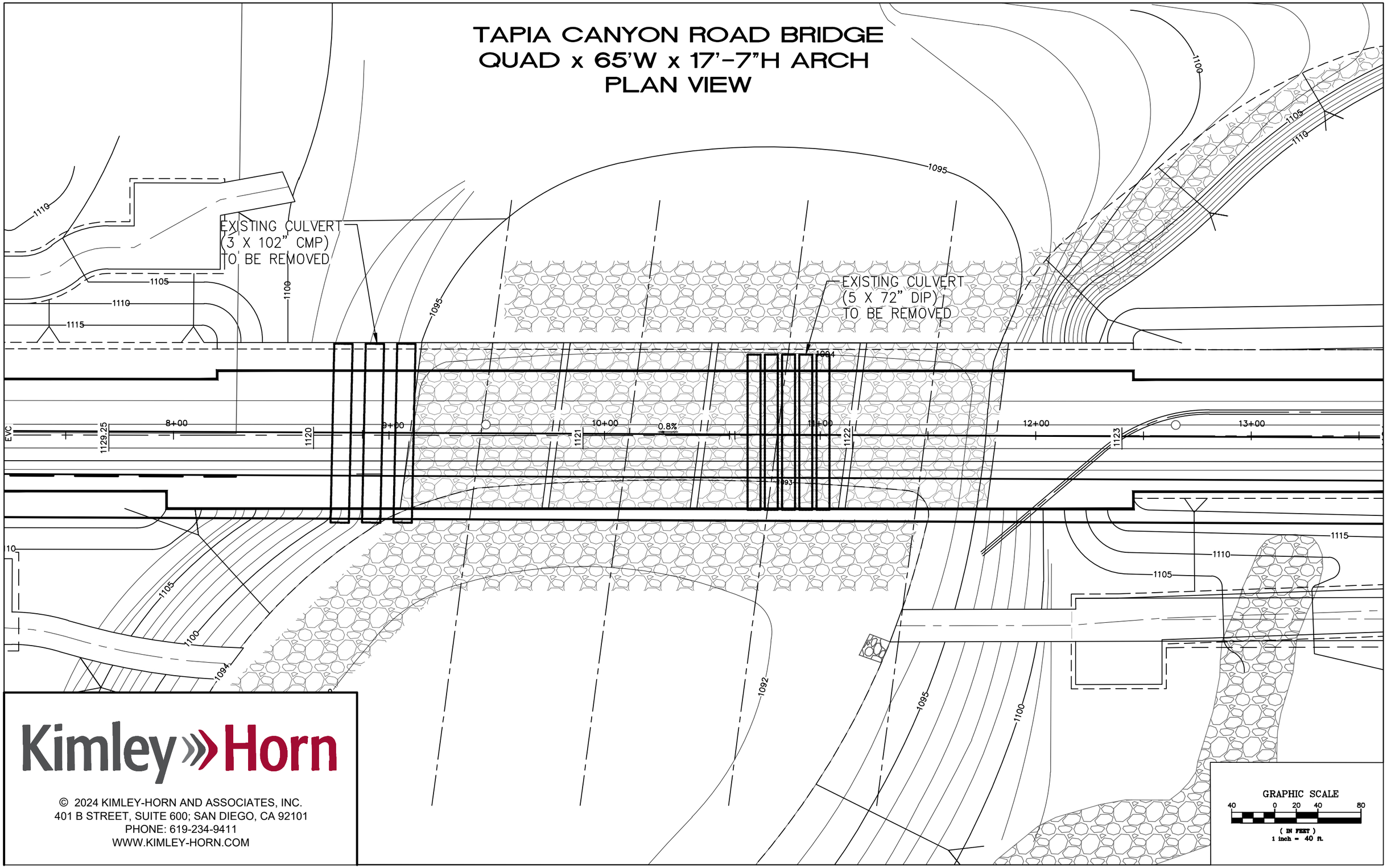


TYPICAL SECTION

NOT TO SCALE

401 B STREET, SUITE 600; SAN DIEGO, CA 92101
PHONE: 619-234-9411
WWW.KIMLEY-HORN.COM

TAPIA CANYON ROAD BRIDGE
QUAD x 65'W x 17'-7"H ARCH
PLAN VIEW



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401 B STREET, SUITE 600; SAN DIEGO, CA 92101
PHONE: 619-234-9411
WWW.KIMLEY-HORN.COM

APPENDIX D – GLA BIOLOGY STAFF QUALIFICATIONS

STEPHANIE CASHIN

YEARS OF EXPERIENCE

Professional start date: 2000

Years at GLA: 10

EDUCATION

MS, Environmental Studies, California State University, Fullerton, 2012

BS, Biology with Minor in Zoology, California Polytechnic State University, Pomona, 1999

PERMITS AND CERTIFICATIONS

USFWS 10(a)(1)(A) Recovery Permit #TE20280D-0 for vernal pool branchiopods (including Conservancy fairy shrimp, longhorn fairy shrimp, Riverside fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp)

TRAININGS ATTENDED

California Rare Bumblebee
The Wildlife Society-Western Section
Via Zoom, 2021

Advanced Bat Acoustics Workshop
The Wildlife Society-Western Section
Via Zoom, 2021

Intro Desert Tortoise Field Techniques
The Desert Tortoise Council
Via Zoom, 2020

Bat Acoustics Workshop
The Wildlife Society-Western Section
James Reserve, Idyllwild, 2018

CONTINUED (PAGE 4)

PROFESSIONAL SUMMARY

Stephanie Cashin is a Senior Biologist with expertise in field biology, herpetology, biological monitoring, and habitat restoration. Stephanie has served as a Project Biologist throughout Southern California and specializes in conducting focused wildlife surveys, including conducting habitat assessments and focused bat surveys, focused protocol surveys for arroyo toad, western s padefoot toad, southern western pond turtle, desert tortoise, legless lizard, least Bell's vireo, burrowing owl, and general biological surveys for California amphibian and reptile species of special concern in Orange, Los Angeles, San Bernardino, Ventura, and Riverside Counties. She has assisted in several vernal pool inventory surveys for species including listed fairy shrimp and western spadefoot toad. She has led and assisted in numerous focused rare plant surveys including many-stemmed dudleya, Blochman's dudleya, Verity's dudleya, intermediate mariposa lily, Catalina mariposa lily, slender mariposa lily, southern tarplant, Palmer's grapplinghook, and short-joint beavertail cactus. She has performed construction monitoring with a competent understanding of ensuring compliance with resource agency permit conditions while maintaining the benefit of natural resources within or adjacent to existing development areas.

Stephanie's strengths in working with complex projects include her extensive scientific background and analytical capacity. She is extremely skilled in collecting and organizing data and finding resolution to issues requiring direct action. Stephanie's biological experience spans 16 years.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

THE SAN JACINTO RIVER MASTER DRAINAGE PLAN, STAGE 3 — RIVERSIDE COUNTY, CALIFORNIA

Assisting Project Biologist to conduct focused wet season fairy shrimp surveys in support of project permitting.

MEAD VALLEY MINE PROJECT — RIVERSIDE COUNTY, CALIFORNIA

Assisting Project Biologist to conduct dry season fairy shrimp soil sample collection; conduct focused burrowing owl, rare plant, and acoustic bat surveys in support of project permitting.

ADOBE SPRINGS PROJECT — MURRIETA, CALIFORNIA

Assisting Project Biologist. Conduct focused visual presence/absence survey for southern western pond turtle (Emys marmorata pallida) for two seasons in support of project permitting. Assist with implementation of pond turtle avoidance minimization plan including installation of turtle protection fencing, turtle exclusion, preconstruction surveys and monitoring.

LOS VALLES PROJECT — LOS ANAGELES COUNTY, CALIFORNIA

Serving as Project Biologist. Prepare and implement the western spadefoot habitat mitigation creation plan including pool creation monitoring, project site surveys, western spadefoot translocation. Coordinate with CDFW in support of plan approval.

OCTA PRESERVES — ORANGE COUNTY TRANSPOTATION AUTHORITY PROPERTIES, CALIFORNIA

Assisting Project Biologist with stewardship monitoring, California gnatcatcher and cactus wren surveys, focused reptile surveys, southern cactus scrub mapping, invasive species mapping and habitat restoration monitoring.

MONTEBELLO HILLS DEVELOPMENT PROJECT — MONTEBELLO, CALIFORNIA

Assisting Project Biologist. Provide biological support and conducting focused acoustic bat surveys, construction monitoring, and preconstruction surveys for California legless lizard, Crotch bumblebee, and cactus wren.

SPECIAL AREA MANAGEMENT PLAN, VARIOUS PLANNING AREAS, AND INFRASTRUCTURE — RANCHO MISSION VIEJO; SAN JUAN CAPISTRANO, CALIFORNIA

Serving as Project Biologist. Provide biological support relevant to California Environmental Quality Act (CEQA) and National Environmental Policy Act in addition to regulatory and mitigation support. Conduct pre-construction and biological monitoring. Assist in designing and implementing protocols for a rare plant translocation program including for many-stemmed dudleya, intermediate mariposa lily, thread-leaved brodiaea, and southern tarplant. Implement management action plan rare plant monitoring for southern tarplant, thread-leaved brodiaea, Coulter's saltbush, and many-stemmed dudleya. Implement mitigation monitoring plan, identify new site receptor locations and manage translocation for many-stemmed dudleya. Collect rare plant seed and harvest rare plants for use in restoration. Coordinate with the landscape contractor. Conduct qualitative and quantitative monitoring surveys, prepare annual monitoring reports, and photo exhibits documenting findings.

TAPIA CANYON DEVELOPMENT PROJECT — SANTA CLARITA, CALIFORNIA

Serving as Project Biologist. Provide biological and regulatory support specifically for preparation of biological technical and a jurisdictional delineation reports to satisfy CEQA requirements. Conduct general biological surveys, vegetation mapping, focused plant surveys including for slender mariposa lily and Pierson's morning glory, focused surveys for western spadefoot toad, least Bell's vireo, and burrowing owl, and jurisdictional delineation. Prepare a biological technical report and jurisdictional delineation report.

SKYLINE RANCH DEVELOPMENT PROJECT — PARDEE HOMES; UNINCORPORATED LOS ANGELES COUNTY, CALIFORNIA

Serving as Project Biologist. Conduct focused burrowing owl surveys and coordinate with the project team regarding preparation of burrowing owl relocation and protection plans. Conduct coastal sage scrub vegetation mapping; overseeing coastal sage scrub maintenance activities; and conducting nesting bird surveys, coordinate, conduct annual monitoring and reporting for Plum Canyon Habitat Mitigation Plan.

SPRING CANYON DEVELOPMENT PROJECT — RAINTREE INVESTMENT CORPORATION; SANTA CLARITA, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Support preparation the HMMP and conduct mariposa lily surveys to document population locations, assess phenology, and flag populations for translocation and harvest. Conduct mitigation monitoring and preparation of annual reports for slender mariposa lily. Conduct holly leaf cherry woodland habitat assessment mapping. Conduct focused arroyo toad surveys in support of project permitting. Conduct burrowing owl and reptile preconstruction surveys.

NBC UNIVERSAL PROJECTS — NBC UNIVERSAL; UNIVERSAL CITY, CALIFORNIA

Serving as Project Biologist. Provide biological support services for multiple NBC Universal projects. Attend pre-construction meetings and perform pre-construction surveys. Conduct nesting bird and bat surveys and nest monitoring. Prepare reports documenting findings. Perform habitat assessments for nesting birds, reptiles, and various special-status plant and wildlife species. Prepare biological assessments and various mitigation compliance letters. Coordinate with various project teams.

LAX/EL SEGUNDO DUNES SENSITIVE HABITAT SUPPORT PROJECTS FOR LOS ANGELES WORLD AIRPORTS — CDM SMITH; LOS ANGELES, CALIFORNIA

Serving as Project Biologist. Provide support services for multiple projects. Conduct sensitive habitat pre-construction meeting, biological construction monitoring, conduct pre-construction nesting bird surveys, rare plant mitigation monitoring and reporting. Review construction permits and perform construction monitoring. Prepare compliance and completion memoranda, photo exhibits, and a Regional Water Quality Control Board annual monitoring report. Outside of the abovementioned scope, GLA additionally provided task management, initial technical support, and regulatory support; conducted burrowing owl, south cost branching phacelia, and Lewis' evening primrose surveys; and developed and implemented contractor training, oversee south coast branching phacelia restoration monitoring, conduct contractor training and biological monitoring within the El Segundo Dunes Blue Butterfly Reserve.

NEWPORT BANNING RANCH PROJECT — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Conduct biological work required for CEQA authorization including vegetation mapping; general biological surveys; rare plant surveys; and focused least Bell's vireo, cactus wren, raptor, burrowing owl surveys. Conduct qualitative and quantitative monitoring to assess germination of hand-seeded species, establishment of native container plantings, natural recruitment, and presence of non-native species. Prepare memoranda, reports, and exhibits. Conduct data analyses and report documented findings to the client and regulatory agencies including the CCC. The mitigation areas are exceeding 5-year success criteria.

THE CANYON AT PEACE PARK PROJECT — THE CANYON AT PEACE PARK; MALIBU, CALIFORNIA

Serving as Project Biologist. Monitor demolition of on-site structures in preparation for native habitat restoration. Conduct biological monitoring including for nesting birds and biological surveys pertaining to potential environmentally sensitive habitat areas. Perform focused raptor surveys. Prepare a vegetation map, biological technical report, biological memoranda, and photo exhibits for review by project attorney and California Coastal Commission (CCC). Conduct qualitative and quantitative monitoring surveys of restoration areas.

JOHN WAYNE GULCH AND SUNSET RIDGE PARK PROJECTS — CITY OF NEWPORT BEACH; NEWPORT BEACH, CALIFORNIA

Serving as Assistant Habitat Restoration Specialist. Provide habitat restoration support for the 0.48-acre John Wayne Gulch and 1.5-acre Sunset Ridge Park mitigation sites. Conduct qualitative and quantitative monitoring to assess establishment of native plantings, natural recruitment, and presence of non-natives. Prepare memoranda, reports, and exhibits. Conduct data analyses and report documented findings to the client and regulatory agencies including the CCC. Both mitigation sites are exceeding 5-year success criteria.

GOLDEN VALLEY RANCH PROJECT — TRIPOINTE GROUP; SANTA CLARITA, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Provide regulatory, biological, and habitat restoration support. Attend site meeting to review riparian mitigation site progress as well as a worker education meeting. Coordinate with the landscape contractor regarding weed abatement progress. Prepare a riparian mitigation plant palette, seed mix for riparian and alluvial mitigation areas, and mitigation area exhibit. Maintain a record of site photos.

EMPLOYMENT HISTORY

Glenn Lukos Associates. Associate Biologist. Lake Forest, California. 2013 – Present.

Fullerton College. Laboratory Manager-Biological Sciences. Fullerton, California. 2000 – 2013.

San Bernardino County Museum, Countywide Biodiversity Census, Herpetology Team Wildlife Biologist, San Bernardino County, California. March to August-2000.

VOLUNTEERING

Assist USGS biologists over many years and at multiple locations with western pond turtle trapping and seining, arroyo toad and western spadefoot surveys.

ADDITONAL WORKSHOPS

California Fairy and Tadpole Shrimp Identification Class and Test, Mary Schug Belk, San Diego, 2017

Flat-tailed horned lizard, Biological Monitor Training, BLM El Centro Field Office, 2017

Rare Pond Species Workshop, Laguna de Santa Rosa Foundation, 2016

As part of her Master's project, Ms. Cashin studied wildlife movement in an urban environment using camera trapping and track stations. Prior to working at GLA, Ms. Cashin managed a community college biological laboratory and teaching museum. Additionally, Ms. Cashin was a staff herpetology field biologist for the San Bernardino County Museum.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

Vernal Pool Branchiopods: Field Workshop, The Wildlife Society-Western Section, Sacramento, 2018

Wetland Delineation Course, Wetland Training Institute, 2022

JEFF AHRENS

Senior Biologist

YEARS OF EXPERIENCE

Professional start date: 1999

Years at GLA: 23

EDUCATION

MS, Environmental Studies,
CSU, Fullerton, 2004

BS, Wildlife with Minor in Fisheries,
CSU, Humboldt, 1995

PERMITS AND CERTIFICATIONS

SCP#193390007, CDFW MOU for Southwestern Willow Flycatcher & Coastal California Gnatcatcher

USFWS 10(a)(1)(A) Recovery Permit #TE052159-5 for Southwestern Willow Flycatcher & California Gnatcatcher

TRAININGS ATTENDED

Arroyo Toad Workshop, TWS 2022

CA Rare Bee Workshop, TWS 2021

Advanced Bat Acoustics (A Master Class), TWS 2021

Bat Acoustics Workshop,
TWS, James Reserve, 2018

Vernal Pool Branchiopods
TWS, Davis CA, 2018

Fairy Shrimp Workshop
TWS, San Diego, 2018

Flat-tailed Horned Lizard Workshop
BLM, El Centro CA, 2017

CONTINUED (PAGE 4)

PROFESSIONAL SUMMARY

Jeff Ahrens is a Wildlife Biologist with an extensive background in wildlife ecology. He brings expertise in conducting biological investigations throughout Southern California including within Western Riverside County Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan areas and specializes in performing focused surveys for listed and sensitive wildlife species including coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, burrowing owl, desert tortoise, California red-legged frog, southwestern arroyo toad, western spadefoot toad, southwestern pond turtle (including trapping), Belding's savannah sparrow, California legless lizard, coast horned lizard, arroyo chub, three-spine stickleback, Crotch's bumble bee, large-scale wildlife movement studies using remote cameras and track stations; nesting bird and raptor foraging studies; invasive species eradication and bat presence/absence and emergence surveys.

Jeff has additionally conducted numerous burrowing owl passive relocation efforts, western spadefoot toad egg and tadpole relocation and monitoring, herpetofauna array trapping, and small mammal trapping; constructed more than 100 artificial owl burrows; sensitive plant and tree surveys, vegetation mapping, heronry monitoring; carried out and performed wetland delineations pursuant to Section 404 of the Clean Water Act and Section 1602 of the Fish and Game Code; and prepared biological technical reports and constraints analysis.

As part of his Master's thesis, Jeff studied the effects of traffic noise on scrub bird diversity and richness in fragmented areas of coastal sage scrub within southern California. Prior to working at GLA, Jeff conducted various wildlife work for the U.S. Fish and Wildlife Service, National Park Service, and private consulting in areas including in Alaska, California, Oregon, and Wyoming.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

ADOBE SPRINGS —
CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. Conduct focused southwestern pond turtle surveys. Assist in preparation of avoidance and minimization and fencing plans.

ANDALUCIA DEVELOPMENT —
WATERMARKE PROPERTIES, INC.; MISSION VIEJO, CALIFORNIA

Served as Project Biologist. Conducted trapping and relocation of southwestern pond turtle over multiple years. Performed focused surveys for least Bell's vireo, southwestern pond turtle, and southwestern willow flycatcher within the 7-acre study area

CITY OF CORONA ON-CALL REGULATORY AND BIOLOGICAL SUPPORT SERVICES — CITY OF CORONA, CALIFORNIA

Serving as Project Biologist. GLA provides regulatory and biological support for the City's on-call task order for operations and maintenance activities within the Prado Basin including advising on regulatory permitting strategies for sediment removal and vegetation removal, structure repair, and management at the City of Corona Airport, conducting jurisdictional delineations, nesting bird surveys, and focused species surveys.

ALISO CREEK RESTORATION PROJECT — LAGUNA CANYON FOUNDATION; ALISO VIEJO, CALIFORNIA

Served as Project Biologist. Conducted sensitive species surveys for the 55-acre Aliso Creek restoration project. Sensitive species surveys included southwestern willow flycatcher, least Bell's vireo, southwestern pond turtle, and rare plants. The project is ongoing and consists of restoring functions and values of Aliso Creek by removing giant reed and revegetating with native plants

ARIZONA CROSSING OF SAN JUAN CREEK PROJECT — CITY OF SAN JUAN CAPISTRANO; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Captured and relocated arroyo chub from culvert pipes at Arizona crossing. Conducted focused surveys for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Performed qualitative surveys for arroyo toad, arroyo chub, and southwestern pond turtle.

BROAD BEACH PROPERTY — CITY OF MALIBU, LOS ANGELES COUNTY, CALIFORNIA.

Served as Project Biologist. Conducted focused surveys at a 2-acre coastal dune area for the California legless lizard using coverboards and looking for tracks.

CORONA 720 PROJECT — VULCAN MATERIALS COMPANY; CORONA, CALIFORNIA

Served as Project Biologist. Designed and conducted detailed six-month wildlife movement study using remotely-triggered trail cameras, scented track stations, global positioning system (GPS) equipment and by identifying wildlife species from tracks and scat in order to establish wildlife movement corridors and species diversity within the 720--acre property. Target species include mountain lion, bobcat and mule deer.

EAST ORANGE GENERAL PLAN COMMUNITY — THE IRVINE COMPANY, ORANGE COUNTY, CALIFORNIA

Served as Project Biologist. Conducted focused surveys for arroyo toad, California gnatcatcher, and least Bell's vireo. Assisted in focused bat surveys and surveys for special-status plants. Assisted in capture and relocation of western spadefoot toad to on site created pools.

I-5 IMPROVEMENTS OVER SAN JUAN CREEK — KEETON KREITZER CONSULTING; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Performed surveys for arroyo toad, least Bell's vireo, southwestern pond turtle, southwestern willow flycatcher, and two-striped garter snake.

INLAND EMPIRE BRINE LINE PROTECTION PROJECT — ALBERT A. WEBB ASSOCIATES/RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT; WESTERN RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project included the installation of 2,500 linear feet of protective sheet pile, including at the outlet of Aliso Canyon just before its confluence with the Santa Ana River. GLA's work included performance of biological surveys that would satisfy the requirements of the Western Riverside County MSHCP and CEQA and the preparation of required MSHCP biological documents. Specifically, GLA conducted general biological surveys, vegetation mapping, habitat assessments for special status plants and animals, and focused surveys for sensitive plants based on MSHCP survey requirements and the presence of suitable habitat. GLA also prepared a biological technical report for use in preparation of environmental documents pursuant to CEQA to demonstrate MSHCP compliance, including with riparian/riverine DBESP requirements and provided restoration support. Work included preparation of a jurisdictional delineation report and securing CWA Section 401 and 404 and FGC Section 1602 authorizations for the project.

LAKE FOREST DRIVE/BAKE PARKWAY EXTENSION PROJECT — THE IRVINE COMPANY; IRVINE, CALIFORNIA

Served as Project Biologist. Conducted pre-construction protocol surveys for least Bell's vireo and southwestern pond turtles as well as seasonal monitoring of least Bell's vireo activity and sound monitoring during active construction.

LOST CANYONS DEVELOPMENT PROJECT — HILLWOOD CAPITAL; SIMI VALLEY, CALIFORNIA Served as Lead Coastal California Gnatcatcher Biologist. Performed focused surveys for coastal California gnatcatcher within the 1,775-acre site. Surveys were conducted in both 2013-2014 and 2016. The purpose of the 2013-2014 survey was to determine presence/absence and consisted of protocol surveys within three survey areas. Three coastal California gnatcatcher family groups, three potential pairs, and five individuals were detected within the survey area. The purpose of the 2016 survey was to determine presence only (i.e. not to confirm absence) in conservation lands and areas avoided by the project. As such, a deviation from the six-visit breeding season survey protocol was been approved by the USFWS with a total of three visits being conducted per survey area unless the status (e.g., paired, unmated male) of CAGN was determined in an area, in which case no further visits occurred for that area. GLA detected a total of two gnatcatcher family groups, two gnatcatcher pairs, one single adult male gnatcatcher (likely paired), and one single adult gnatcatcher. Also conducted focused surveys for western spadefoot toad.

MARBLEHEAD COASTAL DEVELOPMENT PROJECT — R.J.MEADE CONSULTING; SAN CLEMENTE, CALIFORNIA

Served as Project Biologist. Performed wildlife movement studies using scented track stations, GPS equipment and by identifying wildlife species from tracks and scat in order to establish wildlife movement corridors and species diversity. Conducted focused burrowing owl and California gnatcatcher surveys.

METROPOLITON WATER DISTRICT OF SOUTHERN CALIFORNIA —
VARIOUS PROJECTS IN SOUTHERN CALIFORNIA

Served as Project Biologist performing numerous biological tasks for MWD locations throughout southern California including; conduct focused desert tortoise and burrowing owl surveys for the Colorado River Aqueduct Structural Protection Project, Riverside County; perform 24-hour biological monitoring related to the 2012 Foothill Feeder Shutdown to ensure no "take" occurred to unarmored three-spined stickleback and compliance. Santa Clarita, Los Angeles County; perform bological support for permit compliance; Lake Skinner Routine Maintenance Projects; monitor arroyo chub at the Box Springs Feeder Shutdown Dewatering Project at Sycamore Canyon Wilderness Park, Riverside County; conduct western spadefoot toad pre-construction surveys for The San Diego Canal Olive Siphon Maintenance Project, Riverside County, California; biological support for permit compliance at the various locations at Lake Mathews, Riverside County.

REGULATORY PERMIT COMPLIANCE ASSOCIATED WITH THE LAKE SKINNER MAINTENANCE PROJECT — METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA; LAKE SKINNER; RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Biologist. GLA provides regulatory and biological support to meet conditions in the CDFW Streambed Alteration Agreement including pre-construction surveys for California Species of Special Concern, such as the western spadefoot toad (Spea hammondii), the orange-throated whiptail (Aspidoscelis hyperythra), the coast horned lizard (Phrynosoma coronatum), and the burrowing owl (Athene cunicularia); biological monitoring of ongoing maintenance removal areas; ongoing monitoring and reporting of non-native species removal areas at Lake Skinner and in the fee-owned property westerly of the intersection of Auld Road and Borel Road/Washington Street; preparation and delivery of an Invasive Species Education Program to Metropolitan crews and contractors on an annual basis; and preparation of an annual work plan for each maintenance season.

CAJALCO CREEK DAM AND DETENTION BASIN, LAKE MATHEWS BASINS 1-4, UNDERDRAIN EFFLUENT, NORTH/SOUTH SPILLWAYS, AND WEIRS 1 AND 2 AT LAKE MATHEWS PROJECT —
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA; RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Biologist. GLA provides ongoing regulatory and biological support to meet conditions in the CDFW Streambed Alteration Agreement that must be met either prior to, during, or after approved maintenance activities have been completed. These tasks include biological monitoring, project coordination, and preparation of annual maintenance reports. The annual reports include a summary of the annual maintenance activities conducted including location, type of activity, time of year activities were conducted, duration of activities, methods/equipment used to conduct activities, quantity and type of vegetation removed, and total area of impact for each location; and a list of avoidance and minimization measures implemented during maintenance activities to

protect fish and wildlife resources; and before and after photographs of the maintenance areas. Additionally, GLA is providing support to obtain an amendment to the Streambed Agreement to increase the acreage that can be maintained.

MILLS LANDING PROJECT — JOHN LAING HOMES; HUNTINGTON BEACH, CALIFORNIA

Served as Project Biologist. Conducted surveys and monitoring of Belding's savannah sparrow during construction within the 24-acre property.

NEWPORT BANNING RANCH — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist. Conducted focused burrowing owl, coastal California gnatcatcher, cactus wren, least Bell's vireo, southwestern willow flycatcher, and raptor surveys.

ORANGE COUNTY TRANSPORATION AUTHORITY MEASURE M2 REGULATORY AND BIOLOGICAL SUPPORT

Served as Project Biologist. Assist in providing support to OCTA to monitor biological resources for seven preserves totaling over 1,300 acres to determine threats and stressors that may impact Covered Species and natural communities. Main duty involved installing and monitoring numerous remote cameras to monitor wildlife movement and encroachment; document sensitive species including cactus wren, California gnatcatcher, coast horned lizard, and rare plants. Assist in invasive species monitoring. Conduct biological resources monitoring for the Preserves to determine threats and stressors that may impact Covered Species and natural communities; conducting overall assessments (e.g., invasive species, erosion, unauthorized trail cutting, and trail condition) to help determine areas of highest management priority; and documenting unauthorized activities and related effects to biological resources (e.g., encroachments and unauthorized trail cutting). Providing ongoing site visits, photo monitoring, and reporting, including annually, to address results of research and monitoring activities, recommend appropriate adaptive management actions, and discuss anticipated activities for the upcoming year. Work includes Invasive species mapping and preparation of an invasive species treatment plan to be approved by USFWS and California Department of Fish and Wildlife.

ROAD CROSSING OF THE SAN JACINTO RIVER BETWEEN GOETZ ROAD AND 2,500 LINEAR FEET SOUTHERLY OF ETHANAC ROAD — RICHLAND COMMUNITIES; CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project consists of construction of a road crossing over the San Jacinto River between Goetz Road and 2,500 linear feet southerly of Ethanac Road. GLA's work included focused southwestern willow flycatcher surveys and preparation of a Biological Technical Report and a jurisdictional delineation report to satisfy the requirements of CEQA and regulatory agency permitting requirements.

SAN JACINTO RIVER STAGE 4 LEVEE PROJECT — ALBERT A. WEBB ASSOCIATES/RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT; WESTERN RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project consists of levee improvements associated with an approximately 3-mile reach of the San Jacinto River totaling approximately 585 acres. GLA performed biological work to support the CEQA document including vegetation mapping, rare plant habitat assessment and rare plant surveys, and focused surveys for least Bell's vireo and southern willow flycatcher. Work also included preparation of an MSHCP consistency analysis and two determinations of biological equivalent or superior preservation (DBESP) analyses for impacts to riparian habitat including least Bell's vireo and Los Angeles pocket mouse habitat. GLA also conducted burrowing owl surveys for the project. GLA prepared a jurisdictional delineation report and is currently coordinating processing CWA Section 401 and 404 and FGC Section 1602 authorizations.

BIOLOGICAL SURVEYS FOR THE PROPERTY AT 1111 SUNSET BOULEVARD, CITY OF LOS ANGELES, CALIFORNIA

Served as Project Biologist. Conducted roosting bat and general nesting bird surveys.

BAT SURVEYS FOR 2110 BAY STREET MIXED USE PROJECT — CITY OF LOS ANGELES, CALIFORNIA

Served as Project Biologist. Conducted roosting bat surveys and prepared a report in compliance with CEQA.

SAN JUAN CREEK ROAD WIDENING PROJECT —
KEETON KREITZER CONSULTING; SAN JUAN CAPISTRANO, CALIFORNIA
Served as Project Biologist. Conducted focused protocol surveys for coastal California gnatcatcher and pre-construction surveys for roosting bats.

TENNIS ESTATES HOMEOWNERS ASSOCIATION — CITY OF HUNTINGTON BEACH, CALIFORNIA
Served as lead Project Biologist for over 10 years. Main duties include conduct yearly heron/egret monitoring; prepare tree replacement and five-year mitigation monitoring plans and reports; monitor the health of all mitigation trees; prepare the Tree Trimming Management Plan as part of Coastal Development Permit; coordinate with the City of Huntington Beach, California Coastal Commission; arborist and tree trimming contractors; monitor trimming activities and prepare post trimming reports.

UPPER NEWPORT BAY BLOWOFF STRUCTURE REHABILITATION PROJECT —
METROPOLITAN WATER DISTRICT; NEWPORT BEACH, ORANGE COUNTY, CALIFORNIA
Served as Project Biologist. Performed focused surveys for least Bell's vireo, coastal California gnatcatcher, and southwestern willow flycatcher. Assist with light-footed clapper rail surveys

WESTERM SNOWY PLOVER MANAGEMENT PLAN ON THE BALBOA PENINSULA —
NEWPORT BEACH, ORANGE COUNTY, CALIFORNIA
Served as Project Biologist. Assisted in preparation of the Western Snowy Plover Management Plan for East Balboa Peninsula Beaches. Participated in meetings with the public, City of Newport Beach and various public agencies. Conducted monitoring of western snowy plovers.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

CNDDB/RareFind/BIOS Workshop, CDFW, Long Beach CA, 2016

Rare Pond Species Workshop 2016, Laguna de Santa Rosa Foundation

Yellow-billed Cuckoo Workshop, Kern River Preserve, 2012

Advanced Bird Banding, Starr Ranch Sanctuary, 2010

Arid West Supplement, Wetland Training Institute, 2001/2007

Desert Tortoise, Desert Tortoise Council, Kern CA, 2005

Fairy Shrimp Identification, Santa Rosa Ecological Reserve, 2004

California Burrowing Owl Symposium, Sacramento CA, 2004

Southwestern Willow Flycatcher Workshop, Audubon Society, Kern Preserve, 2003

Southwestern Willow Flycatcher Workshop, (USFWS), Prado Basin, 2003

Storm Water Compliance, Management and Inspection (SWPPP) Training, 2003

Wetland Delineation Training (Wetland Training Institute), 2001

Planning for Biodiversity: Bringing research and management together, 2000

Wetland Delineation Course, Wetland Training Institute, 2022

JASON FITZGIBBON

Associate Biologist

YEARS OF EXPERIENCE

Professional start date: 2011

Years at GLA: 7

EDUCATION

MS, Environmental Studies,
California State University, Fullerton, 2013

BS, Biology,
California State University, Long Beach, 2008

TRAININGS ATTENDED

Wetland Delineation Course,
Wetland Training Institute, 2022

California Rare Bumblebee
The Wildlife Society-Western Section, 2021

Rare Pond Species Workshop,
Laguna de Santa Rosa Foundation, 2016

Wetland Delineation Course,
Wetland Training Institute, 2013

GIS Analysis and Map Design,
California State University, Fullerton, 2013

Desert Tortoise Handling, Monitoring, and Surveying Training,
Desert Tortoise Council, 2012

Yellow-billed Cuckoo Workshop,
Kern County Preserve, 2012

PROFESSIONAL SUMMARY

Jason Fitzgibbon is a Biologist and Environmental Scientist with experience in field biology, biological monitoring, and regulatory permitting. He has participated in numerous biological studies throughout Southern California including projects requiring preparation of California Environmental Quality Act (CEQA) documents and occurring under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), San Diego County Multiple Species Conservation Program (MSCP), and Orange County Natural Community Conservation Plan (NCCP). Jason holds a Bachelor's of Science degree in Biology and a Master of Science degree in Environmental Science with an emphasis in conservation biology. Jason's Master's thesis involved the study of the effects of adjacent construction-related disturbance on the spatial arrangement and demographic distribution of least Bell's vireo within San Diego Creek in Orange County, California.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

ALISO CREEK RESTORATION PROJECT —
LAGUNA CANYON FOUNDATION; ALISO VIEJO, CALIFORNIA

Served as Project Biologist. Conducted sensitive species surveys for least Bell's vireo, yellow-breasted chat, and rare/sensitive plants to establish a baseline measure for comparison of future monitoring results to pre-restoration condition of the 55-acre Aliso Creek restoration site. A component of restoration included sensitive species monitoring throughout implementation of the restoration program to document any increases in occurrences and/or nesting as a means of tracking restoration success.

CROWN VALLEY COMMUNITY PARK IMPROVEMENT PROJECT —HUNSAKER & ASSOCIATES IRVINE, INC.; LAGUNA NIGUEL, CALIFORNIA

Served as Project Biologist. Performed vegetation mapping, general wildlife and botanical surveys, and a jurisdictional delineation of the 16-acre study area. Conducted habitat assessments to determine presence/absence of sensitive species and communities. Prepared a biological technical report addressing potential impacts to biological resources and permitting requirements in accordance with CEQA. GLA processed Section 401, 404, and 1602 authorizations. The project involved preparation of a redesign concept for the community park including a new park entry-bridge over a soft-bottom flood channel to replace an existing Arizona crossing, two new parking lots, and connecting roadways. The redesign integrated opportunities for use of impervious pavements, managing flood debris and trash, providing water quality benefits, and minimizing impacts to native vegetation and the stream channel.

PICERNE PROPRETY PROJECT — THE PICERNE GROUP; LAGUNA NIGUEL, CALIFORNIA

Served as Project Biologist. Performed vegetation mapping, general wildlife and botanical surveys, and a jurisdictional determination of the 7-acre study area. Conducted habitat assessments to determine presence/absence of sensitive species and communities. Assisted in preparing the biological technical report addressing potential impacts to biological resources and permitting requirements in accordance with CEQA. The project is a new residential development consisting of 426 multi-family residential units, resident and guest parking, residential common use amenities and an approximately 0.66-acre open space park.

SAN JUAN MEADOWS AND DISTRITO DE LA NOVIA PROJECT —
ADVANCED REAL ESTATE SERVICES; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Delineated Corps and CDFW jurisdiction within the 160-acre property study area and prepared a report of findings. GLA prepared a letter of permission request for the Corps and notifications for the Regional Board and CDFW as well as coordinated processing of Section 404, 401, and 1602 authorizations. The project additionally involved preparation of a conceptual habitat mitigation and monitoring plan to address habitat restoration.

RANCH AT LAGUNA BEACH PROJECT — LAGUNA BEACH GOLF & BUNGALOW VILLAGE; LAGUNA BEACH, CALIFORNIA

Serving as Project Biologist. The project has involved coordination with the U.S. Fish and Wildlife Service and California Coastal Commission to resolve an appeal regarding property renovations. Conduct vegetation mapping, delineate coastal wetland boundaries and tree trimming/clearing locations, and survey turf removal areas for native vegetation. Conduct nesting bird surveys and prepare a nesting bird memorandum. Prepare a biological technical report addressing baseline conditions and impact analyses associated with the project and study area. Perform noise monitoring and prepare an analysis of sound monitoring data. Support review of archeological records and preparation of an archaeological and paleontological resources memorandum, habitat restoration plan, and noise/lighting management plan.

LAGUNA BEACH FUEL MODIFICATION ZONE PROJECTS — CITY OF LAGUNA BEACH; LAGUNA BEACH, CALIFORNIA

Serving as Project Manager/Biologist. Jason has served as Project Biologist for City of Laguna Beach Fire Department since 2011, providing coastal expertise for numerous fuel modification projects. The span of work has ranged from conducting general and focused surveys for sensitive wildlife and plant species including coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), Pacific pocket mouse, tidewater goby, Laguna Beach dudleya, and big-leaved crownbeard to performing habitat assessments and vegetation mapping. Additionally, Jason has prepared numerous biological technical reports for the City's ongoing fuel modification zone projects, addressing wildlife movement corridors, impacts to biological resources including special-status species, and mitigation measures. Tasks include rare plant surveys within all fuel modification zones throughout City, providing Biological Support in accordance with the California Environmental Quality Act (CEQA) for new fuel modification zones, and preparing/processing Coastal Development Permits for areas subject to Chapter 3 Policies of the Coastal Act.

LAKE FOREST DRIVE/BAKE PARKWAY EXTENSION PROJECT — THE IRVINE COMPANY; IRVINE, CALIFORNIA

Served as Project Biologist. GLA provided biological, regulatory, and mitigation support for Lake Forest Drive/Bake Parkway bridges, infrastructure, and undergrounding improvements. Reviewed rope alignment prior to construction. Performed focused surveys for least Bell's vireo. Conducted site monitoring and biological/botanical resource monitoring during construction in accordance with CEQA approvals; resource agency permits; and approved/permitted plans, reports, and technical specifications. Provided fieldwork memoranda and compliance reports. Additionally, GLA prepared a contractor education manual, processed a Section 404 permit for maintenance of undercrossings, obtained a permit amendment for noise barrier installation and buffer distance from least Bell's vireo nests, and conducted mitigation implementation and monitoring.

NEWPORT BANNING RANCH — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist. Conduct biological work required for CEQA authorization including vegetation mapping; general biological surveys; rare plant surveys; and focused least Bell's vireo, cactus wren, raptor, and burrowing owl surveys. The project additionally has involved performing focused fairy shrimp, coastal California gnatcatcher, and southwestern willow flycatcher surveys; preparing a biological technical report for use in preparation of draft and final EIRs pursuant to CEQA as well as responses to comments on the final EIR; preparing a jurisdictional delineation report; and directing and participating in public outreach at public workshops. The City of Newport Beach has approved the project and certified the EIR.

RANCHO SUMMIT ESTATES PROJECT — SHEA HOMES; ENCINITAS, CALIFORNIA

Serving as Lead Biological Construction Monitor. Conduct coastal California gnatcatcher surveys in compliance with issued habitat loss permits. Monitor stream crossing work and conduct jurisdictional delineation fieldwork.

QUALITATIVE BIOLOGICAL MONITORING — SAN JUAN BASIN AUTHORITY, SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Conducted qualitative biological monitoring of San Juan Creek for the San Juan Basin Authority's (SJBA) Phase I San Juan Basin Groundwater Management and Facility Plan. Tasks included performance of qualitative and quantitative monitoring; preparation of memoranda, reports, and exhibits; analysis of data; and submission of findings to the client and regulatory agencies.

CORONA 720 PROJECT — GREEN RIVER CANYONS, LLC; CORONA, CALIFORNIA Serving as Project Biologist. The project includes vegetation mapping within the 720-acre property as well as presence/absence surveys for coastal California gnatcatcher and focused plant surveys for various species including intermediate mariposa lily and many-stemmed dudleya.

JURISDICTIONAL DELINEATION OF THE FIRE STATION LOCATED AT THE INTERSECTION OF STATE COLLEGE AND YORBA LINDA BOULEVARDS — CITY OF FULLERTON, ORANGE COUNTY, CALIFORNIA

Served as Project Manager. Oversaw preparation of a jurisdictional delineation report and provided senior review/quality control.

LOW WATER CROSSING AT ADIT ROAD PROJECT — LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP), CALIFORNIA

Serving as Delineator/Regulatory Specialist. The Project consists of installing a low water crossing using Articulate Concrete Blocks (ACB) on Adit Road where it crosses San Francisquito Creek. The dimensions will be approximately the width of the road (12') and 200' long. GLA is conducting a jurisdictional delineation and preparing a jurisdictional delineation report.

VICTORVILLE TRANSMISSION LINE EROSION CONTROL PROJECT — LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP), SAN BERNARDINO COUNTY, CALIFORNIA

Serving as Delineator/Regulatory Specialist. The Project consists of a delineation around three transmission towers for the purpose of installing erosion control. GLA is conducting a jurisdictional delineation and preparing a jurisdictional delineation report.

OCTA M2 PRESERVES INTERIM BIOLOGICAL MONITORING SUPPORT SERVICES PROJECT—ORANGE COUNTY TRANSPORTATION AUTHORITY; ORANGE COUNTY, CALIFORNIA

Serving as Biologist. Work includes biological resources monitoring for seven Preserves totaling over 1,300 acres to determine threats and stressors that may impact Covered Species and natural communities, conducting overall assessments (e.g., invasive species, erosion, unauthorized trail cutting, and trail condition) to help determine areas of highest management priority, conducting focused species surveys, updating vegetation mapping, and documenting unauthorized activities and related effects to biological resources. GLA conducts ongoing site visits, photo monitoring, and reporting to address results of research and monitoring activities, recommend appropriate adaptive management actions, and discuss anticipated activities for the upcoming year. Specific to Laguna Beach, GLA provides biological monitoring at the Pacific Horizon Preserve, including monitoring the burn area associated with the May 2022 Coastal Fire and leading public hikes. Mr. Fitzgibbon has supported the project by conducting general biological monitoring, conducting focused surveys for special-status plants, and leading public hikes.

EMPLOYMENT HISTORY

Glenn Lukos Associates. Associate Biologist. Lake Forest, California. 2011 – Present.

QuantumSphere, Inc. Biologist/Chemist. Santa Ana, California. 2008 – 2011.

Christopher Waterston

Regulatory Project Manager/Biologist

YEARS OF EXPERIENCE

Professional start date: 2012

Years at GLA: 3

EDUCATION

BS, Biological Science,
California State University, Fullerton, 2011

PERMITS AND CERTIFICATIONS

California Rapid Assessment Methodology (CRAM) Practitioner – Riverine and Depressional Wetlands Modules, 2015

American Academy of Underwater Sciences (AAUS) Diver Certification, 2012

TRAININGS ATTENDED

Wetland Delineation Course,
Wetland Training Institute, 2022

Introduction to
Wildlife Crossings Caltrans, 2017

Bats and Transportation, Caltrans, 2017

ESA Section 7,
Federal Highway Administration, 2016

Ordinary High-Water Mark (OHWM),
U.S. Army Corps of Engineers, 2016

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PROFESSIONAL SUMMARY

Christopher Waterston has eleven years of extensive environmental planning, biological and regulatory experience in both the public and private sectors. He has played a key role in coordinating and performing biological surveys, preparing technical documents, and obtaining permits for projects requiring federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and federal Clean Water Act (CWA) compliance. Christopher additionally has broad experience with regulatory agency coordination ranging from conducting Section 7 consultations to acquiring aquatic permits.

Christopher has performed the role of Lead Biologist on numerous California Department of Transportation (Caltrans) projects throughout Orange County, involving biological and regulatory aspects from initial project scoping through construction, and post-construction mitigation. He has extensive experience in preparing biological technical documents, including Natural Environment Study (NES) reports, Biological Assessments (BA), CEQA and NEPA Environmental Documents, California Rapid Assessment Method (CRAM) reports, Senate Bill (SB) 857 Fish Passage Legislative Reports, and Habitat Mitigation Monitoring Plan (HMMP) reports. He has extensive experience in writing avoidance, minimization, and mitigation measures, general and focused survey reports. He routinely coordinates and conducts general biological and aquatic resource constraints surveys and focused protocol surveys for special-status species such as arroyo toad, arroyo chub, various bat species, burrowing owl, least Bell's vireo, coastal California gnatcatcher, Essential Fish Habitat (EFH), and rare endemic plants. Christopher regularly coordinates with state, federal, and local agencies, including the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), SB-857 coordination with state, federal, and local agencies, various Regional Water Quality Control Boards (RWQCBs)/State Water Resources Control Board (SWRCB), U.S. Forest Service (USFS), National Marine Fisheries Service (NMFS), and the Orange County Transportation Authority (OCTA) to obtain CWA permits, 401 water quality certifications, streambed alteration agreements, FESA and CESA incidental take permits, authorizations, approvals, and coordination. He is knowledgeable in the Orange County Central/Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) and Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). He served as the Caltrans District liaison for quarterly meetings with CDFW, USFWS, and was the District Fish Passage Biologist. His eight years of professional experience has given him familiarity in a diverse array of biological elements throughout southern California.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

RANCHO MISSION VIEJO — SAN JUAN CAPISTRANO, CALIFORNIA

Serving as Project Manager. Managing multiple large residential development, infrastructure, and mitigation compliance projects throughout the Rancho Mission Viejo (RMV) property. Regularly coordinates with RMV environmental and construction managers, contractors, and field staff. Oversees a team of biologists and regulatory specialists performing various special-status flora and fauna surveys, construction monitoring, vegetation mapping, jurisdictional delineations, and mitigation monitoring. Prepares monthly memos and annual reports to various resource agencies. Manages various contracts, project task orders, permits, and certifications.

SUMMERWIND RANCH RESIDENTIAL DEVELOPMENT — CALIMESA, CALIFORNIA

Serving as Project Manager. The project consists of a residential development. Managed a team of biologists and regulatory specialists. Conducted special-status flora and fauna surveys required by the Western Riverside MSHCP, federal, and state regulations. Conducted a jurisdictional delineation and California Rapid Assessment Method (CRAM) on the 280-acre site. Prepared and processed a jurisdictional delineation and CRAM report. Processed a Waste Discharge Requirement (WDR) with the Regional Water Quality Control Board, a preliminary jurisdictional determination with the U.S. Army Corps, and a Streambed Alteration Agreement (1600 permit) with the CA Department of Fish and Wildlife. Conducted oak tree surveys and prepared an oak tree mitigation plan to comply with city tree protection ordinances. Coordinated with project proponents, resource agencies, city staff, and various consultants to facilitate the receival of permits, approvals, and certifications for the project.

TRANSPORTATION

INTERSTATE 5 WIDENING PROJECT — CALTRANS/OCTA MEASURE 2, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The project involved widening the I-5 in both directions to increase capacity for the highly traveled I-5 corridor in Orange County. Facilitated in approving the biological technical document (NES), Biological Assessment, Environmental Impact Report and Environmental Impact Statement (EIR/EIS) and performed Section 7 Consultation with USFWS. Developed project standard-special specifications (SSPs), avoidance, minimization, and mitigation measures. Reviewed consultant prepared permit applications (401, 404, 1602), and coordinated with regulatory managers at CDFW and USFWS to incorporate the approved OCTA M2 NCCP/HCP measures. Performed biological surveys within the project area for nesting birds and roosting bats, fish passage analysis, and arroyo chub protocol surveys with CDFW fisheries biologists. As the project's lead biologist, coordinated meetings with the Project Development Team, contractors, consultants, and resource agency personnel. Coordinated directly with Caltrans and OCTA project managers to convey biological and permitted resource requirements. Wrote monthly monitoring reports to the SWRCB and CDFW for project compliance/noncompliance issues.

STATE ROUTE-73/MACARTHUR BOULEVARD OFF-RAMP WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The safety project involved widening the SR-73 southbound MacArthur Blvd. off-ramp over Bonita Creek in the City of Newport Beach. Facilitated in the approval of the NES, BA, and CEQA/NEPA documents. Performed Section 7 Consultation with the USFWS. Prepared water quality permit applications (401, 404, and 1602). Communicated with CDFW and USFWS regarding project impacts to the Orange County Central/Coastal NCCP/HCP. Developed project contract SSPs, avoidance, minimization, and mitigation measures. Analyzed project impacts and determined ratios of mitigation needed for loss of coastal sage-scrub, wetland waters of the U.S., CDFW riparian, and NCCP/HCP habitats. Coordinated with Orange County Parks and TCA environmental program managers for mitigation credit releases. Performed protocol-level surveys for coastal California gnatcatcher, bat habitat assessments, visual and acoustic emergence surveys. Coordinated directly with Caltrans project managers and engineers to convey project environmental needs and resource agency requirements.

INTERSTATE 405 WIDEINING PROJECT — CALTRANS/OCTA MEASURE 2, ORANGE COUNTY, CALIFORNIA

As the District Biologist, served an oversight role in the Environmental Planning processes. The "design-build" project involved the addition of one high-occupancy vehicle (HOV) lane and one general-purpose lane in both directions between I-605 and SR-55. Facilitated the approval of the NES and the project's EIR/EIS. Reviewed consultant prepared permit applications and coordinated with regulatory managers at CDFW, SWRCB, and USACE to incorporate the approved OCTA M2 Program's 404 Letter of Permission

(LOP), 401 Water Quality Certification, and 1602 Streambed Alteration Agreement measures into the project's contract specifications and mitigation measures. Approved monthly biological monitoring reports and coordinated in weekly meetings with the Project's contractors, consultants, and managers for both Caltrans and OCTA.

STATE ROUTE-73 DETENTION BASIN/EROSION CONTROL PROJECT — CALTRANS/TRANSPORTAION CORRIDOR AGENCY (TCA), ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The SR-73 was completed in the late 90s. Caltrans and TCA designed multiple detention basins adjacent to the new freeway in order to capture and filter stormwater. Due to some deficiencies, a construction project was implemented in 2014 to address excess erosion, stormwater runoff, and detention basin maintenance. As the lead biologist, conducted nesting bird surveys prior to grading operations and protocol-level coastal California gnatcatcher surveys. Facilitated and approved the landscape and plant pallet plans from district landscape architects. Monitored habitat restoration activities, performed plant transect surveys, coordinated with landscape contractors, and prepared annual Habitat Mitigation Monitoring Plan (HMMP) reports.

STATE ROUTE 74 SAFETY SHOULDER WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The project involved widening the existing shoulders associated with SR-74 safety and maintenance improvements. Performed jurisdictional delineations, CRAM analysis, and biological surveys including protocol-level surveys for the federally endangered arroyo toad. Coordinated with USFWS biologists for implementation of Biological Opinion measures during construction and with U.S. Forest Service biologists for aquatic resource mitigation within Cleveland National Forest. Approved annual monitoring reports and reviewed consultant task order budgets and invoices. Coordinated with Casper's Regional Park rangers, landscape architects, and contractors for the off-site arroyo toad habitat restoration. Performed plant transect surveys, organized field procedures under USFWS mitigation measures for impacts to designated critical habitat for the arroyo toad. Performed protocol-level surveys and eradicated invasive predators within San Juan Creek for five years.

STATE ROUTE-91 EASTBOUND WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as the District Biologist. The project involved widening the eastbound SR-91 by adding one-general purpose lane from SR-57 to Tustin Avenue. Project impacts to the Santa Ana River required water quality permits, nesting bird surveys, and pre-construction bat roost surveys. Late in the project design phase, a maternity colony of Yuma myotis bats were discovered in the SR-91/Santa Ana River Bridge. As the district biologist, coordinated with CDFW's Caltrans liaison for facilitating project design changes; and to incorporate for the first time in the district, alternative bat habitat (panels) that were installed on the westbound side of the SR-91 Bridge. Monitored construction activities, communicated directly with project managers, engineers, construction personnel, and consultant biologists. Performed multiple day and nighttime bat surveys, collected data for CDFW, and prepared quarterly monitoring reports detailing the success of the bat mitigation.

ENERGY

TRANSMISSION PROJECT — SOUTHERN CALIFORNIA EDISON, SAN BERNARDINO COUNTY, CALIFORNIA

Served as Team Biologist. The transmission project occurred north of I-10 in the City of Cabazon from SR-111 to the Morongo Resort. Performed special-status species surveys for endemic plants, desert tortoise, desert kit fox, burrowing owl, and loggerhead shrike. Prepared daily field reports, coordinated with lead biologists, and adjacent property owners.

TRANSMISSION PROJECT — SOUTHERN CALIFORNIA EDISON, RIVERSIDE COUNTY, CALIFORNIA

Served as Team Biologist. The project occurred along the Santa Ana River Valley in Riverside County. It involved tree trimming and removal activities adjacent to Southern California Edison right-of-way. Performed nesting bird surveys ahead of vegetation maintenance activities. Coordinated with contractors, team biologists, and managers. Prepared daily field reports, collected data using a handled GPS, and submitted monthly monitoring reports to the client.

LOCAL GOVERNMENT

WEST VALLEY DETENTION CENTER — SAN BERNARDINO COUNTY, CALIFORNIA

Served as Lead Biologist. The project occurred within Day Creek, adjacent to the West Valley Detention Center in Fontana, CA. The project replaced a water and sewage line that went through Day Creek. Monitored construction activities, performed nesting bird

surveys, communicated 401, 404, and 1602 permit conditions to project contractors. Prepared daily field reports, collected data using a handled GPS, and submitted monthly monitoring reports to the client.

LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP) — BEACON PHASE II ENERGY STORAGE PROJECT SITE, KERN COUNTY, CALIFORNIA

Served as Regulatory Specialist. The Project consisted of an energy storage facility owned and operated by the LADWP within the Mojave Desert in unincorporated Kern County, CA. The project included conducting a jurisdictional delineation, preparation of a jurisdictional delineation report, and coordination with project proponents to facilitate the preparation of CEQA documents and regulatory agency permits.

MARINA DEL REY HARBOR PIER INSTALLATION — LOS ANGELES COUNTY, CALIFORNIA

Served as a team Marine Biologist and an American Academy of Underwater Sciences (AAUS) certified diver. The project involved installation and removal of piers for residential docks within Marina del Rey Harbor. Operated under a California Coastal Commission Development permit. Operated small watercraft, surface/diver communication systems, and SCUBA diving equipment. Performed sensitive habitat SCUBA surveys for invasive algae (Caulerpa) and native seagrass (Zostera) habitat surveys. Recorded species of fish, marine invertebrates, and general marine conditions. Provided surface support by recording sensitive areas surveyed with GPS units and entered data into ArcGIS.

NEWPORT BAY EELGRASS RESTORATION — ORANGE COUNTY, CALIFORNIA

Served as a team Marine Biologist and AAUS certifies diver. The City of Newport Beach's mitigation project involved installation of seagrass (Zostera) habitat within Newport Bay. Operated small watercraft, surface/diver communication systems, and SCUBA diving equipment. Gathered and separated eelgrass from "donor" beds and re-planted individual grasses below intertidal areas. Performed underwater transects and monitored the growth, density, and condition of planted seagrasses.

WHITE ABALONE SURVEYS — NATIONAL MARINE FISHERIES SERVICE AND CALIFORNIA COASTKEEPER, POINT LOMA, SAN DIEGO CALIFORNIA

Served as a team Marine Biologist and AAUS certified diver. Supported biological and genetic research dives with NMFS Marine Biologists for the federally listed white abalone (Haliotis sorenseni) off Point Loma, California. Performed underwater transects, surveyed the surrounding benthic environment and noted locations of special-status species. Collected data using diving slates, photography, and facilitated data entry for NMFS' White Abalone Recovery Plan.

PROFESSIONAL AFFILIATIONS

American Academy of Underwater Sciences

Callflora

California Coastkeeper

Divers Alert Network

Society for Conservation Biology

EMPLOYMENT HISTORY

Glenn Lukos Associates. Regulatory Project Manager/Biologist. Santa Ana, California. 2020 – Present.

California Department of Transportation – District 12 Orange County. Associate Environmental Planner (Natural Sciences)/Biologist. Santa Ana, California. 2013 - 2020.

Kidd Biological, Inc. Biologist. Perris, California. 2012.

Coastal Resources Management. Marine Biologist. Corona del Mar, California. 2012.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

Plant Identification, California Native Plant Society, 2016

Bat Workshop, Bat Conservation Management, Modoc County, 2015

Advanced Wetland Delineation, Wetland Training Institute, 2014

Construction, Design, and Maintenance, Caltrans, 2014

CEQA/NEPA Basics, Caltrans, 2013

HANNAH CRADDOCK

Regulatory Specialist

YEARS OF EXPERIENCE

Professional start date: 2017

Years at GLA: 0.5

EDUCATION

MS, Geographic Information Science, California State University, Long Beach, 2019

BS, Organismal Biology, California State University, Long Beach, 2018

TRAININGS ATTENDED

Wetland Delineation Course, Wetland Training Institute, 2022

PROFESSIONAL SUMMARY

Hannah Craddock is a botanist and habitat restoration ecologist with a background in salt marsh ecology, field biology, and regulatory services. She has conducted numerous biological studies throughout Southern California including rare plant surveys, fish surveys, nesting bird surveys, general bird surveys, vegetation mapping, and wetland delineations. Species-specific surveys she has conducted includes surveys for least Bell's vireo, Belding's savannah sparrow, and salt marsh bird's beak. Her regulatory experience includes various permitting applications for California Department of Fish and Wildlife, Regional Water Quality Control Board, and the United States Army Corps of Engineers.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

SERRANO CREEK—LAKE FOREST, ORANGE COUNTY, CALIFORNIA

CONDUCTED A GENERAL BIOLOGICAL SURVEY AND MAPPED THE JURISDICTIONAL LIMITS IN SUPPORT OF THE GREAT SCOTT LANDSCAPE FACILITY DEVELOPMENT.

PARKS, TRAILS, AND OPEN SPACE

NEWPORT BANNING RANCH—ORANGE COUNTY, CALIFORNIA

REGULARLY COORDINATES WITH CREWS ON-SITE TO DETERMINE WHICH AREAS OF THE SITE WILL BE WORKED BEFORE CONDUCTING NESTING BIRD SURVEYS AND OIL WELL VEGETATION MAPPING. ASSISTS WITH HABITAT RESTORATION EFFORT BY DEVELOPING STATUS REPORTS, FLAGGING PLANTING LOCATIONS, AND COORDINATING WITH THE CLIENT AND SUBCONTRACTORS.

LOS CERRITOS WETLANDS RESTORATION PROJECT—LONG BEACH, LOS ANGELES COUNTY, CALIFORNIA

LED RESTORATION EVENTS FOR MEMBERS OF THE GENERAL PUBLIC AND PERFORMED MAINTENANCE TASKS THROUGHOUT THE RESTORATION SITE. SHE CONDUCTED BIOLOGICAL SURVEYS INCLUDING SURVEYS FOR LEAST BELL'S VIREO, BELDING'S SAVANNAH SPARROW, AND ANNUAL VEGETATION MONITORING. HANNAH ALSO CONDUCTED A WETLAND DELINEATION ON THE HELLMAN PROPERTY PRIOR TO THE INITIATION OF THE NEXT PHASE OF RESTORATION.

COLORADO LAGOON RESTORATION PROJECT—LONG BEACH, LOS ANGELES COUNTY, CALIFORNIA

CONDUCTED VARIOUS BIOLOGICAL SURVEYS INCLUDING GENERAL BIRD AND FISH SURVEYS. IN SUPPORT OF RESTORATION EFFORTS CONDUCTED ANNUAL VEGETATION MONITORING TO ENSURE PROPER COVERAGE GOALS WERE BEING MET. MAPPED HIGH TIDE LINE ANNUALLY TO DOCUMENT SEA LEVEL RISE.

SEAL BEACH NATIONAL WILDLIFE REFUGE CORDGRASS RESTORATION—SEAL BEACH, ORANGE COUNTY, CALIFORNIA

CONDUCTED REVEGETATION EFFORTS IN A PORTION OF THE MARSH BY INSTALLING PACIFIC CORDGRASS PLUGS USING AN ONSITE SOURCING LOCATION.

CARPINTERIA SALT MARSH PRESERVE RESTORATION PROJECT—CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA

PERFORMED INVASIVE LIMONIUM REMOVAL AT THE PRESERVE. THIS ALSO INCLUDED EXPERIMENTATION ON SOLARIZATION METHODS, INCLUDING A PARTNERSHIP WITH SANTA BARBARA BOTANIC GARDEN TO DETERMINE IF SOLARIZATION WOULD ERADICATE LIMONIUM WHILE LEAVING SALT MARSH BIRD'S BEAK SEEDS VIABLE.

REGION-WIDE SALT MARSH BIRD'S BEAK MAPPING—VARIOUS LOCATIONS, CALIFORNIA

DEVELOPED A PROTOCOL FOR MAPPING SALT MARSH BIRD' BEAK THROUGHOUT IT'S RANGE. PERFORMED SAID MAPPING AT ALL SEVEN POPULATIONS OF THIS SPECIES THROUGHOUT THE STATE AND PRODUCED MAPS.

ENERGY

DETERIORATED POLES PROJECT—VARIOUS LOCATIONS, CALIFORNIA

SERVED AS PROJECT MANAGER. PROVIDED CLIENT COST ESTIMATES AND SCHEDULED DELINEATORS TO VISIT SPECIFIC LOCATIONS THROUGHOUT THE CLIENTS SERVICE TERRITORY TO DETERMINE PERMITTING NEEDS FOR ELECTRICAL POLE REPLACEMENT.

ROUTINE LINE CLEARING PROJECT—VARIOUS LOCATIONS, CALIFORNIA

SERVED AS PROJECT MANAGER. PROVIDED CLIENT COST ESTIMATES AND SCHEDULED DELINEATORS TO VISIT SPECIFIC LOCATIONS THROUGHOUT THE CLIENTS SERVICE TERRITORY TO DETERMINE PERMITTING NEEDS FOR VEGETATION CLEARNING. ATTENDED FIELD VISITS TO SUPPORT DELINEATION EFFORTS.

PROFESSIONAL AFFILIATIONS

Southern California Botanists

Society for Conservation GIS

EMPLOYMENT HISTORY

GLA. Regulatory Specialist. Santa Ana, California. 2023 - Present

ERM. Consultant II, Biodiversity and Ecological Services. Irvine, California. 2021 - 2023

Tidal Influence. Associate Restoration Ecologist/GIS Specialist. Long Beach, California. 2017 – 2021

CDFW. Scientific Aid. Los Alamitos, California. 2018

Bolsa Chica Conservancy. Restoration Intern. Huntington Beach, California. 2018

Rancho Los Cerritos Foundation. GIS Intern. Long Beach, California. 2017 – 2018

California State University, Long Beach. Herbarium Assistant. Long Beach, California. 2016 - 2018

APPENDIX E – COMPLETED BIOTA CHECKLIST

BIOTA REPORT CHECKLIST

The Case Planner and County Biologist shall initial in the designated section, indicating that the items have been included in the report and that the report is adequate and ready for SEATAC review.

BIOTA REPORT CHECKLIST	COMPLETE
I. COVER / SPINE / TITLE PAGE	
A. Project name, type of report (Biota Report)	X
B. County identification numbers (Project number, CUP number, APNs).	X
C. Applicant name and contact information	X
D. SEA name(s)	X
E. Name of head biologist and consulting company directive information	X
F. Date of report	X
II. INTRODUCTION	
A. Summary of project impacts and mitigation	X
B. Project description	X
1. Project name, type of report, address of project	X
2. County application identification numbers including APNs	X
3. Applicant name and contact information	X
4. SEA name(s)	X
5. Supervising biologist, company, directive information	X
6. Parcel and Acreage Table (for more than one parcel)	X
7. Location (Note, these maps/photos may be excerpts or contain less detail than those submitted in the BCA so long as they provide an adequate indication of the project location and the surrounding area)	X
a) Map of regional features in vicinity showing project location, and including all drainages and wetlands	X
b) Color USGS topographic map with outline of project parcels, SEA, open space resource areas, etc.; scale about 1:24000	X
	Planner Initials:
8. Project and alternatives description a) Site plans; at least one superimposed on vegetation map with topo lines	X
b) Grading plans; at least one superimposed on vegetation map, topo lines	X
c) Description of disturbance schedule	X
d) Permits requested	X
e) Alternatives	X
III. IMPACTS	
A. Regulatory framework	X
B. Tables	X
1. Table of impact for sensitive vegetation and species	X
2. Table of vegetation type and proposed changes	X
3. Table of acreage additions and deductions of SEA land	X
C. Discussion of logic on conclusions of significance	X

D. Maps [may be combined, but each of the following should be illustrated in one form or other]	X
1. Map(s) of vegetation constraints.	X
2. Map of proposed vegetation impacts (grading and fuel-modification superimposed on vegetation map)	X
3. Map of noteworthy or protected tree species, sensitive plant observations (and animal if highly resource dependent, e.g. aquatics, burrowing owl, etc.), showing removals and disturbance proposed.	X
4. Regional and local maps of wildlife corridors and habitat linkages [including regional and statewide efforts (e.g. South Coast Missing Linkages, California Essential Connectivity Project, Puente Hills "Missing Middle", etc.), as well as any site-specific features (ridgelines, drainages, culverts, fencing, etc.) that may facilitate or constrain movement.	X
E. Discussion of Impacts—direct (grading and fuel-modification), indirect, and cumulative impacts to each of the following must be discussed	X
1. Vegetation, with note of any sensitive vegetation types (refer to State and Global sensitivity rankings included on the CDFW Natural Communities List) or noteworthy natural stands that may be unique to the site.	X
2. Special-status species, including any locally-recognized sensitive species (e.g. the Los Angeles Audubon list of Los Angeles County's Sensitive Bird Species) and unusual sightings of otherwise common taxa (e.g. *Gilia diegensis* in the Liebre Mountains, *Petalonyx thurberi* in the Santa Clara River, etc.)	X
3. Protected and noteworthy trees	X
4. Wildlife habitat, including wildlife corridors and habitat linkages	X
5. Project impact on integrity of the SEA	X
F. Discussion of project consistency with SEA CUP compatibility criteria	X
1. That the requested development is designed to be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas	X
2. That the requested development is designed to maintain water bodies, watercourses, and their tributaries in a natural state	X
3. That the requested development is designed so that wildlife movement corridors (migratory paths) are left in an undisturbed and natural state	X
4. That the requested development retains sufficient natural vegetative cover and/or open spaces to buffer critical resources, habitat areas, or migratory paths	X
5. That the roads and utilities serving the proposed development are located and designed so as not to conflict with critical resources, habitat areas, or migratory paths	X
V. MITIGATION MEASURES	
A. List of impact and mitigation measures that apply. The following aspects of SEA impact must be addressed:	X
1. Acreage remaining as natural open space and percentage of original	X
2. Existing designated open space on and adjacent to the parcel in question	X

3. Short and long term measures & preservation instruments that will provide protection of natural open areas	X
4. Type and amount of landscaping; utilization of locally-indigenous native plants; prohibition on invasive plants	X
V. MONITORING PROGRAM	
A. Directly applicable to addressing impact; measurement of biological response to mitigation	X
B. Performance standards	X
C. Alternatives for failure to meet performance standards	X
D. Funding and bond establishment	X
E. Schedule	X
F. Responsible parties	X
G. Adaptive management	X
V. BIBLIOGRAPHY	
A. Bibliography of cited references	X
B. Bibliography of general references used to prepare report but not cited	X
V. APPENDICES	
A. Table of biologists and other contributors; Preparer and other contributor qualifications; permits, MOUs	X
B. Oak Tree Report for sites with jurisdictional native oak trees (5" DBH and larger)	**No oak trees present**
C. Focused and floristic survey reports.	**BCA Attached**
D. Copies of meeting minutes from previous SEATAC/ERB reviews of project	**N/A**
E. Completed Biota Report Checklist (this table)	**X**
F. Correspondence with State and Federal trustee agencies	**No correspondence**
G. CD or DVD of BCA and Biota reports as .pdf & Georeferenced shapefiles (ESRI .shp, geographic) for vegetative maps and observations of sensitive species	**Under separate cover**
	Biologist Initials:

APPENDIX F – BCA REPORT

BIOLOGICAL CONSTRAINTS ANALYSIS

CASTAIC CREEK SEGMENT OF SANTA CLARA RIVER SIGNIFICANT ECOLOGICAL AREA TAPIA RANCH DEVELOPMENT PROJECT TAPIA CANYON ROAD BRIDGE REPLACEMENT

LOCATED NEAR THE COMMUNITY OF CASTAIC, UNINCORPORATED LOS ANGELES COUNTY, CALIFORNIA

AINs 2865-012-916, 2865-012-917, 2865-021-800, 2865-021-902

Prepared for:

Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, California 90012
Contact: Alejandrina Baldwin, Principal Planner, Subdivisions
Office Telephone: (213) 974-6433, Direct Telephone: (213) 647-2464
Email: abaldwin@planning.lacounty.gov

Prepared By:

Glenn Lukos Associates, Inc.
1940 E. Deere Avenue, Suite 250
Santa Ana, California 92705
Contact: Tony Bomkamp and Stephanie Cashin
Telephone: (949) 837-0404

Applicant:

Howard Justus
DACA-Castaic LLC
1565 Hotel Circle South, Suite 310.
San Diego, California 92108
Office: (951) 444-5600, Mobile: (714) 366-3828

JULY 2024 [REVISED SEPTEMBER 2024]

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This Biological Constraints Analysis provides the results of general and focused biological surveys for the Santa Clara River Significant Ecological Area (SEA) associated with the Tapia Canyon Road Bridge replacement ("Proposed Offsite Bridge Replacement") over Castaic Creek, which is a component of the approximately 1,197-acre Tapia Ranch Development Project ("Proposed Project"). The triggering overlay is the depiction of Castaic Creek as it appears in Figure 22.312-G: Area 5—Castaic Creek Area of the Castaic Community Standards District (CSD). An analysis of the Proposed Project that does not include the SEA portion is provided in a separate biological resources report.

The Proposed Project includes the approximately 1,167-acre Tapia Canyon Property and approximately 30 acres of proposed off-site improvements, which includes the Tapia Canyon Road Bridge Replacement. The Proposed Offsite Bridge Replacement, which is located in the SEA, is located north of the City of Santa Clarita, in unincorporated Los Angeles County, California [Exhibit 1 – Regional Map and Exhibit 2 – Vicinity Map]. The Castaic Creek portion of the Tapia Ranch property is located within portions of Parcels with the following Assessors Information Numbers (AINs): 2865-012-916, 2865-012-917, 2865-021-800 [Exhibit 3 – Project Site Map]. The Proposed Offsite Bridge Replacement is located on Tapia Canyon Road immediately east of Interstate 5 and west of Charlie Canyon Road; no address is associated with the site.

The scope of this report includes a discussion of existing conditions for the Tapia Canyon Road bridge replacement that crosses Castaic Creek [Exhibit 4 – SEA Biological Constraints Map]. This report includes all methods employed regarding general and focused surveys, the documentation of botanical and wildlife resources identified (including special-status species), the jurisdictional delineation, an analysis of impacts to biological and jurisdictional resources, and proposed measures to reduce Proposed Project-related impacts to a level of less than significant under the California Environmental Quality Act (CEQA) and ensure consistency with SEA Conditional Use Permit (CUP) compatibility criteria.

Methods of the study include a review of relevant literature, general and focused 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), and the California Native Plant Society (CNPS). Additionally, this report is consistent with the Los Angeles County SEA Ordinance Implementation Guide (SEA Guide; County of Los Angeles, 2020) specifically for the offsite Tapia Canyon Road bridge replacement area, which is the only Proposed Project component in the SEA.

The field studies focused on a number of primary objectives that would comply with CEQA presence/absence requirements, including (1) general reconnaissance surveys and vegetation mapping; (2) floristic plant surveys; (3) general wildlife surveys; (4) habitat assessments and focused surveys for special status plant species; (5) habitat assessments and focused surveys for special status wildlife species; and (6) jurisdictional delineation. Observations of plant and wildlife species were recorded during each of the above-mentioned survey efforts and are included [Appendix A; Floral Compendium, and Appendix B; Faunal Compendium].

Project Applicant:

Howard Justus
DACA-Castaic LLC
1565 Hotel Circle South, Suite 310.
San Diego, California 92108
Office: (951) 444-5600
Mobile: (714) 366-3828

1.2 Castaic Creek Tapia Canyon Road Bridge Replacement Project Location

The Proposed Offsite Bridge Replacement in the Santa Clara River SEA comprises approximately 15.17 acres north of the City of Santa Clarita within unincorporated Los Angeles County, California. The 15.17 acres include the 6.60-acre proposed off-site Tapia Canyon Road Bridge Replacement and road improvement footprint and a 200-foot buffer that is required for development within SEAs; the portion of the buffer within the SEA covers 8.57 acres. Note that the portion of the buffer that extends beyond the SEA is not included in the 8.57 acres. The SEA buffer and Project area includes AIN parcels 2865-012-916, 2865-012-917, 2865-021-902, and 2865-021-800 [Exhibit 3]. Table 1-1 below summarizes Bridge Project acreages for each AIN.

Table 1-1. Summary of AINs for the Project

AIN	SEA Buffer (Acres)	Bridge Project Footprint (Acres)
2865-012-916	0.16	0.07
2865-012-917	4.06	2.11
2865-021-902	3.54	3.27
2865-021-800	0.80	0.39
Tapia Canyon Road ROW/No AIN	0	0.75
Total	**8.57**	**6.60**
*The column totals differ from the sum of the parts due to rounding error.		

The Proposed Offsite Bridge Replacement is located within Sections 25 and 36 of Township 5N, Range 16W, of the U.S. Geological Survey (USGS) topographic map Newhall, California [Exhibit 2]. Topography within the Project Site includes prominent ridgelines to the north and south and is mountainous in vicinity of the Project Site. The topography of the Proposed Offsite Bridge Replacement is generally flat with the elevation in the approximate range of 1,100 foot above mean sea level (AMSL).

Land uses in the Castaic Creek overlay of the Castaic Creek CSD and associated 200-foot buffer areas include Castaic Creek and adjacent terraces and the Tapia Canyon Road concrete crossing that will be replaced by the proposed bridge structure. The current crossing includes multiple culverts that cause a restriction in flows due to the downcutting caused by the culverts.

1.3 Bridge Replacement Project Description

Approximately 700 feet east of the intersection of Tapia Canyon Road and Castaic Road is an existing closed-conduit culvert crossing on Tapia Canyon Road (Los Angeles County Bridge No. 2085). The previous crossing at this location was severely damaged and partially washed out in 2004-2005 and was replaced by a temporary road crossing that currently remains in place. The Proposed Project would remove the existing closed-conduit culvert crossing and construct an "all weather" open-bottom arch culvert bridge in the same location as depicted on Appendix C – Proposed Tapia Canyon Road Replacement Bridge. The new bridge would be within the same general alignment as the existing bridge, near the confluence of the Castaic Creek and Charlie Canyon drainage course. The proposed structure would contain four arches (each approximately 65 feet wide) with a clear height of approximate 17 feet over the top of Castaic Creek channel invert and be designed to accommodate a 50-year storm event. The arches would be made of concrete while the footings and headwalls would be made of structural concrete and rebar. Riprap would be provided throughout to prevent scour at the inlet, outlet, piers, and roadway embankments. A 3-foot-thick section of soft-bottom earth would be provided above a 5-foot-thick armoring layer of riprap. This feature would be designed to promote and accommodate riparian habitat and alluvial scrub around the bridge structure. The design of the proposed replacement bridge would comply with all applicable L.A. County Department of Public Works (LACDPW) standards and with Section 503.2.6, Title 32 (Los Angeles County Fire Code) of the L.A. County Code. Compliance with those requirements would be verified by LACDPW prior to the approval of the final subdivision map and throughout the construction process.

Construction of a new creek crossing would require the removal of the existing bridge, the provision of temporary vehicular and non-vehicular access bridge (to retain emergency and non-emergency access at all times) and include the temporary and/or permanent relocation of those functional utilities and pipelines impacted by those actions. The separate temporary bridge would be constructed to allow continuous east-west access across Castaic Creek during construction of the permanent Tapia Canyon Road Bridge and would then be removed. Additionally, physical access to the existing Castaic Creek

channel would be required for the demolition and removal of the existing bridge to provide temporary support for the replacement bridge's falsework. Dewatering of the creek may be required for construction of the replacement bridge and for the installation of the associated rock slope and channel protection. If required, temporary dewatering structures would include earthen berms, placed a minimum of 10 feet from the bridge, connected by culverts, to maintain flows within Castaic Creek. The dewatering plan would allow normal flows within Castaic Creek to pass Tapia Canyon Road. The dewatering system and creek crossing would be completely removed once the permanent replacement bridge is constructed, and the creek bed restored [Appendix C – Bridge Plan]

Following construction of the bridge and associated roadway and installation of 5-foot-thick armoring layer of riprap, the area would be covered with a 3-foot layer of earth consisting of substrate that currently occurs within Castaic Creek such that there would be no permanent impacts. Following construction, areas of native upland and riparian scrub and riparian woodland, including willow (*Salix* spp.), sycamore (*Platanus racemosa*), and cottonwood (*Populus fremontii*) trees would be replanted as described below. Seed of white rabbit tobacco (*Pseudognaphalium leucocephalum*), the one sensitive plant within the construction footprint, would be collected and seeded on to the substrate following construction to ensure full replacement of the white rabbit tobacco. Thus, all impacts for purposes of this Biota Report are considered temporary.
The new bridge would cross a portion Castaic Creek that is designated as a Significant Ecological Area (SEA), specifically, the Castaic Creek overlay of the CSD as depicted by Figure 22.312-G: Area 5—Castaic Creek Area of the Castaic CSD. SEAs are officially designated areas within Los Angeles County identified as having irreplaceable biological resources. The SEA designation does not confer protection or preservation, nor does it prohibit development. The SEA ordinance establishes the permitting, design standards, and review process for development within SEAs. The SEA Overlay's purpose is to ensure that the portions of the site within an SEA designation are appropriately considered as part of Project development. Development of the new creek crossing as part of the Proposed Project would require a SEA CUP, because it is subject to the Castaic CSD which requires an SEA-CUP for construction within Castaic Creek, thus it requires review by SEATAC.

2.0 METHODOLOGY

To adequately identify biological resources, associated with the Castaic Creek overlay of the CSD to the satisfaction of CEQA and as appropriate the Los Angeles County SEA Ordinance, GLA assembled biological data consisting of three main components:

- Performance of a jurisdictional delineation for areas subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act (CWA) and CDFW pursuant to Section 1602 of the California Fish and Game Code.
- Performance of vegetation mapping;

- Performance of habitat assessments and site-specific biological surveys to evaluate the presence/absence of special status species to the satisfaction of CEQA; and
- Performance of habitat assessments, and site-specific biological surveys to evaluate the potential presence/absence of special status species and biological resources associated with Los Angeles County SEA in accordance with the SEA Guide.

The focus of the biological surveys was determined through initial site reconnaissance, a review of the California Natural Diversity Database (CNDDB) [CDFW 2013, 2015, 2018, 2022, 2024], the CNPS 8th and 9th edition online inventory (CNPS 2013, 2015, 2018, 2022, 2024), U.S. Department of Agriculture's National Resources Conservation Service (NRCS) soil maps for the Newhall quadrangle, other pertinent literature including biological surveys reports previously prepared for the property (e.g., BonTerra 2006), and knowledge of the region. Site-specific general and focused surveys within the Proposed Offsite Bridge Replacement were conducted on foot for each target plant or animal species identified below.

Vegetation was mapped directly onto a 200-scale (1" = 200') aerial photograph following the currently accepted List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on A Manual of California Vegetation, Second Edition (Sawyer, et al., 2008) or MCVII, which is the California expression of the National Vegetation Classification. Vegetation communities not listed under the above-mentioned vegetation classification systems were named based on the dominant plant species present following the conventions set forth in the MCVII. Additionally, vegetation mapped within the SEA area was assigned to SEA Categories 1 through 5 according to global and state threat rankings that stipulate recommended preservation ratios as follows: SEA Category 1 resources (vegetation communities ranked G1 S1); SEA Category 2 resources (vegetation communities ranked G2 S2); SEA Category 3 resources (vegetation communities ranked G3 S3); SEA Category 4 resources (vegetation communities ranked G4 S4 and G4 G5); SEA Category 5 resources (no state or global rankings but provide ecological function/benefits).

2.1 Summary of Surveys

Field studies were conducted for the approximately 1,197-acre Tapia Ranch Project, encompassing the entire Tapia Ranch property and offsite improvements, including the 6.60-acre Proposed Offsite Bridge Replacement portion of the Project footprint that occurs within Castaic Creek. Surveys were conducted in 2013, 2014, 2015, 2018, 2021, and 2024 as summarized in Table 2-1 below. The field studies focused on a number of primary objectives that would comply with CEQA; additionally, field studies for the 6.60-acre Proposed Offsite Bridge Replacement were conducted in accordance with SEA Guide requirements for the 6.60-acre Project footprint within Castaic Creek: (1) general reconnaissance surveys and vegetation mapping according to the MCVII List of Vegetation Alliances and Associations; (2) general floristic surveys; (3) general wildlife

surveys; (4) habitat assessments and focused surveys for special-status plants; (5) habitat assessments and focused surveys for special-status animals; and (6) delineation of state and federal waters, including wetlands and riparian areas. Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts [Appendix A; Floral Compendium and Appendix B; Faunal Compendium]. Table 2-1 provides a summary list of survey dates, survey types, and personnel.

Table 2-1. Summary of Biological Surveys for the Project[1]

Survey Type	Survey Dates	Personnel
General Biological Survey	3/15, 4/3,4/18, 4/22, 4/25, 5/10, 8/2, 2013	TB, DM, LL, SC
Vegetation Mapping	4/3, 5/10, 5/30, 6/10, 6/20, 7/18, 7/22, 7/30, 2013; 6/11, 7/30, 2014; 1/15, 2018; 4/11, 2024	TB, SC, RS, DS
Jurisdictional Delineation	4/17, 2013; 6/11, 2014; 6/2, 2015; 1/15, 2018; 8/31, 2021; 4/12, 2024	TB, RS, PR, SC, BL; VP, LL
Crotch's Bumble Bee	3/22, 4/24, 7/12, 2024	JA, SC, CW, JF
Burrowing Owl	3/15, 4/22, 5/3, 6/20, 2013	TB, SC
Coastal California Gnatcatcher Habitat Assessment	3/29, 2024	JA
Least Bell's Vireo	4/18, 4/29, 5/10, 5/20, 5/30, 6/10, 6/20, 7/1, 2013; 4/10, 4/21, 5/1, 5/11, 5/21, 6/2, 6/12, 6/22, 2015; 4/10, 04/24, 5/3, 5/15, 5/23, 6/3, 6/24, 7/12, 2024	TB, SC, RS, KL, DS, HC, JF, JA
Bats	6/6, 6/10, 2024	JA, SC
Special-Status Plants	4/3, 4/18, 4/22, 4/25, 4/29, 7/1, 7/30, 8/2, 2013; 5/9, 5/14, 5/15, 5/16, 5/20, 7/30, 2014; 5/21, 6/2, 2015; 1/15, 2018; 10/11, 2022; 5/3, 5/23, 2024	TB, DM, LL, SC, TM
SEA Protected Tree Mapping	10/11, 2022	SC, JA

Surveying Biologists:

BL = Brinna Lee	LL = Leslie Lokovic	JF = Jason Fitzgibbon
DM = David Moskovitz	PR = Perry Robinson	VP = Velvet Park
DS = David Smith	SC = Stephanie Cashin	CW = Chris Waterston
JA = Jeff Ahrens	TB = Tony Bomkamp	TM = Tim Morgan
KL = Kevin Livergood	RS = Rebecca Schanna	HC = Hannah Craddock

The co-project/supervising biologists for GLA are Tony Bomkamp and Stephanie Cashin. Appendix D includes qualifications for Mr. Bomkamp, Ms. Cashin and other key GLA staff who performed biological surveys for the Proposed Offsite Bridge Improvement Area in 2024.

[1] Survey dates in 2024 are specific to the Bridge Project footprint. Survey dates in prior years are for the entire Project; only some of these dates include surveys of the Bridge Project area.

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Proposed Offsite Bridge Replacement, and consisted of seven components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur on site; (3) general field reconnaissance surveys; (4) vegetation mapping according to the MCVII (Sawyer, Keeler-Wolf and Evens, 2008); and (5) habitat assessments and focused surveys for special-status plants in accordance with CDFW[2] guidelines and the SEA Guide.

2.2.1 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. 2017. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39) (CNPS 2013, 2015, 2018, 2022, and 2024)
- California Natural Diversity Data Base (CNDDB) for the USGS 7.5' quadrangle: Newhall, as well as the surrounding eight quadrangles: Whitaker Peak, Warm Springs Mountain, Green Valley, Mint Canyon, San Fernando, Oat Mountain, Santa Susana, and Val Verde, (CNDDB 2013, 2015, 2018, 2022 and 2024)
- Prior botanical and faunal surveys conducted for the property:

  BonTerra Consulting. Tapia Ranch Draft Biological Technical Report (BonTerra Consulting, 2006).

  BonTerra Consulting. Results of Special Status Plant Surveys for the Tapia Ranch Off-Site Access Road Study Area, Los Angeles County, California (BonTerra Consulting, 2006).

  BonTerra Consulting. Results of Focused Presence/Absence Surveys for the Arroyo Toad and Western Spadefoot Toad on the Approximately 1,167-Acre Tapia Ranch Project, Los Angeles County, California (BonTerra Consulting, 2005).

  RBF. Jurisdictional Delineation (RBF 2006)

[2] State of California. CALIFORNIA NATURAL RESOURCES AGENCY Department of Fish and Game. November 24, 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.

2.2.2 Vegetation Mapping

Vegetation communities within the 6.60-acre Proposed Offsite Bridge Replacement footprint within the Castaic Creek Overlay of the CSD were mapped according to the List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on A Manual of California Vegetation, Second Edition or MCVII, which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas did not correspond exactly with habitat descriptions ("Membership Rules" in MCVII). These vegetation alliances were named based on the dominant plant species present. Vegetation mapping also considered SEA Categories 1 through 5 that stipulate disturbance thresholds according to global and state threat rankings. It is important to note that natural vegetation communities do not always perfectly correspond with the Rules for Membership for each Alliance and/or Association provided in MCVII. As such, the descriptions provided below, and the areas depicted on exhibits, represent the most accurate "fit" for the vegetation observed on the site. Minor localized deviations are inevitable and are noted in the narrative descriptions as appropriate. Vegetation alliances were mapped in the field directly onto a 200-scale (1" = 200') aerial photograph. Alliances were determined by visually estimating coverage of dominant species for entire polygons in accordance with the MCVII Membership Rules. Due to adherence to the MCVII Membership rules and to the relatively small size and uniformity of the polygons, no relevé data was collected. A vegetation map is included as Exhibit 4B. Representative site photographs are included as Exhibit 5.

2.2.3 Special-Status Plant Species Evaluated for the Project Site

A literature search was conducted to obtain a list of special status plants with the potential to occur within the 6.60-acre Proposed Offsite Bridge Replacement within the Castaic Creek Creek overlay of the CSD. The CNDDB was initially consulted to determine 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 (CNPS 2013, 2015, 2018, 2022 and 2024), and prior botanical surveys conducted by BonTerra Consulting. Soils mapped within the Proposed Offsite Bridge Replacement (Riverwash, Sandy Alluvial Land, and Cortina Sandy Loam) were also considered for potential to support special-status plant species. Special status plants detected within the Proposed Offsite Bridge Replacement are depicted on Exhibit 4C.

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Proposed Offsite Bridge Replacement site 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) implement general reconnaissance field work and focused surveys, in accordance with CDFW and CNPS Guidelines and Protocols, to document the distribution and abundance of rare, endangered, and/or sensitive plant species within the Proposed Offsite Bridge Replacement site; and (4) prepare biological resource maps

showing the distribution of the sensitive botanical resources associated with the Proposed Offsite Bridge Replacement site (5) prepare a SEA biological resources constraints map.

2.2.4 Sensitive Vegetation Communities Evaluated for the Site

Sensitive Vegetation Communities identified by the CNDDB search for the Proposed Offsite Bridge Replacement site and the surrounding USGS 7.5′ quadrangles include Riversidean Alluvial Fan Sage Scrub, southern California threespine stickleback stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Sycamore Alder Riparian Woodland, Southern Riparian Scrub, Southern Willow Scrub, Valley Oak Woodland. The Project area was evaluated for these (and other) sensitive habitats, specifically, vegetation alliances with a CNDDB State Rarity Ranking of S1, S2, or S3. Additionally, vegetation located within the Castaic Creek Overlay of the CSD was also mapped to include SEA Categories 1 through 5 that stipulate disturbance thresholds according to global and state threat rankings.

2.2.5 General Reconnaissance Surveys and Habitat Assessments

General site-specific surveys of the Proposed Offsite Bridge Replacement were conducted to identify potential sensitive plant habitats, and to establish the accuracy of the data identified from the literature. Reconnaissance surveys were conducted in March, April, and May of 2013. A topographic map was used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Proposed Offsite Bridge Replacement. Within the Proposed Offsite Bridge Replacement, biologists traversed each of the target habitats on foot to provide adequate coverage for surveys. All plant species encountered during the field surveys were identified and recorded following the guidelines adopted by CNPS (2001) 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 Roberts (1998), Baldwin et. Al. (2012), and Reiser (1994).

2.3 Wildlife Resources

Wildlife species within the portion of the Proposed Offsite Bridge Replacement were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the Proposed Offsite Bridge Replacement by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during each visit. A complete list of wildlife species observed within the Proposed Offsite Bridge Replacement site 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 the focused surveys or the habitat assessments for special-status animals are included below.

2.3.1 General Surveys

Birds

During general surveys within the Proposed Offsite Bridge Replacement site, birds were identified incidentally during surveys within each habitat type. Birds were detected by both direct observation and by vocalizations and were recorded in field notes.

Mammals

During general surveys within the Proposed Offsite Bridge Replacement site, mammals were identified incidentally during surveys 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 surveys within the Proposed Offsite Bridge Replacement site, reptiles and amphibians were identified incidentally 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.

2.3.2 Special-Status Animal Species Evaluated for the Project Site

A literature search was conducted to obtain a list of special status wildlife species with the potential to occur within the Proposed Offsite Bridge Replacement site. Species were evaluated based on three factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the property, 2) any other special-status animals that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site, and 3) species located within Proposed Offsite Bridge Replacement which meet SEA Categories 1 through 5 based on global and state threat rankings. Special status wildlife detected within the Proposed Offsite Bridge Replacement are depicted on Exhibit 4C.

2.3.3 Habitat Assessments and Focused Surveys for Special-Status Wildlife Species

General and site-specific surveys of the Proposed Offsite Bridge Replacement site were conducted to identify habitats with potential to support special-status wildlife and to establish the accuracy of the data identified from the literature. Initial reconnaissance surveys and habitat assessments were conducted in March and April 2013, with the most

recent assessment and surveys conducted in 2024 for Crotch's bumble bee and least Bell's vireo as noted below. An aerial photograph, soil map, and topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa or communities within the Proposed Offsite Bridge Replacement. The reconnaissance surveys also incorporated the guidelines adopted by CNPS and CDFW (Nelson 1994, CNPS 2001, CDFW 2009).

Habitat Assessment and Focused Surveys for Crotch's Bumble Bee

The Crotch's bumble bee (*Bombus crotchii*, CBB) is a CDFW Candidate for listing under the California Endangered Species Act (CESA). As a Candidate, CBB is subject to the same protections as listed species. CBB lives primarily in California in the United States; it is also extant but uncommon in Baja California, Mexico, and Nevada. Most observations of this species occur in southern California in coastal areas. CBB inhabits grassland and scrub areas, requiring a hotter and drier environment than other bumble bee species, and can only tolerate a very narrow range of climatic conditions. CBB nests underground, often in abandoned rodent dens and it is a nonmigratory species of bumble bee. CBB is characterized as a dietary generalist due to the wide range of host plants visited. Important food plants include milkweeds, dustymaidens, lupines, medics, phacelias, and sages. It also feeds on snapdragons, Clarkia, poppies, and various species of wild buckwheat. A limited amount of suitable habitat for CBB occurs within the Castaic Creek overlay of the CSD.

GLA biologists performed focused surveys for the CBB within suitable habitat areas during the 2024 survey period. Surveys followed a protocol developed by GLA, which is consistent with CDFW's Survey Considerations for CESA Candidate Bumble Bee Species (CDFW 2023) and largely encompasses the 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 conducting three focused survey visits during the flight season, beginning within the three acres of habitat that contain the highest quality floral resources per every 50 acres of potential suitable habitat.

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 are 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 any bumble bee activity incidentally observed during all other biological surveys.

Pursuant to the survey guidelines, the surveys were conducted between an hour after sunrise up until two hours before sunset, during times when weather conditions during the surveys are conducive to a high level of bee activity. Survey dates and conditions are summarized in Table 2-2

Table 2-2. Summary of 2024 Crotch's Bumble Bee Surveys

Survey Date	Survey Time	Temperature (ºF)	Wind Speed (Mph)	Cloud Cover	Surveying Biologists
March 22, 2024	1110-1520	62-72	2-3/3-5	Clear	SC, CW, JF
April 24, 2024	1100-1500	62-66	3-5/2-5	Mostly cloudy	JA
July 12, 2024	0735-1033	72-87	2-4/2-4	Partly Cloudy	SC, JF

Habitat Assessment and Focused Surveys for Burrowing Owl

The western burrowing owl (*Athene cunicularia*) is a CDFW species of special concern (SSC), a federal species of concern, a Los Angeles County Sensitive Bird (CSB) species, a SEA Category 2 species, and has a global ranking G4 and state ranking S3. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrub characterized by low-growing vegetation. Burrows are essential for successful breeding. This owl will occupy abandoned rodent burrows and man-made structures such as culverts, pipes, and debris piles. The burrowing owl nesting season begins as early as February and continues through August. The habitat assessment was conducted by a biologist familiar with the life history and behavior of burrowing owl by traversing all areas of potentially suitable habitat on foot and examining all small mammal burrows and other structures suitable for burrowing owl use for sign of owl use, including feathers, pellets, and whitewash.

An experienced team of GLA biologists conducted focused breeding season surveys for burrowing owl in accordance with the guidelines published in Appendix D of the Staff Report on Burrowing Owl Mitigation published by the CDFW (CDFG 2012). In accordance with these guidelines, surveys were conducted with at least one survey visit between February 15 and April 15, and a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15. Surveys were conducted on March 15, April 22, May 3, June 10, and June 20, 2013. A summary of the survey times and conditions are included in Table 2-3. It is important to note that the Proposed Offsite Bridge Replacement site contains very limited areas of potential habitat. Surveys were initiated due to the opportunistic observation of a burrowing owl using the rip rap immediately adjacent to the culverts at the Tapia Canyon Road bridge

on March 15, 2013, which crosses Castaic Creek within the Castaic Creek overlay of the CSD. Other than this detection of a presumed migrating owl, which was only observed on one occasion, no burrowing owls were detected during the surveys. No sign such as pellets or whitewash was observed on the rip rap, further suggesting that the owl was a transient.

Table 2-3. Summary of Burrowing Owl Surveys

Survey Date	Survey Time	Temperature (ºF)	Wind Speed (Mph)	Cloud Cover	Surveying Biologists
March 15, 2013	0720-0900	62-66	0-1	Clear	TB
April 22, 2013	0715-0910	62-69	5-10	Clear	TB
May 03, 2013	0700-0900	56-60	0-2	Clear	TB
June 10, 2013	0617-0900	52-55	1-14	Clear	SC
June 20, 2013	0620-0910	53-60	1-14	Clear	SC

Habitat Assessment for the Coastal California Gnatcatcher

In the United States, the coastal California gnatcatcher (*Polioptila californica californica*) ranges through suitable habitat in the coastal lowlands of southern California from the Mexican border into Los Angeles County, with isolated populations in the Palos Verdes Peninsula of Los Angeles County and Moorpark in Ventura County. Inland geographic limits are formed by mountains and deserts. The species is restricted to lowlands, rarely occurring above 900 feet within 60 miles of the coast and above 2,300 feet further inland. The species is a resident to this area with limited dispersal and occupies habitats today that are heavily fragmented.

The gnatcatcher subspecies was federally listed as threatened by the USFWS (USFWS 1993), shortly after the State of California declined to list the species. The coastal California gnatcatcher is a CDFW SSC, a CSB species, with a global ranking of G4G5 and a state ranking of S2. The Proposed Offsite Bridge Replacement site is not located within the boundaries of existing final critical habitat for coastal California gnatcatcher designated by the USFWS.

Protocol surveys for coastal California gnatcatcher were previously conducted for the Project site in 2005 by biologists from BonTerra Consulting, which did not detect any California gnatcatchers. In 2013, GLA biologists evaluated the Project site for the potential to support the coastal California gnatcatcher and did not observe coastal sage scrub with species composition and habitat structure suitable for the bird within proposed development areas. However, as a result of more recent information pertaining to possible California gnatcatcher detections in the surrounding area, GLA biologist Kevin Livergood (TE-172638-2) conducted focused surveys for the coastal California gnatcatcher for all suitable habitat areas within the proposed development area during the 2018 and 2021 breeding seasons. GLA Biologist Jeff Ahrens (TE 052159-6) conducted

an updated habitat assessment for the Proposed Offsite Bridge Replacement during the 2024 breeding season. The habitat assessment determined that no coastal sage scrub with species composition and habitat structure suitable for the bird occurred within the Proposed Offsite Bridge Replacement site.[3]

Habitat Assessments for Special-Status Riparian Bird Species

Biologists evaluated the Project site for the potential to support the following species: least Bell's vireo (*Vireo bellii pusillus*) (LBV) and southwestern willow flycatcher (*Empidonax traillii extimus*) (SWF). It was determined that marginally suitable habitat for the least Bell's vireo occurs in the Proposed Offsite Bridge Replacement area. Based on a lack of detection during 2005 (BonTerra 2006) protocol surveys and lack of suitable habitat (including unsuitable riparian species composition and habitat spatial structure), focused surveys were not conducted for the southwestern willow flycatcher.

Focused Surveys for the Least Bell's Vireo

The least Bell's vireo (LBV) is a state and federally listed migratory songbird and a CSB species with a global ranking of G5 and state ranking of S2. It is a small insectivorous bird, which is colored olive-gray above and whitish underneath. This vireo nests and forage almost exclusively in riparian woodland habitats. Least Bell's vireo winter in southern Baja California, Mexico, and typically migrate between mid-March and early April to southern California and northwestern Baja California, where they remain until late September. Marginally suitable LBV habitat was identified during riparian mapping.

An experienced team of GLA biologists (lead surveying biologists were familiar with the songs, whisper songs, calls, scolds and plumage characteristics of adult and juvenile vireos), conducted focused LBV surveys according to *Least Bell's Vireo Guidelines* issued by U.S. Fish and Wildlife Service (USFWS January 2001) to determine the presence/absence of LBV within or adjacent to the Proposed Offsite Bridge Replacement Site. In accordance with these guidelines, all riparian areas and adjacent habitats were surveyed at least eight times, at least ten days apart, between April 10 and July 31, and between dawn and 11:00 am. Surveys were conducted in the spring to summer of 2013 and 2015, and updated surveys were conducted in 2024. A summary of the survey times and conditions for the 2024 surveys are included in Table 2-4.

[3] Completed 2024 focused surveys in the Tapia Ranch Project site did not detect any coastal California gnatcatchers.

Table 2-4. Summary of 2024 Least Bell's Vireo Surveys

Survey Date	Survey Time	Temperature (ºF)	Wind Speed (Mph)	Cloud Cover	Surveying Biologists
April 10, 2024	0610-1000	51-73	2-4	Clear	JA
April 24 2024	0700-1100	55-62	3-5	Partly Cloudy	JA
May 3, 2024	0705-1055	58-66	6-8	Cloudy	SC
May 15, 2024	0710-1020	58-66	3-5	Cloudy	DS
May 24, 2024	0655-1100	57-60	1-2	Cloudy	SC
June 03, 2024	0700-0900	58-63	1-4	Partly Cloudy	HC
June 24, 2024	0656-1044	66-89	6-8	Clear	JF
July 12, 2024	0545-0720	70-72	0-2	Partly Cloudy	SC, JF

2.4 Jurisdictional Delineation

Prior to beginning the field-delineation, a 200-scale color aerial photograph, a 200-scale topographic base map of the property, 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 and or riparian vegetation, hydric soils, and wetland hydrology. For Waters of the U.S., suspected wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[4] (Wetland Manual) and the Corps' 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Supplement).[5] The presence of an Ordinary High Water Mark (OHWM) was determined using the definition of OHWM in the Corps' regulations which is defined at 33 CFR 328.3(c) 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.*

Where applicable, additional guidance from the 2008 *Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*[6] was also considered. While in the field the limits of Corps jurisdiction were

[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, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), 2008.

[6] 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.

recorded onto a 200-scale color aerial photograph using visible landmarks or recorded using GPS technology. Other data were recorded onto the appropriate datasheets. The results of the Jurisdictional Delineation for Waters of the U.S. for the Proposed Offsite Bridge Replacement are depicted on Exhibits 6A and 6B.

For streambeds subject to the Notification Requirements under Section 1602 of the California Fish and Game Code, the jurisdictional delineation relied on the definition of a stream provided in Title 14 of the California Code of Regulations. This definition provides that: "A stream is 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 a surface or subsurface flow that supports or has supported riparian vegetation".[7] Where appropriate, GLA also referred to the California Energy Commission's MESA Field Guide for Mapping Episodic Stream Activity (the "MESA Field Guide") as a technical reference that may be relied upon in implementing Section 1602,[8] with the caveat that the MESA Field Guide was developed to delineate alluvial fans and such parameters are not properly applied to most of the ephemeral drainages on the Project Site.

The NRCS has mapped the following soil series as occurring within the Proposed Offsite Bridge Replacement Site: Riverwash, Sandy Alluvial Land, and Cortina Sandy Loam.

All three of these soil units is identified as hydric in the NRCS's local hydric soils list for the Antelope Valley Area, California.

Under the Arid West Supplement, the presence of mapped hydric soils is no longer considered as an indicator of the presence of hydric soils independent of onsite confirmation.

3.0 REGULATORY SETTING

The proposed Tapia Canyon Road Proposed Offsite Bridge Replacement is subject to state and federal 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; other special-status species

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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).

[7] 14 C.C.R. § 1.72 (effective March 1, 1987).

[8] CDFW Deputy Director Sandra Morey, Memorandum regarding Use of A Review of Dryland Stream Processes and Forms and Dryland Watersheds and Field Guide to Mapping Episodic Stream Activity (MESA), dated Aug. 4, 2015.

which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

3.1 Federal Regulatory Programs

3.1.1 Federal Endangered Species Act (FESA)

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.

Federal 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 .

3.1.2 Federal Clean Water Act

Section 404 of the CWA, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. Pursuant to the September 8, 2023 definition for Waters

of the U.S., 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;

(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 that are relatively permanent, standing or continuously flowing bodies of water;

(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) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section 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) of this section.

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.

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 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.

3.1.3 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13.[9] As such, the removal of habitat during the avian nesting season exhibits potential for removing active nests, which would result in a violation of the MBTA.

3.2 State of California Regulatory Programs

3.2.1 State of California 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

[9] Department of the Interior, Fish and Wildlife Service. November 1, 2013. 50 CFR Parts 10 and 21 General Provisions; Revised List of Migratory Birds; Final Rule. *Federal Register*, Vol. 78, No. 212.

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.

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 1913 of the California Fish and Game Code provides that notification is required prior to disturbance.

State and Federal Take Authorizations for 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.

3.2.2 California Fish and Game Code Section 1600

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 fish as "a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of those animals" (FGC Division 0.5, Chapter 1, section 45), and wildlife as "all wild animals, birds, plants, fish, amphibians, reptiles, and related ecological communities, including the habitat upon which the wildlife depend for its 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.

3.2.3 California Fish and Game Code Section 3503

Section 3503 of the California Fish and Game Code states:

> *It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.*

In addition, Section 3503.5 states:

> *It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.*

As such, the removal of habitat during the avian nesting season exhibits potential for removing active nests, which would result in a violation of Section 3503 of the California Fish and game Code.

3.2.4 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[10] and waters of the 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

[10] 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 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.

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. CWA Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

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;[11] and
3. Artificial wetlands[12] 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;
    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,

[11] "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.

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

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.

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 California Environmental Quality Act

3.3.1 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 assigns California Rare Plant Ranks (CRPR) to species categorized as List 1A, 1B, or 2A and 2B of the CNPS *Inventory of Rare and Endangered Plants in California* because such plants may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants that are regionally important such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

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

Federally Designated Special-Status Species

Some years ago, 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 and C3 species are no longer

considered as candidate species and are no longer maintained in list form by the USFWS, nor are they formally protected. 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 Category 1 candidates)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species 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
- FP State Fully Protected
  SP State Protected
- SSC California Species of Special Concern

CNDDB Global/State Ranking

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 about how rare a species/community is, and is 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. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 are considered to be common. If the exact 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 Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Ninth 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. In parternership with CDFW, CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. California Rare Plant Ranks 1, 2, 3, & 4, and Threat Code Extensions.

CRPR List	Comments
List 1A – Presumed Extinct in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California and either rare or extinct elsewhere based on a lack of observation or detection for many years.
List 1B – Rare 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.
List 2A – Presumed Extinct in California, More Common Elsewhere	Species thought to be extinct in California but more common outside of California
List 2B - Rare or Endangered in California, More Common Elsewhere	Species, which are generally rare in California but more common outside California.
List 3 – Need More Information	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 list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
List 4 – Plants of Limited Distribution	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 List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 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 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.

3.4 Local Policies/Ordinances

3.4.1 The County of Los Angeles Significant Ecological Area Ordinance

The Los Angeles County SEA Ordinance was developed and adopted as part of the 1980 County General Plan to protective biodiversity on a countywide level (Los Angeles County Regional Planning 2020). The SEA Ordinance, including the boundary, goals, and policies, was updated in 2015, as part of The General Plan 2035. Projects that are located within an SEA are subject to SEA Technical Advisory Committee (SEATAC) review, and generally require an SEA Conditional Use Permit (SEA CUP) unless it is determined through SEATAC review that a project is consistent with SEA Development Standards. In support of this process, the Implementation Guide was issued on January 16, 2020. The SEA CUP now incorporates review of the SEA Protected Tree Standards, incorporating the Protected Tree Permit otherwise administered under the Los Angeles County Oak Tree Ordinance.

All projects that are located within an SEA must provide a Burden of Proof statement detailing how a project will meet each required SEA finding. Burden of Proof statements provide details as to how a project meets the findings, either through project design elements or mitigation measures to:

- Be highly compatible with the SEA Resources, including the preservation of natural open space areas and providing for the long-term maintenance of ecosystem functions;
- Avoid or minimize impacts to the SEA Resources and wildlife movement through one or more of the following: avoiding habitat fragmentation, minimizing edge effects, or siting development in the least sensitive location;
- Buffer important habitat areas from development by retaining sufficient natural vegetation cover and/or natural open spaces and integrating sensitive design features;
- Maintain the ecological and hydrological functions of water bodies, watercourses, and their tributaries;
- Ensure that roads, access roads, driveways, and utilities do not conflict with Priority Biological Resources, habitat areas or migratory paths; and
- Promote the resiliency of the SEA to the greatest extent possible. For purposes of this finding, SEA resiliency cannot be preserved when the proposed development may cause any of the following:

    a. Significant unmitigated loss of contiguity or connectivity of the SEA;
    b. Significant unmitigated impact to a Priority Biological Resource;
    c. Removal of habitat that is the only known location of a new or rediscovered species; or
    d. Other factors as identified by SEATAC.

3.4.2 The County of Los Angeles Oak Tree Ordinance

The County of Los Angeles Oak Tree Ordinance (Ordinance) was established to recognize oak trees as having significant ecological, historical, and aesthetic value. The goal of the ordinance is to preserve and maintain healthy oak trees by creating favorable conditions for their longevity.

The following sections describe the basic requirements of the Ordinance. Please refer to the entire County of Los Angeles Oak Tree Ordinance for detailed permit requirements.

Section 22.56.2050 states that the Ordinance was established:

> *"**(a)** to recognize oak trees as significant historical, aesthetic and ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and manmade landscape, enhancing the value of property, and the character of the communities in which they exist; and **(b)** to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as heritage oak trees, for the benefit of current and future residents of Los Angeles County…"'*

Section 22.56.2060 states that damaging or removing oak trees is prohibited:

> ***A.*** *Except as otherwise provided in Section 22.56.20.70, a person shall not cut, destroy, remove, relocate, inflict damage or encroach into a protected zone of any tree of the oak genus which is (a) 25 inches or more in circumference (eight inches in diameter) as measured for and one-half feet above mean natural grade; in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured for and one half feet above mean natural grade, on any lot or parcel of land within the unincorporated area of Los Angeles County, or (b) any tree that has been provided as a replacement tree, pursuant to Section 22.56.2180, on any lot or parcel of land within the unincorporated area of Los Angeles County, unless an oak tree permit is first obtained as provided by this Part 16.*
>
> ***B.*** *"Damage," as used in this Part 16, includes any act causing or tending to cause injury to the root system or other parts of the tree, including, but not limited to, burning, application of toxic substances, operation of equipment or machinery, or by paving, changing the natural grade, trenching or excavating within the protected zone of an oak tree.*
>
> ***C.*** *"Protected zone," as used in this Part 16, shall mean that area within the dripline of an oak tree and extending therefrom to a point at least five feet outside of the dripline, or 15 feet from the trunks of a tree, whichever distance is greater.*

3.4.3 The County of Los Angeles Oak Woodland Conservation Management Plan

The County of Los Angeles established the Los Angeles County Oak Woodlands Conservation Management Plan (LA County Oak Plan) and Oak Woodlands Conservation Management Plan Guide to preserve and restore oak woodlands in perpetuity with no net loss and promote conservation within the development process to mitigate loss of oak woodlands. The LA County Oak Plan includes the following definitions: Oak Tree is defined as any native tree in the genus *Quercus*, including shrub species, that are a part of a woodland, greater than 5 inches diameter at breast height (dbh) are protected. Oak Stand is a physical unit with not set size but includes a group of similar oaks growing in a continuous pattern and includes diverse structure and age distribution. Oak Woodlands include oak stands of two or more trees and the understory with greater than 10 percent cover. Oak Savanna consists of an open grassland with oaks as the dominant tree species.

3.4.4 The County of Los Angeles Audubon Society Sensitive Bird Species

The Los Angeles Audubon Society (Los Angeles Audubon) is a citizen conservation organization devoted to the enjoyment and protection of bird species in the County of Los Angeles. In 2008, the Los Angeles Audubon convened the Los Angeles County Sensitive Bird (CSB) Species Working Group to develop a Los Angeles County specific list of sensitive and watchlist species similar to the California Bird Species of Special Concern (BSSC). The Los Angeles Audubon wanted to highlight species in need of conservation management and provide information including distribution, habitat use by common and rare species, point out population declines associated with urban and suburban development. The CSB list includes species targeted for County specific conservation concerns including breeding, wintering, and location. The CSB list is divided into two parts and a Los Angeles County Bird Watchlist. The CSB Part I include County Sensitive Bird Species, while Part II includes County Sensitive Bird Species also listed by other agencies. Bird species may be listed multiple times depending on the conservation concern.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special status plants and wildlife, 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 area associated with the Castaic Creek overlay of the CSD portion of the larger approximately 1,197-acre Tapia Ranch Project comprises approximately 6.60 acres

associated with the Tapia Canyon Road bridge replacement and road improvements for the western development entrance. The SEA area includes a diverse range of habitat/land use types consisting of Castaic Creek sandy wash and associated terraces that support sage scrub habitat, woodland, and riparian habitats, as well as land-cover types typical of ongoing disturbance associated with high energy washes. The Project area within the Tapia Canyon Bridge location is largely undeveloped and supports a mosaic of native and non-native vegetation types (alliances) and the existing Tapia Canyon Road over Castaic Creek. Castaic Creek within the project area is depicted on the U.S. Geological Survey (USGS) topographic map Newhall, California USGS 7.5-minute quadrangle map [Exhibit 2]. The elevation is generally at approximately 1,100 feet above mean sea level (MSL).

4.1.1 Land Uses in the Surrounding Area

Land uses in the surrounding area include undeveloped disturbed land immediately to the west and Interstate 5 adjacent to the disturbed land [Exhibit 3A]. The Castaic Sports Complex and County of Los Angles Parks and Recreation facilities are approximately 1,300 feet to the northwest. The Castaic Creek overlay of the CSD is coterminous with the Santa Clara River SEA immediately north (upstream) and south (downstream) and consists of Castaic Creek and terraces with associated riparian and alluvial scrub habitats as shown on the SEA Vegetation Map for the SEA and Buffer [Exhibit 4B]. Charlie Canyon wash, a major tributary to Castaic Creek, extends to the northeast which is parallel to Charlie Canyon Road. The County of Los Angeles Animal Care facility is also to the northeast. To the east is the Jack Bones Equestrian Center. Table 4-1 below summarizes development projects in the vicinity.

Table 4-1. Development Projects in the Vicinity

Map No.	Project Status	Project Name/Number Address/Location	Land Use Data		
			Land-Use	Size	
1	Built	32170 N. Castaic Road	Auto Impound Yard	28,162	GSF
2	Built	28908 Avenue Paine	Office Addition	1,274	GSF
3	Proposed	Los Valles Del Valle Road/Hasley Canyon Road	Single-Family Residential	497	DU
4	Proposed	Pitchess Detention Center 29320 Wayside Lateral Road	Prison	1,156	Beds
5	Under Construction	Castaic High School North of Romero Canyon Road/Hasley Canyon Road	High School	2,600	Students
6	Proposed	Lake View Estates (Tract 53933)	Single-Family Residential	70	DU
		South of Parker Road/The Old Road	Office Park	90,000	GSF
7	Proposed	Tesoro Del Valle (Tract 51644) Areas B & C: North of Avenida Rancho Tesoro	Single-Family Residential	714	DU
8	Proposed	Valencia Commerce Center Phase III	Industrial	800,000	GSF
9	Built	31505 Castaic Road	Truck Stop	6	VFP
10	Proposed	27701 Lake Hughes Road	RV Storage	22,600	GSF
11	Proposed	31851 Castaic Road	RV Storage	22,400	GSF
12	Proposed	31409 Castaic Road	Gas Station	1,682	GSF
13	Proposed	31949 N. Castaic Road	Car Wash	6,569	GSF
14	Proposed	31732 Castaic Road	Truck Storage	1,024	GSF
15	Proposed	28711 Sloan Canyon Road	Single-Family Residential	41	DU

16	Proposed	28631 Sloan Canyon Road	Single-Family Residential	41	DU
17	Proposed	28701 Sloan Canyon Road	Single-Family Residential	41	DU
18	Proposed	Northlake Specific Plan 32034 Castaic Road	Single-Family Residential	1,414	DU
			Condominium/Townhouse	1,341	DU
			Senior Adult Housing	345	DU
			Jr. High School	1,200	Students
			Industrial Park	304.9	TSF
			Shopping Center	67.1	TSF
			Sports Park	15	Acre
			Developed Park	10	Acre
19	Proposed	31905 Castaic Road	Automobile Care Center	7,964	GLSF
20	Proposed	31350 Castaic Road	Skate Park	10,257	GSF
21	Proposed	27576 Violin Canyon Road	Apartment	9	DU
22	Built	27980 Hancock Parkway	Light Industrial	110,137	GSF
23	Occupied	28818 Witherspoon Parkway	Light Industrial	115,000	GSF
24	Built	28545 Livingston Avenue	General Office	2,755	GSF
25	Built	29003 Avenue Sherman	Manufacturing	56,987	GSF
26	Proposed	Castaic Mountainview Apartments West side of The Old Road & Romeo Canyon Road	Apartment	648	DU
Source. LLG. 2024. TIA.					

4.1.2 Conservation Plans and Open Space

There are no Conservation Plans that apply to lands in immediately adjacent areas. Tapia Canyon Open Space (APNs 2865-021-903 – 905) is about 1,300 feet south, adjacent to the equestrian center, and straddles the entry point to Tapia Canyon. Tapia Canyon Open Space is owned by the City. Wildlife movement in the vicinity is generally unconstrained as described below in Section 4.10.

4.1.3 Biological Value of the Area

As noted above, the area subject to temporary impacts associated with the Bridge Replacement includes a segment of the Castaic Creek overlay of the CSD. This segment of Castaic Creek is a relatively “high energy” wash that includes sandy substrate and associated terraces that support special-status vegetation alliances such as the scale broom scrub which in turn supports white rabbit tobacco, a CRPR 2B.2 taxon. The area of the Castaic Creek immediately south of the Bridge Replacement footprint also supports patches of riparian habitat that support least Bell’s vireo, a State and federally listed songbird. While the Bridge Replacement Project site contains important habitat, it also is crossed by a substantial “Arizona” or dip crossing that is a significant impediment to flows in Castaic Creek, which are currently conveyed through a series of corrugated culverts a number of feet above the channel invert creating a constraint to wildlife movement, particularly for small mammals and reptiles.

Replacement of the current crossing with a bridge will provide for substantially enhanced conditions for fish passage, small mammal and reptile movement as well as for large mammals. Replacement of the current crossing with the bridge would provide for enhanced connectivity and associated conditions upstream and downstream of the project site.

4.2 Vegetation Mapping

During vegetation mapping of the Project, 10 different Alliances were identified in accordance with the MCVII and two additional land use/cover types were identified. Table 4-2 provides a summary of vegetation Alliances/land uses and the corresponding acreage for the Bridge Replacement Project Footprint. Table 4-3 provides a summary of vegetation Alliances/land uses and the corresponding acreage for the 200-foot buffer within the SEA. Detailed vegetation descriptions are included below the table. Vegetation for the Proposed Offsite Bridge Replacement and buffer is mapped on Exhibit 4B.

Table 4-2. Summary of Vegetation/Land Use Types for the Bridge Replacement Site

Vegetation/Land Use Type	CACode Global/State Rank	Total Inside SEA (Acres)	SEA Category
Forest and Woodland Habitats			
Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance	61.130.00 G4S3	0.26	3
Shrubland Habitats			
Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance	61.201.00 G4S4	0.05	4
California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance	32.040.00 G5S5	0.42	4
California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance	32.015.00 G5S5	0.35	4
Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance	61.209.00 G5S4	0.23	4
Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance	32.070.00 G3S3	1.88	3
Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands	63.810.00 GNA/SNA	0.92	5
Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance	37.070.00 G5S5	0.39	4
Grassland and Herbaceous Habitats			
Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Herbaceous Stands	42.026.00 GNA/SNA	0.31	4
Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance	52.050.00 G5S5	0.06	4
Other Land Use/Cover Types			

Vegetation/Land Use Type	CACode Global/State Rank	Total Inside SEA (Acres)	SEA Category
Sandy Wash	N/A	0.75	4
Developed Areas	N/A	0.99	N/A
Total Vegetation/Land Use Acreage		**6.60**	
*The reported total (6.60 acres) differs from the sum of the parts (6.61 acres) due to rounding error.			

Table 4-3. Summary of Vegetation/Land Use Types for the SEA Buffer

Vegetation/Land Use Type	CACode Global/State Rank	Total Inside SEA Buffer (Acres)	SEA Category
Forest and Woodland Habitats			
Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance	61.130.00 G4S3	0.21	3
Shrubland Habitats			
Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance	61.201.00 G4S4	0.20	4
California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance	32.040.00 G5S5	0.27	4
California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance	32.015.00 G5S5	0	4
Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance	61.209.00 G5S4	0.29	4
Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance	32.070.00 G3S3	4.06	3
Tamarisk Thickets/*Tamarisk* spp. Semi-natural Shrubland Stands	63.810.00 GNA/SNA	0.49	5
Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance	37.070.00 G5S5	0.80	4
Grassland and Herbaceous Habitats			
Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Herbaceous Stands	42.026.00 GNA/SNA	0.34	4
Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance	52.050.00 G5S5	0	4
Other Land Use/Cover Types			
Sandy Wash	N/A	1.48	4
Developed Areas	N/A	0.43	N/A
Total Vegetation/Land Use Acreage		**8.57**	

Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance (61.130.00)

Approximately 0.26 acre of the Proposed Offsite Bridge Replacement area supports Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance. The Fremont cottonwood forest and woodland alliance has a G4S3 rarity ranking. The membership rules for the Fremont cottonwood forest and woodland alliance requires that Fremont cottonwood have greater than 50 percent relative cover in the tree layer or greater than 5 percent absolute cover in the tree layer. Within this area of vegetation, relative cover of Fremont cottonwood within the tree layer exceeds 50-percent. The areas mapped as Fremont cottonwood consist of a few tightly clustered trees with an understory consisting of yerba santa, branching phacelia, and brome grasses.

Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance (61.201.00)

Approximately 0.05 acre of the Proposed Offsite Bridge Replacement area supports Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance. The Arroyo Willow Thickets Shrubland Alliance has a G4S4 rarity ranking. The membership rules for Arroyo Willow Thickets include the following: 1) arroyo willow has greater than 50-percent relative cover in the shrub or tree canopy, 2) arroyo willow has greater than or equal to 25-percent absolute cover in the shrub or tree canopy 3) arroyo willow has 30-percent relative cover in the shrub layer, 4) arroyo willow has greater than 50-percent relative cover in the shrub canopy or greater than 30-percent relative cover with *Rubus*, or 5) arroyo willow has greater than 50-percent relative cover in the shrub canopy or greater than 30-percent relative cover with *Rubus* spp. or *Baccharis pilularis*. Within this area of vegetation, cover of arroyo willow within the shrub layer exceeds 50-percent.

California Buckwheat Scrub/*Eriogonum fasiculatum* Shrubland Alliance (32.040.00)

Approximately 0.42 acre of the Proposed Offsite Bridge Replacement supports the California buckwheat scrub alliance. The California buckwheat scrub shrubland alliance has a G5S5 rarity ranking. The membership rules for California buckwheat scrub shrubland alliance include 1) California buckwheat has greater than 50-percent relative cover in the shrub canopy; other shrubs, if present, have less than 50-percent relative cover in the shrub layer, or 2) California buckwheat has greater than 50-percent relative cover in the shrub layer. Within this area of vegetation, relative cover of California buckwheat exceeds 50-percent relative cover in the shrub layer. Other component species are generally herbaceous non-natives including brome grasses, wild oats, tocalote, and shortpod mustard.

California Sagebrush – Purple Sage Scrub/*Artemisia californica – Salvia leucophylla* Shrubland Alliance (32.015.00)

Approximately 0.35 acre of the Proposed Offsite Bridge Replacement area supports California sagebrush – purple sage scrub. The California Sagebrush – Purple Sage Scrub Shrubland Alliance has a G5S5 rarity ranking. The membership rules for California Sagebrush – Purple Sage Scrub Shrubland Alliance include 1) California sagebrush has greater than 60-percent relative cover in the shrub canopy, or 2) purple sage has greater than 30-percent relative cover, often codominant with California sagebrush. Within this area of vegetation, cover of California sage brush in the shrub layer exceeds 50 percent. Other component species are generally herbaceous non-natives including brome grasses, wild oats, tocalote, and shortpod mustard.

Sandbar willow thickets/*Salix exigua* Shrubland Alliance (61.209.00)

Approximately 0.23 acre of the Proposed Offsite Bridge Replacement area supports the sandbar willow/*Salix exigua* shrubland alliance, which has a G5S4 rarity ranking. The membership rules for the mulefat thickets alliance include 1) *Salix exigua* has greater than 20-percent absolute cover in the shrub canopy, 2) *Salix exigua* has greater than 50-percent relative cover in shrub canopy, 3) *Salix exigua* has greater than 50-percent relative cover or greater than 30-percent relative cover with *S. lasiolepis* in shrub canopy, 4) *Salix exigua* has greater than or equal to five-percent absolute cover and is dominant in the shrub canopy, and 5) *Salix exigua* has greater than 30% relative cover in the shrub layer with *Salix lasiolepis* is sub-dominant if present. Within this area of vegetation, sandbar willow occurs in patches with the relative cover within the shrub layer generally exceeding 50 percent. Mulefat is a patchily distributed co-dominant species. Also present are a few Goodding's willow saplings.

Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance (32.070.00)

Approximately 1.88 acres of the Proposed Offsite Bridge Replacement area supports scale broom scrub. The scale broom shrubland alliance has a G3S3 rarity ranking. The membership rule for scale broom scrub alliance includes scale broom (*Leptospartum squamatum*) greater than 1 percent cover in alluvial environments. Within this area of vegetation, relative cover was less than 50 percent with scale broom consisting of less than 15 percent total cover. Scale broom was often observed in patchy distribution within the drainage and sometimes as dense monoculture on older drainage benches. Bare ground, ranging from fine sand to large pebbles, is a large contributor to relative cover within Castaic Creek and mapped as a separate unit below (Sandy Wash). Additional species include California sagebrush, mulefat, California buckwheat, thick-leaf yerba santa, chaparral yucca, deerweed, and basket brush (*Rhus aromatica*).

Tamarisk thickets/*Tamarix* spp. Semi-natural Shrubland Stands (63.810.00)

Approximately 0.92 acres of the Proposed Offsite Bridge Replacement area supports clusters of tamarisk shrubs. This vegetation type does not have a rarity ranking as it is non-native and invasive in California. The membership rules for the tamarisk thickets alliance include the following: (1) *Tamarix* spp. has greater than 3 percent absolute cover and greater than 60 percent relative cover compared to other microphyllous trees or shrubs; (2) *Tamarix* spp. has greater than 60 percent relative cover in the shrub or low tree canopy; (3) *Tamarix* spp. greater than 60 percent relative cover in the shrub canopy with minor presence of native species. Within this area of vegetation, tamarisk occurs in dense thickets within the shrub layer and typically exceeds 60-percent relative cover, with some areas exhibiting lower densities; however, the tamarisk remained the predominant shrub occurring in a near monoculture, with a few scattered willows also present.

Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance (37.070.00)

Approximately 0.39 acre of the Proposed Offsite Bridge Replacement area supports Yerba Santa Scrub/*Eriodictyon crassifolium* Shrubland Alliance. Yerba santa scrub shrubland alliance has a G5S5 rarity ranking. The membership rules for this alliance requires that yerba santa have greater than 50-percent relative cover in the shrub or tree canopy with low to moderate cover. Within this area yerba santa occurs as a dense monoculture with absolute over approaching 100 percent.

Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance (52.050.00)

Approximately 0.06 acre of the offsite Project within the Proposed Offsite Bridge Replacement area supports Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance. Southern cattail marshes herbaceous alliance has a G5S5 rarity ranking. The membership rule for this alliance requires that cattails have greater than 50-percent relative cover in the herbaceous layer; one or more cattail species may be present. Within this area of vegetation, cover of cattails within the herbaceous layer exceeds 50 percent relative. Other component species include bulrushes (*Schoenoplectus* sp.) and rushes (*Juncus* sp.)

Wild Oats and Annual Brome Grasslands *Avena* spp. – *Bromus* spp. – Herbaceous Semi-Natural Alliance (42.027.00)

Approximately 0.31 acre of the offsite Project within the Proposed Offsite Bridge Replacement area consists of wild oats and annual brome grasslands *Avena* spp. – *Bromus* spp. – herbaceous semi-natural alliance. The wild oats and annual brome grasslands alliance does not have a rarity ranking as it is non-native and invasive in California. The membership rules for this alliance require 1) *Avena*, *Brachypodium*, *Briza*, *Bromus*, *Erodium* and/or *Hypochaeris* has greater than 30-percent relative cover individually, or share greater than 50-percent relative cover in the herbaceous layer; and

overall non-native herbs have greater than 80-percent relative cover, or 2) *Bromus diandrus*, *B. hordeaceus*, and/or *Brachypodium distachyon* have greater than 80-percent relative cover separately or co-dominant with non-natives; natives usually with low or insignificant cover. Within this area of vegetation, cover of *Avena* and *Bromus* species within the herbaceous layer exceeds 50 percent. Other component species include tocalote and shortpod mustard.

Sandy Wash

Approximately 0.75 acre of the Proposed Offsite Bridge Replacement area consists of sandy wash alluvial areas. The sandy wash areas are associated with the bed and banks of Castaic Creek. The sandy wash areas are either completely unvegetated or very sparsely vegetated with species including non-native grasses such as red brome and annuals such as yellow pincushion (*Chaenactis glabriuscula*), gaura (*Oenothera* sp.) and sapphire woolly star (*Eriastrum sappharinum*).

Developed Areas

Approximately 0.99 acre of the Proposed Offsite Bridge Replacement area consists of developed areas including the existing Tapia Canyon Road crossing, road shoulder and rip rap. The road shoulder and rip rap support weedy herbaceous forbs and grasses that are intermittently maintained for fuel management.

4.2.1 Description of Habitats in the Vicinity

Castaic Creek upstream and downstream of the Bridge Replacement site includes the low-flow channel and adjacent terraces which includes sandy wash, a mosaic of aquatic and upland habitats including scale broom scrub, California buckwheat scrub, California sagebrush scrub, Fremont cottonwood woodland, various willow-dominated alliances, and non-native grasslands, non-native mustards and other non-native herbaceous alliances. Areas immediately to west of Castaic Creek include disturbed areas and areas vegetated by non-native grasses and mustards that extend to Interstate 5. To the east area areas of coastal sage scrub with areas of coast live oak riparian forest in Tapia Canyon. These vegetated areas within and adjacent to Castaic Creek are situated within a larger landscape that include facilities such as Castaic Sports Complex and County of Los Angles Parks and Recreation facilities, which are approximately 1,300 feet to the northwest. Charlie Canyon wash, a major tributary to Castaic Creek, extends to the northeast which is parallel to Charlie Canyon Road. The County of Los Angeles Animal Care facility is also to the northeast. To the east is the Jack Bones Equestrian Center and Tapia Canyon.

4.3 Special Status Habitats

The CNDDB identifies the following eleven special-status vegetation communities/habitats within the Newhall quadrangle and the eight surrounding quadrangles (Green Valley, Mint Canyon, Oat Mountain, San Fernando, Santa Susana,

Val Verde, Warm Springs Mountain, and Whitaker Peak): California walnut woodland, mainland cherry forest, Riversidean alluvial fan sage scrub, Southern California threespine stickleback stream, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, and valley oak woodland.

Four special-status habitats as classified by the CNDDB have been detected within the Project: Riversidean alluvial fan sage scrub, southern cottonwood riparian forest, and southern willow scrub. One additional habitat present within the Project is considered special status by CDFW as it consists of riparian vegetation associated with a stream: coastal and valley freshwater marsh. The CNDDB uses the Holland mapping standard for vegetation classification; however, the vegetation mapping for the Project follows the MCVII; therefore, a summary of vegetation equivalence for these mapping conventions is provided below in Table 4-4.

Table 4-4. Summary of Equivalent Special-Status Habitats for the Project

CNDDB Vegetation Type	MCVII Vegetation Type	Total Project (Acres)
Coastal and valley freshwater marsh G3S2.1	Southern Cattail Marshes/*Typha domingensis* Herbaceous Alliance (52.050.00) G5S5	0.06
No equivalent CNDDB type; best characterized as sandbar willow scrub	Sandbar Willow Thickets/*Salix exigua* Shrubland Alliance (61.209.00) G5S4	0.23
Riversidian alluvial fan sage scrub G1S1.1	Scale Broom Scrub/*Lepidospartum squamatum* Shrubland Alliance (32.070.00) G3S3	1.88
Southern cottonwood willow riparian forest G3S3.2	Fremont Cottonwood/*Populus fremontii* Forest & Woodland Alliance (61.130.00) G4S3	0.26
Southern willow scrub G3S2.1	Arroyo Willow Thickets/*Salix lasiolepis* Shrubland Alliance (61.201.00) G4S4	0.05

4.4 Soils

The NCSS has identified three soil series, Riverwash, Sandy Alluvial Land, and Cortina Sandy Loam, as occurring within the Proposed Offsite Bridge Replacement area.

4.5 Special Status Plants

4.5.1 Habitat Assessments and Literature Search for Special Status Plant Species

Table 4-5 provides a list of special-status plants evaluated for the Project through habitat assessments and focused surveys (where suitable habitat was present). Species were evaluated based on three factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in vicinity of the property, and 2) any other special-status plants that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site, 3) previous botanical reports from studies conducted on the property. A list of plant species identified in the Study Area is provided in Appendix A.

Table 4-5. Special-Status Plants Evaluated for the Project

Status

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

State
SE – State Endangered
ST – State Threatened

California Rare Plant Rank
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).

CNPS 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)

Potential to Occur

- None – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Not expected – The species is not expected to occur onsite due to 1) low habitat quality, and/or 2) the species was not detected in 2013, 2014, 2015, 2018, 2022, and 2024 focused surveys; however, presence cannot be ruled out.
- Present – The species was detected onsite incidentally or through focused surveys.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: Rank 1B.1	Low-growing annual grass.	Vernal pools. Blooming period Apr-Aug. Elevation range 15-660m.	None. No vernal pools or seasonal pools are present within the Project.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CRPR: Rank 2B.2	Annual herb generally up to or exceeding one foot tall.	Chaparral, cismontane woodland, coastal sage scrub. Occurs in alkaline soils. Blooming period Jan-Apr. Elevation range 15-800m.	Not expected. Species not detected during focused surveys.
Club-haired mariposa lily *Calochortus clavatus* var. *clavatus*	Federal: None State: None CRPR: Rank 4.3	Perennial bulb generally 12 to 18 inches tall when in flower.	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Usually occurring on serpentinite, clay, and rocky soils. Blooming period May-Jun. Elevation range 75-1300m.	Not expected. Species not detected during focused surveys. Present within larger project area but suitable habitat is absent in or adjacent to Castaic Creek.
Davidson's bush mallow *Malacothamnus davidsonii*	Federal: None State: None CRPR: Rank 1B.2	Perennial shrub.	Chaparral, cismontane woodland, coastal sage scrub, riparian woodland.	Not expected. Species not detected during focused surveys. Species is large, highly detectible shrub and lack of detection confirming determination that it is unlikely to occur.
Greata's aster *Symphyotrichum greatae*	Federal: None State: None CRPR: Rank 1B.3	Perennial herb up to four feet tall.	Chaparral, cismontane woodland in mesic canyons. Blooming period Jun-Oct. Elevation range 300-2010m.	Not expected. Species not detected during focused surveys. Species is tall herb that is easily detected confirming determination that it is unlikely to occur.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CRPR: Rank 1B.1	Perennial shrub, can be many feet in height	Chaparral, cismontane woodland, coastal scrub, riparian scrub. Occurs on steep, north-facing slopes or in low grade sandy washes. Blooming period Mar-Jun. Elevation range 274-825m.	Not expected. Species not detected during focused surveys. Species is large, highly detectible shrub and lack of detection confirms determination that it is unlikely to occur.
Newhall sunflower *Helianthus inexpectus*	Federal: None State: None CRPR: Rank 1B.1	Perennial herb than can reach heights of 15 feet.	Freshwater, seeps in marshes, swamps, and riparian woodland. Blooming period Aug-Oct.	Not expected. Species not detected during focused surveys. Species is tall herb that is easily detected confirming determination that it is unlikely to occur.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
Ojai navarretia *Navarretia ojaiensis*	Federal: None State: None CRPR: Rank 1B.1	Spreading annual with stems up to one foot or more.	Clay soils in valley and foothill grassland and in openings in chaparral and coastal sage scrub. Usually occurs at the base of north-facing slopes. Blooming period May-Jul. Elevation range 275-620m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys confirms determination that it is not expected to occur.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CRPR: Rank 4.2	Small annual up to six inches tall.	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring on clay soils. Blooming period Mar-May. Elevation range 20-955m.	Not expected. No suitable clay soils and not detected during focused surveys. Lack of detection over many years of surveys combined with lack of suitable clay soils supports determination that it is not expected to occur.
Palmer's mariposa lily *Calochortus palmeri* var. *palmeri*	Federal: None State: None CRPR: Rank 1B.2	Perennial bulb generally 12 to 18 inches tall when in flower.	Clay to sandy loam soils in wet meadows in yellow pine forest, chaparral, and wetland riparian habitat. Blooming period is Apr-July. Elevation range 550-2340m.	Not expected. Species not detected during focused surveys. Highly detectible species combined with detection of other mariposa lilies confirms determination that the species is unlikely to occur.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CRPR: Rank 1B.1	Small, prostrate to somewhat ascending annual.	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub. Blooming period Apr-Jun. Elevation range 275-1220m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys supports determination that it is not expected to occur.
Payne's bush lupine *Lupinus paynei*	Federal: None State: None CRPR: Rank 1B.1	Perennial shrub up to five feet tall.	Sandy soil in coastal sage scrub, riparian scrub, and valley and foothill grasslands. Blooming period is typically Mar-Apr (May). Elevation Range 220-420m. Known in Tapo and Grimes Canyon, Los Angeles and Ventura Counties.	Not expected. Species not detected during focused surveys. Species is large, highly detectible shrub and lack of detection confirms determination that it is unlikely to occur.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
Peirson's morning-glory *Calystegia peirsonii*	Federal: None State: None CRPR: Rank 4.2	Perennial herb from rhizome, decumbent to weekly climbing one to two feet in length.	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Blooming period Apr-Jun. Elevation range 30-1500m.	Not expected. Species not detected during focused surveys and lack of suitable habitat. Present within larger development area.
Piute Mountains navarretia *Navarretia setiloba*	Federal: None State: None CRPR: Rank 1B.1	Annual with stems up to nine inches.	Moist depressions in clay or gravelly loam, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland. Blooming period Apr-Jul. Elevation range 285-2100m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys supports determination that it is not expected to occur.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CRPR: Rank 4.2	Perennial bulb generally 12 to 18 inches tall when in flower.	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland. Blooming period May-Jul. Elevation range 100-1700m.	Not expected. Species not detected during focused surveys. Highly detectible species combined with detection of other mariposa lilies confirms determination that the species is unlikely to occur.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CRPR: Rank 4.3	Upright annual generally ranging from three to 18 inches tall.	Chaparral, coastal sage scrub. Blooming period Jan-Jul. Elevation range 1-885m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys supports determination that it is not expected to occur.
Ross' pitcher sage *Lepechinia rossii*	Federal: None State: None CRPR: Rank 1B.2	Perennial sub-shrub generally about one foot tall.	Chaparral. Soil derived from fine-grained, reddish sedimentary rock. Blooming period May-Sep. Elevation range 305-790m.	Not expected. Species not detected during focused surveys. Species is a highly detectible sub-shrub and lack of detection confirms determination that it is unlikely to occur.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: None State: SE CRPR: Rank 1B.1	Small prostrate to decumbent annual typically a few inches in diameter.	Coastal sage scrub, valley and foothill grassland. Occurring on sandy soils. Blooming period Apr-Jul. Elevation range 150-1220m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys supports determination that it is not expected to occur.
Santa Susana tarplant *Deinandra minthornii*	Federal: None State: Rare CRPR: Rank 1B.2	Biennial to perennial sub-shrub up to three feet tall or more.	Chaparral and coastal sage scrub. Occurring on rocky soils. Blooming period Jul-Nov. Elevation range 280-760m.	Not expected. Species not detected during focused surveys. Species is highly detectible sub-shrub and lack of detection confirms determination that it is unlikely to occur.
Short-joint beavertail *Opuntia basilaris var. brachyclada*	Federal: None State: None CRPR: Rank 1B.2	Perennial succulent.	Chaparral, Mojavean desert scrub, Joshua tree woodland, pinyon-juniper woodland, riparian woodland. Sandy soil or coarse, granitic loam. Blooming period Apr-Jun. Elevation range 425-1800m.	Not expected. Not detected by GLA during 2013, 2014 and 2024 surveys. Species is a highly detectible cactus and lack of detection confirms determination that it is unlikely to occur.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	Federal: None State: None CRPR: Rank 1B.2	Perennial bulb generally 12 to 18 inches tall when in flower.	Chaparral, coastal sage scrub, valley and foothill grassland. Blooming period Mar-Jun. Elevation range 360-1000m.	Not expected. Species not detected during focused surveys. Present in larger development area. Individuals assessed as intergrades with club-haired mariposa lily. Lack of suitable habitat within project area supports determination that it is not expected.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR: Rank 1B.1	Small prostrate to decumbent annual up to a few inches in length.	Sandy soils in alluvial fan coastal scrub, chaparral, cismontane woodland. Blooming period Apr-Jun. Elevation range 200-760m.	Not expected. Species not detected during focused surveys. Lack of detection over many years of surveys supports determination that it is not expected to occur.

Species Name	Status	Growth Form	Habitat Requirements	Potential for Occurrence
Southern jewelflower *Streptanthus campestris*	Federal: none State: none CRPR: Rank 1B.3	Upright perennial herb up to five feet tall or more.	Sandy loam soils. Yellow pine forest, chaparral, pinyon-juniper woodland. Blooming period May-Jul. Elevation 1050-2170m.	Not expected. Species not detected during focused surveys. Species is a tall highly detectible herb and lack of detection confirms determination that it is unlikely to occur.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CRPR: Rank 1B.1	Small prostrate to decumbent annual up to a few inches in length.	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater). Blooming period Apr-Jun. Elevation range 30-1300m.	None. Vernal pools, playas, chenopod scrub, and marshes and swamps are not present within the Project site.
White rabbit tobacco *Pseudognaphaliu m leucocephalum*	Federal: None State: None CRPR: Rank 2B.2	Upright annual up to 18 inches tall.	Sandy soils in alluvial fan coastal scrub, chaparral, cismontane woodland. Blooming period Apr-Jun. Elevation range 200-760m.	Present. Species detected during focused surveys including within Castaic Creek and it is also present on the road shoulder in several locations, including above the existing culverts. .

4.5.2 Special-Status Plants Detected at the Proposed Offsite Bridge Replacement

One special-status plant species was observed within the Proposed Offsite Bridge Replacement area: white rabbit tobacco (*Pseudognphalium leucocephalum*, CRPR 2B.2). This species is discussed in detail below, including population size data. Special status plant locations are depicted on Exhibit 4C.

White rabbit tobacco (*Pseudognaphalium leucocephalum*)

White rabbit tobacco (*Pseudognaphalium leucocephalum*) is a short-lived biennial herb designated as a CRPR 2B.2 species. As white rabbit tobacco was detected within Castaic Creek it is also identified as a SEA Category 1 species. This species is known to occur in Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties, including the Castaic Creek watershed. White rabbit tobacco occurs on sandy or gravelly benches in dry stream and canyon bottoms of coastal sage scrub and chaparral habitats. As this species is short-lived and occurs in dynamic alluvial habitats, population locations and densities can drastically fluctuate over years. The flowering period is July through November. In January 2018, GLA detected a large population of white rabbit tobacco in Castaic Creek just south of the Tapia Canyon Road bridge. The population of an estimated 3,000 individuals extends south for several hundred feet and likely extends beyond our survey area. The population was found primarily on the gravely benches and appears to have responded favorably to the above average flows during the 2016-2017

rain year. Fewer individuals were detected north of the bridge crossing and some individuals have been observed on the road shoulder above the culverts. In October 2022, a total of 408 individuals of white rabbit tobacco were mapped within the Castaic Creek portion of the Project, including in the SEA 200-foot buffer area. Of the 408 individuals, 34 were in the Proposed Offsite Bridge Replacement temporary disturbance footprint [Exhibit 4C]. The population extent was smaller and numerous dead individuals were observed likely due to the short-lived nature of this species. The population within the creek continues to extend beyond the survey area, is healthy and sustaining as all age classes, seedling to adult, were observed.

4.6 SEA Protected Trees

A total of 44 trees were identified within Castaic Creek inside of and in the immediate vicinity of the Bridge Replacement area. Of these, six Protected Trees, including three heritage cottonwoods, are located partially or completely outside of the SEA, but within 50 feet of the SEA. Sixteen protected trees are located in the SEA Buffer outside of the Bridge Replacement area, and 22 Protected trees, one of which is a Heritage cottonwood, is inside the Bridge Project Footprint. It should be noted that no oak trees are present in the Proposed Offsite Bridge Replacement area in the SEA. Table 4-6 below provides a summary of the species mapped within the SEA and SEA buffer [Exhibit 4D – SEA Protected Trees Map].

Table 4-6. Summary of SEA Protected Trees

		Bridge Project Footprint		**SEA Buffer**		**Buffer Outside of SEA**	
Scientific Name	**Common Name**	**Protected Trees**	**Protected Heritage Trees**	**Protected Trees**	**Protected Heritage Trees**	**Protected Trees**	**Protected Heritage Trees**
Platanus racemosa	California sycamore					1	
Populus fremontii	Fremont Cottonwood	12	1	10		2	3
Salix laevigata	Red Willow			1			
Salix exigua	Sandbar Willow	8		3			
Sambucus nigra ssp. *caerulea*	Blue Elderberry	1		2			
TOTAL		**21**	**1**	**16**		**3**	**3**

4.7 Special Status Wildlife

Table 4-7 provides a list of special-status animals evaluated for the Project through habitat assessments and focused surveys (where suitable habitat was present). Species were evaluated based on two factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in vicinity of the property, and 2) any

other special-status animals that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site. A list of wildlife species identified in the Study Area during surveys is provided in Appendix B.

Table 4-7. Special-Status Animals Evaluated for the Project

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

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

County Sensitive Local Native Resource (County)
CSB – County Sensitive Bird Species

Occurrence

- Not Expected to Occur – The species is not expected to occur onsite due to low habitat quality and/or focused surveys have not detected the species; however, presence cannot be ruled out.
- Low Potential – The species is not expected to occur onsite due to low habitat quality, however presence cannot be ruled out.
- Moderate Potential to occur – The species has a potential to occur onsite based on suitable habitat, however its presence/absence could not be confirmed.
- High Potential – The species has more potential to occur onsite based on suitable habitat and/or known occurrences, however its presence/absence could not be confirmed.
- Present – The species was detected onsite incidentally or through focused surveys.

* Indicates that the species was detected during survey efforts conducted under previous ownership.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Crotch's bumble bee *Bombus crotchii*	Federal: None State: SC	Historically known to occur across much of southern California including the inner Coast Range of California and margins of the Mojave Desert. Suitable habitat includes coastal sage and desert scrub, chaparral, grassland, and wet and dry meadows	Not expected to occur due to lack of detection during focused surveys and lack of preferred floral resources.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Monarch – California overwintering population *Danaus plexippus plexippus* pop. 1	Federal: FC State: none	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	Moderate potential to occur for foraging during spring/summer months only. Not expected to occur during winter roosting period.
Vernal pool fairy shrimp *Branchinecta lynchi*	Federal: FT State: none	Seasonal vernal pools.	None. Habitat for this species does not occur within the Project site.
Fish			
Arroyo chub *Gila orcuttii*	Federal: None State: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Not expected to occur. No permanent flowing stream or pools; however, limited potential for presence while water is present in the creek.
Santa Ana speckled dace *Rhinichthys osculus ssp. 8*	Federal: None State: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Not expected to occur. No permanent flowing stream or pools and this species has not been detected in the Santa Clara River or Castaic Creek.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: none	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.	Not expected to occur. No permanent flowing stream or pools; however, limited potential for presence while water is present in the creek. .
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	Federal: FE State: SE, FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	Not expected to occur. No permanent flowing stream or pools; however, limited potential for presence while water is present in the creek.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC	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, with sand or pea gravel substrate. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas.	Not expected. No suitable breeding habitat due to dam water management. Species was not detected in 2006 by BonTerra.
California red-legged frog *Rana draytonii*	Federal: FT State: SSC	This species occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. It requires 11-20 weeks of permanent water for larval development and must have access to aestivation habitat.	Not expected. Permanent sources of deep water with emergent vegetation are not present within the Project site.
Coast range newt *Taricha torosa*	Federal: None State: SSC	Requires permanent ponds or streams for breeding habitat in riparian forest.	Not expected. The configuration of seasonal pools (when they may occasionally occur in the braided stream system) is not suitable for the species.
Southern mountain yellow-legged frog *Rana muscosa*	Federal: FE State: SE	Occurs in partly shaded, shallow streams and riffles with a rocky or cobbly substrate in a variety of habitats. Federal listing refers to populations in the San Gabriel, San Jacinto, and San Bernardino mountains only.	Not expected. Permanent sources of deep water are not present within the Project.
Western spadefoot *Spea hammondii*	Federal: FPT State: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Potential to occur. Species not detected during past focused surveys in the SEA; however, species is opportunistic and can exploit new ponds when they become available when there is a nearby source population. Potential source population present within larger development area. (BonTerra 2006).

Species Name	Status	Habitat Requirements	Potential for Occurrence
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC	Grasslands, chaparral and coastal sage scrub in open areas with loose soils.	Not expected to occur due to lack of suitable habitat. Not detected during surveys.
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC	Chaparral and coastal sage scrub in open areas with friable soils.	High potential to occur.
Coast patch nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Not expected to occur due to lack of suitable habitat. Not detected during surveys. .
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Present. Species detected in the SEA during surveys.
California legless lizard *Anniella sp.*	Federal: None State: SSC	Occurs primarily in areas with moist sandy or loose organic soil, or where there is plenty of leaf litter. Associated with coastal sage scrub, chaparral, coastal dunes, valley/foothill grasslands, oak woodlands, and pine forests.	Moderate potential to occur. Species not detected during surveys.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	None. Permanent sources of deep water are not present within the Project.
Southwestern pond turtle *Emys marmorata pallida* (=Western pond turtle, *Emys marmorata*)	Federal: FPT State: SSC	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.	None. Permanent sources of deep water are not present within the Project.
Birds			
Bank swallow *Riparia riparia*	Federal: None State: ST County: CSB	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine textured sandy soils near streams, rivers, lakes, or ocean to dig nesting holes.	Present for migration only*. Species detected in the greater project area during surveys conducted by BonTerra (2006).

Species Name	Status	Habitat Requirements	Potential for Occurrence
Burrowing owl *Athene cunicularia*	Federal: none State: SSC County: CSB	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.	Present. GLA observed an individual during migration at Tapia Canyon Road bridge/ Castaic Creek. No detection during focused surveys.
California condor *Gymnogyps californianus*	Federal: FE State: SE, FP County: CSB	Nests on high mountain cliff faces. Scavenges in habitats ranging from Pacific beaches to mountain forests and meadows. Forages up to 100 miles from roost/nest.	Not expected to occur, except as flyovers.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC County: CSB	Low elevation coastal sage scrub and coastal bluff scrub.	Does not occur. Not detected in the greater project area during protocol surveys (BonTerra 2006; GLA 2018, 2021, and 2024).
Golden eagle (nesting & wintering) *Aquila chrysaetos*	Federal: None State: CFP County: CSB	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Low potential to occur for flyover or foraging only. No suitable nesting cliff habitat.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: SSC County: CSB	Occurs in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Loosely colonial when nesting.	Not expected to occur based on lack of detection within grassland habitats on the site.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE County: CSB	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Present. Species detected during focused surveys by GLA in 2024 within SEA buffer for Tapia Canyon Road Bridge Replacement over Castaic Creek.
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: None State: SSC County: CSB	Occurs in the central valley and throughout coastal southern regions. Perch sites are essential components of its habitat and are associated with open areas that have well dispersed bushes and trees.	Present*. Species detected during biological surveys. Not expected to nest due to a lack of suitable breeding habitat

Species Name	Status	Habitat Requirements	Potential for Occurrence
Northern harrier (nesting) *Circus hudsonius*	Federal: None State: SSC County: CSB	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands. Nests on the ground in dense clumps of vegetation.	Present as foraging individuals. Species not expected to nest on site.
Olive-sided flycatcher (nesting) *Contopus cooperi*	Federal: None State: SSC County: CSB	Breeds in California in open montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds.	Present*. Species detected during biological surveys. Not expected to nest due to a lack of suitable nesting habitat.
Swainson's hawk *Buteo swainsoni*	Federal: None State: ST County: CSB	Migrant along the coast of southern California. Breeding range generally restricted to the Central Valley, extreme northeast California, and Mono and Inyo counties, although it has more recently bred in the Antelope Valley. Typical breeding habitat consists of open areas such as grasslands and agricultural fields with scattered groves of trees.	Present for migration only*. Species detected in migration in the greater project area during surveys conducted by BonTerra (2006). No suitable nesting habitat within the Project.
Vaux's swift (nesting) *Chaetura vauxi*	Federal: None State: SSC County: None	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams. Roosts communally, often in structures like chimneys, smoke stacks, and water tanks.	Present for migration only*. Species detected in migration in the greater project area during surveys conducted by BonTerra (2006). No suitable roosting or nesting habitat within Project.
White-tailed kite *Elanus leucurus*	Federal: None State: FP County: CSB	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Present*. Species detected foraging during biological surveys.
Yellow warbler *Setophaga petechia*	Federal: None State: SSC County: CSB	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.	Present. Species detected during focused surveys.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Yellow-breasted chat *Icteria virens*	Federal: None State: SSC County: CSB	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understory.	Not expected. Species not detected during focused surveys.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC	Prefers open scrub and grassland habitat with friable soils for digging.	Low potential to occur due to lack of suitable habitat. Potential to occur within larger development area due to suitable grassland and scrub habitats within the larger Project.
California leaf-nosed bat *Macrotus californicus*	Federal: None State: SSC WBWG: H	Occurs in the deserts of California, southern Nevada, Arizona, and Baja California. Roosts and maternity colonies in caves, mines, and buildings with temperatures that often exceed 28°C.	Low potential to forage only. No suitable roosting caves, mines, or buildings occur within the Project.
California mountain lion *Puma concolor californica*	Federal: None State: SC	A wide variety of habitats ranging from montane coniferous forest to low elevation desert scrublands.	Moderate potential to occur. Suitable prey and refugia occur within the Project.
Pallid Bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H	Occurs throughout western north America. Most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Found in habitats with rocky, outcropped areas.	Not expected to occur. No potential to occur for foraging and roosting.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Low potential to occur. No rocky outcrops and no cactus scrub occurs within the Project; however, rip rap on roadway slopes and within Castaic Wash provides limited habitat potential.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC	Desert scrub habitats with low to moderate shrub cover and friable soils for digging.	Low potential to occur.
Spotted bat *Euderma maculatum*	Federal: None State: SSC WBWG: H	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting.	Low potential to forage within the Project. No suitable roosting habitat within the Project.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Townsend's big-eared bat *Corynorhinus townsendii*	Federal: None State: SSC WBWG: H	Occurs throughout the western U.S. in habitats including coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian, active agricultural, and coastal habitats. Generally, roosts in caves and cave-like habitat, including buildings, bridges, rock crevices, and hollow trees.	Low potential to forage within the Project. No suitable roosting habitat within the Project
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H	Prefers habitat edges and mosaics with trees that are protected from above and open from below with open areas for foraging. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests.	Low potential to forage within the Project. No suitable roosting habitat within the Project

The following discussion summarizes the results of the general and focused wildlife surveys and wildlife species evaluated for the site. As noted, the area impacted by the Bridge Replacement project covers approximately 6.60 acres and consists of 12 different vegetation alliances and land cover types that occur within a larger area that includes various types of development and land uses that do not support native habitats. Because of the limited amount of many of the riparian vegetation alliances (e.g., 0.26 acre of cottonwood woodland and 0.05 acre of arroyo willow thickets) the site is expected to support limited populations of wildlife, specifically avifauna associated with riparian habitats. Upland scrub habitats are more extensive (e.g., 0.42 acre of buckwheat scrub. 0.35 acre of California sagebrush, and 1.88 acre of scale broom scrub) and would be expected to support a typical suite of species associated with scrub habitats including avifauna, small mammals, and reptiles. Overall, the small patch sizes limit the diversity of plant species and associated surrounding disturbance contributes non-native grasses and forbs such as black and summer mustard, which are common within portions of the 6.60-acre area. As noted above, the 6.60 acres supports 34 individuals of the special-status plant, white rabbit tobacco.

4.7.1 State or Federally Listed or Candidate Species Evaluated but not Detected in the Proposed Offsite Bridge Replacement Site

Crotch's Bumble Bee (*Bombus crotchii*)

CBB was voted as a Candidate for listing under the California Endangered Species Act by the California Fish and Game Commission in June 2019. In a case filed by the Almond Alliance of California, the Sacramento Superior Court of California ruled in November 2020 that insects (including Crotch's bumble bee) are not eligible for listing under CESA. In February 2021, the California Fish and Game Commission appealed this decision. On May 31, 2022, the California Appeals Court ruled that Crotch's bumble bee

could be regulated as a fish and eligible for protection under CESA; therefore, reinstating this species' status as a candidate for listing (SC).

In California, CBB 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.

This species was not detected in the SEA during focused surveys conducted during the 2024 flight season, and it is not expected to occur due to a lack of preferred floral resources in the SEA. However, future occurrence cannot be ruled out due to the presence of habitat types that may be used by CBB (buckwheat scrub and yerba santa scrub).

Monarch Butterfly (*Danaus plexippus*)

The Monarch butterfly (*Danaus plexippus*) is designated as a federal candidate species. The butterfly is attaining near worldwide distribution but is primarily present in the Americas. Autumnal migrants occasionally go to England, have spread throughout the Pacific Ocean, and are well-established in Australia. However, essential overwintering areas for North American populations are limited to about 100 locations in coastal California and the mountains of Mexico. A few North American adults apparently occasionally overwinter elsewhere including southern Florida but their migrational status is not clear.

Habitat is a complex issue for this species. In general, breeding areas are virtually all patches of milkweed in North America and some other regions. The critical conservation feature for North American populations is the overwintering habitats, which are primarily high-altitude Mexican conifer forests or coastal California conifer or eucalyptus groves, as identified in the literature. It appears that virtually all North American monarchs overwinter in either one of these two areas. Threats to the monarch butterfly include impacts to overwintering habitat from logging, agricultural development, and urban development.

The Project site does not support overwintering habitat as the SEA is outside of the overwintering range and lacks tree species typically utilized for overwintering. Additionally, the SEA does not support breeding habitat as it lacks milkweed. However, scrub, grassland, chaparral, and woodland habitats within the Project site may have the potential to support spring and summer foraging.

California Mountain Lion (*Puma concolor californica*)

The mountain lion is a common wide-ranging species across the Americas. However, scientific research of the mountain lions associated with the Southern California and Central Coast populations has demonstrated these populations are experiencing habitat

fragmentation, leading to lower genetic diversity, and may lead to species collapse of these local populations. An example of habitat fragmentation is when development and infrastructure divide suitable habitat for a species, such as roads, canals, residential and industrial development, and agriculture. Mountain lion primary prey are deer and bighorn sheep; therefore, they may be found wherever these prey occur and are generally found in foothills and mountains with dense chaparral and woodlands. Given the recent genetic research, concern for the health and stability of local mountain lion populations prompted petitions for regulatory action. On April 16, 2020, the California Fish and Game Commission voted to designate the evolutionary significant unit (ESU) of Southern California and Central Coast mountain lion as a Candidate for listing as an Endangered species under the CESA. The vote triggered a one-year review by CDFW to determine whether these mountain lion populations should be formally protected under CESA; however, the listing status of this species is still currently unresolved at the time of this report.

The California mountain lion (*Puma concolor californica*) is listed as State Candidate Endangered. The California mountain lion occurs throughout much of California open space, occurring in or moving through nearly all but the most urbanized settings. This species inhabits a wide range of habitat types where prey items such as mule deer (*Odocoileus hemionus*) and bighorn sheep (*Ovis canadensis*) are present, from interior, arid rocky scrublands, to upper montane coniferous forest, to chaparral, coastal scrub, and woodland habits along the coastal plain. The mountain lion will also utilize lesser quality prey items such as, raccoon, skunk, and coyote, when preferred prey is not available. The SEA segment of Castaic Creek is part of a potential movement corridor for California mountain lion. Notably, following construction of the bridge, there will be a modest improvement for mountain lion movement because the design of the bridge will allow for mountain lion to move under the bridge instead of traversing the roadway as in the current pre-project condition.

4.7.2 Non-Listed Special Status Wildlife Species Observed within the Proposed Offsite Bridge Replacement Site

Coastal whiptail (*Aspidoscelis tigris stejnegeri*)

The coastal whiptail is designated as a CDFW SSC (Category 2 resource) but is not federally or state listed. It occurs in open, often rocky areas with little vegetation and loose soils, or sunny microhabitats within shrub or grassland associations.

The coastal whiptail was observed during past surveys by BonTerra (2006) and by GLA in 2013 and 2014. Although BonTerra's report did not note the location, GLA detected this species in upland scrub habitat on the eastern side of the SEA.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is designated as a CDFW SSC and CSB species. This species occurs 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 Senior Biologist Tony Bomkamp observed a single burrowing owl (*Athene cunicularia*) on March 15, 2013, within the culvert and riprap portion of the Tapia Canyon Road bridge which crosses Castaic Creek [Exhibit 4C]. The burrowing owl is a SEA Category 2 species. The owl was first seen in the rip rap immediately south of the road, and subsequently flushed to a cluster of tamarisk trees on the terrace east of the creek. The area of rip rap in which the owl was observed did not exhibit any owl sign (i.e. whitewash, feathers, pellets), and no burrows or other structures supporting owls were detected. The area where the owl was observed was only marginally suitable for owls given the lack of open areas and the substantial cover of shrubs/brush.

Four additional focused owl surveys were conducted consistent with the CDFW Staff Report (CDFW 2012) on burrowing owl mitigation, and no owls, burrows, or owl sign were detected at the subsequent surveys. It should also be noted that no ground squirrel activity was noted in the area, consistent with the subsequent lack of detection or burring owls or sign.

Given the lack of owl sign, lack of subsequent detection, and marginal nature of the habitat, it is most likely that the owl observed on March 15 was a transient migrating individual, and not an owl that had wintered or would breed on site.

Yellow warbler (*Setophaga petechia*)

The yellow warbler is a CDFW SSC and CSB species when nesting. The yellow warbler is a migratory songbird that breeds in riparian habitats in southern California. This species exhibits habitat requirements similar to the yellow-breasted chat and least Bell's vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along flowing streams.

The yellow warbler was observed during past surveys (BonTerra 2006) and detected by GLA in 2013, 2015, and 2024 during focused surveys for least Bell's vireo. It was detected in 2024 in the Proposed Offsite Bridge Replacement site in the SEA.

4.7.3 State and/or Federally Listed Special Status Wildlife Species Observed within the Proposed Offsite Bridge Replacement Site

Least Bell's vireo (*Vireo bellii pusillus*)

The least Bell's vireo (LBV) is a state and federally listed migratory songbird and a CSB species with a global ranking of G5 and state ranking of S2. It is a small insectivorous bird, which is colored olive-gray above and whitish underneath. This vireo nests and forage almost exclusively in riparian woodland habitats. Least Bell's vireo winter in southern Baja California, Mexico, and typically migrate between mid-March and early April to southern California and northwestern Baja California, where they remain until late September.

GLA biologists did not observe least Bell's vireo during focused surveys in 2013 and 2015; and this species was not detected during past focused surveys (BonTerra 2006). However, least Bell's vireo was detected in 2024 within the 200-foot buffer associated with the SEA area evaluated for the Tapia Canyon Road Bridge over Castaic [Exhibit 4C]

4.7.4 Non-Listed Special-Status Wildlife Detected in the Tapia Ranch Proposed Project Site with Potential to Occur in the SEA

Six special-status species that were detected in the overall Tapia Ranch Project area have potential to occur in suitable habitat in the Proposed Offsite Bridge Replacement site.[13] These species include the coast horned lizard (*Phrynosoma blainvillii*), southern California legless lizard (*Anniella stebbinsi*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), olive-sided flycatcher (*Contopus cooperi*), and white-tailed kite (*Elanus leucurus*).

Coast horned lizard (*Phrynosoma blainvillii*)

The coast horned lizard is designated as a CDFW SSC and is a Category 2 resource but is not federally or state listed. This species inhabits coastal sage scrub and chaparral habitats characterized associated with sandy, rocky, or shallow soils that support native harvester ants (*Pogonomyrmex* spp.).

The coast horned lizard was observed during past surveys in the greater Project area (BonTerra 2006) although the location was not noted in the report. This species was also observed by GLA in 2013 and 2014 on the eastern side of the overall Project outside of the SEA; however, portions of the SEA support suitable habitat for coast horned lizard.

[13] Species included in this section were detected in the greater Tapia Canyon Estates Project and have potential to occur in the SEA in suitable habitat. Their locations were not mapped by BonTerra (2006) at the time of detection, so it is not known if they were previously detected in the SEA. Species detected in the greater Project area that do not have potential to occur or have been determined absent by focused surveys in the SEA are not included or addressed further in this analysis.

California legless lizard (*Anniella sp.*)

The California legless lizard is designated as a CDFW SSC and is a Category 2 resource but is not federally or state listed. It occurs in habitat areas with sandy or loose loamy soils under the sparse vegetation of beaches, chaparral, pine-oak woodland, and sycamores, cottonwoods, and oaks that grow on stream terraces.
The California legless lizard was observed by BonTerra (2006) although the location of the sighting was not recorded in the BonTerra report; however, areas of sandy wash and scale broom scrub within Castaic Creek support suitable habitat for legless lizard.

Loggerhead shrike (*Lanius ludovicianus*)

The loggerhead shrike is a CDFW SSC when nesting, and a CSB species when wintering on coastal slopes (Category 2 resource). The loggerhead shrike occurs in open fields with scattered trees, open woodland, and scrub. This species is a very rare breeder in Los Angeles County.

The loggerhead shrike was observed during past surveys (BonTerra 2006), although the location was not noted, and was not observed by GLA during any biological surveys conducted through 2024. This species may forage within the Proposed Offsite Bridge Replacement site but is not expected to nest.

Northern Harrier (*Circus cyaneus*)

The northern harrier is a CDFW SSC (Category 2 resource) when nesting, but is a common, often abundant, winter visitor throughout California. The northern harrier is a CSB species where wintering. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands, fields, and low open scrub. It glides and flies low over open habitats searching for prey.

Northern harrier was observed during past surveys, although the location was not noted (BonTerra 2006), and it was not observed by GLA in during any biological surveys conducted through 2024. Northern harrier may occur in the SEA for foraging only and would not nest due to a lack of suitable habitat.

Olive-sided Flycatcher (*Contopus cooperi*)

The olive-sided flycatcher is a CDFW SSC and CSB species when nesting (Category 2 resource). It breeds in California in open montane and northern coniferous forests and at forest edges and openings, such as meadows and ponds.

This species was observed during past surveys (BonTerra 2006), but not by GLA during biological surveys conducted through 2024. This species may occur in the SEA for foraging and during migration but is not expected to occur for nesting due to a lack of suitable habitat.

White-tailed Kite (*Elanus leucurus*)

The white-tailed kite is a CDFW fully protected species and CSB species when nesting (Category 2 resource). It occurs in low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Riparian areas adjacent to open areas, such as grasslands, meadows, and wetlands, are primarily used for nesting.

This species was observed during past surveys (BonTerra 2006) but not by GLA in surveys conducted through 2024. The SEA exhibits suitable foraging habitat over much of the site; however, this species is not expected to nest in Castaic Creek within the SEA area.

4.7.5 Non-Listed Special Status Wildlife Species Not Observed but with Potential to Occur

One non-listed special-status wildlife species, southern grasshopper mouse (*Onychomys torridus ramona*), was determined to have the potential to occupy the Project site throughout the various scrub, grassland, and woodland habitats present in a live-in or nesting/breeding role.

In addition, four non-listed special-status bat species were determined to have the potential to forage within the Project site but are not expected to utilize the Project site in a live-in or breeding role. These species include California leaf-nosed bat (*Macrotus californicus*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*).

4.8 Raptor Use

Southern California holds a diversity of birds of prey (raptors), and many of these species 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 recently come under increased pressure in the region, affecting many species, but especially raptors. A few species, such as red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipter cooperi*), great horned owl (*Bubo virginianus*), and barn owl (*Tyto alba*) 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 vicinity of nesting and rooting sites.

The entire Project supports suitable foraging habitat for raptors, including special-status raptors, such as white-tailed kite.

4.9 Nesting Birds

The Project supports trees, shrubs, and ground cover that provide suitable habitat for nesting migratory birds. Impacts to nesting birds are prohibited under the MBTA and California Fish and Game Code.[14]

4.10 Wildlife Linkages/ Corridors

Habitat linkages are areas which provide 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 can 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.

The proposed Tapia Canyon Bridge over Castaic Creek is located in the Santa Clara River SEA and would replace the existing culverted crossing that currently restricts the movement of fish and other aquatic life. The Tapia Canyon Bridge site is primarily undeveloped, except for Tapia Canyon Road and the associated culverted crossing and includes sandy wash and associated riparian habitat and areas of scrub both upstream and downstream of Tapia Canyon Road. Castaic Creek, within the Santa Clara River SEA, is oriented north to south and is located near the western boundary of the larger development Project, with immediate surrounding land generally undeveloped or obstructed by fencing near the Project. Development increases further north at the community of Castaic and further south into Santa Clarita and the Interstate 5 and Highway 126 interchange. Given the mostly undeveloped state of the area within Castaic Creek and SEA area, wildlife movement is nearly unobstructed with movement opportunities across and through the SEA area to other open space habitats to the north, immediate south, and northeast. Though as noted, the existing culverted crossing is an impediment to fish and other aquatic life as well as to small mammals, reptiles and amphibian that could potentially occur in Castaic Creek.

As mentioned above, the portion of the Project within the SEA, except for Tapia Canyon Road and associated culverted crossing is currently undeveloped and offers nearly unobstructed movement through the property and is contiguous with similar undeveloped lands, especially to the north, northeast, and immediate south, lands in the distant south are fully developed. Exhibit 7 depicts wildlife movement in the vicinity of the Bridge Replacement area.

4.11 Jurisdictional Delineation

[14] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, 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.

4.11.1 Corps Jurisdiction

The segment of Castaic Creek within the proposed Tapia Canyon Proposed Offsite Bridge Replacement site totals approximately 0.71 acre of waters of the U.S., none of which consists of wetlands, and accounts for approximately 820 linear feet [Exhibit 6A – Corps/RWQCB Jurisdictional Delineation Map]. Table 4-8 below summarizes Corps jurisdiction within the Project Site.

Table 4-8. Total Corps Jurisdiction Within Project Site

Drainage	Total Non-Wetland Waters (acres)	Total Wetland (acres)	Total Corps Jurisdiction (acres)	Linear Length (feet)
Castaic Creek	0.71	0.00	0.71	820
Total	**0.71**	**0.00**	**0.71**	**820**

4.11.2 Regional Water Quality Control Board Jurisdiction

Regional Board jurisdiction associated with segment of Castaic Creek within the proposed Tapia Canyon Proposed Offsite Bridge Replacement site totals approximately 0.71 acre (820 linear feet), none of which consists of State wetlands. All waters within the Tapia Canyon Proposed Offsite Bridge Replacement site were determined to be waters of the United States pursuant to Section 404 of the CWA and are subject to Regional Board jurisdiction pursuant to Section 401 of the CWA. Castaic Creek is not a non-federal water that would require a separate analysis under Section 13260 of the CWC. The boundaries of Regional Board jurisdiction are depicted on Exhibit 6A.

4.11.3 CDFW Jurisdiction

CDFW jurisdiction within the Proposed Offsite Bridge Replacement site totals 3.71 acres, of which 1.41 acre consist of riparian habitat [Exhibit 6B – CDFW Jurisdictional Delineation Map]. Table 4-9 below summarizes CDFW jurisdiction within the Project Site.

Table 4-9. Total CDFW Jurisdiction Within the Project Site

Drainage	Total CDFW Non-Riparian Streambed (acres)	Total CDFW Riparian (acres)	Total CDFW Jurisdiction (acres)
Castaic Creek	2.30	1.41	3.71
Total	**2.30**	**1.41**	**3.71**

5.0 CONCLUSION

5.1 Summarized Biological Data with Respect to Regulatory Framework

Castaic Creek is the major feature within the SEA segment extending from north to south through the 6.60-acre area. As noted above in the section addressing the jurisdictional delineation, Castaic Creek meets the Corps' definition for a tributary and would be considered a Water of the U.S. and the discharge of fill associated with the Bridge Replacement would require authorization from the Corps pursuant to Section 404 of the Clean Water Act. The need for a Section 404 permit triggers the need for Section 401 Water Quality Certification from the Los Angeles Regional Board. Castaic Creek meets the definition of a stream pursuant to Section 1602 of the California Fish and Game Code and it would be necessary to obtain a Section 1602 Streambed Alteration Agreement from the CDFW for modifications to the bed, bank and channel of Castaic Creek. Finally, least Bell's vireo, which is federally and State-listed under the federal and State Endangered Species Acts, was detected within the 200-foot buffer, and could be subject to indirect impacts requiring Consultation under Section 7 of the federal Endangered Species Act between the Corps and USFWS and could also require an Incidental Take Permit (ITP) pursuant to the California Endangered Species Act.

5.2 Quantitative Summary of SEA Area Affected

A total of 6.60 acres of the Proposed Offsite Bridge Replacement Area footprint, occurs in the SEA. A breakdown by parcel is provided in Table 1-1 in Section 1.2 above.

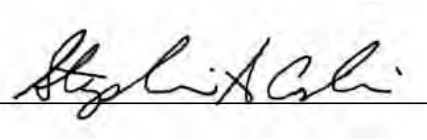
A total length of 820 linear feet of Castaic Creek lies within the Proposed Offsite Bridge Replacement Area footprint. Due to the shape and configuration of the parcels within Castaic Creek, the watershed length within each parcel cannot be represented by a single linear measurement. As the project area is located entirely within Castaic Creek, the watershed/watercourse total area is the same as the data presented in Table 1-1.

5.3 Recommendation for Further Study

As indicated in Section 2.1 and by Table 2-1, the Proposed Offsite Bridge Replacement Area has been subject to extensive biological studies conducted by GLA biologists dating back to 2013; prior data was collected by BonTerra (2006). As such, no additional studies are needed to prepare the Biota Report.

6.0 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: September 20, 2024

Signed:  Date: September 20, 2024

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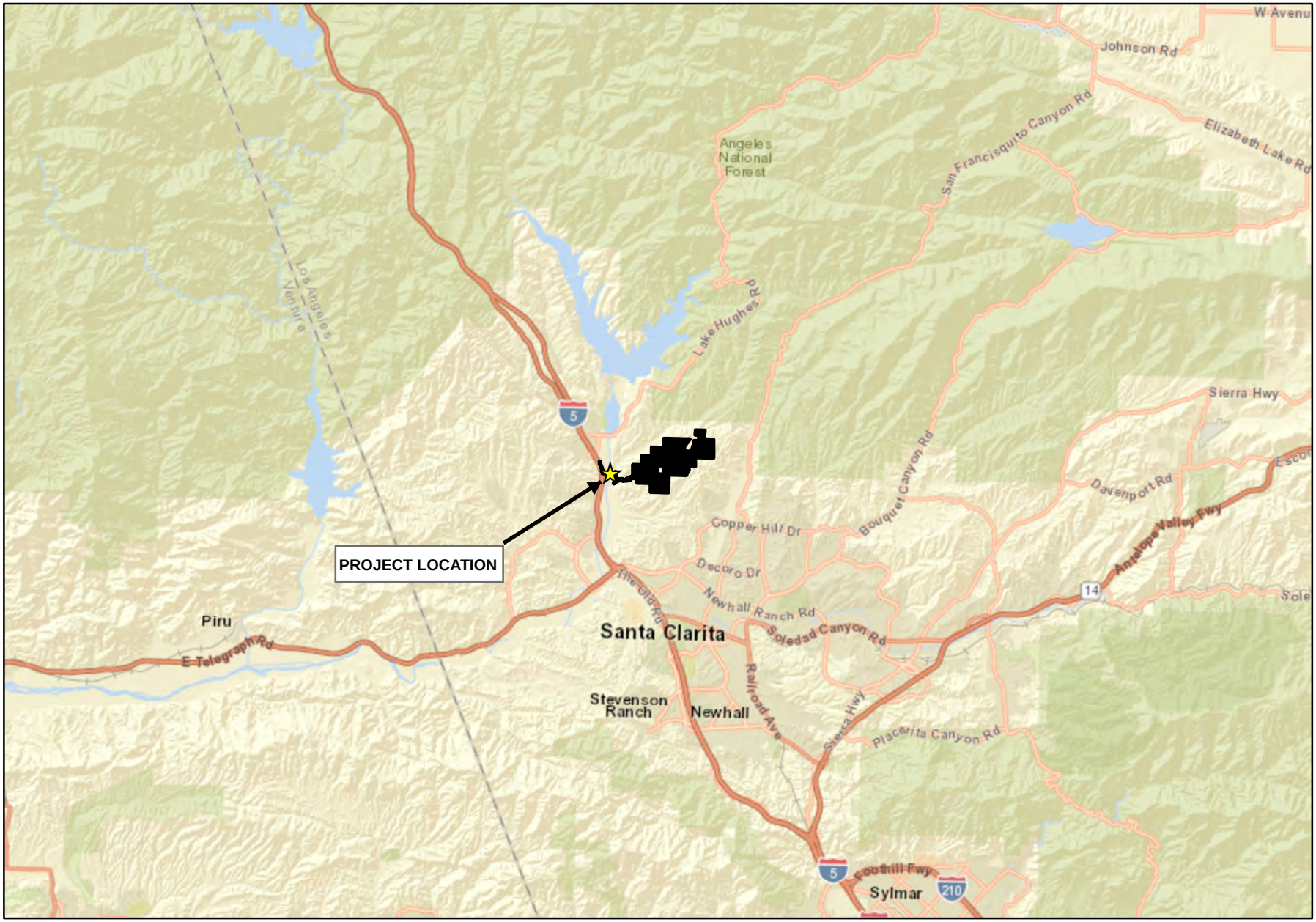

Source: ESRI World Street Map

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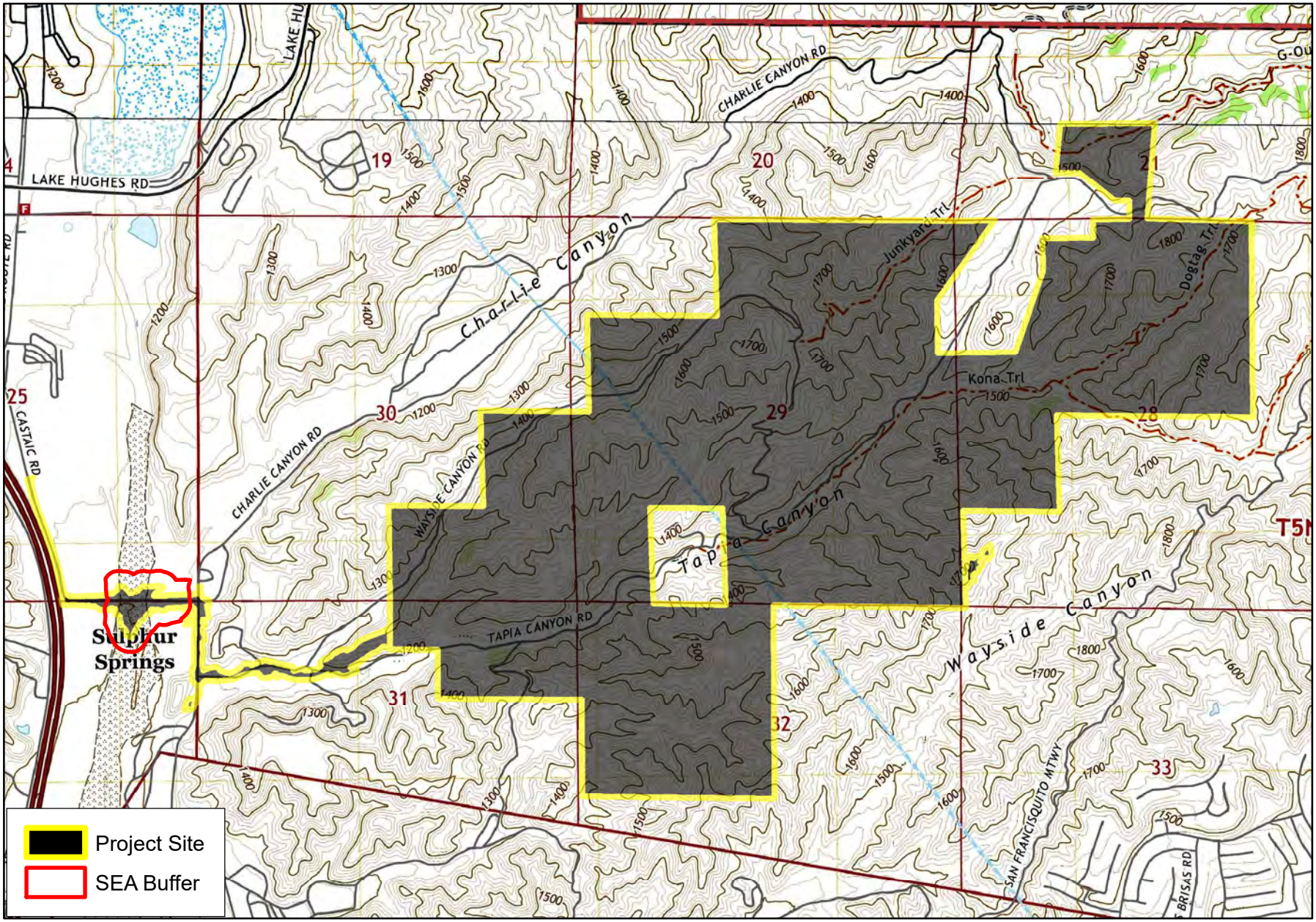
TAPIA RANCH DEVELOPMENT PROJECT

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Newhall & Warm Springs Mountain, CA quadrangles

N

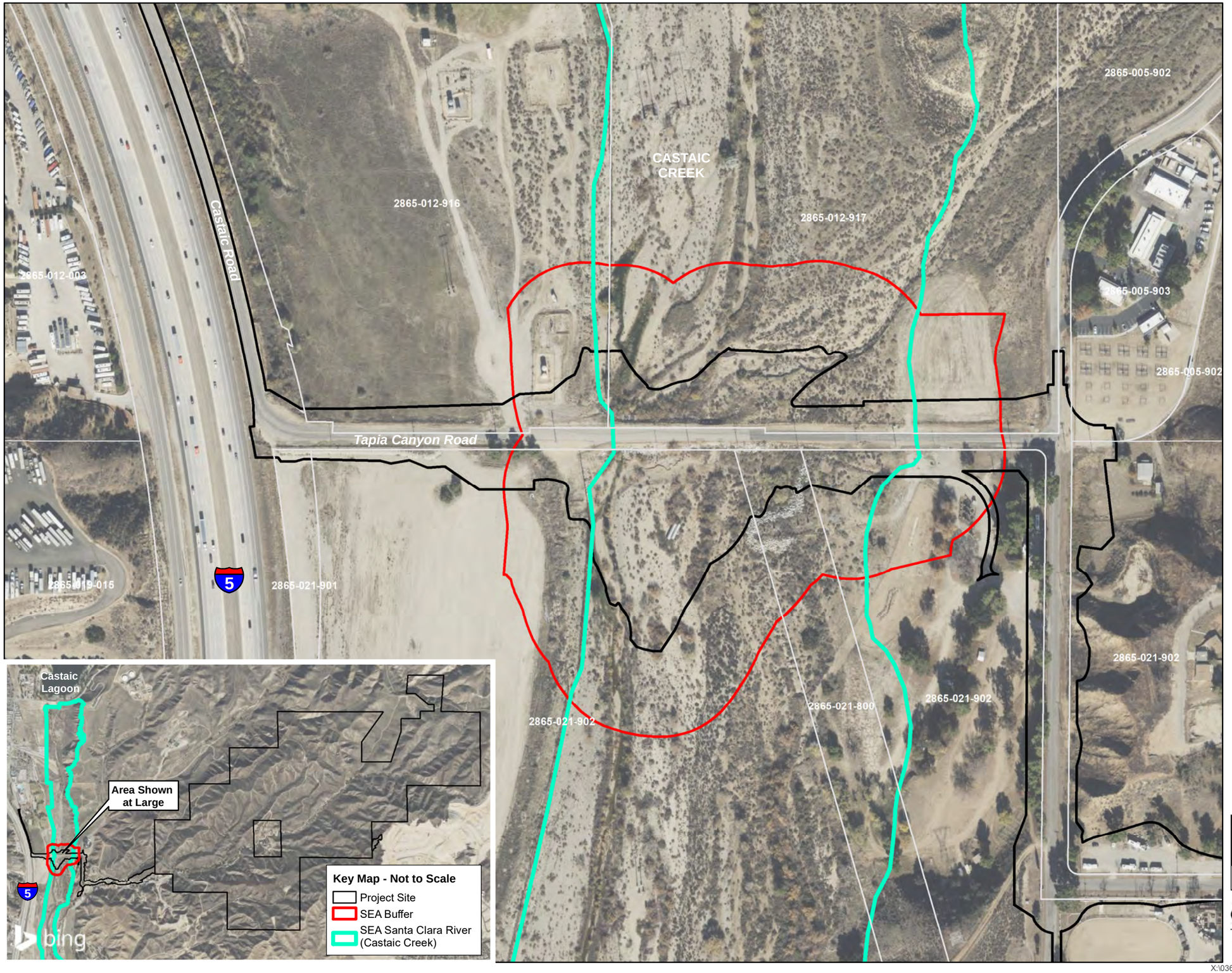
0 1,000 2,000 4,000 Feet

TAPIA RANCH DEVELOPMENT PROJECT

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Project Development Footprint
LA County Parcels
SEA Santa Clara River (Castaic Creek)
SEA Buffer

N

0 112.5 225 450
Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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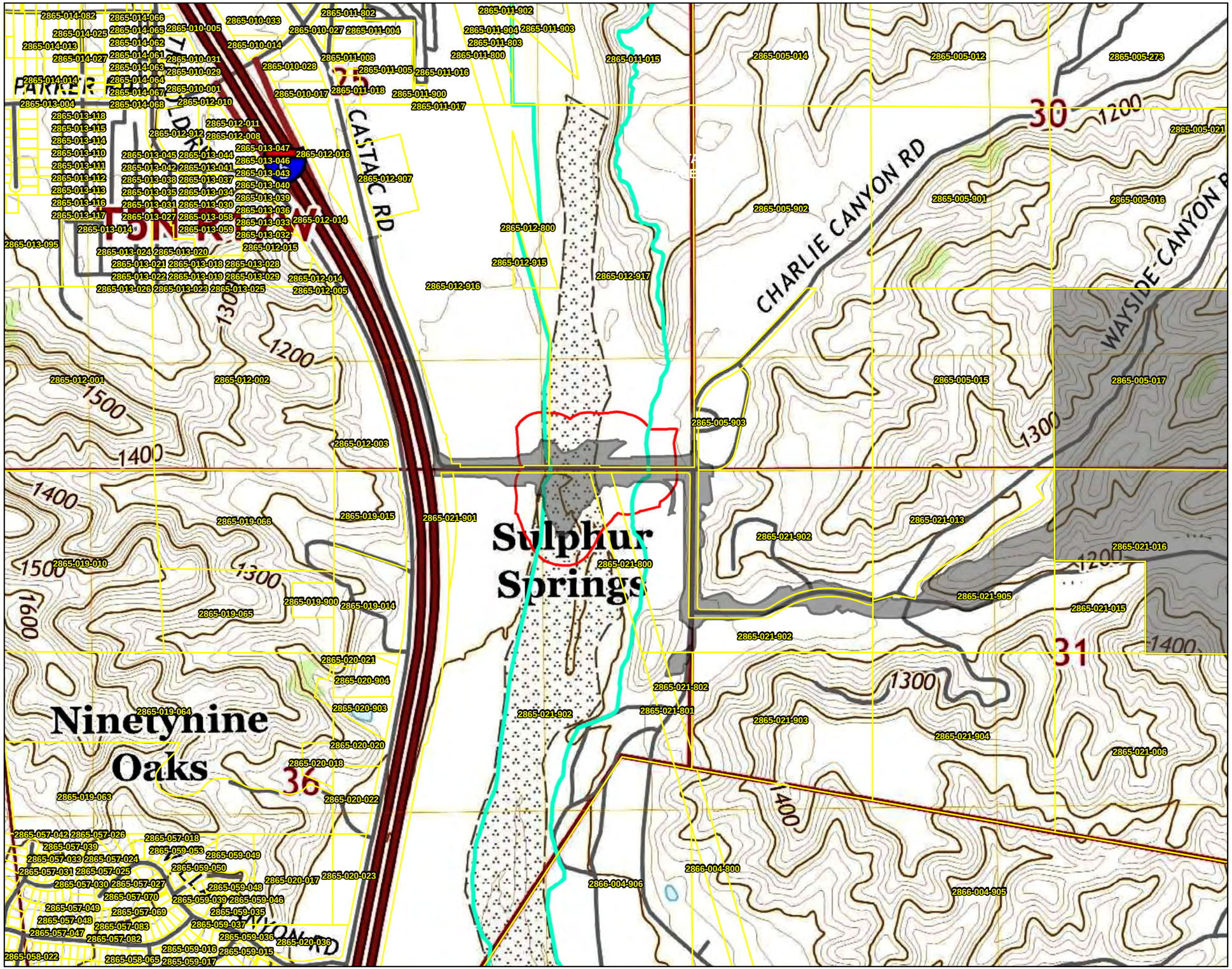

Project Development Footprint

SEA Santa Clara River (Castaic Creek)

SEA Buffer

LA County Parcels

TAPIA RANCH DEVELOPMENT PROJECT

Project Site Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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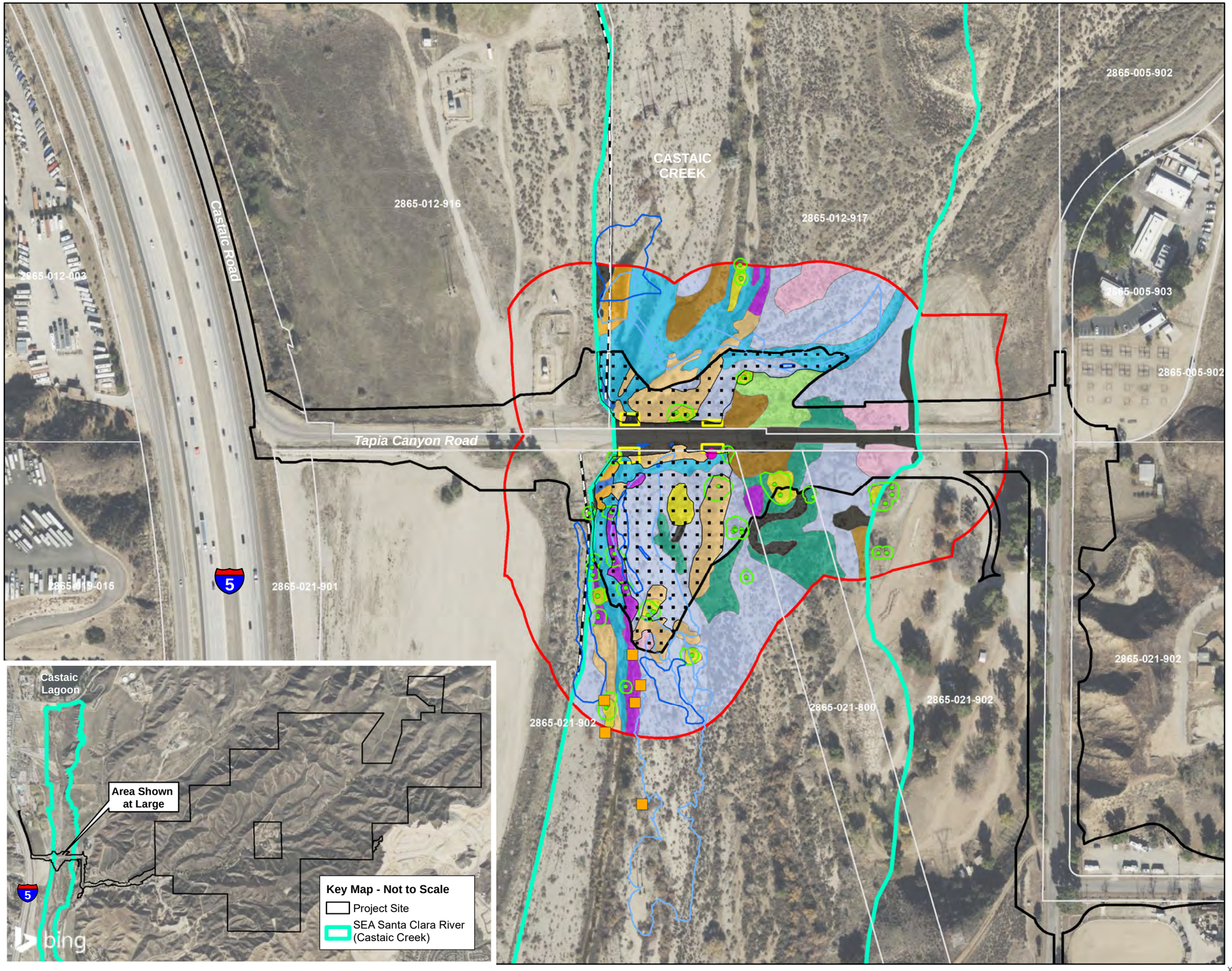

Project Development Footprint
LA County Parcels
SEA Santa Clara River (Castaic Creek)
SEA Buffer

Hydrological Resources

Hydrologic Resources – Category 1

Natural Communities

Arroyo Willow Thickets
California Buckwheat Scrub
California Sagebrush Scrub
Disturbed/Developed
Fremont Cottonwood Forest and Woodland
Sandbar Willow Thickets
Sandy Wash
Scale broom scrub
Southern Cattail Marshes
Tamarisk thickets
Wild oats and annual brome grasslands
Yerba Santa Scrub

Sensitive Species

White Rabbit Tobacco (2018) - Category 1
White Rabbit Tobacco (2022) - Category 1
Burrowing Owl – Category 2
Least Bell's Vireo Pair observed locations

SEA Protected Trees

SEA Tree
SEA Tree Protection Zone

Wildlife Movement Obstructions

Culverts
Erosional Fencing

0 112.5 225 450
Feet

1 inch = 225 feet

N

TAPIA RANCH DEVELOPMENT PROJECT

SEA Biological Constraints Map

GLENN LUKOS ASSOCIATES

Exhibit 4A

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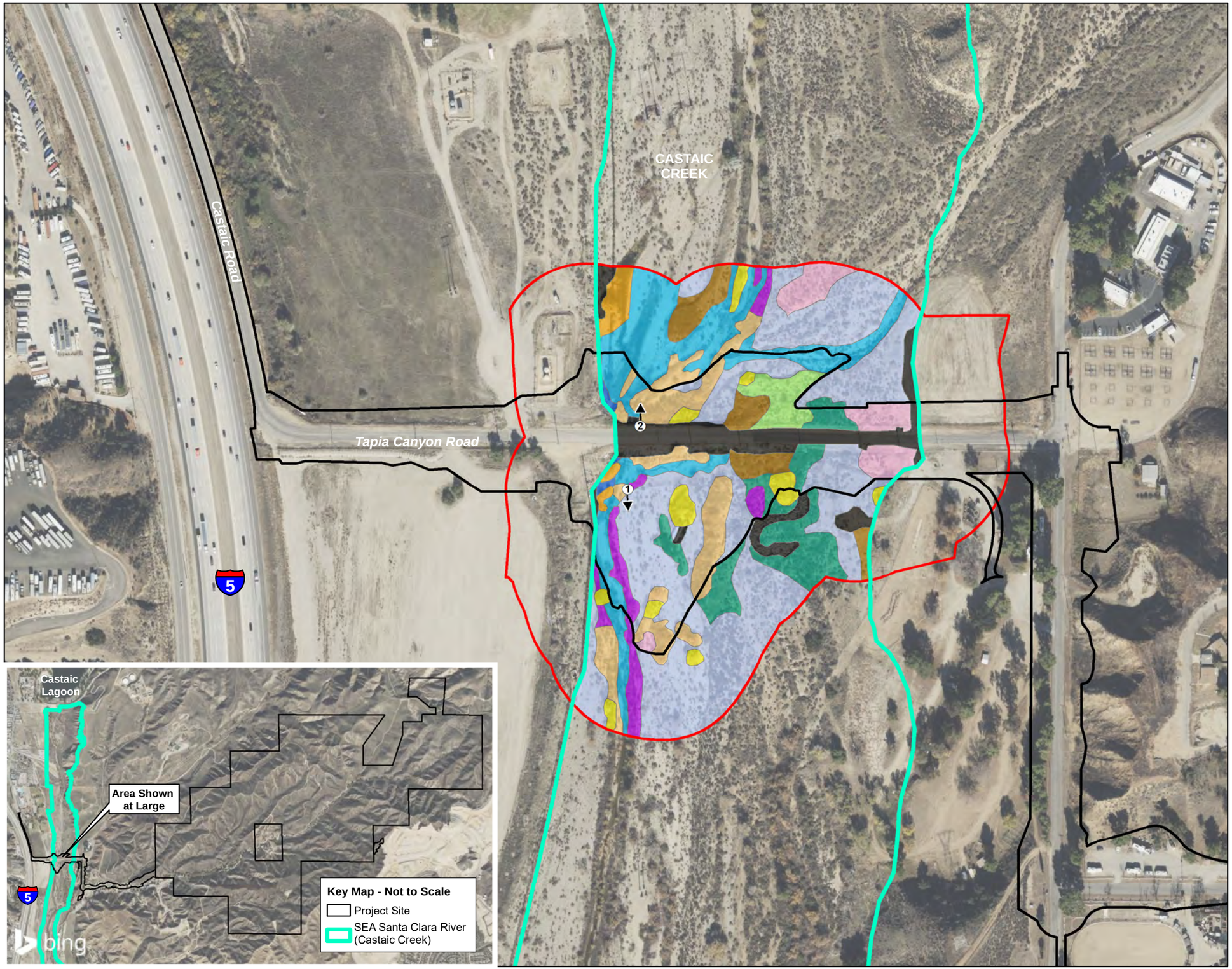


- Project Development Footprint
- SEA Buffer
- SEA Santa Clara River (Castaic Creek)
- Arroyo Willow Thickets
- California Buckwheat Scrub
- California Sagebrush Scrub
- Disturbed/Developed
- Fremont Cottonwood Forest and Woodland
- Sandbar Willow Thickets
- Sandy Wash
- Scale broom scrub
- Southern Cattail Marshes
- Tamarisk thickets
- Wild oats and annual brome grasslands
- Yerba Santa Scrub
- Photo Location

N

0 112.5 225 450

Feet

1 inch = 225 feet

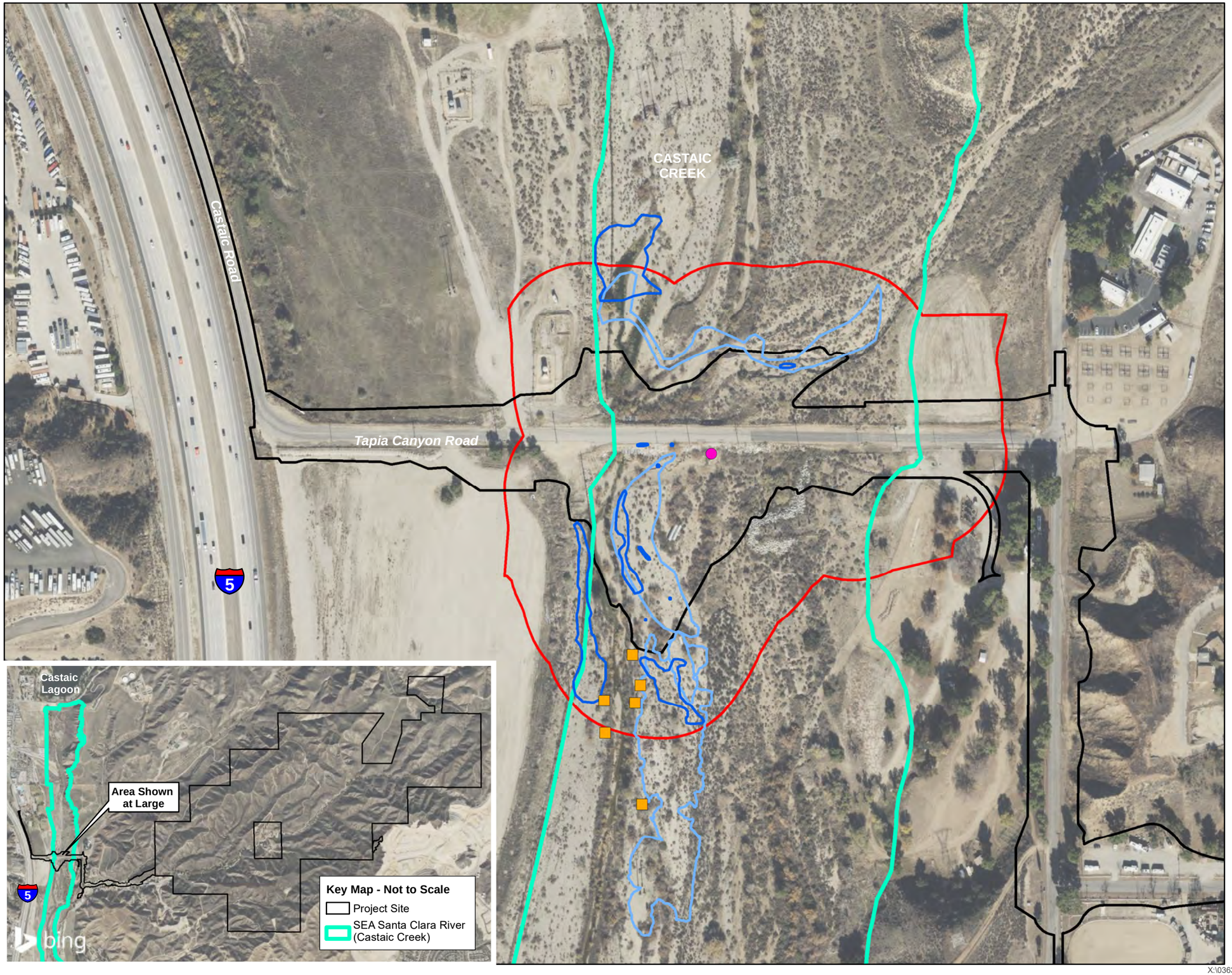
TAPIA RANCH DEVELOPMENT PROJECT

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 4B

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEAVegetation.mxd



Project Development Footprint
SEA Buffer
SEA Santa Clara River (Castaic Creek)
White Rabbit Tobacco (2018) - Category 1
White Rabbit Tobacco (2022) - Category 1
Least Bell's Vireo Pair observed locations
Burrowing Owl – Category 2

N

0 112.5 225 450
Feet

1 inch = 225 feet

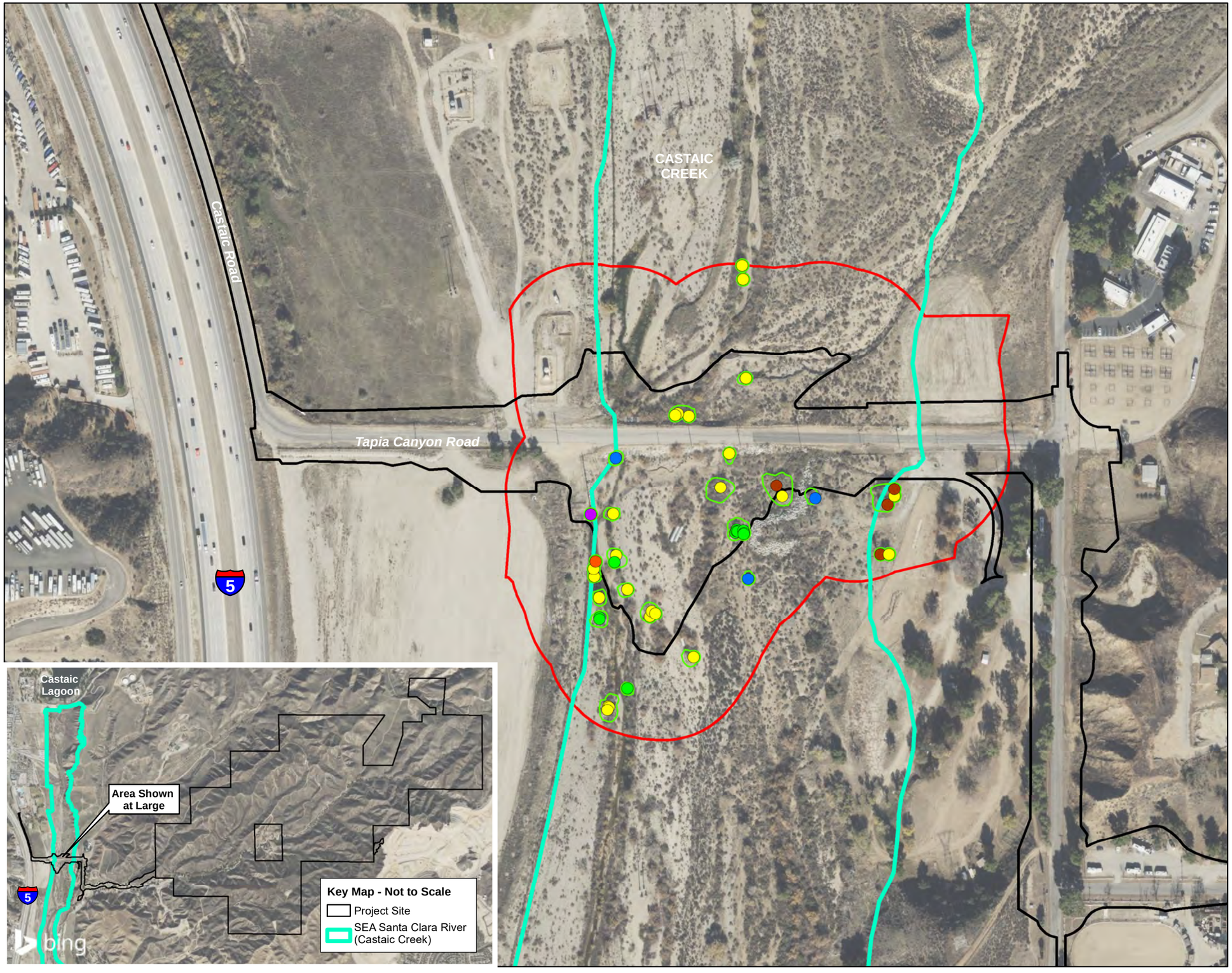
TAPIA RANCH DEVELOPMENT PROJECT

Sensitive Species Map

GLENN LUKOS ASSOCIATES

Exhibit 4C

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEASensitiveSp.mxd



Project Development Footprint
SEA Buffer
SEA Santa Clara River (Castaic Creek)
SEA Tree Protection Zone
Cottonwood
Elderberry
Heritage Cottonwood
Red Willow
Sandbar Willow
Sycamore

N

0 112.5 225 450
Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

SEA Protected Trees Map

GLENN LUKOS ASSOCIATES

Exhibit 4D

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEATrees.mxd

Photograph 1: View of Castaic Creek, facing south downstream, at proposed off-site Tapia Canyon Road Bridge improvements area.

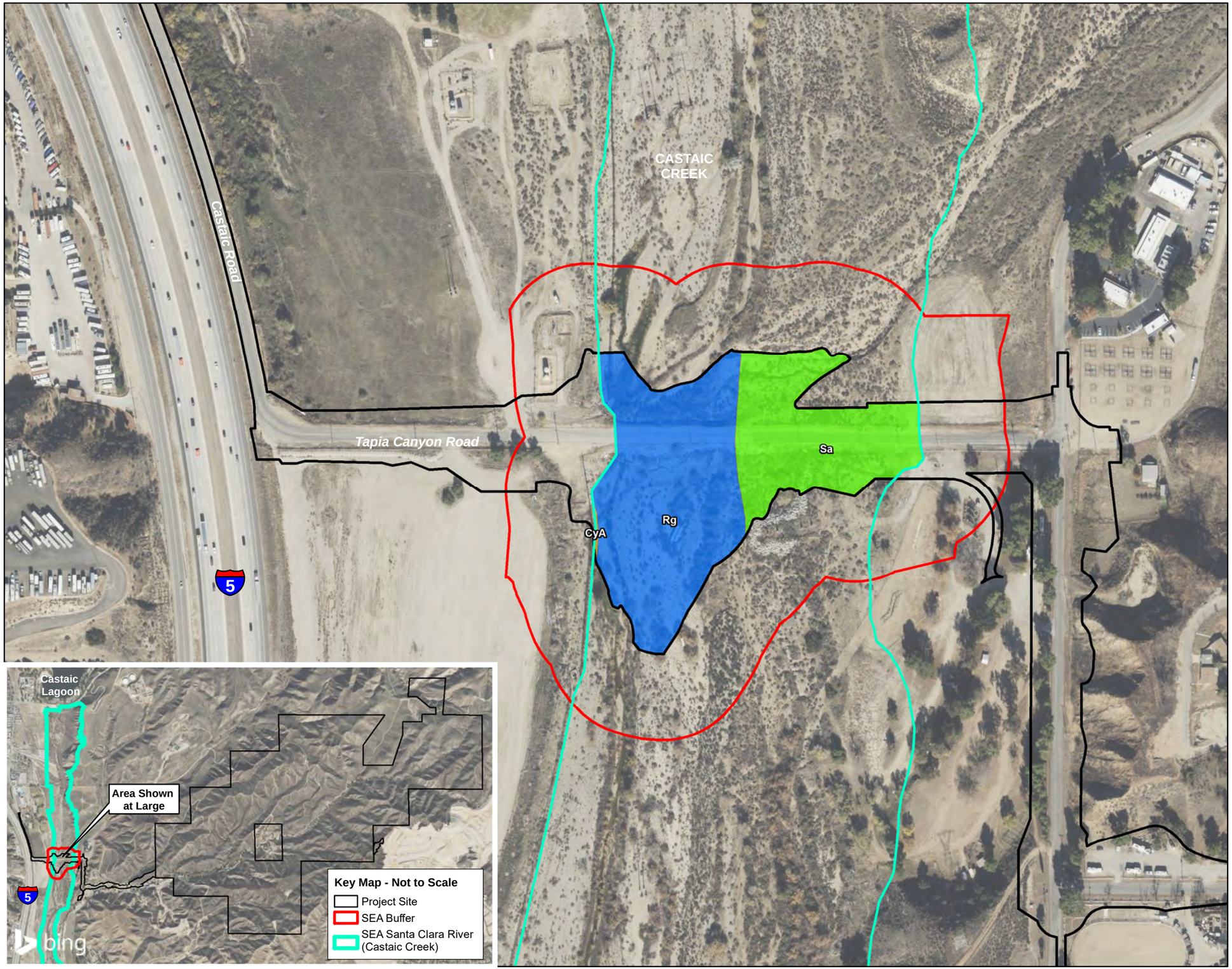
Photograph 2: View of Castaic Creek, facing north upstream, at proposed off-site Tapia Canyon Road Bridge improvements area. Non-native and invasive tamarisk (*Tamarix sp.*) trees are the dominant plant in view.

GLENN LUKOS ASSOCIATES

Exhibit 5

TAPIA RANCH DEVELOPMENT PROJECT

Site Photographs



- Project Development Footprint
- SEA Santa Clara River (Castaic Creek)
- SEA Buffer
- CyA - Cortina sandy loam, 0 to 2 percent slopes
- Rg - Riverwash
- Sa - Sandy alluvial land

N

0 112.5 225 450

Feet

1 inch = 225 feet

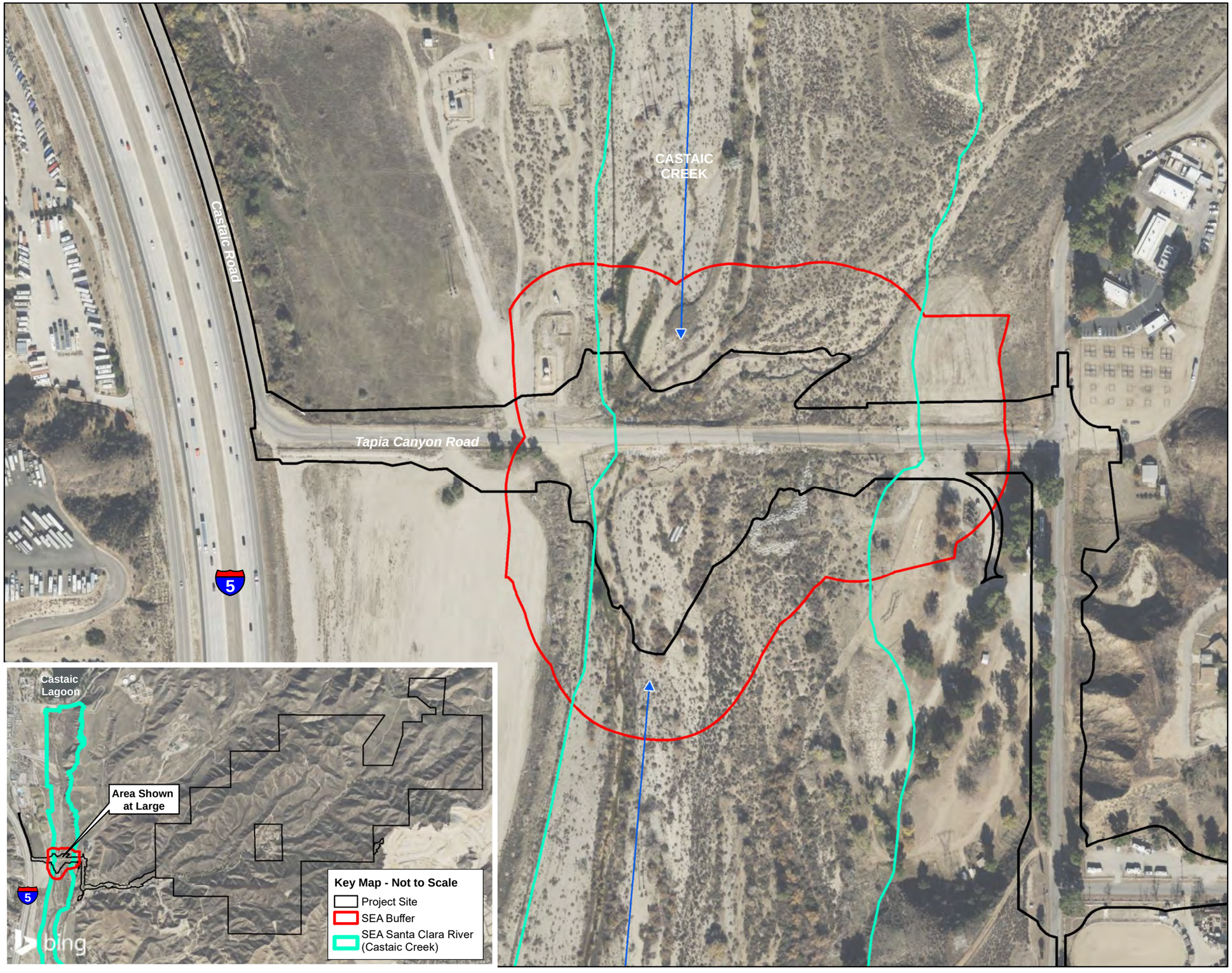
TAPIA RANCH DEVELOPMENT PROJECT

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 6

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEASoils.mxd



Project Development Footprint

SEA Santa Clara River (Castaic Creek)

SEA Buffer

Build-out Wildlife Corridors

N

0 112.5 225 450

Feet

1 inch = 225 feet

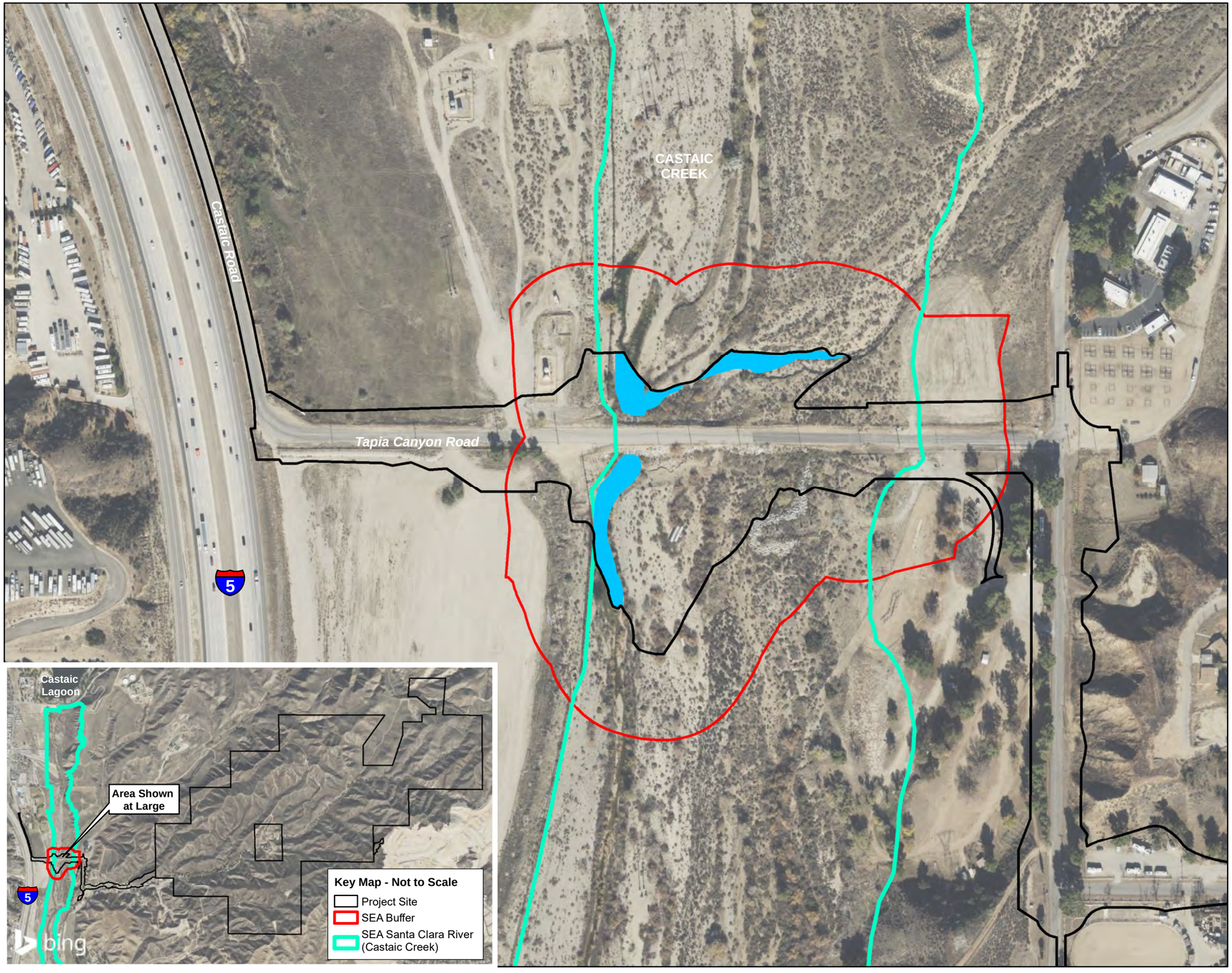
TAPIA RANCH DEVELOPMENT PROJECT

Wildlife Movement Map

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEA_WLM.mxd



Project Development Footprint
SEA Santa Clara River (Castaic Creek)
SEA Buffer
Corps Non-Wetland Waters of the U.S./
RWQCB Non-Wetland Waters of the State

N

0 112.5 225 450
Feet

1 inch = 225 feet

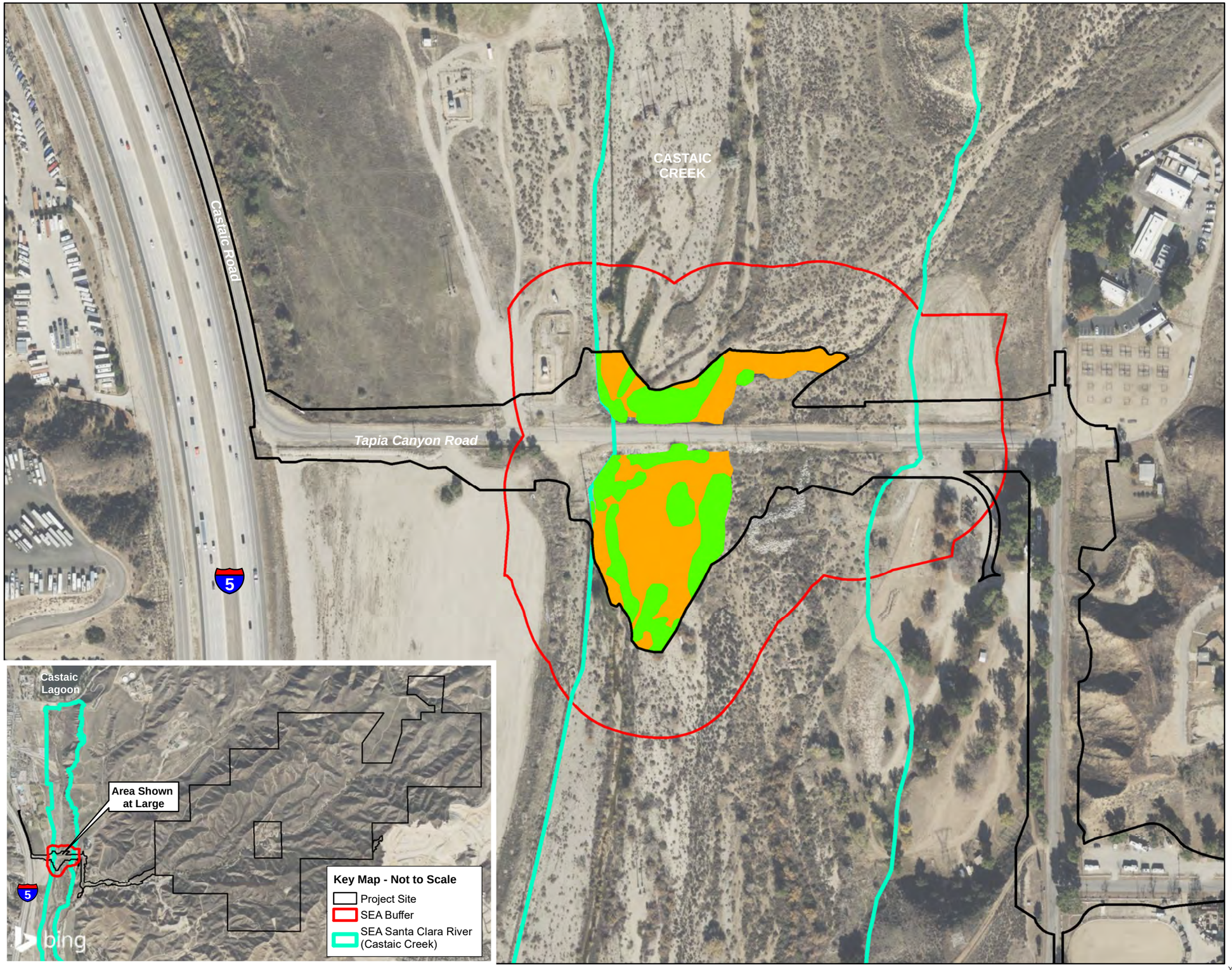
TAPIA RANCH DEVELOPMENT PROJECT

Corps/Regional Board JD Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEACorps.mxd



Project Development Footprint
SEA Santa Clara River (Castaic Creek)
SEA Buffer
CDFW Non-Riparian Stream
CDFW Riparian

N

0 112.5 225 450
Feet

1 inch = 225 feet

TAPIA RANCH DEVELOPMENT PROJECT

CDFW JD Map

GLENN LUKOS ASSOCIATES

Exhibit 8B

X:\0363-THE REST\0365-27TAPIA\365-27GIS_2024\SEA_GIS\0365-27 SEACDFW.mxd

APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists species identified on the project site. Taxonomy follows the Jepson Manual Second Edition (Baldwin et. al. 2012) and, for sensitive species, the California Native Plant Society's Rare Plant Inventory, Online Edition v-9.5 (CNPS 2024). Common plant names are taken from Hickman (1993), Munz (1974), Roberts et al. (2004), and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS
FERNS AND FERN ALLIES		
LYCOPODIOPHYTA	**CLUB MOSS AND ALLIES**	
Selaginellaceae	**Spike-Moss Family**	
Selaginella bigelovii	Bigelow's spike-moss	
GYMNOSPERMS		
CONIFEROPHYTA	**CONE-BEARING PLANTS**	
Cupressaceae	**Cypress Family**	
**Juniperus sp.*	ornamental juniper	
Pinaceae	**Pine Family**	
* *Pinus sp.*	pine	
MAGNOLIOPHYTA - FLOWERING PLANTS		
MONOCOTYLEDONS	**MONOCOTS**	
Agavaceae	**Agave Family**	
Chlorogalum pomeridianum var. pomeridianum	wavy-leaved soap plant	
Hesperoyucca whipplei	our lord's candle	
Arecaceae	**Palm Family**	
* *Washingtonia robusta*	Mexican fan palm	

Juncaceae	**Rush Family**	
Juncus bufonius	toad rush	
Poaceae	**Grass Family**	
* *Avena barbata*	slender wild oat	
* *Avena fatua*	common wild oat	
* *Bromus diandrus*	ripgut grass	
* *Bromus hordeaceus*	soft chess	
* *Bromus rubens*	foxtail chess	
* *Bromus tectorum*	cheatgrass	
* *Festuca myuros*	foxtail fescue	
* *Hordeum murinum* ssp. *leporinum*	hare barley	
* *Schismus barbatus*	Mediterranean grass	
Typhaceae	**Cat-Tail Family**	
Typha domingensis	southern cattail	
EUDICOTYLEDONS	**EUDICOTS**	
Amaranthaceae	**Amaranth Family**	
* *Amaranthus albus*	tumbling pigweed	
* *Chenopodium album*	lamb's quarters	
Chenopodium californicum	California goosefoot	
* *Chenopodium murale*	nettle-leaved goosefoot	
Anacardiaceae	**Sumac Family**	
* *Schinus molle*	Peruvian pepper tree	
* *Schinus terebinthifolius*	Brazilian pepper tree	
Apiaceae	**Carrot Family**	
Apiastrum angustifolium	mock parsley	
Asteraceae	**Sunflower Family**	
Artemisia californica	coastal sage brush	
Artemisia douglasiana	California mugwort	
Baccharis salicifolia	mulefat	
* *Centaurea melitensis*	tocalote	
Chaenactis glabriuscula	yellow pincushion	
Corethrogyne filaginifolia	common sand aster	

Deinandra fasciculata	fascicled tarweed	
* *Encelia farinosa*	brittlebush	
Erigeron canadensis	common horseweed	
Filago californica	California filago	
* *Filago gallica*	narrow-leaved filago	
Gutierrezia californica	California matchweed	
Hazardia squarrosa	saw-toothed goldenbush	
Hazardia squarrosa var. *grindeloides*	gum plant goldenbush	
Helianthus annuus	western sunflower	
Helianthus gracilentus	slender sunflower	
Heterotheca grandiflora	telegraph weed	
* *Hypochaeris glabra*	smooth cat's-ear	
Isocoma menziesii	Menzies' goldenbush	
* *Lactuca serriola*	prickly lettuce	
Lepidospartum squamatum	scale broom	
Malacothrix saxatilis	cliff malocothrix	
* *Matricaria discoides*	common pineapple weed	
Pseudognaphalium californicum	California cudweed	
Pseudognaphalium canescens	white everlasting	
* *Pseudognaphalium luteoalbum*	weedy cudweed	
Pseudognaphalium leucocephalum	white rabbit tobacco	CRPR 2B.2
Rafinesquia californica	California chicory	
Senecio flaccidus var. *douglasii*	sand-wash butterweed	
* *Senecio vulgaris*	common groundsel	
* *Sonchus oleraceus*	common sow-thistle	
Stephanomeria virgata ssp. *virgata*	tall wreath-plant	
Stylocline gnaphalioides	everlasting nest-straw	
Uropappus lindleyi	silver puffs	
Xanthium strumarium	common cocklebur	
Boraginaceae	**Borage Family**	
Amsinckia menziesii var. *intermedia*	common fiddleneck	
Amsinckia menziesii var. *menziesii*	rigid fiddleneck	
Cryptantha intermedia	common cryptantha	
Plagiobothrys nothofulvus	rusty popcorn flower	
Brassicaceae	**Mustard Family**	
* *Brassica nigra*	black mustard	
**Hirschfeldia incana*	shortpod mustard	
Lepidium nitidum	shining peppergrass	

* *Sisymbrium altissimum*	tumble mustard	
* *Sisymbrium irio*	London rocket	
* *Sisymbrium orientale*	oriental sisymbrium	
Thysanocarpus laciniatus	narrow leaved lacepod	
Caryophyllaceae	**Pink Family**	
* *Stellaria media*	common chickweed	
Crassulaceae	**Stonecrop Family**	
Crassula connata	sand pygmy-stonecrop	
Dudleya lanceolata	lance-leaved dudleya	
Euphorbiaceae	**Spurge Family**	
Croton setigerus	doveweed	
Euphorbia albomarginata	rattlesnake spurge	
Fabaceae	**Legume Family**	
Acmispon americanus	Spanish clover	
Acmispon glaber	deerweed	
Acmispon strigosus	strigose lotus	
Astragalus tricopodus	southern California locoweed	
Lupinus bicolor	miniature lupine	
Lupinus hirsutissimus	stinging lupine	
Lupinus truncatus	truncate lupine	
* *Medicago polymorpha*	California burclover	
* *Melilotus albus*	white sweetclover	
* *Melilotus indica*	yellow sweetclover	
**Trifolium albopurpureum*	rancheria clover	
Trifolium gracilentum var. *gracilentum*	pin-point clover	
Trifolium willdenovii	tomcat clover	
* *Vicia sativa* ssp. *sativa*	common vetch	
Geraniaceae	**Geranium Family**	
* *Erodium cicutarium*	red-stemmed filaree	
* *Erodium moschatum*	white-stemmed filaree	
Hydrophyllaceae	**Waterleaf Family**	
Eucrypta chrysanthemifolia	common eucrypta	
Nemophila menziesii var. *menziesii*	baby blue eyes	

Lamiaceae	**Mint Family**	
* *Marrubium vulgare*	horehound	
Salvia columbariae	chia	
Salvia mellifera	black sage	
Trichostema lanceolatum	vinegar weed	
Malvaceae	**Mallow Family**	
* *Malva parviflora*	cheeseweed	
Myrtaceae	**Myrtle Family**	
* *Eucalyptus* sp.	gum tree	
Namaceae	**Nama Family**	
Eriodictyon crassifolium	thick-leaved yerba santa	
Nyctaginaceae	**Four O'Clock Family**	
Mirabilis laevis var. *crassifolia*	California wishbone bush	
Onagraceae	**Evening Primrose Family**	
Camissoniopsis bistorta	southern suncup	
Camissoniopsis hirtella	hairy suncup	
Papaveraceae	**Poppy Family**	
Argemone munita	prickly poppy	
Eschscholzia californica	California poppy	
Phrymaceae	**Monkeyflower Family**	
Diplacus longiflorus	southern bush monkey flower	
Erythranthe guttata	seep monkey flower	
Mimetanthe pilosa	snouted monkey flower	
Platanaceae	**Sycamore Family**	
Platanus racemosa	western sycamore	
Polemoniaceae	**Phlox Family**	
Eriastrum sapphirinum	sapphire woolly-star	
Navarretia atractyloides	holly-leaved skunkweed	

Polygonaceae	**Buckwheat Family**	
Eriogonum elongatum var. *elongatum*	long-stemmed buckwheat	
Eriogonum fasciculatum var. *fasciculatum*	California buckwheat	
Eriogonum gracile	slender buckwheat	
Pterostegia drymarioides	granny's hairnet	
* *Rumex crispus*	curly dock	
Portulacaceae	**Purslane Family**	
Calyptridium monandrum	common pussypaws	
Claytonia perfoliata var. *perfoliata*	miner's lettuce	
Rhamnaceae	**Buckthorn Family**	
Rhamnus crocea	spiny redberry	
Rhamnus ilicifolia	holly-leaved redberry	
Rosaceae	**Rose Family**	
Heteromeles arbutifolia	toyon	
Prunus ilicifolia	holly-leaved cherry	
Rubiaceae	**Madder Family**	
Galium aparine	common bedstraw	
Salicaceae	**Willow Family**	
Populus fremontii	western cottonwood	
Salix exigua	narrow-leaved willow	
Salix laevigata	red willow	
Salix lasiolepis	arroyo willow	
Solanaceae	**Nightshade Family**	
Datura wrightii	jimsonweed	
* *Nicotiana glauca*	tree tobacco	
Solanum xanti	chaparral nightshade	
Tamaricaceae	**Tamarisk Family**	
* *Tamarix ramosissima*	Mediterranean tamarisk	
Viburnaceae	**Moschatel Family**	
Sambucus nigra ssp. *caerulea*	blue elderberry	

Appendix B

Faunal Compendium

Taxonomy and common names sourced from the California Wildlife Habitat Relationships System (CDFW 2016), the CNDDB for special status species, and the following taxa-specific sources: Pelham (2023) and NABA for butterflies, American Ornithological Society (2022) for birds; Collins and Taggart (2009) and Crother (2017) for reptiles and amphibians; and Wilson and Reeder (2005) for mammals.

* Non-native/Introduced species

SCIENTIFIC NAME	COMMON NAME	SPECIAL STATUS
INVERTEBRATES		
Insecta, Order Lepidoptera, Family Hesperiidae – Skippers		
Erynnis funeralis	funereal duskywing	
Hylephila phyleus	fiery skipper	
Insecta, Order Lepidoptera, Family Nymphalidae – Brush-Footed Butterflies		
Adelpha californica	California sister	
Chlosyne gabbii	Gabb's checkerspot	
Danaus plexippus	Monarch	
Euphydryas chalcedona	variegated checkerspot	
Junonia coenia	common buckeye	
Vanessa atalanta	red admiral	
Vanessa cardui	painted lady	
Vanessa virginiensis	American lady	
Insecta, Order Lepidoptera, Family Papilionidae – Swallowtails		
Papilio eurymedon	pale swallowtail	
Papilio zelicaon	anise swallowtail	
Pterourus rutulus	western tiger swallowtail	
Insecta, Order Lepidoptera, Family Pieridae – Whites and Sulfurs		
Anthocharis sara	Pacific orangetip	
Colias eurytheme	orange sulphur	
Nathalis iole	dainty sulphur	
Pontia protodice	checkered white	
Zerene eurydice	California dogface	
Insecta, Order Lepidoptera, Family Riodinidae – Metalmarks		
Apodemia mormo	Mormon metalmark	

FISH		
Cyprinidae – Carp and Chub		
**Cyprinus carpio*	common carp	
AMPHIBIANS		
Bufonidae – True Toads		
Anaxyrus boreas halophilus	western toad	
Hylidae – Treefrogs and Allies		
Pseudacris cadaverina	California treefrog	
Pseudacris hypochondriaca	Baja California treefrog	
REPTILES		
Anguidae – Alligator Lizards		
Elgaria multicarinata	southern alligator lizard	
Crotalidae – Pit Vipers		
Crotalus oreganus helleri	Southern Pacific rattlesnake	
Phrynosomatidae – Phrynosomatid Lizards		
Sceloporus occidentalis longipes	Great Basin spiny lizard	
Uta stansburiana	common side-blotched lizard	
Teiidae – Whiptails		
Aspidoscelis tigris stejnegeri	coastal whiptail	SSC
BIRDS		
Accipitridae – Hawks, Eagles, Kites		
Accipiter cooperii	Cooper's hawk	
Buteo jamaicensis	red-tailed hawk	
Buteo lineatus	red-shouldered hawk	
Aegithalidae – Bushtits		
Psaltriparus minimus	bushtit	
Anatidae – Swans, Geese, Ducks		
Anas platyrhynchos	mallard	
Apodidae – Swifts		
Aeronautes saxatilis	white-throated swift	

Ardeidae – Herons, Egrets, and Bitterns		
Ardea herodias	great blue heron	
Butorides virescens	green heron	
Cardinalidae – Cardinals		
Passerina amoena	Lazuli bunting	
Passerina caerulea	blue grosbeak	
Pheucticus melanocephalus	black-headed grosbeak	
Piranga ludoviciana	western tanager	
Cathartidae – American Vultures		
Cathartes aura	turkey vulture	CSB
Charadriidae – Plovers and Relatives		
Charadrius vociferus	killdeer	
Columbidae – Pigeons, Doves		
Zenaida macroura	mourning dove	
Corvidae – Crows, Jays		
Aphelocoma californica	California scrub-jay	
Corvus brachyrhynchos	American crow	
Corvus corax	common raven	
Cuculidae – Anis, Cuckoos, Roadrunners		
Geococcyx californianus	greater roadrunner	
Falconidae – Falcons		
Falco sparverius	American kestrel	
Fringillidae – Finches		
Haemorhous mexicanus	house finch	
Spinus lawrencei	Lawrence’s goldfinch	
Spinus psaltria	lesser goldfinch	
Spinus tristis	American goldfinch	
Hirundinidae – Swallows, Martins		
Hirundo rustica	barn swallow	
Petrochelidon pyrrhonota	cliff swallow	
Stelgidopteryx serripennis	northern rough-winged swallow	
Icteridae – Blackbirds		
Agelaius phoeniceus	red-winged blackbird	
Icterus cucullatus	hooded oriole	

Mimidae – Mockingbirds, Thrashers		
Mimus polyglottos	northern mockingbird	
Toxostoma redivivum	California thrasher	
Odontophoridae – New World Quail		
Callipepla californica	California quail	
Parulidae – Wood Warblers		
Cardellina pusilla	Wilson's warbler	CSB
Geothlypis trichas	common yellowthroat	
Geothlypis tolmiei	MacGillivray's warbler	
Leiothlypis celata	orange-crowned warbler	
Leiothlypis ruficapilla	Nashville warbler	
Setophaga coronata	yellow-rumped warbler	
Setophaga nigrescens	black-throated gray warbler	
Setophaga occidentalis	hermit warbler	
Setophaga petechia	yellow warbler	SSC, CSB
Setophaga townsendi	Townsend's warbler	
Passerellidae – New World Sparrows		
Ammodramus savannarum	grasshopper sparrow	SSC, CSB
Melozone crissalis	California towhee	
Passerculus sandwichensis	savannah sparrow	
Pipilo maculatus	spotted towhee	
Zonotrichia atricapilla	golden-crowned sparrow	
Zonotrichia leucophrys	white-crowned sparrow	
Passeridae – Old World Sparrows		
Passer domesticus	house sparrow	
Picidae – Woodpeckers		
Melanerpes formicivorus	acorn woodpecker	
Picoides nuttallii	Nuttall's woodpecker	
Poliptilidae – Gnatcatchers		
Polioptila caerulea	blue-gray gnatcatcher	
Ptilogonatidae – Silky Flycatchers		
Phainopepla nitens	phainopepla	
Strigidae – Typical Owls		
Athene cunicularia	burrowing owl	SSC, CSB

Sturnidae – Starlings and Mynahs		
**Sturnus vulgaris*	European starling	
Sylviidae – Sylvid Warblers		
Chamaea fasciata	wrentit	
Trochilidae – Hummingbirds		
Calypte anna	Anna's hummingbird	
Selasphorus sasin	Allen's hummingbird	
Troglodytidae –Wrens		
Thryomanes bewickii	Bewick's wren	
Troglodytes aedon	house wren	
Tyrannidae – Tyrant Flycatchers		
Empidonax difficilis	western flycatcher	
Myiarchus cinerascens	ash-throated flycatcher	
Sayornis nigricans	black phoebe	
Sayornis saya	Say's phoebe	
Tyrannus verticalis	western kingbird	
Tyrannus vociferans	Cassin's kingbird	
Vireonidae – Vireos		
Vireo bellii pusillus	least Bell's vireo	FE, SE
Vireo gilvus	warbling vireo	
MAMMALS		
Canidae – Dogs, Wolves, and Foxes		
Canis latrans	coyote	
Leporidae – Rabbits and Hares		
Sylvilagus audubonii	Audubon's (desert) cottontail	
Mephitidae – Skunks		
Mephitis mephitis	striped skunk	
Molossidae – Free-Tailed Bats		
Tadarida brasiliensis	Mexican free-tailed bat	
Procyonidae – Raccoons and Allies		
Procyon lotor	raccoon	

Sciuridae – Squirrels, Chipmunks, Marmots		
Otospermophilus beecheyi	California ground squirrel	
Vespertilionidae – Evening Bats		
Myotis californicus	California myotis	
Myotis yumanensis	Yuma myotis	

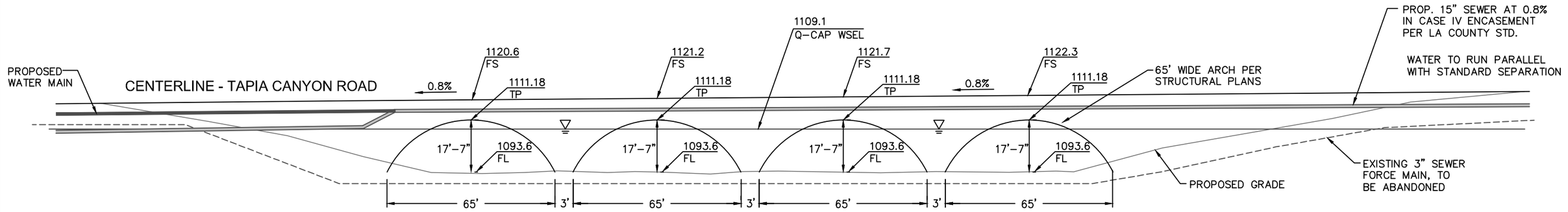
Special Status Designations

Federal
FE – Federally Endangered
FT – Federally Threatened
FPE – Federally Proposed Endangered
FPT – Federally Proposed Threatened
FC – Federal Candidate

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

Local
CSB – Los Angeles County Sensitive Bird Species

APPENDIX C – BRIDGE PLANS

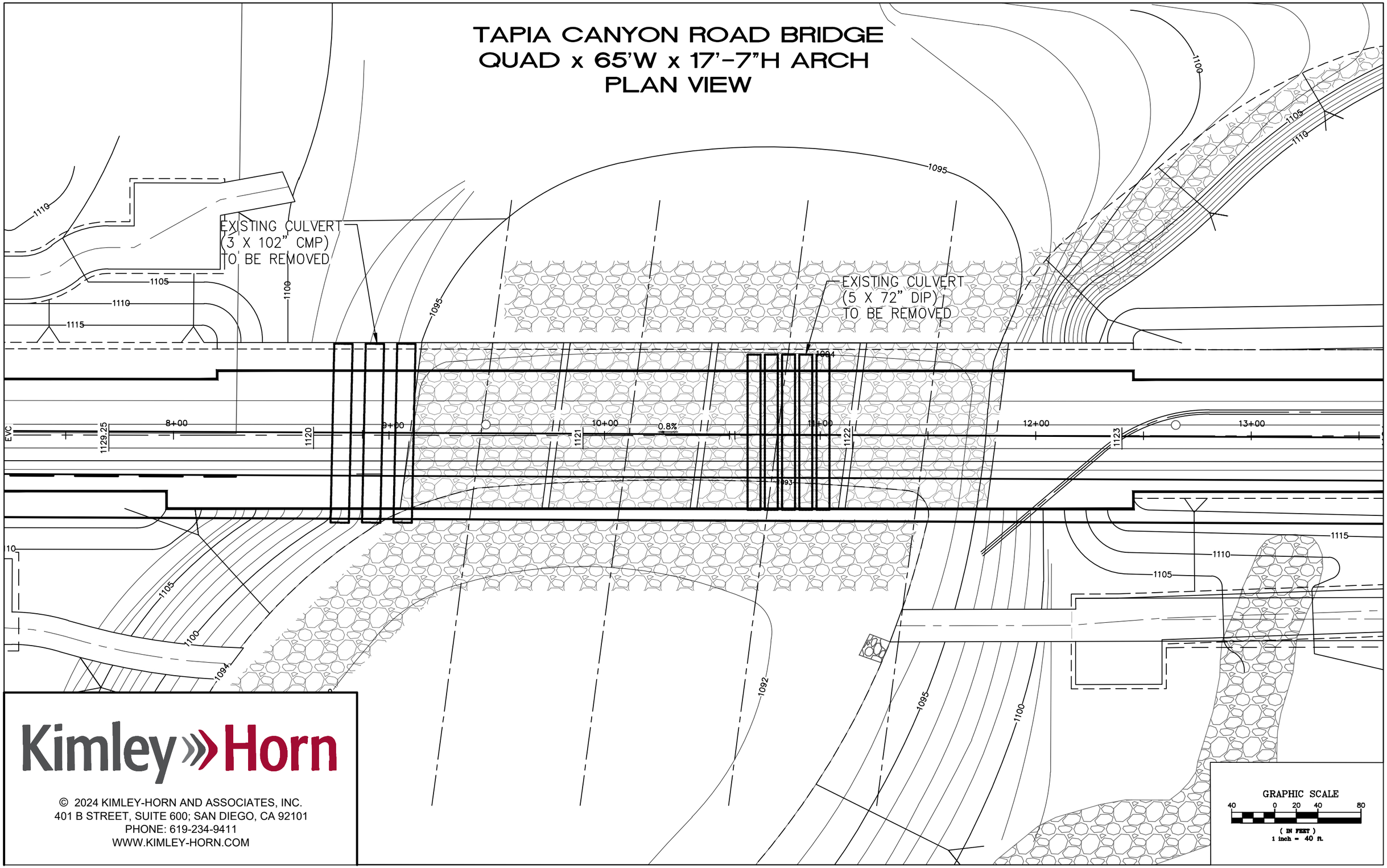


TYPICAL SECTION

NOT TO SCALE

401 B STREET, SUITE 600; SAN DIEGO, CA 92101
PHONE: 619-234-9411
WWW.KIMLEY-HORN.COM

TAPIA CANYON ROAD BRIDGE
QUAD x 65'W x 17'-7"H ARCH
PLAN VIEW



Kimley»Horn

401 B STREET, SUITE 600; SAN DIEGO, CA 92101
PHONE: 619-234-9411
WWW.KIMLEY-HORN.COM

APPENDIX D – GLA BIOLOGY STAFF QUALIFICATIONS

TONY BOMKAMP

Senior Biologist / Regulatory Specialist

YEARS OF EXPERIENCE

Professional start date: 1993

Years at GLA: 30

EDUCATION

MS, Environmental Studies, California State University, Fullerton, 1993

BA, Biology, California State University, Fullerton, 1976

TEACHING EXPERIENCE

Adjunct Staff at California State University Fullerton, Wetlands Endangered Habitats and Conservation of Migratory Birds, 1993 – 2021

Los Angeles Department of Water & Power, 2017

California Wetlands Conferences Wetland Delineation/Wetlands Consultants Ethics/ Arid West Supplement Field Delineating/ Arid West Supplement, CLE International, 2005/2006/2007/2009

Wetlands Law and Regulation, ALI-ABA, 2006

TRAININGS ATTENDED

Arid West Supplement Wetland Delineation Course, Wetland Training Institute, 2007

Wetland Delineation with Emphasis on Hydric Soils, Wetland Training Institute, 2005

Basic Wetland Delineation Course with Practicum, Wetland Training Institute, 1996

PROFESSIONAL SUMMARY

Tony Bomkamp is a Botanist, Field Biologist, Wetlands Ecologist, and Regulatory Specialist with extensive wetlands expertise and diverse field experience and his botanical background spans 42 years working with all major vegetation communities in Southern California. He is a recognized authority in wetland delineation having conducted and supervised scores of wetland delineations, riparian habitat evaluations, and wetland functional assessments throughout California. Tony has processed hundreds of regulatory permits pursuant to Section 404 of the Clean Water Act, Section 1602 of the Fish and Game Code and Section 401 of the Clean Water Act. Tony has also designed and monitored numerous wetland mitigation sites throughout southern California. In addition to his own project work, Tony serves as GLA's Technical Director mentoring and supporting the biologists and regulatory specialists at GLA on well over 100 projects in a senior advisory role at GLA.

For 28 years Tony served as an adjunct faculty member at California State University, Fullerton in the graduate environmental studies program instructing courses in wetlands and endangered habitats as well as conservation of migratory birds. He additionally has served as faculty for numerous Continuing Legal Education conferences on wetland delineation, wetland consultant ethics, and the Arid West Supplement from 2005 – 2009 and instructed a course on wetlands law and regulation for the American Law Institute in 2006.

SELECTED PROJECT EXPERIENCE

ORANGE COUNTY GREAT PARK – HERITAGE FIELDS EL TORO; IRVINE, CALIFORNIA

Serving as Lead Biologist/Project Manager. Work includes managing extensive biological work to finalize the CEQA process with the City of Irvine including conducting surveys for rare plants, least Bell's vireo, burrowing owl, and raptors; directing and conducting biological monitoring; supervising pre-demolition surveys; and designing a wildlife corridor. Prepared responses to comments on the final EIR, which has been approved. Updated the jurisdictional delineation for the 3,580-acre area and prepared a jurisdictional delineation report. Provided support for obtaining Clean Water Act (CWA) Section 401 and 404 and Fish and Game Code (FGC) Section 1602 authorizations, including design of the habitat mitigation site within Agua Chino during the permitting process. Prepared an environmental assessment (EA)/alternatives analysis as well as habitat mitigation and monitoring plans. Finally, Mr. Bomkamp served as the lead biologist in developing and designing the Irvine Wildlife Corridor which is currently under construction.

EAST ORANGE GENERAL PLAN COMMUNITY — THE IRVINE COMPANY; ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist/Project Manager. Conducted extensive vegetation mapping of native habitats within the 10,000-acre study area including coastal sage scrub, native grassland, chaparral and riparian communities. Performed surveys for fairy shrimp, western spadefoot toad, and special-status plants including intermediate mariposa lily and many-stemmed dudleya. Conducted focused surveys for least Bell's vireo, protocol surveys for coastal California gnatcatcher, and a habitat assessment for special-status bats. Prepared a biological technical report for use in preparation of draft and final EIRs pursuant to CEQA, which included detailed impact analyses as well as development of mitigation measures necessary to ensure that all impacts to biological resources were reduced to less than significant. Additionally, prepared responses to comments on the final EIR, which the City of Orange certified. Additional work included conducting a jurisdictional delineation and preparing a jurisdictional delineation report as well as regulatory permit applications for which Section 401, 404, and 1600 authorizations were issued.

BIOLOGICAL FUEL MODIFICATION ZONE PROJECTS — CITY OF LAGUNA BEACH; LAGUNA BEACH, CALIFORNIA

Served as Senior Biologist. Mr. Bomkamp has served as Project Biologist for the City of Laguna Beach Fire Department since 1994, providing coastal expertise for numerous fuel modification projects. Work has included conducting general and focused surveys for sensitive wildlife and plant species including coastal California gnatcatcher, least Bell's vireo (Vireo bellii pusillus), Pacific pocket mouse, tidewater goby, Laguna Beach dudleya, and big-leaved crownbeard to performing habitat assessments and vegetation mapping. Additionally, Tony has prepared a biological technical report addressing wildlife movement corridors, impacts to biological resources including special-status species, and mitigation measures. Tasks have included rare plant surveys within all fuel modification zones throughout City, providing Biological Support in accordance with the CEQA for new fuel modification zones, and preparing/processing Coastal Development Permits for areas subject to Chapter 3 Policies of the Coastal Act.

NEWPORT BANNING RANCH — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Senior Biological/Regulatory Consultant. Managed biological work required for CEQA authorization including directing and conducting general biological surveys; rare plant surveys; and focused least Bell's vireo, raptor, burrowing owl, and fairy shrimp surveys. Additionally, supervised and conducted focused surveys for coastal California gnatcatcher, southwestern willow flycatcher, and cactus wren. Conducted vegetation mapping, prepared a biological technical report for use in preparation of draft and final EIRs pursuant to CEQA, and prepared responses to comments on the final EIR. Additionally, led a team of regulatory specialists in updating the CWA Section 404 jurisdictional delineation for the site, prepared a jurisdictional delineation report, and directed and participated in public outreach workshops. The City of Newport Beach has approved the project and certified the EIR.

ON-CALL CONTRACT TO PROVIDE ENVIRONMENTAL TECHNICAL STUDIES — CITY OF COSTA MESA; COSTA MESA, CALIFORNIA

Serving as Senior Biologist. Project consists of providing environmental technical studies, conducting endangered species surveys, conducting surveys for special-status plants, assisting the City of Costa Mesa in obtaining a Section 10(a)(1)(a) Recovery Permit for listed fairy shrimp that occur in Fairview Park, preparation and implementation of a vernal pool habitat mitigation and monitoring plan for vernal pools and associated upland buffers, and performance of mitigation monitoring. To date, work has included conducting wet season fairy shrimp sampling in vernal pools, mapping special-status plant locations, reporting to USFWS, and performing post rain event site assessments for hydrology suitable for fairy shrimp in accordance with USFWS sampling protocol. Mr. Bomkamp conducted all tasks described herein.

ORANGE COUNTY TRANSPORTATION AUTHORITY MEASURE M2 REGULATORY AND BIOLOGICAL SUPPORT — ORANGE COUNTY, CALIFORNIA

Serving as Senior Technical Advisor/Coastal Regulations Specialist. Work includes biological resources monitoring for seven Preserves totaling over 1,300 acres to determine threats and stressors that may impact Covered Species and natural communities, conducting overall assessments (e.g., invasive species, erosion, unauthorized trail cutting, and trail

condition) to help determine areas of highest management priority, conducting focused species surveys, updating vegetation mapping, and documenting unauthorized activities and related effects to biological resources. GLA conducts ongoing site visits, photo monitoring, and reporting to address results of research and monitoring activities, recommend appropriate adaptive management actions, and discuss anticipated activities for the upcoming year. Specific to Laguna Beach, GLA provides biological monitoring at the Pacific Horizon Preserve, including monitoring the burn area associated with the May 2022 Coastal Fire and leading public hikes. Mr. Bomkamp's primary role is to provide coastal regulations support for the Pacific Horizon Preserve.

WESTERN SNOWY PLOVER PROJECT — CITY OF NEWPORT BEACH; NEWPORT BEACH, CALIFORNIA

Serving as Senior Biologist. Project consists of preparation of a Management Plan for Western Snowy Plover in support of a Coastal Development Permit for areas of the Balboa Peninsula. Tasks include preparation of Western Snowy Plover Management Plan; focused surveys for wintering western snowy plovers; vegetation mapping for areas of dune habitat on Balboa Peninsula; focused plant surveys and vegetation census for dune and beach areas on Balboa peninsula; coordination with various City departments during development of management plan; coordination with U.S. Fish and Wildlife Service during development of the management plan; coordination with Coastal Commission staff; and attendance at public meetings to present management plan to various stakeholders concerned about western snowy plover. Mr. Bomkamp oversees all biological task.

SPECIAL AREA MANAGEMENT PLAN (SAMP), VARIOUS PLANNING AREAS, AND INFRASTRUCTURE — RANCHO MISSION VIEJO (RMV); SAN JUAN CAPISTRANO, CALIFORNIA

Serving as Project Manager/Wetland Regulatory Specialist/Botanist. Work has included providing biological support relevant to CEQA and NEPA in addition to regulatory and mitigation support including conducting a jurisdictional delineation for approximately 8,000 acres of the 23,000-acre special area management plan (SAMP) study area associated with Rancho Mission Viejo's "Ranch Plan" (i.e., EIR) study area and verifying the delineation with the U.S. Army Corps of Engineers and California Department of Fish and Wildlife (CDFW); preparing responses to comments on the Ranch Plan; applying for permits and coordinating CWA Section 404 processing in accordance with SAMP and the master streambed alteration agreement with CDFW; analyzing impact assessments and preparing a wetland functional assessment for the Regional Water Quality Control Board; reviewing grading plans; performing and directing rare plant surveys throughout the study area; designing and implementing protocols for a rare plant translocation program including for many-stemmed dudleya, intermediate mariposa lily, thread-leaved brodiaea, and southern tarplant; implementing a five-year management action plan for thread-leaved brodiaea, many-stemmed dudleya, Coulter's saltbush, and southern tarplant as well as a large-scale many-stemmed dudleya restoration project with five receptor sites and more than 3,100 plants installed, which are meeting success criteria. The County of Orange has approved the Ranch Plan and certified the EIR.

ESPERANZA HILLS DEVELOPMENT PROJECT — YORBA LINDA ESTATES; LLC, CITY OF YORBA LINDA, CALIFORNIA

Serving as Lead Biologist. Conducted a jurisdictional delineation of the 631-acre site and prepared a jurisdictional delineation report. Directed and performed protocol surveys for coastal California gnatcatcher and least Bell's vireo. Prepared a biological assessment as well as a biological technical report for use in preparation of draft and final EIRs pursuant to CEQA. Prepared CWA Section 401 and 404 and FGC Section 1602 notifications, an EA/alternatives analysis, as well as habitat restoration/mitigation plans. Currently processing CWA Section 401 and 404 and FGC Section 1602 authorizations. Prepared responses to comments on the public notice as well as the final EIR, which the County of Orange has certified. Attended public hearings.

SEASP ESHA EVALUATION — PLACEWORKS FOR CITY OF LONG BEACH, CALIFORNIA

Served as Senior Biologist. GLA conducted an evaluation of Environmentally Sensitive Habitat Area (ESHA) as defined under the California Coastal Act for the Southeast Area Specific Plan (SEASP). Tasks included: development of ESHA Criteria based on previous Commission ESHA determinations and guidance from the Commission's ecologists, vegetation mapping consistent with current Commission standards for identifying "rare" and "endangered" vegetation

alliances, surveys for special-status plants that meet the Commission's criteria for ESHA; conducted habitat assessments and surveys for special-status animals that meet the Commission's criteria for ESHA; prepare report identifying all areas within the SEASP area that meeting the Commission's ESHA criteria; coordination with City staff and stakeholders.

MARBLEHEAD COASTAL DEVELOPMENT PROJECT — R.J.MEADE CONSULTING; SAN CLEMENTE, CALIFORNIA

Served as Senior Biologist/Project Manager. Conducted a jurisdictional delineation for obtaining CWA Section 401 and 404 and FGC Section 1602 authorizations as well as a Coastal Development Permit for the 250-acre site. Directed and performed vegetation mapping, wildlife movement studies, burrowing owl surveys, and coastal California gnatcatcher surveys. Conducted rare plant surveys for and mapped locations of Coulter's saltbush. Designed and prepared a habitat restoration/mitigation plan. Directed and conducted construction monitoring and implemented habitat restoration. Attended meetings with the U.S. Fish and Wildlife Service and California Coastal Commission.

UPPER LOS CERRITOS WETLAND MITIGATION BANK — BEACH OIL MINERAL PARTNERS; CITY OF LONG BEACH, CALIFORNIA

Served as Lead Biologist. Performed and/or directed all biological studies and surveys in support of the Los Cerritos Mitigation Bank. Tasks included: coordination of expert biologists in performing various focused flora and faunal surveys; performance of the wetland delineation for federal and state jurisdictional wetlands; and performance of focused botanical surveys and surveys for the State-listed Belding's savannah sparrow.

CANYON HILLS DEVELOPMENT PROJECT — CHRISTOPHER A. JOSEPH & ASSOCIATES; CITY OF LOS ANGELES, CALIFORNIA

Served as Lead Biologist/Project Manager. Conducted the jurisdictional delineation for the 900-acre site and prepared a jurisdictional delineation report. Conducted vegetation mapping, general wildlife surveys, and general and focused botanical surveys. Performed protocol surveys for coastal California gnatcatcher and focused surveys for least Bell's vireo. Produced a biological technical report for use in preparation of environmental documents pursuant to CEQA. Prepared Section 401, 404, and 1602 notifications and an EA/alternatives analysis. Processed 401, 404, and 1602 authorizations and prepared a wetland/riparian mitigation plan. Responded to public notice comments to finalize the CEQA process. CEQA was approved for the project.

ST. MICHAEL'S ABBEY PROJECT — ST. MICHAEL'S ABBEY; SILVERADO, CALIFORNIA

Serving as Senior Biologist. Performs and directs biological surveys for purposes of CEQA including vegetation mapping and focused surveys for coastal California gnatcatcher, cactus wren, raptors, burrowing owl, arroyo toad, and rare plants. Prepared a biological technical report for use in draft and final EIRs and responses to comments for the final EIR. The County of Orange approved the project and certified the EIR. Habitat restoration has been implemented and construction monitoring is ongoing as needed.

INTERSTATE 215 WIDENING FROM SCOTT ROAD TO NUEVO ROAD — ICF INTERNATIONAL/RIVERSIDE COUNTY TRANSPORTATION COMMISSION; CITIES OF PERRIS AND MENIFEE AND UNINCORPORATED RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Manager. The project consists of the widening of the section of I-215 between Scott Road and Nuevo Road. GLA conducted a California Rapid Assessment Method (CRAM) analysis of vernal pools that would be impacted by the project and designed a mitigation program to compensate for the impacts which included creation of vernal pools immediately south of Ramona Expressway and west of the San Jacinto River channel. GLA also designed and implemented mitigation for two-special status plant species, smooth tarplant (Centromadia pungens ssp. laevis) and San Jacinto Valley crownscale (Atriplex coronata var. notatior). The project is in its fourth year of implementation.

ROAD CROSSING OF THE SAN JACINTO RIVER BETWEEN GOETZ ROAD AND 2,500 LINEAR FEET SOUTHERLY OF ETHANAC ROAD — RICHLAND COMMUNITIES; CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Manager. The project consists of construction of a road crossing over the San Jacinto River between Goetz Road and 2,500 linear feet southerly of Ethanac Road. GLA's work includes preparation of a Biological Technical Report and a jurisdictional delineation report to satisfy the requirements of CEQA and regulatory agency permitting requirements. Specifically, GLA conducted a jurisdictional delineation, vegetation mapping, habitat assessments, and performed focused surveys for special-status plants and focused protocol surveys for least Bell's vireo and southwestern willow flycatcher.

SANTA MARGARITA WATER DISTRICT GOBERNADORA MULTIPURPOSE BASIN, DOWNSTREAM MONITORING OF RIPARIAN HABITAT IN GOBERNADORA CREEK, RANCHO MISSION VIEJO, ORANGE COUNTY

Served as Project Manager. Conducted a jurisdictional delineation of Gobernadora and Wagon Wheel Creeks and obtained Section 404, 401 and 1602 Authorizations for the Santa Margarita Water District's (SMWD) Gobernadora Multipurpose Basin, which includes water quality, flood control components as well as water harvesting (surface water and groundwater) for non-domestic uses for SMWD. A condition of the Section 1602 Streambed Alteration Agreement requires development of an Adaptive Management Plan (AMP) for assessing potential impacts on downstream riparian habitat within Gobernadora Creek, which supports State and federally listed species such as least Bell's vireo. Working with WEI and SMWD, prepared a detailed AMP to assess potential impacts on downstream riparian habitat associated with surface and groundwater withdrawals. Monitoring program is tiered and includes monitoring of groundwater wells, surface flows, soil moisture and leaf water potential based upon thresholds that trigger each tier of the monitoring.

WASTEWATER DISCHARGE ANALYSIS — WESTERN RIVERSIDE COUNTY REGIONAL WASTEWATER AUTHORITY

Serving as Lead Biologist. Providing biological support for WRCRWA's petition for change in wastewater discharges to Prado Basin. Tasks include preparation of water budget in collaboration with project hydrologist, assessment of areas of riparian habitat within Prado Basin, jurisdictional delineation, habitat assessment and surveys for federally listed species (e.g., least Bell's vireo), preparation of detailed riparian habitat monitoring program that includes use of historic hydrology data, groundwater monitoring wells, stream gaging, quantitative and qualitative riparian habitat assessments. The riparian habitat monitoring program has been prepared in collaboration with USFWS and CDFW. In addition, the project includes assisting the WRCRWA team with preparation of Environmental Assessment in support of the Corps' Out-grant Process. Project requires extensive coordination with USFWS and CDFW as well as Corps' planning branch.

ARROYO TRABUCO GOLF COURSE, MONITORING OF RIPARIAN HABITAT IN TRABUCO CREEK — RANCHO MISSION VIEJO, ORANGE COUNTY

GLA conducted jurisdictional delineation of Trabuco Creek and obtained Section 404, 401 and 1602 Authorizations for the Arroyo Trabuco Golf Course in Orange County. Irrigation water for the golf course includes water from obtained from Trabuco Creek. A condition of the project Final EIR required development of a program for monitoring potential impacts on riparian habitat within Trabuco Creek, which supports State and federally listed species such as least Bell's vireo. Working with WEI and Rancho Mission Viejo, GLA developed a monitoring program to assess potential impacts on associated with surface water withdrawals. The monitoring program included qualitative assessment of riparian habitat downstream from diversion point, correlation of surface flow data collected by WEI, and collection of leaf water potential data.

TRAMPAS RECYCLED WATER RESERVOIR — SANTA MARGARITA WATER DISTRICT

Serving as Senior Biologist. Providing biological and regulatory support for SMWD's Trampas Canyon Recycled Water Reservoir project on Rancho Mission Viejo, Orange County. Tasks include preparation of biological technical report that included a jurisdictional delineation component, preparation of and processing Section 404, 401 and 1600 authorizations, biological surveys, delineation review of the project with Corps and CDFW, and development of a mitigation program.

EMPLOYMENT HISTORY

Glenn Lukos Associates. Senior Biologist/Regulatory Specialist. Lake Forest, California. 1993 – 1995 and 1997 – Present.

California State University, Fullerton. Adjunct Faculty – Environmental Studies Program. Fullerton, California. 1993 – 2021.

Michael Brandman Associates. Botanist/Wetlands Specialist. Irvine, California. 1995 – 1997.

California State University, Fullerton. Graduate Assistant for Southern California Waterbody Study. Fullerton, California. 1990 – 1993.

California State University, Fullerton. Graduate Assistant for Field Botany. Fullerton, California. 1992.

STEPHANIE CASHIN

YEARS OF EXPERIENCE

Professional start date: 2000

Years at GLA: 10

EDUCATION

MS, Environmental Studies, California State University, Fullerton, 2012

BS, Biology with Minor in Zoology, California Polytechnic State University, Pomona, 1999

PERMITS AND CERTIFICATIONS

USFWS 10(a)(1)(A) Recovery Permit #TE20280D-0 for vernal pool branchiopods (including Conservancy fairy shrimp, longhorn fairy shrimp, Riverside fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp)

TRAININGS ATTENDED

California Rare Bumblebee
The Wildlife Society-Western Section
Via Zoom, 2021

Advanced Bat Acoustics Workshop
The Wildlife Society-Western Section
Via Zoom, 2021

Intro Desert Tortoise Field Techniques
The Desert Tortoise Council
Via Zoom, 2020

Bat Acoustics Workshop
The Wildlife Society-Western Section
James Reserve, Idyllwild, 2018

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PROFESSIONAL SUMMARY

Stephanie Cashin is a Senior Biologist with expertise in field biology, herpetology, biological monitoring, and habitat restoration. Stephanie has served as a Project Biologist throughout Southern California and specializes in conducting focused wildlife surveys, including conducting habitat assessments and focused bat surveys, focused protocol surveys for arroyo toad, western s padefoot toad, southern western pond turtle, desert tortoise, legless lizard, least Bell's vireo, burrowing owl, and general biological surveys for California amphibian and reptile species of special concern in Orange, Los Angeles, San Bernardino, Ventura, and Riverside Counties. She has assisted in several vernal pool inventory surveys for species including listed fairy shrimp and western spadefoot toad. She has led and assisted in numerous focused rare plant surveys including many-stemmed dudleya, Blochman's dudleya, Verity's dudleya, intermediate mariposa lily, Catalina mariposa lily, slender mariposa lily, southern tarplant, Palmer's grapplinghook, and short-joint beavertail cactus. She has performed construction monitoring with a competent understanding of ensuring compliance with resource agency permit conditions while maintaining the benefit of natural resources within or adjacent to existing development areas.

Stephanie's strengths in working with complex projects include her extensive scientific background and analytical capacity. She is extremely skilled in collecting and organizing data and finding resolution to issues requiring direct action. Stephanie's biological experience spans 16 years.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

THE SAN JACINTO RIVER MASTER DRAINAGE PLAN, STAGE 3 — RIVERSIDE COUNTY, CALIFORNIA

Assisting Project Biologist to conduct focused wet season fairy shrimp surveys in support of project permitting.

MEAD VALLEY MINE PROJECT — RIVERSIDE COUNTY, CALIFORNIA

Assisting Project Biologist to conduct dry season fairy shrimp soil sample collection; conduct focused burrowing owl, rare plant, and acoustic bat surveys in support of project permitting.

ADOBE SPRINGS PROJECT — MURRIETA, CALIFORNIA

Assisting Project Biologist. Conduct focused visual presence/absence survey for southern western pond turtle (Emys marmorata pallida) for two seasons in support of project permitting. Assist with implementation of pond turtle avoidance minimization plan including installation of turtle protection fencing, turtle exclusion, preconstruction surveys and monitoring.

LOS VALLES PROJECT — LOS ANAGELES COUNTY, CALIFORNIA

Serving as Project Biologist. Prepare and implement the western spadefoot habitat mitigation creation plan including pool creation monitoring, project site surveys, western spadefoot translocation. Coordinate with CDFW in support of plan approval.

OCTA PRESERVES — ORANGE COUNTY TRANSPOTATION AUTHORITY PROPERTIES, CALIFORNIA

Assisting Project Biologist with stewardship monitoring, California gnatcatcher and cactus wren surveys, focused reptile surveys, southern cactus scrub mapping, invasive species mapping and habitat restoration monitoring.

MONTEBELLO HILLS DEVELOPMENT PROJECT — MONTEBELLO, CALIFORNIA

Assisting Project Biologist. Provide biological support and conducting focused acoustic bat surveys, construction monitoring, and preconstruction surveys for California legless lizard, Crotch bumblebee, and cactus wren.

SPECIAL AREA MANAGEMENT PLAN, VARIOUS PLANNING AREAS, AND INFRASTRUCTURE — RANCHO MISSION VIEJO; SAN JUAN CAPISTRANO, CALIFORNIA

Serving as Project Biologist. Provide biological support relevant to California Environmental Quality Act (CEQA) and National Environmental Policy Act in addition to regulatory and mitigation support. Conduct pre-construction and biological monitoring. Assist in designing and implementing protocols for a rare plant translocation program including for many-stemmed dudleya, intermediate mariposa lily, thread-leaved brodiaea, and southern tarplant. Implement management action plan rare plant monitoring for southern tarplant, thread-leaved brodiaea, Coulter's saltbush, and many-stemmed dudleya. Implement mitigation monitoring plan, identify new site receptor locations and manage translocation for many-stemmed dudleya. Collect rare plant seed and harvest rare plants for use in restoration. Coordinate with the landscape contractor. Conduct qualitative and quantitative monitoring surveys, prepare annual monitoring reports, and photo exhibits documenting findings.

TAPIA CANYON DEVELOPMENT PROJECT — SANTA CLARITA, CALIFORNIA

Serving as Project Biologist. Provide biological and regulatory support specifically for preparation of biological technical and a jurisdictional delineation reports to satisfy CEQA requirements. Conduct general biological surveys, vegetation mapping, focused plant surveys including for slender mariposa lily and Pierson's morning glory, focused surveys for western spadefoot toad, least Bell's vireo, and burrowing owl, and jurisdictional delineation. Prepare a biological technical report and jurisdictional delineation report.

SKYLINE RANCH DEVELOPMENT PROJECT — PARDEE HOMES; UNINCORPORATED LOS ANGELES COUNTY, CALIFORNIA

Serving as Project Biologist. Conduct focused burrowing owl surveys and coordinate with the project team regarding preparation of burrowing owl relocation and protection plans. Conduct coastal sage scrub vegetation mapping; overseeing coastal sage scrub maintenance activities; and conducting nesting bird surveys, coordinate, conduct annual monitoring and reporting for Plum Canyon Habitat Mitigation Plan.

SPRING CANYON DEVELOPMENT PROJECT — RAINTREE INVESTMENT CORPORATION; SANTA CLARITA, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Support preparation the HMMP and conduct mariposa lily surveys to document population locations, assess phenology, and flag populations for translocation and harvest. Conduct mitigation monitoring and preparation of annual reports for slender mariposa lily. Conduct holly leaf cherry woodland habitat assessment mapping. Conduct focused arroyo toad surveys in support of project permitting. Conduct burrowing owl and reptile preconstruction surveys.

NBC UNIVERSAL PROJECTS — NBC UNIVERSAL; UNIVERSAL CITY, CALIFORNIA

Serving as Project Biologist. Provide biological support services for multiple NBC Universal projects. Attend pre-construction meetings and perform pre-construction surveys. Conduct nesting bird and bat surveys and nest monitoring. Prepare reports documenting findings. Perform habitat assessments for nesting birds, reptiles, and various special-status plant and wildlife species. Prepare biological assessments and various mitigation compliance letters. Coordinate with various project teams.

LAX/EL SEGUNDO DUNES SENSITIVE HABITAT SUPPORT PROJECTS FOR LOS ANGELES WORLD AIRPORTS — CDM SMITH; LOS ANGELES, CALIFORNIA

Serving as Project Biologist. Provide support services for multiple projects. Conduct sensitive habitat pre-construction meeting, biological construction monitoring, conduct pre-construction nesting bird surveys, rare plant mitigation monitoring and reporting. Review construction permits and perform construction monitoring. Prepare compliance and completion memoranda, photo exhibits, and a Regional Water Quality Control Board annual monitoring report. Outside of the abovementioned scope, GLA additionally provided task management, initial technical support, and regulatory support; conducted burrowing owl, south cost branching phacelia, and Lewis' evening primrose surveys; and developed and implemented contractor training, oversee south coast branching phacelia restoration monitoring, conduct contractor training and biological monitoring within the El Segundo Dunes Blue Butterfly Reserve.

NEWPORT BANNING RANCH PROJECT — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Conduct biological work required for CEQA authorization including vegetation mapping; general biological surveys; rare plant surveys; and focused least Bell's vireo, cactus wren, raptor, burrowing owl surveys. Conduct qualitative and quantitative monitoring to assess germination of hand-seeded species, establishment of native container plantings, natural recruitment, and presence of non-native species. Prepare memoranda, reports, and exhibits. Conduct data analyses and report documented findings to the client and regulatory agencies including the CCC. The mitigation areas are exceeding 5-year success criteria.

THE CANYON AT PEACE PARK PROJECT — THE CANYON AT PEACE PARK; MALIBU, CALIFORNIA

Serving as Project Biologist. Monitor demolition of on-site structures in preparation for native habitat restoration. Conduct biological monitoring including for nesting birds and biological surveys pertaining to potential environmentally sensitive habitat areas. Perform focused raptor surveys. Prepare a vegetation map, biological technical report, biological memoranda, and photo exhibits for review by project attorney and California Coastal Commission (CCC). Conduct qualitative and quantitative monitoring surveys of restoration areas.

JOHN WAYNE GULCH AND SUNSET RIDGE PARK PROJECTS — CITY OF NEWPORT BEACH; NEWPORT BEACH, CALIFORNIA

Serving as Assistant Habitat Restoration Specialist. Provide habitat restoration support for the 0.48-acre John Wayne Gulch and 1.5-acre Sunset Ridge Park mitigation sites. Conduct qualitative and quantitative monitoring to assess establishment of native plantings, natural recruitment, and presence of non-natives. Prepare memoranda, reports, and exhibits. Conduct data analyses and report documented findings to the client and regulatory agencies including the CCC. Both mitigation sites are exceeding 5-year success criteria.

GOLDEN VALLEY RANCH PROJECT — TRIPOINTE GROUP; SANTA CLARITA, CALIFORNIA

Serving as Project Biologist and Assistant Habitat Restoration Specialist. Provide regulatory, biological, and habitat restoration support. Attend site meeting to review riparian mitigation site progress as well as a worker education meeting. Coordinate with the landscape contractor regarding weed abatement progress. Prepare a riparian mitigation plant palette, seed mix for riparian and alluvial mitigation areas, and mitigation area exhibit. Maintain a record of site photos.

EMPLOYMENT HISTORY

Glenn Lukos Associates. Associate Biologist. Lake Forest, California. 2013 – Present.

Fullerton College. Laboratory Manager-Biological Sciences. Fullerton, California. 2000 – 2013.

San Bernardino County Museum, Countywide Biodiversity Census, Herpetology Team Wildlife Biologist, San Bernardino County, California. March to August-2000.

VOLUNTEERING

Assist USGS biologists over many years and at multiple locations with western pond turtle trapping and seining, arroyo toad and western spadefoot surveys.

ADDITONAL WORKSHOPS

California Fairy and Tadpole Shrimp Identification Class and Test, Mary Schug Belk, San Diego, 2017

Flat-tailed horned lizard, Biological Monitor Training, BLM El Centro Field Office, 2017

Rare Pond Species Workshop, Laguna de Santa Rosa Foundation, 2016

As part of her Master's project, Ms. Cashin studied wildlife movement in an urban environment using camera trapping and track stations. Prior to working at GLA, Ms. Cashin managed a community college biological laboratory and teaching museum. Additionally, Ms. Cashin was a staff herpetology field biologist for the San Bernardino County Museum.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

Vernal Pool Branchiopods: Field Workshop, The Wildlife Society-Western Section, Sacramento, 2018

Wetland Delineation Course, Wetland Training Institute, 2022

JEFF AHRENS

Senior Biologist

YEARS OF EXPERIENCE

Professional start date: 1999

Years at GLA: 23

EDUCATION

MS, Environmental Studies,
CSU, Fullerton, 2004

BS, Wildlife with Minor in Fisheries,
CSU, Humboldt, 1995

PERMITS AND CERTIFICATIONS

SCP#193390007, CDFW MOU for Southwestern Willow Flycatcher & Coastal California Gnatcatcher

USFWS 10(a)(1)(A) Recovery Permit #TE052159-5 for Southwestern Willow Flycatcher & California Gnatcatcher

TRAININGS ATTENDED

Arroyo Toad Workshop, TWS 2022

CA Rare Bee Workshop, TWS 2021

Advanced Bat Acoustics (A Master Class), TWS 2021

Bat Acoustics Workshop,
TWS, James Reserve, 2018

Vernal Pool Branchiopods
TWS, Davis CA, 2018

Fairy Shrimp Workshop
TWS, San Diego, 2018

Flat-tailed Horned Lizard Workshop
BLM, El Centro CA, 2017

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PROFESSIONAL SUMMARY

Jeff Ahrens is a Wildlife Biologist with an extensive background in wildlife ecology. He brings expertise in conducting biological investigations throughout Southern California including within Western Riverside County Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan areas and specializes in performing focused surveys for listed and sensitive wildlife species including coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo, burrowing owl, desert tortoise, California red-legged frog, southwestern arroyo toad, western spadefoot toad, southwestern pond turtle (including trapping), Belding's savannah sparrow, California legless lizard, coast horned lizard, arroyo chub, three-spine stickleback, Crotch's bumble bee, large-scale wildlife movement studies using remote cameras and track stations; nesting bird and raptor foraging studies; invasive species eradication and bat presence/absence and emergence surveys.

Jeff has additionally conducted numerous burrowing owl passive relocation efforts, western spadefoot toad egg and tadpole relocation and monitoring, herpetofauna array trapping, and small mammal trapping; constructed more than 100 artificial owl burrows; sensitive plant and tree surveys, vegetation mapping, heronry monitoring; carried out and performed wetland delineations pursuant to Section 404 of the Clean Water Act and Section 1602 of the Fish and Game Code; and prepared biological technical reports and constraints analysis.

As part of his Master's thesis, Jeff studied the effects of traffic noise on scrub bird diversity and richness in fragmented areas of coastal sage scrub within southern California. Prior to working at GLA, Jeff conducted various wildlife work for the U.S. Fish and Wildlife Service, National Park Service, and private consulting in areas including in Alaska, California, Oregon, and Wyoming.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

ADOBE SPRINGS —
CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. Conduct focused southwestern pond turtle surveys. Assist in preparation of avoidance and minimization and fencing plans.

ANDALUCIA DEVELOPMENT —
WATERMARKE PROPERTIES, INC.; MISSION VIEJO, CALIFORNIA

Served as Project Biologist. Conducted trapping and relocation of southwestern pond turtle over multiple years. Performed focused surveys for least Bell's vireo, southwestern pond turtle, and southwestern willow flycatcher within the 7-acre study area

CITY OF CORONA ON-CALL REGULATORY AND BIOLOGICAL SUPPORT SERVICES — CITY OF CORONA, CALIFORNIA

Serving as Project Biologist. GLA provides regulatory and biological support for the City's on-call task order for operations and maintenance activities within the Prado Basin including advising on regulatory permitting strategies for sediment removal and vegetation removal, structure repair, and management at the City of Corona Airport, conducting jurisdictional delineations, nesting bird surveys, and focused species surveys.

ALISO CREEK RESTORATION PROJECT — LAGUNA CANYON FOUNDATION; ALISO VIEJO, CALIFORNIA

Served as Project Biologist. Conducted sensitive species surveys for the 55-acre Aliso Creek restoration project. Sensitive species surveys included southwestern willow flycatcher, least Bell's vireo, southwestern pond turtle, and rare plants. The project is ongoing and consists of restoring functions and values of Aliso Creek by removing giant reed and revegetating with native plants

ARIZONA CROSSING OF SAN JUAN CREEK PROJECT — CITY OF SAN JUAN CAPISTRANO; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Captured and relocated arroyo chub from culvert pipes at Arizona crossing. Conducted focused surveys for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Performed qualitative surveys for arroyo toad, arroyo chub, and southwestern pond turtle.

BROAD BEACH PROPERTY — CITY OF MALIBU, LOS ANGELES COUNTY, CALIFORNIA.

Served as Project Biologist. Conducted focused surveys at a 2-acre coastal dune area for the California legless lizard using coverboards and looking for tracks.

CORONA 720 PROJECT — VULCAN MATERIALS COMPANY; CORONA, CALIFORNIA

Served as Project Biologist. Designed and conducted detailed six-month wildlife movement study using remotely-triggered trail cameras, scented track stations, global positioning system (GPS) equipment and by identifying wildlife species from tracks and scat in order to establish wildlife movement corridors and species diversity within the 720--acre property. Target species include mountain lion, bobcat and mule deer.

EAST ORANGE GENERAL PLAN COMMUNITY — THE IRVINE COMPANY, ORANGE COUNTY, CALIFORNIA

Served as Project Biologist. Conducted focused surveys for arroyo toad, California gnatcatcher, and least Bell's vireo. Assisted in focused bat surveys and surveys for special-status plants. Assisted in capture and relocation of western spadefoot toad to on site created pools.

I-5 IMPROVEMENTS OVER SAN JUAN CREEK — KEETON KREITZER CONSULTING; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Performed surveys for arroyo toad, least Bell's vireo, southwestern pond turtle, southwestern willow flycatcher, and two-striped garter snake.

INLAND EMPIRE BRINE LINE PROTECTION PROJECT — ALBERT A. WEBB ASSOCIATES/RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT; WESTERN RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project included the installation of 2,500 linear feet of protective sheet pile, including at the outlet of Aliso Canyon just before its confluence with the Santa Ana River. GLA's work included performance of biological surveys that would satisfy the requirements of the Western Riverside County MSHCP and CEQA and the preparation of required MSHCP biological documents. Specifically, GLA conducted general biological surveys, vegetation mapping, habitat assessments for special status plants and animals, and focused surveys for sensitive plants based on MSHCP survey requirements and the presence of suitable habitat. GLA also prepared a biological technical report for use in preparation of environmental documents pursuant to CEQA to demonstrate MSHCP compliance, including with riparian/riverine DBESP requirements and provided restoration support. Work included preparation of a jurisdictional delineation report and securing CWA Section 401 and 404 and FGC Section 1602 authorizations for the project.

LAKE FOREST DRIVE/BAKE PARKWAY EXTENSION PROJECT — THE IRVINE COMPANY; IRVINE, CALIFORNIA

Served as Project Biologist. Conducted pre-construction protocol surveys for least Bell's vireo and southwestern pond turtles as well as seasonal monitoring of least Bell's vireo activity and sound monitoring during active construction.

LOST CANYONS DEVELOPMENT PROJECT — HILLWOOD CAPITAL; SIMI VALLEY, CALIFORNIA Served as Lead Coastal California Gnatcatcher Biologist. Performed focused surveys for coastal California gnatcatcher within the 1,775-acre site. Surveys were conducted in both 2013-2014 and 2016. The purpose of the 2013-2014 survey was to determine presence/absence and consisted of protocol surveys within three survey areas. Three coastal California gnatcatcher family groups, three potential pairs, and five individuals were detected within the survey area. The purpose of the 2016 survey was to determine presence only (i.e. not to confirm absence) in conservation lands and areas avoided by the project. As such, a deviation from the six-visit breeding season survey protocol was been approved by the USFWS with a total of three visits being conducted per survey area unless the status (e.g., paired, unmated male) of CAGN was determined in an area, in which case no further visits occurred for that area. GLA detected a total of two gnatcatcher family groups, two gnatcatcher pairs, one single adult male gnatcatcher (likely paired), and one single adult gnatcatcher. Also conducted focused surveys for western spadefoot toad.

MARBLEHEAD COASTAL DEVELOPMENT PROJECT — R.J.MEADE CONSULTING; SAN CLEMENTE, CALIFORNIA

Served as Project Biologist. Performed wildlife movement studies using scented track stations, GPS equipment and by identifying wildlife species from tracks and scat in order to establish wildlife movement corridors and species diversity. Conducted focused burrowing owl and California gnatcatcher surveys.

METROPOLITON WATER DISTRICT OF SOUTHERN CALIFORNIA —
VARIOUS PROJECTS IN SOUTHERN CALIFORNIA

Served as Project Biologist performing numerous biological tasks for MWD locations throughout southern California including; conduct focused desert tortoise and burrowing owl surveys for the Colorado River Aqueduct Structural Protection Project, Riverside County; perform 24-hour biological monitoring related to the 2012 Foothill Feeder Shutdown to ensure no "take" occurred to unarmored three-spined stickleback and compliance. Santa Clarita, Los Angeles County; perform bological support for permit compliance; Lake Skinner Routine Maintenance Projects; monitor arroyo chub at the Box Springs Feeder Shutdown Dewatering Project at Sycamore Canyon Wilderness Park, Riverside County; conduct western spadefoot toad pre-construction surveys for The San Diego Canal Olive Siphon Maintenance Project, Riverside County, California; biological support for permit compliance at the various locations at Lake Mathews, Riverside County.

REGULATORY PERMIT COMPLIANCE ASSOCIATED WITH THE LAKE SKINNER MAINTENANCE PROJECT — METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA; LAKE SKINNER; RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Biologist. GLA provides regulatory and biological support to meet conditions in the CDFW Streambed Alteration Agreement including pre-construction surveys for California Species of Special Concern, such as the western spadefoot toad (Spea hammondii), the orange-throated whiptail (Aspidoscelis hyperythra), the coast horned lizard (Phrynosoma coronatum), and the burrowing owl (Athene cunicularia); biological monitoring of ongoing maintenance removal areas; ongoing monitoring and reporting of non-native species removal areas at Lake Skinner and in the fee-owned property westerly of the intersection of Auld Road and Borel Road/Washington Street; preparation and delivery of an Invasive Species Education Program to Metropolitan crews and contractors on an annual basis; and preparation of an annual work plan for each maintenance season.

CAJALCO CREEK DAM AND DETENTION BASIN, LAKE MATHEWS BASINS 1-4, UNDERDRAIN EFFLUENT, NORTH/SOUTH SPILLWAYS, AND WEIRS 1 AND 2 AT LAKE MATHEWS PROJECT —
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA; RIVERSIDE COUNTY, CALIFORNIA

Serving as Project Biologist. GLA provides ongoing regulatory and biological support to meet conditions in the CDFW Streambed Alteration Agreement that must be met either prior to, during, or after approved maintenance activities have been completed. These tasks include biological monitoring, project coordination, and preparation of annual maintenance reports. The annual reports include a summary of the annual maintenance activities conducted including location, type of activity, time of year activities were conducted, duration of activities, methods/equipment used to conduct activities, quantity and type of vegetation removed, and total area of impact for each location; and a list of avoidance and minimization measures implemented during maintenance activities to

protect fish and wildlife resources; and before and after photographs of the maintenance areas. Additionally, GLA is providing support to obtain an amendment to the Streambed Agreement to increase the acreage that can be maintained.

MILLS LANDING PROJECT — JOHN LAING HOMES; HUNTINGTON BEACH, CALIFORNIA

Served as Project Biologist. Conducted surveys and monitoring of Belding's savannah sparrow during construction within the 24-acre property.

NEWPORT BANNING RANCH — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist. Conducted focused burrowing owl, coastal California gnatcatcher, cactus wren, least Bell's vireo, southwestern willow flycatcher, and raptor surveys.

ORANGE COUNTY TRANSPORATION AUTHORITY MEASURE M2 REGULATORY AND BIOLOGICAL SUPPORT

Served as Project Biologist. Assist in providing support to OCTA to monitor biological resources for seven preserves totaling over 1,300 acres to determine threats and stressors that may impact Covered Species and natural communities. Main duty involved installing and monitoring numerous remote cameras to monitor wildlife movement and encroachment; document sensitive species including cactus wren, California gnatcatcher, coast horned lizard, and rare plants. Assist in invasive species monitoring. Conduct biological resources monitoring for the Preserves to determine threats and stressors that may impact Covered Species and natural communities; conducting overall assessments (e.g., invasive species, erosion, unauthorized trail cutting, and trail condition) to help determine areas of highest management priority; and documenting unauthorized activities and related effects to biological resources (e.g., encroachments and unauthorized trail cutting). Providing ongoing site visits, photo monitoring, and reporting, including annually, to address results of research and monitoring activities, recommend appropriate adaptive management actions, and discuss anticipated activities for the upcoming year. Work includes Invasive species mapping and preparation of an invasive species treatment plan to be approved by USFWS and California Department of Fish and Wildlife.

ROAD CROSSING OF THE SAN JACINTO RIVER BETWEEN GOETZ ROAD AND 2,500 LINEAR FEET SOUTHERLY OF ETHANAC ROAD — RICHLAND COMMUNITIES; CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project consists of construction of a road crossing over the San Jacinto River between Goetz Road and 2,500 linear feet southerly of Ethanac Road. GLA's work included focused southwestern willow flycatcher surveys and preparation of a Biological Technical Report and a jurisdictional delineation report to satisfy the requirements of CEQA and regulatory agency permitting requirements.

SAN JACINTO RIVER STAGE 4 LEVEE PROJECT — ALBERT A. WEBB ASSOCIATES/RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT; WESTERN RIVERSIDE COUNTY, CALIFORNIA

Served as Project Biologist. The project consists of levee improvements associated with an approximately 3-mile reach of the San Jacinto River totaling approximately 585 acres. GLA performed biological work to support the CEQA document including vegetation mapping, rare plant habitat assessment and rare plant surveys, and focused surveys for least Bell's vireo and southern willow flycatcher. Work also included preparation of an MSHCP consistency analysis and two determinations of biological equivalent or superior preservation (DBESP) analyses for impacts to riparian habitat including least Bell's vireo and Los Angeles pocket mouse habitat. GLA also conducted burrowing owl surveys for the project. GLA prepared a jurisdictional delineation report and is currently coordinating processing CWA Section 401 and 404 and FGC Section 1602 authorizations.

BIOLOGICAL SURVEYS FOR THE PROPERTY AT 1111 SUNSET BOULEVARD, CITY OF LOS ANGELES, CALIFORNIA

Served as Project Biologist. Conducted roosting bat and general nesting bird surveys.

BAT SURVEYS FOR 2110 BAY STREET MIXED USE PROJECT — CITY OF LOS ANGELES, CALIFORNIA

Served as Project Biologist. Conducted roosting bat surveys and prepared a report in compliance with CEQA.

SAN JUAN CREEK ROAD WIDENING PROJECT —
KEETON KREITZER CONSULTING; SAN JUAN CAPISTRANO, CALIFORNIA
Served as Project Biologist. Conducted focused protocol surveys for coastal California gnatcatcher and pre-construction surveys for roosting bats.

TENNIS ESTATES HOMEOWNERS ASSOCIATION — CITY OF HUNTINGTON BEACH, CALIFORNIA
Served as lead Project Biologist for over 10 years. Main duties include conduct yearly heron/egret monitoring; prepare tree replacement and five-year mitigation monitoring plans and reports; monitor the health of all mitigation trees; prepare the Tree Trimming Management Plan as part of Coastal Development Permit; coordinate with the City of Huntington Beach, California Coastal Commission; arborist and tree trimming contractors; monitor trimming activities and prepare post trimming reports.

UPPER NEWPORT BAY BLOWOFF STRUCTURE REHABILITATION PROJECT —
METROPOLITAN WATER DISTRICT; NEWPORT BEACH, ORANGE COUNTY, CALIFORNIA
Served as Project Biologist. Performed focused surveys for least Bell's vireo, coastal California gnatcatcher, and southwestern willow flycatcher. Assist with light-footed clapper rail surveys

WESTERM SNOWY PLOVER MANAGEMENT PLAN ON THE BALBOA PENINSULA —
NEWPORT BEACH, ORANGE COUNTY, CALIFORNIA
Served as Project Biologist. Assisted in preparation of the Western Snowy Plover Management Plan for East Balboa Peninsula Beaches. Participated in meetings with the public, City of Newport Beach and various public agencies. Conducted monitoring of western snowy plovers.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

CNDDB/RareFind/BIOS Workshop, CDFW, Long Beach CA, 2016

Rare Pond Species Workshop 2016, Laguna de Santa Rosa Foundation

Yellow-billed Cuckoo Workshop, Kern River Preserve, 2012

Advanced Bird Banding, Starr Ranch Sanctuary, 2010

Arid West Supplement, Wetland Training Institute, 2001/2007

Desert Tortoise, Desert Tortoise Council, Kern CA, 2005

Fairy Shrimp Identification, Santa Rosa Ecological Reserve, 2004

California Burrowing Owl Symposium, Sacramento CA, 2004

Southwestern Willow Flycatcher Workshop, Audubon Society, Kern Preserve, 2003

Southwestern Willow Flycatcher Workshop, (USFWS), Prado Basin, 2003

Storm Water Compliance, Management and Inspection (SWPPP) Training, 2003

Wetland Delineation Training (Wetland Training Institute), 2001

Planning for Biodiversity: Bringing research and management together, 2000

Wetland Delineation Course, Wetland Training Institute, 2022

JASON FITZGIBBON

Associate Biologist

YEARS OF EXPERIENCE

Professional start date: 2011

Years at GLA: 7

EDUCATION

MS, Environmental Studies,
California State University, Fullerton, 2013

BS, Biology,
California State University, Long Beach, 2008

TRAININGS ATTENDED

Wetland Delineation Course,
Wetland Training Institute, 2022

California Rare Bumblebee
The Wildlife Society-Western Section, 2021

Rare Pond Species Workshop,
Laguna de Santa Rosa Foundation, 2016

Wetland Delineation Course,
Wetland Training Institute, 2013

GIS Analysis and Map Design,
California State University, Fullerton, 2013

Desert Tortoise Handling, Monitoring, and Surveying Training,
Desert Tortoise Council, 2012

Yellow-billed Cuckoo Workshop,
Kern County Preserve, 2012

PROFESSIONAL SUMMARY

Jason Fitzgibbon is a Biologist and Environmental Scientist with experience in field biology, biological monitoring, and regulatory permitting. He has participated in numerous biological studies throughout Southern California including projects requiring preparation of California Environmental Quality Act (CEQA) documents and occurring under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), San Diego County Multiple Species Conservation Program (MSCP), and Orange County Natural Community Conservation Plan (NCCP). Jason holds a Bachelor's of Science degree in Biology and a Master of Science degree in Environmental Science with an emphasis in conservation biology. Jason's Master's thesis involved the study of the effects of adjacent construction-related disturbance on the spatial arrangement and demographic distribution of least Bell's vireo within San Diego Creek in Orange County, California.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

ALISO CREEK RESTORATION PROJECT —
LAGUNA CANYON FOUNDATION; ALISO VIEJO, CALIFORNIA

Served as Project Biologist. Conducted sensitive species surveys for least Bell's vireo, yellow-breasted chat, and rare/sensitive plants to establish a baseline measure for comparison of future monitoring results to pre-restoration condition of the 55-acre Aliso Creek restoration site. A component of restoration included sensitive species monitoring throughout implementation of the restoration program to document any increases in occurrences and/or nesting as a means of tracking restoration success.

CROWN VALLEY COMMUNITY PARK IMPROVEMENT PROJECT —HUNSAKER & ASSOCIATES IRVINE, INC.; LAGUNA NIGUEL, CALIFORNIA

Served as Project Biologist. Performed vegetation mapping, general wildlife and botanical surveys, and a jurisdictional delineation of the 16-acre study area. Conducted habitat assessments to determine presence/absence of sensitive species and communities. Prepared a biological technical report addressing potential impacts to biological resources and permitting requirements in accordance with CEQA. GLA processed Section 401, 404, and 1602 authorizations. The project involved preparation of a redesign concept for the community park including a new park entry-bridge over a soft-bottom flood channel to replace an existing Arizona crossing, two new parking lots, and connecting roadways. The redesign integrated opportunities for use of impervious pavements, managing flood debris and trash, providing water quality benefits, and minimizing impacts to native vegetation and the stream channel.

PICERNE PROPRETY PROJECT — THE PICERNE GROUP; LAGUNA NIGUEL, CALIFORNIA

Served as Project Biologist. Performed vegetation mapping, general wildlife and botanical surveys, and a jurisdictional determination of the 7-acre study area. Conducted habitat assessments to determine presence/absence of sensitive species and communities. Assisted in preparing the biological technical report addressing potential impacts to biological resources and permitting requirements in accordance with CEQA. The project is a new residential development consisting of 426 multi-family residential units, resident and guest parking, residential common use amenities and an approximately 0.66-acre open space park.

SAN JUAN MEADOWS AND DISTRITO DE LA NOVIA PROJECT —
ADVANCED REAL ESTATE SERVICES; SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Delineated Corps and CDFW jurisdiction within the 160-acre property study area and prepared a report of findings. GLA prepared a letter of permission request for the Corps and notifications for the Regional Board and CDFW as well as coordinated processing of Section 404, 401, and 1602 authorizations. The project additionally involved preparation of a conceptual habitat mitigation and monitoring plan to address habitat restoration.

RANCH AT LAGUNA BEACH PROJECT — LAGUNA BEACH GOLF & BUNGALOW VILLAGE; LAGUNA BEACH, CALIFORNIA

Serving as Project Biologist. The project has involved coordination with the U.S. Fish and Wildlife Service and California Coastal Commission to resolve an appeal regarding property renovations. Conduct vegetation mapping, delineate coastal wetland boundaries and tree trimming/clearing locations, and survey turf removal areas for native vegetation. Conduct nesting bird surveys and prepare a nesting bird memorandum. Prepare a biological technical report addressing baseline conditions and impact analyses associated with the project and study area. Perform noise monitoring and prepare an analysis of sound monitoring data. Support review of archeological records and preparation of an archaeological and paleontological resources memorandum, habitat restoration plan, and noise/lighting management plan.

LAGUNA BEACH FUEL MODIFICATION ZONE PROJECTS — CITY OF LAGUNA BEACH; LAGUNA BEACH, CALIFORNIA

Serving as Project Manager/Biologist. Jason has served as Project Biologist for City of Laguna Beach Fire Department since 2011, providing coastal expertise for numerous fuel modification projects. The span of work has ranged from conducting general and focused surveys for sensitive wildlife and plant species including coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), Pacific pocket mouse, tidewater goby, Laguna Beach dudleya, and big-leaved crownbeard to performing habitat assessments and vegetation mapping. Additionally, Jason has prepared numerous biological technical reports for the City's ongoing fuel modification zone projects, addressing wildlife movement corridors, impacts to biological resources including special-status species, and mitigation measures. Tasks include rare plant surveys within all fuel modification zones throughout City, providing Biological Support in accordance with the California Environmental Quality Act (CEQA) for new fuel modification zones, and preparing/processing Coastal Development Permits for areas subject to Chapter 3 Policies of the Coastal Act.

LAKE FOREST DRIVE/BAKE PARKWAY EXTENSION PROJECT — THE IRVINE COMPANY; IRVINE, CALIFORNIA

Served as Project Biologist. GLA provided biological, regulatory, and mitigation support for Lake Forest Drive/Bake Parkway bridges, infrastructure, and undergrounding improvements. Reviewed rope alignment prior to construction. Performed focused surveys for least Bell's vireo. Conducted site monitoring and biological/botanical resource monitoring during construction in accordance with CEQA approvals; resource agency permits; and approved/permitted plans, reports, and technical specifications. Provided fieldwork memoranda and compliance reports. Additionally, GLA prepared a contractor education manual, processed a Section 404 permit for maintenance of undercrossings, obtained a permit amendment for noise barrier installation and buffer distance from least Bell's vireo nests, and conducted mitigation implementation and monitoring.

NEWPORT BANNING RANCH — NEWPORT BANNING RANCH, LLC; NEWPORT BEACH, CALIFORNIA

Serving as Project Biologist. Conduct biological work required for CEQA authorization including vegetation mapping; general biological surveys; rare plant surveys; and focused least Bell's vireo, cactus wren, raptor, and burrowing owl surveys. The project additionally has involved performing focused fairy shrimp, coastal California gnatcatcher, and southwestern willow flycatcher surveys; preparing a biological technical report for use in preparation of draft and final EIRs pursuant to CEQA as well as responses to comments on the final EIR; preparing a jurisdictional delineation report; and directing and participating in public outreach at public workshops. The City of Newport Beach has approved the project and certified the EIR.

RANCHO SUMMIT ESTATES PROJECT — SHEA HOMES; ENCINITAS, CALIFORNIA

Serving as Lead Biological Construction Monitor. Conduct coastal California gnatcatcher surveys in compliance with issued habitat loss permits. Monitor stream crossing work and conduct jurisdictional delineation fieldwork.

QUALITATIVE BIOLOGICAL MONITORING — SAN JUAN BASIN AUTHORITY, SAN JUAN CAPISTRANO, CALIFORNIA

Served as Project Biologist. Conducted qualitative biological monitoring of San Juan Creek for the San Juan Basin Authority's (SJBA) Phase I San Juan Basin Groundwater Management and Facility Plan. Tasks included performance of qualitative and quantitative monitoring; preparation of memoranda, reports, and exhibits; analysis of data; and submission of findings to the client and regulatory agencies.

CORONA 720 PROJECT — GREEN RIVER CANYONS, LLC; CORONA, CALIFORNIA Serving as Project Biologist. The project includes vegetation mapping within the 720-acre property as well as presence/absence surveys for coastal California gnatcatcher and focused plant surveys for various species including intermediate mariposa lily and many-stemmed dudleya.

JURISDICTIONAL DELINEATION OF THE FIRE STATION LOCATED AT THE INTERSECTION OF STATE COLLEGE AND YORBA LINDA BOULEVARDS — CITY OF FULLERTON, ORANGE COUNTY, CALIFORNIA

Served as Project Manager. Oversaw preparation of a jurisdictional delineation report and provided senior review/quality control.

LOW WATER CROSSING AT ADIT ROAD PROJECT — LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP), CALIFORNIA

Serving as Delineator/Regulatory Specialist. The Project consists of installing a low water crossing using Articulate Concrete Blocks (ACB) on Adit Road where it crosses San Francisquito Creek. The dimensions will be approximately the width of the road (12') and 200' long. GLA is conducting a jurisdictional delineation and preparing a jurisdictional delineation report.

VICTORVILLE TRANSMISSION LINE EROSION CONTROL PROJECT — LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP), SAN BERNARDINO COUNTY, CALIFORNIA

Serving as Delineator/Regulatory Specialist. The Project consists of a delineation around three transmission towers for the purpose of installing erosion control. GLA is conducting a jurisdictional delineation and preparing a jurisdictional delineation report.

OCTA M2 PRESERVES INTERIM BIOLOGICAL MONITORING SUPPORT SERVICES PROJECT—ORANGE COUNTY TRANSPORTATION AUTHORITY; ORANGE COUNTY, CALIFORNIA

Serving as Biologist. Work includes biological resources monitoring for seven Preserves totaling over 1,300 acres to determine threats and stressors that may impact Covered Species and natural communities, conducting overall assessments (e.g., invasive species, erosion, unauthorized trail cutting, and trail condition) to help determine areas of highest management priority, conducting focused species surveys, updating vegetation mapping, and documenting unauthorized activities and related effects to biological resources. GLA conducts ongoing site visits, photo monitoring, and reporting to address results of research and monitoring activities, recommend appropriate adaptive management actions, and discuss anticipated activities for the upcoming year. Specific to Laguna Beach, GLA provides biological monitoring at the Pacific Horizon Preserve, including monitoring the burn area associated with the May 2022 Coastal Fire and leading public hikes. Mr. Fitzgibbon has supported the project by conducting general biological monitoring, conducting focused surveys for special-status plants, and leading public hikes.

EMPLOYMENT HISTORY

Glenn Lukos Associates. Associate Biologist. Lake Forest, California. 2011 – Present.

QuantumSphere, Inc. Biologist/Chemist. Santa Ana, California. 2008 – 2011.

Christopher Waterston

Regulatory Project Manager/Biologist

YEARS OF EXPERIENCE

Professional start date: 2012

Years at GLA: 3

EDUCATION

BS, Biological Science,
California State University, Fullerton, 2011

PERMITS AND CERTIFICATIONS

California Rapid Assessment Methodology (CRAM) Practitioner – Riverine and Depressional Wetlands Modules, 2015

American Academy of Underwater Sciences (AAUS) Diver Certification, 2012

TRAININGS ATTENDED

Wetland Delineation Course,
Wetland Training Institute, 2022

Introduction to
Wildlife Crossings Caltrans, 2017

Bats and Transportation, Caltrans, 2017

ESA Section 7,
Federal Highway Administration, 2016

Ordinary High-Water Mark (OHWM),
U.S. Army Corps of Engineers, 2016

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PROFESSIONAL SUMMARY

Christopher Waterston has eleven years of extensive environmental planning, biological and regulatory experience in both the public and private sectors. He has played a key role in coordinating and performing biological surveys, preparing technical documents, and obtaining permits for projects requiring federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and federal Clean Water Act (CWA) compliance. Christopher additionally has broad experience with regulatory agency coordination ranging from conducting Section 7 consultations to acquiring aquatic permits.

Christopher has performed the role of Lead Biologist on numerous California Department of Transportation (Caltrans) projects throughout Orange County, involving biological and regulatory aspects from initial project scoping through construction, and post-construction mitigation. He has extensive experience in preparing biological technical documents, including Natural Environment Study (NES) reports, Biological Assessments (BA), CEQA and NEPA Environmental Documents, California Rapid Assessment Method (CRAM) reports, Senate Bill (SB) 857 Fish Passage Legislative Reports, and Habitat Mitigation Monitoring Plan (HMMP) reports. He has extensive experience in writing avoidance, minimization, and mitigation measures, general and focused survey reports. He routinely coordinates and conducts general biological and aquatic resource constraints surveys and focused protocol surveys for special-status species such as arroyo toad, arroyo chub, various bat species, burrowing owl, least Bell's vireo, coastal California gnatcatcher, Essential Fish Habitat (EFH), and rare endemic plants. Christopher regularly coordinates with state, federal, and local agencies, including the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), SB-857 coordination with state, federal, and local agencies, various Regional Water Quality Control Boards (RWQCBs)/State Water Resources Control Board (SWRCB), U.S. Forest Service (USFS), National Marine Fisheries Service (NMFS), and the Orange County Transportation Authority (OCTA) to obtain CWA permits, 401 water quality certifications, streambed alteration agreements, FESA and CESA incidental take permits, authorizations, approvals, and coordination. He is knowledgeable in the Orange County Central/Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) and Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). He served as the Caltrans District liaison for quarterly meetings with CDFW, USFWS, and was the District Fish Passage Biologist. His eight years of professional experience has given him familiarity in a diverse array of biological elements throughout southern California.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

RANCHO MISSION VIEJO — SAN JUAN CAPISTRANO, CALIFORNIA

Serving as Project Manager. Managing multiple large residential development, infrastructure, and mitigation compliance projects throughout the Rancho Mission Viejo (RMV) property. Regularly coordinates with RMV environmental and construction managers, contractors, and field staff. Oversees a team of biologists and regulatory specialists performing various special-status flora and fauna surveys, construction monitoring, vegetation mapping, jurisdictional delineations, and mitigation monitoring. Prepares monthly memos and annual reports to various resource agencies. Manages various contracts, project task orders, permits, and certifications.

SUMMERWIND RANCH RESIDENTIAL DEVELOPMENT — CALIMESA, CALIFORNIA

Serving as Project Manager. The project consists of a residential development. Managed a team of biologists and regulatory specialists. Conducted special-status flora and fauna surveys required by the Western Riverside MSHCP, federal, and state regulations. Conducted a jurisdictional delineation and California Rapid Assessment Method (CRAM) on the 280-acre site. Prepared and processed a jurisdictional delineation and CRAM report. Processed a Waste Discharge Requirement (WDR) with the Regional Water Quality Control Board, a preliminary jurisdictional determination with the U.S. Army Corps, and a Streambed Alteration Agreement (1600 permit) with the CA Department of Fish and Wildlife. Conducted oak tree surveys and prepared an oak tree mitigation plan to comply with city tree protection ordinances. Coordinated with project proponents, resource agencies, city staff, and various consultants to facilitate the receival of permits, approvals, and certifications for the project.

TRANSPORTATION

INTERSTATE 5 WIDENING PROJECT — CALTRANS/OCTA MEASURE 2, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The project involved widening the I-5 in both directions to increase capacity for the highly traveled I-5 corridor in Orange County. Facilitated in approving the biological technical document (NES), Biological Assessment, Environmental Impact Report and Environmental Impact Statement (EIR/EIS) and performed Section 7 Consultation with USFWS. Developed project standard-special specifications (SSPs), avoidance, minimization, and mitigation measures. Reviewed consultant prepared permit applications (401, 404, 1602), and coordinated with regulatory managers at CDFW and USFWS to incorporate the approved OCTA M2 NCCP/HCP measures. Performed biological surveys within the project area for nesting birds and roosting bats, fish passage analysis, and arroyo chub protocol surveys with CDFW fisheries biologists. As the project's lead biologist, coordinated meetings with the Project Development Team, contractors, consultants, and resource agency personnel. Coordinated directly with Caltrans and OCTA project managers to convey biological and permitted resource requirements. Wrote monthly monitoring reports to the SWRCB and CDFW for project compliance/noncompliance issues.

STATE ROUTE-73/MACARTHUR BOULEVARD OFF-RAMP WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The safety project involved widening the SR-73 southbound MacArthur Blvd. off-ramp over Bonita Creek in the City of Newport Beach. Facilitated in the approval of the NES, BA, and CEQA/NEPA documents. Performed Section 7 Consultation with the USFWS. Prepared water quality permit applications (401, 404, and 1602). Communicated with CDFW and USFWS regarding project impacts to the Orange County Central/Coastal NCCP/HCP. Developed project contract SSPs, avoidance, minimization, and mitigation measures. Analyzed project impacts and determined ratios of mitigation needed for loss of coastal sage-scrub, wetland waters of the U.S., CDFW riparian, and NCCP/HCP habitats. Coordinated with Orange County Parks and TCA environmental program managers for mitigation credit releases. Performed protocol-level surveys for coastal California gnatcatcher, bat habitat assessments, visual and acoustic emergence surveys. Coordinated directly with Caltrans project managers and engineers to convey project environmental needs and resource agency requirements.

INTERSTATE 405 WIDEINING PROJECT — CALTRANS/OCTA MEASURE 2, ORANGE COUNTY, CALIFORNIA

As the District Biologist, served an oversight role in the Environmental Planning processes. The "design-build" project involved the addition of one high-occupancy vehicle (HOV) lane and one general-purpose lane in both directions between I-605 and SR-55. Facilitated the approval of the NES and the project's EIR/EIS. Reviewed consultant prepared permit applications and coordinated with regulatory managers at CDFW, SWRCB, and USACE to incorporate the approved OCTA M2 Program's 404 Letter of Permission

(LOP), 401 Water Quality Certification, and 1602 Streambed Alteration Agreement measures into the project's contract specifications and mitigation measures. Approved monthly biological monitoring reports and coordinated in weekly meetings with the Project's contractors, consultants, and managers for both Caltrans and OCTA.

STATE ROUTE-73 DETENTION BASIN/EROSION CONTROL PROJECT — CALTRANS/TRANSPORTAION CORRIDOR AGENCY (TCA), ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The SR-73 was completed in the late 90s. Caltrans and TCA designed multiple detention basins adjacent to the new freeway in order to capture and filter stormwater. Due to some deficiencies, a construction project was implemented in 2014 to address excess erosion, stormwater runoff, and detention basin maintenance. As the lead biologist, conducted nesting bird surveys prior to grading operations and protocol-level coastal California gnatcatcher surveys. Facilitated and approved the landscape and plant pallet plans from district landscape architects. Monitored habitat restoration activities, performed plant transect surveys, coordinated with landscape contractors, and prepared annual Habitat Mitigation Monitoring Plan (HMMP) reports.

STATE ROUTE 74 SAFETY SHOULDER WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as Lead Biologist. The project involved widening the existing shoulders associated with SR-74 safety and maintenance improvements. Performed jurisdictional delineations, CRAM analysis, and biological surveys including protocol-level surveys for the federally endangered arroyo toad. Coordinated with USFWS biologists for implementation of Biological Opinion measures during construction and with U.S. Forest Service biologists for aquatic resource mitigation within Cleveland National Forest. Approved annual monitoring reports and reviewed consultant task order budgets and invoices. Coordinated with Casper's Regional Park rangers, landscape architects, and contractors for the off-site arroyo toad habitat restoration. Performed plant transect surveys, organized field procedures under USFWS mitigation measures for impacts to designated critical habitat for the arroyo toad. Performed protocol-level surveys and eradicated invasive predators within San Juan Creek for five years.

STATE ROUTE-91 EASTBOUND WIDENING PROJECT — CALTRANS, ORANGE COUNTY, CALIFORNIA

Served as the District Biologist. The project involved widening the eastbound SR-91 by adding one-general purpose lane from SR-57 to Tustin Avenue. Project impacts to the Santa Ana River required water quality permits, nesting bird surveys, and pre-construction bat roost surveys. Late in the project design phase, a maternity colony of Yuma myotis bats were discovered in the SR-91/Santa Ana River Bridge. As the district biologist, coordinated with CDFW's Caltrans liaison for facilitating project design changes; and to incorporate for the first time in the district, alternative bat habitat (panels) that were installed on the westbound side of the SR-91 Bridge. Monitored construction activities, communicated directly with project managers, engineers, construction personnel, and consultant biologists. Performed multiple day and nighttime bat surveys, collected data for CDFW, and prepared quarterly monitoring reports detailing the success of the bat mitigation.

ENERGY

TRANSMISSION PROJECT — SOUTHERN CALIFORNIA EDISON, SAN BERNARDINO COUNTY, CALIFORNIA

Served as Team Biologist. The transmission project occurred north of I-10 in the City of Cabazon from SR-111 to the Morongo Resort. Performed special-status species surveys for endemic plants, desert tortoise, desert kit fox, burrowing owl, and loggerhead shrike. Prepared daily field reports, coordinated with lead biologists, and adjacent property owners.

TRANSMISSION PROJECT — SOUTHERN CALIFORNIA EDISON, RIVERSIDE COUNTY, CALIFORNIA

Served as Team Biologist. The project occurred along the Santa Ana River Valley in Riverside County. It involved tree trimming and removal activities adjacent to Southern California Edison right-of-way. Performed nesting bird surveys ahead of vegetation maintenance activities. Coordinated with contractors, team biologists, and managers. Prepared daily field reports, collected data using a handled GPS, and submitted monthly monitoring reports to the client.

LOCAL GOVERNMENT

WEST VALLEY DETENTION CENTER — SAN BERNARDINO COUNTY, CALIFORNIA

Served as Lead Biologist. The project occurred within Day Creek, adjacent to the West Valley Detention Center in Fontana, CA. The project replaced a water and sewage line that went through Day Creek. Monitored construction activities, performed nesting bird

surveys, communicated 401, 404, and 1602 permit conditions to project contractors. Prepared daily field reports, collected data using a handled GPS, and submitted monthly monitoring reports to the client.

LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP) — BEACON PHASE II ENERGY STORAGE PROJECT SITE, KERN COUNTY, CALIFORNIA

Served as Regulatory Specialist. The Project consisted of an energy storage facility owned and operated by the LADWP within the Mojave Desert in unincorporated Kern County, CA. The project included conducting a jurisdictional delineation, preparation of a jurisdictional delineation report, and coordination with project proponents to facilitate the preparation of CEQA documents and regulatory agency permits.

MARINA DEL REY HARBOR PIER INSTALLATION — LOS ANGELES COUNTY, CALIFORNIA

Served as a team Marine Biologist and an American Academy of Underwater Sciences (AAUS) certified diver. The project involved installation and removal of piers for residential docks within Marina del Rey Harbor. Operated under a California Coastal Commission Development permit. Operated small watercraft, surface/diver communication systems, and SCUBA diving equipment. Performed sensitive habitat SCUBA surveys for invasive algae (Caulerpa) and native seagrass (Zostera) habitat surveys. Recorded species of fish, marine invertebrates, and general marine conditions. Provided surface support by recording sensitive areas surveyed with GPS units and entered data into ArcGIS.

NEWPORT BAY EELGRASS RESTORATION — ORANGE COUNTY, CALIFORNIA

Served as a team Marine Biologist and AAUS certifies diver. The City of Newport Beach's mitigation project involved installation of seagrass (Zostera) habitat within Newport Bay. Operated small watercraft, surface/diver communication systems, and SCUBA diving equipment. Gathered and separated eelgrass from "donor" beds and re-planted individual grasses below intertidal areas. Performed underwater transects and monitored the growth, density, and condition of planted seagrasses.

WHITE ABALONE SURVEYS — NATIONAL MARINE FISHERIES SERVICE AND CALIFORNIA COASTKEEPER, POINT LOMA, SAN DIEGO CALIFORNIA

Served as a team Marine Biologist and AAUS certified diver. Supported biological and genetic research dives with NMFS Marine Biologists for the federally listed white abalone (Haliotis sorenseni) off Point Loma, California. Performed underwater transects, surveyed the surrounding benthic environment and noted locations of special-status species. Collected data using diving slates, photography, and facilitated data entry for NMFS' White Abalone Recovery Plan.

PROFESSIONAL AFFILIATIONS

American Academy of Underwater Sciences

Callflora

California Coastkeeper

Divers Alert Network

Society for Conservation Biology

EMPLOYMENT HISTORY

Glenn Lukos Associates. Regulatory Project Manager/Biologist. Santa Ana, California. 2020 – Present.

California Department of Transportation – District 12 Orange County. Associate Environmental Planner (Natural Sciences)/Biologist. Santa Ana, California. 2013 - 2020.

Kidd Biological, Inc. Biologist. Perris, California. 2012.

Coastal Resources Management. Marine Biologist. Corona del Mar, California. 2012.

ADDITIONAL TRAININGS ATTENED (NOT ON PAGE 1)

Plant Identification, California Native Plant Society, 2016

Bat Workshop, Bat Conservation Management, Modoc County, 2015

Advanced Wetland Delineation, Wetland Training Institute, 2014

Construction, Design, and Maintenance, Caltrans, 2014

CEQA/NEPA Basics, Caltrans, 2013

HANNAH CRADDOCK

Regulatory Specialist

YEARS OF EXPERIENCE

Professional start date: 2017

Years at GLA: 0.5

EDUCATION

MS, Geographic Information Science, California State University, Long Beach, 2019

BS, Organismal Biology, California State University, Long Beach, 2018

TRAININGS ATTENDED

Wetland Delineation Course, Wetland Training Institute, 2022

PROFESSIONAL SUMMARY

Hannah Craddock is a botanist and habitat restoration ecologist with a background in salt marsh ecology, field biology, and regulatory services. She has conducted numerous biological studies throughout Southern California including rare plant surveys, fish surveys, nesting bird surveys, general bird surveys, vegetation mapping, and wetland delineations. Species-specific surveys she has conducted includes surveys for least Bell's vireo, Belding's savannah sparrow, and salt marsh bird's beak. Her regulatory experience includes various permitting applications for California Department of Fish and Wildlife, Regional Water Quality Control Board, and the United States Army Corps of Engineers.

SELECTED PROJECT EXPERIENCE

DEVELOPMENT

SERRANO CREEK—LAKE FOREST, ORANGE COUNTY, CALIFORNIA

CONDUCTED A GENERAL BIOLOGICAL SURVEY AND MAPPED THE JURISDICTIONAL LIMITS IN SUPPORT OF THE GREAT SCOTT LANDSCAPE FACILITY DEVELOPMENT.

PARKS, TRAILS, AND OPEN SPACE

NEWPORT BANNING RANCH—ORANGE COUNTY, CALIFORNIA

REGULARLY COORDINATES WITH CREWS ON-SITE TO DETERMINE WHICH AREAS OF THE SITE WILL BE WORKED BEFORE CONDUCTING NESTING BIRD SURVEYS AND OIL WELL VEGETATION MAPPING. ASSISTS WITH HABITAT RESTORATION EFFORT BY DEVELOPING STATUS REPORTS, FLAGGING PLANTING LOCATIONS, AND COORDINATING WITH THE CLIENT AND SUBCONTRACTORS.

LOS CERRITOS WETLANDS RESTORATION PROJECT—LONG BEACH, LOS ANGELES COUNTY, CALIFORNIA

LED RESTORATION EVENTS FOR MEMBERS OF THE GENERAL PUBLIC AND PERFORMED MAINTENANCE TASKS THROUGHOUT THE RESTORATION SITE. SHE CONDUCTED BIOLOGICAL SURVEYS INCLUDING SURVEYS FOR LEAST BELL'S VIREO, BELDING'S SAVANNAH SPARROW, AND ANNUAL VEGETATION MONITORING. HANNAH ALSO CONDUCTED A WETLAND DELINEATION ON THE HELLMAN PROPERTY PRIOR TO THE INITIATION OF THE NEXT PHASE OF RESTORATION.

COLORADO LAGOON RESTORATION PROJECT—LONG BEACH, LOS ANGELES COUNTY, CALIFORNIA

CONDUCTED VARIOUS BIOLOGICAL SURVEYS INCLUDING GENERAL BIRD AND FISH SURVEYS. IN SUPPORT OF RESTORATION EFFORTS CONDUCTED ANNUAL VEGETATION MONITORING TO ENSURE PROPER COVERAGE GOALS WERE BEING MET. MAPPED HIGH TIDE LINE ANNUALLY TO DOCUMENT SEA LEVEL RISE.

SEAL BEACH NATIONAL WILDLIFE REFUGE CORDGRASS RESTORATION—SEAL BEACH, ORANGE COUNTY, CALIFORNIA

CONDUCTED REVEGETATION EFFORTS IN A PORTION OF THE MARSH BY INSTALLING PACIFIC CORDGRASS PLUGS USING AN ONSITE SOURCING LOCATION.

CARPINTERIA SALT MARSH PRESERVE RESTORATION PROJECT—CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA

PERFORMED INVASIVE LIMONIUM REMOVAL AT THE PRESERVE. THIS ALSO INCLUDED EXPERIMENTATION ON SOLARIZATION METHODS, INCLUDING A PARTNERSHIP WITH SANTA BARBARA BOTANIC GARDEN TO DETERMINE IF SOLARIZATION WOULD ERADICATE LIMONIUM WHILE LEAVING SALT MARSH BIRD'S BEAK SEEDS VIABLE.

REGION-WIDE SALT MARSH BIRD'S BEAK MAPPING—VARIOUS LOCATIONS, CALIFORNIA

DEVELOPED A PROTOCOL FOR MAPPING SALT MARSH BIRD' BEAK THROUGHOUT IT'S RANGE. PERFORMED SAID MAPPING AT ALL SEVEN POPULATIONS OF THIS SPECIES THROUGHOUT THE STATE AND PRODUCED MAPS.

ENERGY

DETERIORATED POLES PROJECT—VARIOUS LOCATIONS, CALIFORNIA

SERVED AS PROJECT MANAGER. PROVIDED CLIENT COST ESTIMATES AND SCHEDULED DELINEATORS TO VISIT SPECIFIC LOCATIONS THROUGHOUT THE CLIENTS SERVICE TERRITORY TO DETERMINE PERMITTING NEEDS FOR ELECTRICAL POLE REPLACEMENT.

ROUTINE LINE CLEARING PROJECT—VARIOUS LOCATIONS, CALIFORNIA

SERVED AS PROJECT MANAGER. PROVIDED CLIENT COST ESTIMATES AND SCHEDULED DELINEATORS TO VISIT SPECIFIC LOCATIONS THROUGHOUT THE CLIENTS SERVICE TERRITORY TO DETERMINE PERMITTING NEEDS FOR VEGETATION CLEARNING. ATTENDED FIELD VISITS TO SUPPORT DELINEATION EFFORTS.

PROFESSIONAL AFFILIATIONS

Southern California Botanists

Society for Conservation GIS

EMPLOYMENT HISTORY

GLA. Regulatory Specialist. Santa Ana, California. 2023 - Present

ERM. Consultant II, Biodiversity and Ecological Services. Irvine, California. 2021 - 2023

Tidal Influence. Associate Restoration Ecologist/GIS Specialist. Long Beach, California. 2017 – 2021

CDFW. Scientific Aid. Los Alamitos, California. 2018

Bolsa Chica Conservancy. Restoration Intern. Huntington Beach, California. 2018

Rancho Los Cerritos Foundation. GIS Intern. Long Beach, California. 2017 – 2018

California State University, Long Beach. Herbarium Assistant. Long Beach, California. 2016 - 2018

APPENDIX E – COMPLETED BCA CHECKLIST

BIOLOGICAL CONSTRAINTS ANALYSIS (BCA) CHECKLIST

The Case Planner and County Biologist shall initial in the designated section, indicating that the items have been included in the report and that the report is adequate and ready for SEATAC review.

BIOLOGICAL CONSTRAINTS ANALYSIS (BCA) CHECKLIST	COMPLETE
I. COVER / SPINE / TITLE PAGE	
A. Project name, type of report (Biological Constraints Analysis)	X
B. County identification numbers (Project number, CUP number, APNs).	X
C. Applicant name and contact information	X
D. SEA name(s)	X
E. Name of head biologist and consulting company directive information	X
F. Date of report	X
II. INTRODUCTION	
A. Project Description	X
1. Project name, type of report, address of project	X
2. County application identification numbers including APNs	X
3. Applicant name and contact information	X
4. SEA name(s)	X
5. Supervising biologist, company, directive information	X
6. Parcel and Acreage Table (for more than one parcel)	X
7. Location	
a) Map of regional features in vicinity showing project location, and including all drainages and wetlands	X
b) Color USGS topographic map with outline of project parcels, SEA, open space resource areas, etc.; scale about 1:24000	X
c) Color orthogonal aerial showing project parcels, SEA, open space, etc.	X
	Planner Initials:
B. Description of Natural Geographic Features	
1. Summary of known biological resources including relation to: a) Landforms and geomorphology b) Drainage and wetland features c) Soils; include soil map d) Vegetation communities e) SEA criteria and resources	X
2. Color site photography with keys	X
3. Summary of biological resources and pertinent literature review	X
C. Methodology of Biological Survey	
1. Table of surveys (surveys approximately 1 year old or more recent)	X
2. Text description of survey methods	X
3. Table of information on biologist(s) and other contributors for BCA; appendix of contributors' experience	Resumes in appendix
4. Proof of permits or Memoranda of Understanding for trapping shall be in the appendix.	No Trapping Conducted

III. BIOLOGICAL CHARACTERISTICS OF THE SITE	
A. Vegetation Data and Descriptions	
1. Vegetation map of Sawyer, Keeler-Wolf, Evens (2009) alliances and associations of vegetation types, relevé locations	X
2. Vegetation cover table	X
3. Map of trees (for jurisdictional oaks, State and County, an oak tree report will be needed. Oak tree reports will be in an appendix.)	X
4. Summary of vegetation site habitats in relation to soil, sensitivity, rainfall, potential for impact (Only necessary if there is a possibility of rare plant occurrences that would be made possible by the presence of some important soil type or geological formation)	X
5. CD/DVD of georeferenced files for vegetation data as ESRI .shp including metadata (may be combined with other project data on CD/DVD)	Provided under separate cover
B. Fauna and Flora Sensitive Species Tables and Discussion	
1. Table of sensitive species known from the region, sensitivity rankings, habitat requirements, and likelihood of occurrence on site—with rationale for likelihood determination.	X
2. Table of break points on rough estimate of population size (appendix)	N/A; populations counted directly
3. Paragraphs for each sensitive species on characteristics that might lead to project impact. Listed species paragraphs in separate section.	X
C. Maps of occurrence for sensitive species	X
D. Wildlife movement/habitat linkage analysis with map of site and movement areas	X
E. Floral and faunal compendia (all plant and animal species observed directly or indirectly on site, and for animals, in adjacent areas of similar habitat), updated for latest observation if multiple versions of the BCA are submitted, version date	X
F. All voucher collections shall be deposited in an appropriate, recognized public institution, and shall be tabulated in the floristic and faunal lists.	X
IV. CHARACTERISTICS OF THE SURROUNDING AREA	
A. Description of Existing Land Uses in the Project Area	X
B. Table of development projects in the vicinity and summary discussion (acreage, units, etc.)	X
C. Map of land uses	X
D. Description of open space reserves in the area and depiction of wildlife movement/habitat linkage relationships to open space. Include known conservation and open space easements in perpetuity. Refer to maps II.A.7	X
E. Reference to and relationship to any conservation plans in the vicinity	X
F. Description of Habitats, alliances, associations and vegetative communities in the vicinity with respect to those on site	X
G. Rough estimates of the overall population sizes of species of flora and fauna on site and in vicinity fauna on site and in vicinity	X
H. Description of overall biological value of the area: fit to the biotic mosaic; contribution to surrounding area and SEA ecological functions	X
V. CONCLUSION	
A. Regulatory framework	X
B. Summarized biological data with respect to regulatory framework	X
C. Biological Constraints Map	X

D. Explicit statement of SEA/SERA/ESHA acreages total and in project parcels; explicit statement of length of watersheds on project parcels and total; potential affected area of watercourses	X
E. Recommendations for further studies needed to prepare Biota Report	X
VI. BIBLIOGRAPHY	
A. Bibliography of references cited in text	X
B. Bibliography of general references used to prepare document but not cited	X
VII. APPENDICES [as appropriate]	
A. Table of biologists and other contributors; Preparer and other contributor qualifications; permits, MOUs	X
B. Vegetation alliance relevé data	N/A
C. Oak Tree Report for sites with jurisdictional native oak trees (5" DBH and larger)	N/A
D. Focused and floristic survey reports.	N/A
E. Floral and faunal compendia	X
F. Copies of meeting minutes from previous SEATAC/ERB reviews of project	N/A
G. Correspondence with State and Federal trustee agencies	N/A
H. Completed BCA Checklist (this table)	X
I. SEA Counseling Checklist with BCM and Conceptual Project Design	X
J. Digital Copies of BCA as .pdf for final version; georeferenced files of vegetative data and sensitive species occurrences.	Provided under separate cover
	Biologist Initials:

APPENDIX F – SEA COUNSELING CHECKLIST

SEA COUNSELING CHECKLIST

BCM & CONCEPTUAL PROJECT DESIGN

This is a checklist just for counseling purposes only. The Case Planner and County Biologist shall review all applicable information, check for adequacy and completeness before scheduling a SEA Counseling meeting. The SEA Counseling meeting may result in further directions/recommendations.

Biological Constraints Map (BCM)	
☐ Shows all project site parcel(s) boundaries[34]	
☐ Existing permitted development (structures, graded areas, roads, etc.)	
☐ Vegetation communities (utilizing Sawyer, Keeler-Wolf, Evens 2009 classifications), and indicating CDFW Natural Community Rarity Ranking, extending out to 200-feet from the project site boundaries[35]	
☐ Map location of native trees that meet the protected sizes listed in the SEA Protected Tree List. Not all trees on the property need to be mapped; only enough to meet the preservation requirements. Do not need to provide DBH or Protected Zones at this stage.	
☐ Location of observed and previously recorded sensitive species (e.g. from site survey, previous biological reports, or identified through CNDDB records, etc.)	
☐ Delineated boundaries of water resources, such as rivers and streams (including intermittent and ephemeral drainages), lakes, reservoirs, ponds, wetlands, marshes, seeps, springs, vernal pools, and playas and required setbacks.	
☐ Important physical site features that may provide important habitat for sensitive species (e.g. rock outcrops) or facilitate or restrict wildlife movement (e.g. ridgelines, culverts, fences, etc.)	
☐ Existing protected open space that has been recorded on or adjacent to any part of the subject parcel.	
Biologist's Initials:	
Conceptual Project Design	
☐ Show the conceptual development footprint and the following information of the proposed project as much as possible. Can be shown on the BCM or a separate plan. - All anticipated graded areas - Existing and proposed structure locations - Fuel modification to 200-feet from all structures - Utility access - Driveways and parking areas - Landscaped areas - Exploratory testing locations	
Planner's Initials:	

[34] Include all parcels or lots involved with the land use project.
[35] Vegetation communities can be estimated offsite using visual surveys from the project site and adjacent roads or trails in conjunction with aerial imagery and existing data.