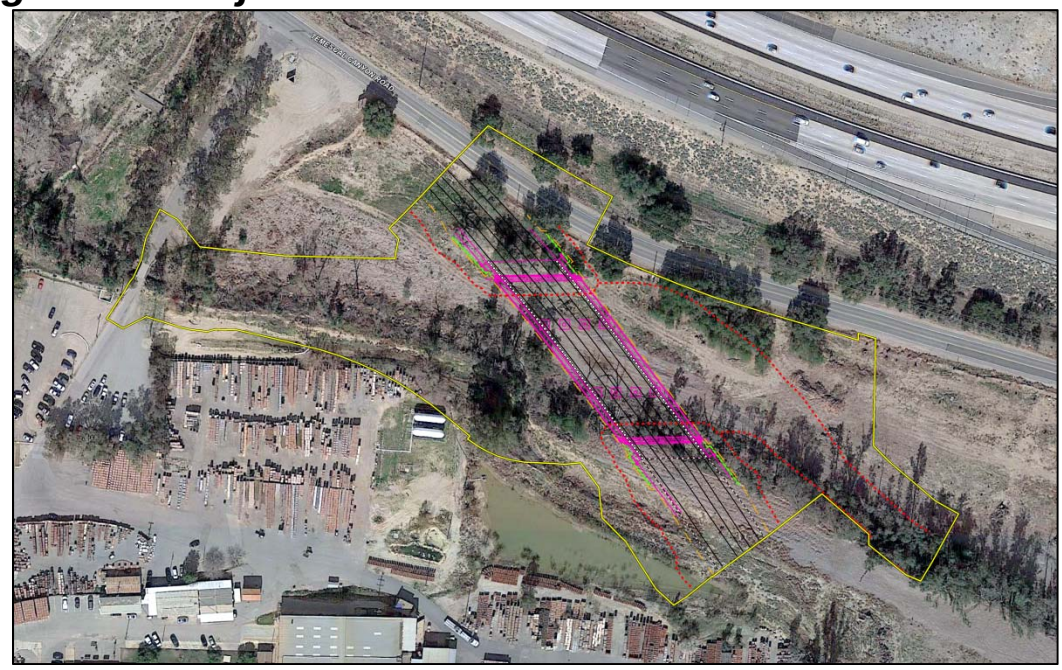
Temescal Canyon Road Bridge Replacement and Road Realignment Project ***NES***



Natural Environment Study

Discussions of Biological Assessments, Special Status Plant Survey, Burrowing Owl Survey, Riparian Bird Survey, Jurisdictional Delineation, and Western Riverside County MSHCP Consistency Analysis

COUNTY OF RIVERSIDE, CALIFORNIA

DISTRICT 8 – RIVERSIDE COUNTY

Federal Project No. BRLS 5074(015)

March 5, 2018

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

TEMESCAL CANYON ROAD BRIDGE REPLACEMENT AND ROAD REALIGNMENT PROJECT

COUNTY OF RIVERSIDE, CALIFORNIA

DISTRICT 8 – RIVERSIDE COUNTY

Federal Project No. BRLS 5074(015)

March 5, 2018

STATE OF CALIFORNIA
Department of Transportation
and City of Lake Elsinore

Prepared By: _____ Date: March 5, 2018

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Summary

The City of Lake Elsinore (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to realign and replace a bridge on Temescal Canyon Road. The Biological Study Area (BSA) includes the proposed project footprint and an approximately 50-foot buffer to include all areas of potential project effects.

The U.S. Fish and Wildlife Service Information Planning and Conservation System identified 15 federally listed species with potential to occur within the BSA. Six of these species are State-listed species. The project will have no effect on these 15 federally listed species and no take of the corresponding six State-listed species. The BSA contains suitable habitat for two of these species, which are both federally/State-listed species: least Bell's vireo (*Vireo belli pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*). These species are covered species, for which take is provided under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Focused surveys for the least Bell's vireo and southwestern willow flycatcher determined they are absent from the BSA at this time. However, the least Bell's vireo is known from the BSA as recently as 2011, according to California Natural Diversity Database (CNDDB) occurrence records. Avoidance and minimization measures for least Bell's vireo will be implemented to avoid potential impacts to this species.

The BSA contains suitable habitat for several non-listed special-status species. Four special-status animal species, i.e., yellow warbler (*Setophaga petechial*), orangethroat whiptail (*Aspidoscelis hyperythra*), coastal western whiptail (*Aspidoscelis tigris stejnegeri*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) were found to be present in the BSA. These are also covered species under the MSHCP and project effects to these species will be minimized and avoided. Focused surveys conducted for burrowing owls (*Athene cunicularia*) indicated the species was absent from the BSA.

Vegetation within the BSA provides suitable habitat for other nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. To avoid potential effects to nesting birds, pre-construction surveys will be required unless vegetation clearing is conducted outside of general bird breeding season (February 15 through August 31).

A jurisdictional delineation of the BSA was conducted and identified the presence of potential jurisdictional waters. The project would result in 0.18 acre of permanent effects and 0.07 acre of temporary effects to U.S. Army Corps of Engineers (USACE) jurisdictional nonwetland waters of the U.S. and 1.64 acres of permanent impacts and

3.06 acre of temporary impacts to California Department of Fish and Wildlife (CDFW) jurisdictional streambed and associated riparian habitat. The proposed project is anticipated to require the following agency permits: a Federal Clean Water Act (CWA) Section 404 permit authorization from the USACE, a CWA Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), and a Fish and Game Code Section 1602 Streambed Alteration Agreement from the CDFW.

The project has the potential to spread invasive, nonnative species to native habitats in and adjacent to the BSA caused by (1) the entering and exiting of contaminated construction equipment, (2) the inclusion of invasive species in seed mixtures and mulch, and (3) through the improper removal and disposal of invasive species causing seed to be spread along the highway. In compliance with Executive Order 13112, a weed abatement program will be developed and implemented to avoid or minimize the importation of invasive, non-native plant material during and after construction.

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Introduction

The City of Lake Elsinore (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to realign and replace a bridge on Temescal Canyon Road. The project site is located in the City of Lake Elsinore, Riverside County (County), California in Sections 15, 16, 21, and 22, Township 5 South, Range 5 West, San Bernardino Baseline and Meridian as shown on the United States Geological Survey (USGS) *Alberhill, California* 7.5-minute topographic quadrangle map. Figure 1 shows the regional location and project limits (all figures are included in Appendix A).

Project History

Caltrans has rated the existing 23-foot wide Temescal Canyon Road Bridge as 'Functionally Obsolete' (FO) with a low Sufficiency Rating (SR) of 68.5. Additionally, the existing structure does not provide adequate channel cross section and freeboard to convey the 100-year floodwaters, thus resulting in regular closure of the bridge and roadway during an ordinary storm event. The existing bridge structure is also on a sharp curved alignment at the west approach for the eastbound traffic, which can only accommodate a safe design speed of 30 to 40 mph. The narrow bridge with its 10-foot wide travel lanes further reduces the safe speed to less than 30 mph, which is not acceptable to traffic operation as Temescal Canyon Road serves as a Major Road requiring a design speed of 55 mph for flat terrain pursuant to the City's General Plan.

Purpose and Need

PURPOSE

The purpose of the project is to replace the existing structurally and hydraulically deficient bridge with a new bridge on a new roadway alignment to ensure public safety, enhance vehicular and non-motorized traffic circulation in the area, and provide an all-weather 100-year crossing over Temescal Wash.

NEED

The need for the project is to construct a new bridge that meets current design standards and accommodates local requirements. The project will improve traffic safety and circulation by providing a roadway alignment and section (sidewalk and bike lane) that conforms to the Circulation Element of the City's General Plan (see Figure 2).

Project Description

The proposed bridge (Figure 2) is 98 feet wide (with a curb-to-curb width of 80 feet), 375 feet long, and a structure depth of 5 to 7 feet. The bridge will be striped with a 14-foot painted median, two 12-foot inside lanes, two 15-foot outside lanes, two 6-foot shoulders that can accommodate a Class II bike lane, and two 6-foot sidewalks separated from vehicular traffic with a 2-foot concrete barrier, which is necessary due to a posted speed limit greater than 45 miles per hour. This proposed bridge and approximately 200 feet of the roadway, northwest and southeast of the bridge will be constructed using Highway Bridge Program (HBP) and local funding.

The road realignment connecting the proposed bridge to Lake Street is separate from this undertaking and part of the adjacent Alberhill Villages Specific Plan (AVSP) Project. It will conform to the City's standard for a "Major Highway" with a right-of-way width of 100 feet. This roadway segment from approximately 200 feet southeast of the bridge will connect to Lake Street approximately 180 feet south of the current intersection, which conforms to the location detailed in the City's General Plan Circulation Element. In the interim, the AVSP Project will construct a 2-lane roadway that will include a 696-foot roadway transition.

The City is constructing 649 feet of the roadway from 200 feet northwest of the bridge to existing Temescal Canyon Road.

The 649-foot roadway transition segment from the proposed bridge to the existing 2-lane Temescal Canyon Road to the northwest, from approximately 200 feet northwest of the bridge to the existing Temescal Canyon Road is separate from this undertaking and will be constructed using local funding. However, the City is proposing this section of the roadway also to be subject to the MSHCP Consistency Analysis.

The realigned Temescal Canyon Road will intersect Lake Street approximately 180 feet south of the current intersection, which conforms to the location detailed in the City's General Plan Circulation Element.

On May 22, 2017, an amendment to 2017 Federal Transportation Improvement Program was made to update the description for the bridge replacement and roadway realignment project as follows: "PROJECT ID: RIV111203; IN LAKE ELSINORE – TEMESCAL CANYON ROAD BRIDGE REPLACEMENT/REALIGNMENT; REPLACE TEMESCAL CANYON ROAD 2-LANE BRIDGE WITH A 4-LANE BRIDGE OVER TEMESCAL WASH, 0.42 MILE WEST OF LAKE STREET AND PROVIDE TRANSITION TO A 2-LANE ROADWAY (BOTH SIDES). OTHER IMPROVEMENTS INCLUDE CONSTRUCTION OF 706 FT OF SIDEWALK AND STRIPING 8 FT CLASS II BIKE LANES ON EACH SIDE OF THE BRIDGE [BRIDGE NO. 56C0050]."

As previously stated, the proposed bridge is on a new roadway alignment. In the interim, the existing roadway northwest of the relocated bridge and the new roadway southeast of the relocated bridge will be two lanes (one lane in each direction). In the future, both segments of the roadway will be widened to four lanes.

The area to be potentially affected by the project includes properties within the AVSP in the City of Lake Elsinore. The project will require the permanent acquisition of new right-of-way for roadway and habitat restoration, as well as, temporary construction easements, and permanent easements for drainage. Since the proposed bridge is not located in an existing roadway, it will not require relocation of existing utilities (water, sewer, cable, telephone, gas, electric utilities, etc.). However, the bridge sidewalk and deck will include utility openings to accommodate future utilities.

The project will include minimal drainage improvements within Temescal Wash. Activities will include minor regrading of the creek near the bridge and construction of concrete slope protection, cutoff wall, and riprap launch pad to protect the bridge abutments from scour. A 478-foot segment of the existing low-flow channel will be relocated to convey low flows through the proposed bridge. The relocated low-flow channel will extend approximately 100 feet downstream of the proposed bridge. It will also extend approximately 250 feet upstream of the proposed bridge. The approximate total construction area of the project is 6.27 acres with an impervious area of approximately 3.0 acres (proposed roadway pavement, bridge, and concrete slope protection near the bridge abutment). In contrast, the impervious area (roadway pavement and bridge) of the existing Temescal Canyon Road is approximately 1.8 acres.

Study Methods

This section provides the regulatory framework by which biological resources were reviewed for the proposed project and the methods used in determining the suitability of the habitat for a given biological resource. There are several Federal, State, and local biological resources regulations and policies pertaining to this project. These policies are summarized below, along with brief descriptions of how they relate to the proposed project's planning, permitting, and implementation.

Regulatory Requirements

FEDERAL LAWS AND REGULATIONS

National Environmental Policy Act. The National Environmental Policy Act (NEPA) was signed into law on January 1, 1970. NEPA requires Federal agencies to assess the environmental effects of their proposed actions prior to making decisions. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations.

NEPA policy requires the Federal Government to use all practicable means to create and maintain conditions under which people and nature can exist in productive harmony. Federal agencies must incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Each Federal agency maintains its own procedures for implementing NEPA. The NEPA process begins when an agency proposes to take an action (this can include proposals to adopt rules and regulations; formal plans that direct future actions; programs; and specific projects). Once the proposal is conceptualized and any reasonable alternatives have been developed, the agency must determine if the action has the potential to affect the quality of the human environment.

In August 2005, under Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), California was named one of six states eligible to participate in a pilot program in which Caltrans assumed the Federal Highway Administration (FHWA) responsibilities under NEPA and other federal environmental laws. In October 2012, the FHWA and Caltrans entered into a Memorandum of Understanding (MOU) continuing Caltrans' assumption of these responsibilities.

The project is funded in part with federal money. Caltrans in its assumption of FHWA responsibility, is required to review and approve biological resources surveys and studies including (but not limited to) those prepared pursuant to the Federal Endangered

Species Act (FESA) of 1973, the Federal Clean Water Act (CWA), and the Migratory Bird Treaty Act (MBTA).

Federal Endangered Species Act. Under provisions of Section 7(a)(2) of FESA, a Federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the U.S. Fish and Wildlife Service (USFWS) if the activity may affect a listed endangered or threatened species or its designated critical habitat. The purpose of this consultation is to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat.

Under the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program,* which became effective on July 1, 2007, Caltrans serves as the NEPA Lead Agency for compliance with Section 7(a)(2) of FESA. The MOU was signed pursuant to Section 6005 of the 2005 SAFETEA-LU, and extended under Moving Ahead for Progress in the 21st Century Act (MAP21), which allows the Secretary of Transportation to assign, and the State of California to assume, responsibility for FHWA functions under other Federal environmental laws. Because this project is covered by the Pilot Program MOU, the FHWA has assigned, and Caltrans has assumed, FHWA responsibility for environmental review, consultation, and coordination on this project.

Section 404 of the Clean Water Act. The USACE regulates discharges of dredged or fill material into waters of the United States (waters of the U.S.). These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction, pursuant to Section 404 of the CWA, is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or it may be indirect (through a nexus identified in the USACE regulations). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic must meet a specific set of mandatory wetland criteria.

The discharge of dredged or fill material (temporarily or permanently) into waters of the U.S. (including wetlands) requires authorization from the USACE pursuant to Section 404 of the CWA. Potential waters of the U.S. under the jurisdiction of the Section 404 are present within the BSA.

Migratory Bird Treaty Act and Executive Order 13186. Native bird species and their nests are protected under the MBTA (16 United States Code [USC] 703 712). The

MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird or its eggs, parts, or nests, except as authorized under a valid permit.

Executive Order (EO) 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs Federal agencies "taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement an MOU with the USFWS that promotes the conservation of migratory bird populations."

STATE LAWS AND REGULATIONS

California Environmental Quality Act. Enacted in 1970, the California Environmental Quality Act (CEQA) requires State and local government agencies to inform decision-makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible. CEQA requires the disclosure of potential environmental impacts and the identification of enforceable measures to avoid or reduce environmental damage through feasible mitigation or project alternatives. A key feature of the CEQA process is the opportunity for the public to review and provide input throughout the environmental process. The CEQA process allows a robust public disclosure of a project's potential environmental impact and provides for informed governmental decisions.

CEQA requirements apply to public agency projects including activities directly undertaken by a governmental agency, activities financed in whole or in part by a governmental agency, and private activities that require discretionary approval from a governmental agency; as well as private projects that involve governmental participation, financing, or approval.

The City of Lake Elsinore, acting as the CEQA Lead Agency, will review and consider, and take appropriate action on the CEQA document prepared for the proposed project.

California Endangered Species Act. The California Endangered Species Act (CESA) is administered by the CDFW and prohibits the "take" of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Section 2050 to 2097). "Take" is defined to mean hunt, pursue, catch, capture or kill or to attempt those activities. Sections 2080.1 and 2081 of CESA allow the CDFW to authorize exceptions to the "take" prohibition for State-listed threatened or endangered plant and animal species for purposes such as public and private development, provided the take is incidental to an otherwise lawful activity and the take is minimized and fully mitigated.

Section 1600 of the California Fish and Game Code. The State of California Code of Regulations empowers the CDFW to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. These regulations do not apply to Tribal Lands. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an ephemeral flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

The CDFW has not defined wetlands for jurisdictional purposes. The CDFW generally includes within the jurisdictional limits of streams and lakes any riparian habitat present. Riparian habitat includes willows, alders, and other vegetation typically associated with stream banks or lake shorelines. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas. Wetlands not associated with a lake, stream, or other regulated areas generally are not subject to CDFW jurisdiction. Streambeds under the jurisdiction of CDFW are present within the BSA.

Section 401 of the Clean Water Act. The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those subject to USACE jurisdiction (i.e., wetland and non-wetland waters of the U.S.). The RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the California Porter Cologne Water Quality Control Act (Porter-Cologne Act). Potential waters of the U.S. under the jurisdiction of Section 401 are present within the BSA.

Invasive Species. On February 3, 1999, President Clinton signed EO 13112, requiring Federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as:

> "… any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health."

FHWA guidance issued August 10, 1999, directs the use of the State's noxious weed list to define the invasive plants that must be considered as part of the CEQA analysis for a proposed project.

LOCAL LAWS AND REGULATIONS

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP serves as a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of FESA and a Natural Communities Conservation Plan (NCCP) pursuant to the Natural Communities Conservation Planning Act, focusing on the conservation of species and their associated habitats in western Riverside County. The MSHCP allows participating jurisdictions to authorize the take of both the plant and wildlife species identified within the MSHCP area. Regulation of the "take" of threatened, endangered, and rare species is authorized by the Wildlife Agencies (USFWS and CDFW), which allow "take authorization" for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated MSHCP Conservation Area. The County is obligated to specific conditions as described in Section 13.8 of the MSHCP Implementation Agreement.

Studies Required

LITERATURE REVIEW

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-status biological resources (e.g., plant and animal species) in or within the vicinity of the BSA. The BSA is the proposed project footprint plus an approximately 50-foot buffer to include all areas of permanent and temporary construction related effects.

Federal and State lists of special-status species were examined. Current and historical aerial photographs were also reviewed in Google Earth and GeoSearch (http://www.geosearch.net/QuickMap/Indexhtm?/DataID=Standard0000155213). The project is located outside of the National Marine Fisheries Service (NMFS) jurisdictional boundary/quadrangle, and the BSA is outside the range of species under NMFS jurisdiction listed on the USFWS Information Planning and Conservation System (IPaC) species list, identified below. Therefore, the NMFS species list was not requested from NMFS. Current database records reviewed included the following:

- California Natural Diversity Data Base (CNDDB). 2016. CDFW. Rarefind 5. October 2017. California 7.5-minute U.S. Geological Survey (USGS) quadrangles searched: *Alberhill*, *Lake Elsinore*, *Lake Mathews*, and *Steele Peak*.
- California Native Plant Society (CNPS). Inventory of Rare and Endangered Plants (CNPSEI online edition, v8-03). Website: http://www.cnps.org/inventory. October 2017. California 7.5-minute USGS quadrangles searched: *Alberhill*, *Lake Elsinore*, *Lake Mathews*, and *Steele Peak*.

- USFWS, Information Planning and Conservation System (IPaC). Website: http://www.ecos.fws.gov (accessed March 5, 2018) (Appendix B).
- MSHCP, Volume 1, The Plan, Parts 1 and 2. 2003. Riverside County Transportation and Land Management Agency, Inc.

FIELD REVIEWS

On-site field investigations were conducted in 2015, 2016, and 2017 to identify vegetation communities, habitats for special-status species, potential jurisdictional waters, and other biological resource issues. Based on the literature review and initial field investigations, focused field surveys were completed as follows:

- Special status plants focused survey;
- Fairy shrimp habitat assessment;
- Burrowing owl habitat assessment and focused survey;
- Riparian birds focused survey; and
- Jurisdictional delineation.

PERSONNEL AND SURVEY DATES

Table A lists the survey data, including survey types, dates, and biologists for the various surveys performed within the BSA. Table A is followed by a detailed discussion of the methods used for these surveys.

Table A: Survey Data

Survey Type	Survey Personnel	Survey Date(s)
Special Status Plants Focused Survey	Stan Spencer and Denise Woodard	April 25 and May 31, 2016
Fairy Shrimp Habitat Assessment	Stan Spencer	May 31, 2016
Burrowing Owl Habitat Assessment and Focused Survey	Denise Woodard, Claudia Bauer, and Stan Spencer	October 16, 2015, May 19, June 10, 20, and 30, 2016
Riparian Birds Focused Survey	Denise Woodard and Stan Spencer	April 14, 25, May 19, 31, June 10, 20, 30, and July 8, 2016
Jurisdictional Delineation	Denise Woodard, Claudia Bauer, and Jim Harrison	October 16, 2015, September 29, 2016, and February 14, 2017

SPECIAL STATUS PLANTS

The BSA is within MSHCP plant survey areas, specifically the Narrow Endemic Plant Species Survey Area (NEPSSA) and the Criteria Area Species Survey Area (CASSA).

LSA biologists Stan Spencer and Denise Woodard conducted the habitat assessment and survey for MSHCP special-status plants in the NEPSSA and CASSA survey areas. Site visits were timed to occur during the flowering periods of the target species. Rainfall was near normal for the Lake Elsinore area for the 2015/2016 wet season. According to http://weathercurrents.com/lakeelsinore/ArchivePrecipitation.doc, the average precipitation in the Lake Elsinore area is 11.08 inches and the precipitation during the 2015/2016 wet season was 10.10 inches. The entire study area was surveyed on each day by walking 20- to 40-foot transects. The survey was floristic in nature and all plant species observed during the survey were identified to the extent necessary to determine rarity and listing status. The special status plant survey report is provided in Appendix C along with all focused species survey reports.

FAIRY SHRIMP HABITAT ASSESSMENT

A habitat assessment for fairy shrimp was conducted within the BSA by USFWS-permitted (USFWS Permit TE-777965-10) fairy shrimp biologist Stan Spencer. The fairy shrimp survey evaluated detention basins present within the BSA. The fairy shrimp habitat assessment is provided in Appendix C.

BURROWING OWL

LSA biologists Denise Woodard and Claudia Bauer conducted a habitat assessment for burrowing owls. The focused survey for burrows and owls was conducted by LSA biologists Denise Woodard and Stan Spencer in accordance with accepted survey procedures (County of Riverside's 2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area). There was no precipitation during or within five days prior to the site visits.

The survey was conducted by walking throughout suitable habitat on the project site, pausing occasionally to scan the surrounding areas through binoculars. Transects were spaced at no more than 65 feet, which allowed for 100 percent visual coverage of suitable habitat. Areas of suitable habitat off site were surveyed through binoculars. Burrows encountered during the survey were examined for owl sign (e.g., feathers, pellets, whitewash, and prey remnants). The burrowing owl survey report is provided in Appendix C.

RIPARIAN BIRDS

LSA biologists Denise Woodard and Stanley Spencer conducted eight protocol least Bell's vireo surveys (which also comprised five protocol southwestern willow flycatcher surveys) from April 14 to July 8, 2016. During each of the surveys, the biologists walked slowly along the edge of riparian habitat, listening for least Bell's vireos and southwestern willow flycatchers. A recording of southwestern willow flycatcher songs

was played periodically along the survey route during all of the flycatcher surveys. The surveying biologist, with the aid of binoculars for viewing wildlife species, waited for several minutes after each playing to look and listen for both least Bell's vireos and southwestern willow flycatchers. Surveys were conducted pursuant to Federal 10(a)(1)(A) Permit TE 777965 and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Birds (November 29, 2012–January 31, 2017). The riparian bird survey report is provided in Appendix C.

JURISDICTIONAL DELINEATION

LSA biologists Denise Woodard, Claudia Bauer, and Jim Harrison conducted the fieldwork for this evaluation delineation. The BSA was surveyed on foot for both federal and State jurisdictional areas. Areas of potential jurisdiction were evaluated according to currently accepted federal and State regulations and guidelines. CDFW jurisdiction within Temescal Wash was determined by Claire Engel of the CDFW during a project team field meeting on August 25, 2017.

The jurisdictional delineation report is provided in Appendix D.

Agency Coordination and Professional Contacts

The project consultants consulted with the Western Riverside County Regional Conservation Authority (RCA), USFWS, CDFW, USACE and RWQCB on June 14, August 8, and September 13, 2017, to review the project's consistency with the MSHCP. In addition, a field meeting with the project consultants, RCA, USFWS, and CDFW occurred on August 25, 2017. The consultations resulted in concerns related to potential impacts to Constrained Linkage 6 as a result of the originally proposed 306-foot bridge. As a result of the consultations, the bridge design was lengthened to 375 feet. The 375-foot bridge design was determined to be acceptable to the RCA, USFWS, and CDFW.

Limitations That May Influence Results

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations necessarily imposed by the environment. However, due to the experience and qualifications of the consulting biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings.

Please note that the BSA has been reduced in size, in coordination with Caltrans, since the time the focused field studies were completed, with the exception of the Jurisdictional Delineation. Therefore, the species observed during studies of the larger study area have been included in the list of observed species provided in Appendix E.

Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

The BSA is 9.5 acres in size and located along a section of Temescal Wash, south of Temescal Canyon Road and east of Lake Street. The BSA includes the bridge replacement and City roadway project and consists of Temescal Canyon Wash and adjacent uplands. Temescal Wash is mainly vegetated with eucalyptus trees with some scattered patches of riparian plants. Areas outside the wash are vegetated by ruderal vegetation, coast live oak woodland, and developed areas. Details of the biological and physical conditions within the BSA are discussed below.

STUDY AREA

The BSA is the proposed project footprint plus an approximately 50-foot buffer to include all areas of permanent and temporary construction-related effects. The BSA extends along a portion of Temescal Canyon Wash for 1,217 feet west of Bernard Street and includes adjacent upland areas (Figures 1 and 2).

As described in Baldwin et al. (2012), the BSA is located within the South Coast subregion of the Southwestern California region of the California Floristic Province. The South Coast subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Much of the area is intensively developed for urban, suburban, and agricultural uses. The natural vegetation of the subregion consists primarily of chaparral, coastal sage scrub (CSS), annual grasslands, and some riparian scrub and woodland.

PHYSICAL CONDITIONS

The BSA is geographically situated along Temescal Wash, north of Alberhill and east of Lake Elsinore. The topography is relatively flat, with elevations ranging from 1,220 to 1,240 feet above mean sea level (amsl). Soils within the BSA, as mapped by the Natural Resource Conservation Service, Online Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm), are provided in Table B and shown in Figure 3.

Table B: Soils Within the BSA

Soil Type	Percentage Slope
Clay Pits	None
Gorgonio Loamy Sand	0 to 8
Honcut Sandy Loam	2 to 8
Tujunga Loamy Sand, Channeled	0 to 8

Source: Natural Resource Conservation Service (2003).

BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

The BSA consists of Temescal Wash and adjacent, primarily undeveloped, lands. The southerly portion of the BSA is developed by the existing Pacific Clay Products, Inc. and an abandoned railroad right-of-way parallels the northerly side of Temescal Wash. Surrounding land uses consist of undeveloped open space, and developed areas including transportation corridors, and rural residential and commercial development.

VEGETATION/NATURAL COMMUNITIES

Vegetation within the BSA has been affected by current and past land use practices in the project area. Current land uses in the general area include I-15 and other roadway infrastructure, clay mining activities, and scattered commercial and rural residential development. A railroad also historically paralleled the north side of Temescal Wash within the BSA. Land cover within the BSA includes developed, ruderal vegetation, eucalyptus trees with scattered riparian vegetation, eucalyptus trees, and coast live oak trees. Figure 4 shows land cover within the BSA, Figure 5 provides site photographs, and Table C shows the acreage of each vegetation type and land use within the BSA. The vegetation communities within the BSA are discussed below.

Table C: Land Cover Occurring within the Biological Study Area

Vegetation Community	Total Acreage
Developed	0.98
Ruderal	6.05
Eucalyptus Trees with Scattered Riparian Vegetation	0.90
Eucalyptus Trees	1.01
Coast Live Oak Trees	0.56
Total	**9.50**

Source: Compiled by LSA, December 2016

Developed. The extreme southeasterly portion of the site is currently used for clay mining activities and includes roads, stockpile areas, structures, and detention basins. The vegetation in these areas ranges from devoid to sparsely scattered ruderal vegetation.

Ruderal. Ruderal vegetation is the dominant vegetation within the BSA. This vegetation occurs in areas that have been previously cleared of trees, primarily eucalyptus trees, removed in the winter of 2013/2014. Mulch from cleared trees covers most of this area adjacent to Temescal Wash. Dominant ruderal plant species identified include Russian thistle (*Salsola tragus*), common sunflower (*Helianthus annuus*), telegraph weed (*Heterotheca grandiflora*), Canadian horseweed (*Erigeron canadensis*), foxtail chess (*Bromus madritensis*), and mouse barley (*Hordeum murinum*).

Eucalyptus Trees with Scattered Riparian Vegetation. The eucalyptus trees with scattered riparian vegetation occur within the easterly portion of Temescal Wash and adjacent areas. The area is dominated by eucalyptus trees (*Eucalyptus* sp.) and to a lesser extent by arroyo willow (*Salix lasiolepis*) and mule fat (*Baccharis salicifolia*). Hardstem bulrush (*Schoenoplectus acutus*), individual blue elderberry (*Sambucus nigra* ssp. *caerulea*), individual Fremont cottonwood (*Populus fremontii*), and young coast live oak trees (*Quercus agrifolia*) are also present.

Eucalyptus Trees. A monotypic stand of eucalyptus trees occurs within the westerly portion of Temescal Wash. Individual eucalyptus trees outside Temescal Wash are also present.

Coast Live Oak. The coast live oak trees parallel the southerly side of Temescal Canyon Road within the BSA. Based on historic aerial photograph review, coast live oak trees were ornamentally planted along either side of Temescal Canyon Road in the project area between 1938 and 1953.

ANIMAL SPECIES

Most animal species identified within BSA are characteristic of those typically found in the interior portions of southern California. A complete list of observed species is provided in Appendix E. The most conspicuous animals observed during the field surveys were birds and examples include red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), house sparrow (*Haemorhous mexicanus*), California towhee (*Melozone crissalis*), and song sparrow (*Melospiza melodia*). One special-status bird species typically associated with riparian habitats, yellow warbler (*Setophaga petechia*), was also observed in the BSA.

AQUATIC RESOURCES

The reach of the Temescal Wash within the BSA is ephemeral. Therefore, it does not support aquatic plants and fish species.

INVASIVE SPECIES

Exotic species are typically most numerous in disturbed habitats, adjacent to roads and developed areas, and frequently border areas of ornamental landscaping. Nonnative plant species occur within the plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Twenty-five nonnative plants listed on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory were identified in the BSA. Of these species, there are two with an overall high rating, 12 with a moderate rating, and 11 with a limited rating

(including eucalyptus). Invasive species that have severe ecological effects are given a high rating; species with a high rating identified within the BSA are Mediterranean tamarisk (*Tamarix ramosissima*) and foxtail chess (*Bromus madritensis*).

HABITAT CONNECTIVITY

The BSA is located in an area that has been affected by existing and historic land use practices as described previously. Although Temescal Wash has been affected by these land use practices, it is part of a proposed linkage identified in the MSHCP to connect riparian habitats up and down stream of the BSA.

Regional Species and Habitats and Natural Communities of Concern

For the purposes of this NES, special-status species are considered those listed under FESA and/or CESA, animal species considered of special concern by the CDFW, and plant species with a California Rare Plant Rank (CRPR) of 1A, 2A, 1B, or 2B. These species include those conserved by the MSHCP. The presence or absence of special-status species depends on many factors, including habitat conditions, behavior, seasonal activity, and seasonal occurrence. It is often difficult to ascertain the presence or absence of a species at any particular moment in time. Thus, the presence, or the likelihood of the presence, of special-status species is based on the following criteria (in descending order, from species determined to be present to those considered potentially present): (1) direct observation of the species or its sign in the BSA or the immediate vicinity during surveys conducted for this study or reported in previous biological studies; (2) sighting by other qualified observers; (3) record reported by the CNDDB and published by the CDFW; (4) presence or location of specific species on lists provided by private groups (e.g., CNPS); and/or (5) the BSA lies within the known distribution of a given species and contains suitable habitat.

Table D lists special-status species evaluated with regard to the proposed project area.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Bryophytes					
California screw moss	*Tortula californica*	US: – CA: 1B MSHCP: N	Rock outcrops, vertical rock walls and soil banks with appropriate moisture conditions, at 10 to 1,460 meters (30 to 4,800 feet) elevation. Known only from Modoc, Kern, Los Angeles, Modoc, Monterey, Riverside, San Diego, Santa	A	Rock outcrops and vertical rock walls are absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			Barbara, and Ventura Counties, California.		
Plants					
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	US: – CA: 1B MSHCP: N	Sandy areas (generally flats and benches along washes) in chaparral and coastal sage scrub, and improbably in desert dunes or other sandy areas, below 1,600 meters (5,300 feet) elevation. Reported from Riverside, San Diego, Imperial, Los Angeles, and Ventura Counties. Believed extirpated from Orange County. Also reported from Arizona and Baja California. Plants reported from desert communities are likely misidentified.	A	Sandy areas are absent.
Munz's onion	*Allium munzii*	US: FE CA: ST/1B MSHCP: S	Seasonally moist sites on clay soils (generally) or within rocky outcrops (pyroxenite) on rocky-sandy loams (such as Cajalco, Las Posas, and Vallecitos) with clay subsoils, in openings within coastal sage scrub, pinyon juniper woodland, and grassland, at 300 to 1,070 meters (1,000 to 3,500 feet) elevation. Known only from western Riverside County in the greater Perris Basin (Temescal Canyon-Gavilan Hills/ Plateau, Murrieta-Hot Springs areas) and within the Elsinore Peak (Santa Ana Mountains) and Domenigoni Hills regions.	A	Habitat is poor quality and unsuitable due to previous disturbance; not observed during the 2016 focused plant survey.
San Diego ambrosia	*Ambrosia pumila*	US: FE CA: 1B MSHCP: S	Occurs in open, seasonally wet, generally low areas in floodplains or at edges of vernal pools or playas, usually in	A	Typical habitat conditions not present; not observed during the 2016 focused plant

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			sandy loam or on clay (including upland clay slopes) at 20 to 487 meters (70 to 1,600 feet) elevation. Known from western Riverside and western San Diego Counties. Also occurs in Mexico.		survey.
Parish's brittlescale	*Atriplex parishii*	US: – CA: 1B MSHCP: S	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	A	No alkali soils; not observed during the 2016 focused survey.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	US: – CA: 1B MSHCP: S	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	A	No alkali soils; not observed during the 2016 focused survey.
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	US: FE CA: 1B MSHCP: S	Alkaline flats in playas, chenopod scrub, valley and foothill grasslands, vernal pools at 365 to 520 meters (1,200 to 1,700 feet) elevation. Endemic to the San Jacinto River Valley area of western Riverside County.	A	Alkaline flats are absent; not observed during the 2016 focused plant survey.
Thread-leaved brodiaea	*Brodiaea filifolia*	US: FT CA: SE/1B MSHCP: S	Usually on clay or associated with vernal pools or alkaline flats; occasionally in vernally moist sites in fine soils (clay loam, silt loam, fine sandy loam, loam, loamy fine sand). Typically associated with needlegrass or alkali grassland or vernal pools. Occurs from 25 to 1,120 meters (80 to 3,700 feet) elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties, California.	A	Habitat is poor quality and unsuitable due to previous disturbance; not observed during the 2016 focused survey.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Round-leaved filaree	*California macrophylla*	US: – CA: 1B MSHCP: S	Usually clay or clay loam soils in woodland, scrub, and grassland communities from 15 to 1,200 meters (50 to 4,000 feet) elevation. Known from central and south coastal areas and the Central Valley in California. Also occurs in Oregon and Mexico.	A	Typical habitat conditions not present; not observed during the focused 2016 plant survey.
Intermediate mariposa-lily	*Calochortus weedii* var. *intermedius*	US: – CA: 1B MSHCP: P	Dry, open rocky slopes and rock outcrops in chaparral, coastal sage scrub, and grassland, at 105 to 855 meters (340 to 2,800 feet) elevation. Known only from Los Angeles, Orange, Riverside, and San Bernardino Counties, California. In the western Riverside County area, this species is known from the hills and valleys west of Lake Skinner and Vail Lake (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004). Appears to intergrade with *Calochortus plummerae*, which is mostly east and north of Santa Ana Mountains.	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
Smooth tarplant	*Centromadia pungens* ssp. *laevis*	US: – CA: 1B MSHCP: S	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	A	Alkaline areas are absent; not observed during the 2016 focused plant survey.
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	US: – CA: 1B MSHCP: P	Sandy or rocky soils in chaparral, coastal scrub, oak woodlands, and grassland at 40 to	A	Habitat is poor due to disturbance; not observed during

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			1,705 meters (100 to 5,600 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.		the 2016 focused plant survey.
Long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	US: – CA: 1B MSHCP: C	Generally clay soils in chaparral, coastal sage scrub, and grassland at 30 to 1,530 meters (100 to 5,000 feet) elevation. In California, known only from Orange, Riverside, Santa Barbara, and San Diego Counties. Also occurs in Mexico.	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
San Miguel savory	*Clinopodium chandleri*	US: – CA: 1B MSHCP: S	Rocky moist sites in oak woodland or tall dense chaparral or at the margins these communities in coastal sage scrub or grassland, at 110 to 1,210 meters (400 to 4,000 feet) elevation. Prefers moist rocky canyons with trees or large shrubs. Known only from Orange, Riverside, and San Diego Counties, and Baja California. Restricted to Santa Ana Mountains in western Riverside County.	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
Slender-horned spineflower	*Dodecahema leptoceras*	US: FE CA: SE/1B MSHCP: S	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			(*Lastarriaea coriacea*) and other native annual species, and is often associated with cryptogamic soil crusts composed of bryophytes, algae and/ or lichens. Occurs at 200 to 760 meters (600 to 2,500 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.		
Many-stemmed dudleya	*Dudleya multicaulis*	US: – CA: 1B MSHCP: S	Heavy, often clay soils or around granitic outcrops in chaparral, coastal sage scrub, and grassland below 790 meters (2,600 feet) elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties.	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
Round-leaved filaree	*Erodium macrophyllum*	US: – CA: 1B MSHCP: S	Clay soils in open cismontane woodland (e.g. oak, juniper woodlands) and valley and foothill grassland. The MSHCP account for this species states that it is restricted to "very friable clay soils. … Within the Plan Area, two of the mapped localities occur on Bosanko clay soils" and that "this species tends to be associated primarily with wild oats (*Avena fatua*)."	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	US: FE CA: SE/1B MSHCP: C	Vernal pools and similar mesic habitats in coastal scrub and grassland at 15 to 620 meters (50 to 2,000 feet) elevation. In California, known only from Riverside and San Diego Counties. In Riverside County, this species is known only from the Santa Rosa Plateau. Also occurs in Mexico.	A	Vernal pool and similar mesic habitats are absent.

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Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Mesa horkelia	*Horkelia cuneata* ssp. *puberula*	US: – CA: 1B MSHCP: N	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	US: – CA: 1B MSHCP: S	Vernal pools and alkaline soils in marshes, playas, and similar habitats below 1,220 meters (4,000 feet) elevation. Known from Colusa, Merced, Tulare, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, Tehama, Ventura, and Yolo Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino Counties, and possibly also from Tulare County. Also occurs in Mexico.	A	No alkali areas, vernal pools, or typical soils.
Heart-leaved pitcher sage	*Lepechinia cardiophylla*	US: – CA: 1B MSHCP: S	Closed cone coniferous forest, chaparral, cismontane woodland at 550 to 1,370 meters (1,800 to 4,500 feet) elevation. Occurs in the Santa Ana Mountains in Riverside and Orange Counties. Also reported from San Diego County and Baja California.	A	Closed cone coniferous forest and chaparral are absent.
Intermediate monardella	*Monardella hypoleuca* ssp. *intermedia*	US: – CA: 1B MSHCP: N	Usually understory often found in steep, brushy areas in chaparral, cismontane woodland, and sometimes in lower montane coniferous	A	Chaparral, cismontane woodland, and lower montane coniferous forests are absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			forests from 200 to 1,250 meters (660 to 4,100 feet). Endemic to California, only known from Orange, Riverside, and San Diego Counties.		
Felt-leaved monardella	*Monardella hypoleuca* ssp. *lanata*	US: – CA: 1B MSHCP: N	Chaparral and cismontane woodland from 300 to 1,575 meters (1,000 to 5,200 feet) elevation. Known from Peninsular Ranges in Orange and San Diego Counties and from northern Baja California.	A	Chaparral and cismontane woodland are absent.
Hall's monardella	*Monardella macrantha* ssp. *hallii*	US: – CA: 1B MSHCP: C	Dry slopes and ridges in openings in chaparral, woodland, and forest at 695 to 2,195 meters (2,280 to 7,200 feet) elevation. Known only from Los Angeles, San Diego, Orange, Riverside, and San Bernardino Counties, California. In the western Riverside County area, known only from higher elevations in the Santa Ana and Aqua Tibia Mountains (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	A	Typical habitat conditions not present; not observed during the 2016 focused plant survey.
Spreading navarretia	*Navarretia fossalis*	US: FT CA: 1B MSHCP: S	Saline alkaline soils of vernal pools and depressions and ditches in areas that once supported vernal pools. The MSHCP account for this species states that it "is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake and Salt Creek in association with Willows, Domino and Traver soils" and that "in western Riverside County,	A	Alkali soils are absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within a larger vernal floodplains dominated by annual alkali grassland or alkali playa."		
California Orcutt grass	*Orcuttia californica*	US: FE CA: SE/1B MSHCP: S	Vernal pools from 15 to 660 meters (50 to 2,200 feet) elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico.	A	Vernal pools are absent.
White rabbit-tobacco	*Pseudognaphalium leucocephalum*	US: – CA: 2B MSHCP: N	Sand and gravel at the edges of washes or mouths of steep canyons at 0 to 2,100 meters (0 to 7,000 feet) elevation. In California, known from Los Angeles, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Also occurs in Arizona, New Mexico, Texas, and Mexico.	A	Habitat is poor due to disturbance; not observed during the 2016 focused plant survey.
San Miguel savory	*Satureja chandleri*	US: – CA: 1B MSHCP: S	Rocky, gabbroic, and metavolcanic substrates in chaparral or oak woodland. MSHCP Table 6-1 lists chaparral, coastal sage scrub, cismontane woodland, riparian woodland, and valley and foothill grasslands as potential habitat for this species. However, this species prefers moist rocky canyons with trees or large shrubs, and would not be expected in coastal sage scrub or open grassland except at the margins of chaparral or oak woodland, nor would it be expected in	A	Rocky, gabbroic, and metavolcanic substrates are absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			woodlands outside of rocky canyons (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, December 8, 2004, and March 9, 2005). All occurrences of this species in the California Natural Diversity Data Base that include habitat information (16 occurrences in Riverside, Orange, and San Diego Counties) list coast live oak (*Quercus agrifolia*) or chaparral species as associates, or indicate that the habitat is chaparral, oak woodland, a chaparral-coastal sage scrub interface, or grassy openings in chaparral. In Riverside County, this species is known only from the Santa Ana Mountains and Santa Rosa Plateau, except for a dubious record of an occurrence near Sage Road south of Hemet (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, March 10, 2005; MSHCP species account for San Miguel savory).		
Hammitt's clay-cress	*Sibaropsis hammittii*	US:– CA: 1B MSHCP: S	Clay soils in chaparral and valley and foothill grassland habitats at 700 to 1,100 meters (2,300 to 3,600 feet) elevation. The MSHCP account for this species states that "Hammitt's clay-cress is associated with clay soils, such as Altamont, Auld, Bosanko, Claypit, and Porterville soil series"	A	Outside elevation range; not observed during surveys.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			and that, in western Riverside County it "is only known from the Elsinore Peak area of the Santa Ana Mountains in grasslands."		
San Bernardino aster	*Symphyotrichum defoliatum*	US: – CA: 1B MSHCP: N	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	A	Vernally wet sites are absent.
Wright's trichocoronis	*Trichocoronis wrightii* var. *wrightii*	US: – CA: 2B MSHCP: S	Alkali soils in alkali playa, alkali annual grassland, and alkali vernal pools. The MSHCP account for this species states that "Wright's trichocoronis is restricted to highly alkaline, silty-clay soils in association with Traver, Domino, and Willows soils."	A	Alkali soils are absent.
Invertebrates					
Vernal pool fairy shrimp	*Branchinecta lynchi*	US: FT CA: SA MSHCP: S	Vernal pools and similar features in unplowed grassland areas. Pools must contain water for at least three weeks to allow for maturation and reproduction. Known from the	A	Vernal pools are absent based on the results of the 2016 fairy shrimp habitat assessment.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			Central Valley and adjacent foothill areas, the central coast and south coast ranges, from the transverse ranges near Santa Clarita, from the Santa Rosa Plateau, Skunk Hollow, and the Stowe Road vernal pool west of Hemet in Riverside County, and from northwest San Diego County. May also occur in Orange County. Occurs at up to about 2,300 feet elevation in areas north of Kern County and at up to 5,600 feet elevation in areas to the south.		
Tiger beetle	*Cicindela senilis frosti*	US: – CA: SA MSHCP: N	Inhabits marine shoreline, from central California coast south to salt marshes of San Diego, also found at Lake Elsinore. Inhabits dark-colored mud in the lower zone and dried saltpans in the upper zone.	A	Salt marsh and saltpans are absent.
Quino checkerspot butterfly	*Euphydryas editha quino*	US: FE CA: SA MSHCP: C	Meadows or openings within coastal sage scrub or chaparral below about 5,000 feet where food plants (*Plantago erecta* and/or *Orthocarpus purpurascens*) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California.	A	Coastal sage scrub and chaparral are absent. No host plants were observed during the 2016 focused plant survey.
Riverside fairy shrimp	*Streptocephalus woottoni*	US: FE CA: SA MSHCP: S	Warm-water vernal pools (i.e., large, deep pools that retain water into the warm season) with low to moderate dissolved solids, in	A	Vernal pools are absent based on the results of the 2016 fairy shrimp habitat

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			annual grassland areas interspersed through chaparral or coastal sage scrub vegetation. Suitable habitat includes some artificially created or enhanced pools, such as some stock ponds, that have vernal pool like hydrology and vegetation. Known from areas within about 50 miles of the coast from Ventura County south to San Diego County and Baja California.		assessment.
Fish					
Southern steelhead - Southern California	*Oncorhynchus mykiss*	US: FE CA: SA	Federal listing refers to runs in coastal basins from the Santa Maria River, south to the southern extent of the range (presently considered to be Malibu Creek). Proposed rulemaking 12/19/2000 to extend southern portion of the range to San Mateo.	A	The BSA is outside the known range for steelhead.
Amphibians					
Western spadefoot	*Spea hammondii*	US: – CA: SSC MSHCP: C	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	A	Habitat is marginal and likely does not support this species due to extensive previous disturbance.
Reptiles					
Orangethroat whiptail	*Aspidoscelis hyperythra*	US: – CA: SSC MSHCP: C	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and	P	This species was observed in BSA during the 2016 field surveys.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			oak woodland from sea level to 915 meters (3,000 feet) elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties west of the crest of the Peninsular Ranges, in extreme southern San Bernardino County near Colton, and in Baja California.		
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	US: – CA: SA MSHCP: C	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	P	This species was observed in BSA during the 2016 field surveys.
Rosy boa	*Charina trivirgata*	US: – CA: SA MSHCP: N	In rocky areas in chaparral or scrub habitats or adjacent oak woodland; also in rocky riparian areas. Found in Los Angeles County, southwestern San Bernardino County, south through western Riverside County, and San Diego County into Baja California.	A	Typical habitat (rocky areas) is not present.
Red diamond rattlesnake	*Crotalus ruber*	US: – CA: SSC MSHCP: C	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	HP	Habitat (woodland) is marginal and may be unsuitable due to previous disturbance.
San Bernardino ringneck snake	*Diadophis punctatus modestus*	US: – CA: SA MSHCP: N	Under surface objects along drainage courses, preferring mesic chaparral and oak and walnut woodland communities. Moist habitats of southwestern California	A	Habitat is marginal and likely does not support this species due to previous disturbance.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			from about Ventura to Orange Counties.		
Coast horned lizard	*Phrynosoma blainvillii (coronatum)*	US: – CA: SSC MSHCP: C	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	A	Habitat is marginal and likely does not support this species due to previous disturbance.
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	US: – CA: SSC MSHCP: N	Coastal chaparral, washes, sandy flats and rocky areas. Widely distributed throughout lowlands, up to 2,130 meters (7,000 feet) elevation, of southern California from coast to the eastern border.	A	Typical habitat is not present.
Birds					
Cooper's hawk	*Accipiter cooperii* (nesting)	US: – CA: SA MSHCP: C	Forages in a wide range of habitats, but primarily in forests and woodlands. These include natural areas as well as human-created habitats such as plantations and ornamental trees in urban landscapes. Usually nests in tall trees (20 to 60 feet) in extensive forested areas (generally woodlots of 4 to 8 hectares with canopy closure of greater than 60 percent). Occasionally nests in isolated trees in more open areas.	HP	The trees on site may provide suitable nesting habitat; not observed during the 2016 focused riparian bird survey.
Tricolored blackbird	*Agelaius tricolor* (nesting colony)	US: – CA: SCE/ SSC (breeding) MSHCP: C	Open country. Forages in grassland and cropland habitats. Nests in large groups near fresh water,	A	Typical habitat is not present; not observed during the 2016 focused riparian

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs. Occurs in western Oregon, California, and northwestern Baja California.		bird survey.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	US: – CA: SA MSHCP: C	Steep, rocky coastal sage scrub, and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	A	Coastal sage scrub and chaparral habitats are absent.
Bell's sage sparrow	*Artemisiospiza (Amphispiza) belli belli*	US: – CA: SA MSHCP: C	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	A	Chaparral and coastal sage scrub are absent.
Burrowing owl	*Athene cunicularia* (burrow sites)	US: – CA: SSC (breeding) MSHCP: S	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and rangelands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes built structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	HP	Habitat is considered marginal due to extensive previous disturbance; not observed during the 2016 focused burrowing owl survey.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Western snowy plover	*Charadrius alexandrinus nivosus* (nesting)	US: FT (coastal population) CA: SSC	Sandy coastal beaches, lakes, alkaline playas. Scattered locations along coastal California and Channel Islands, inland at Salton Sea and at various alkaline lakes.	A	Sandy coastal beaches, lakes and alkaline playas are absent.
White-tailed kite	*Elanus leucurus* (nesting)	US: – CA: CFP MSHCP: C	Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America.	HP	Riparian trees sparsely scattered and suitable habitat is limited and disturbed; not observed during the 2016 focused riparian bird survey.
Southwestern willow flycatcher	*Empidonax traillii extimus*	US: FE CA: SE MSHCP: S	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and possibly extreme northwestern Mexico. Winters in Central and South America. Below 6,000 feet elevation.	HP	Riparian vegetation is sparsely scattered and habitat is limited and disturbed; not observed during the 2016 focused riparian bird surveys.
California horned lark	*Eremophila alpestris actia*	US: – CA: SA MSHCP: C	Open grasslands and fields, agricultural area, open montane grasslands. This subspecies is resident from northern Baja California northward throughout non-desert areas to Humboldt County, including the San Joaquin Valley and the western foothills of the Sierra Nevada (north to Calaveras County). Prefers bare ground such as plowed or fall-planted fields for nesting, but may also nest in marshy soil. During the breeding season, this is the only subspecies of horned lark in non-desert southern California; however, from	A	Typical habitat is not present; not observed during the 2016 focused riparian bird or burrowing owl surveys.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			September through April or early May, other subspecies visit the area.		
Bald eagle	*Haliaeetus leucocephalus* (nesting & wintering)	US: – CA: SE/ CFP MSHCP: C	Winters locally at deep lakes and reservoirs feeding on fish and waterfowl. Locally rare throughout North America.	A	Deep lakes and reservoirs are absent.
Yellow-breasted chat	*Icteria virens* (nesting)	US: – CA: SSC (breeding) MSHCP: C	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	HP	Riparian vegetation sparsely scattered and habitat is limited and disturbed; not observed during the 2016 focused riparian bird surveys.
Loggerhead shrike	*Lanius ludovicianus* (nesting)	US: – CA: SSC (breeding) MSHCP: C	Prefers open habitats with scattered small trees and with fences, utility lines, or other perches. Inhabits open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Found in open country in much of North America.	HP	Habitat is considered marginal due to previous disturbance; not observed during the 2016 focused riparian bird or burrowing owl surveys.
Osprey	*Pandion haliaetus* (nesting)	US: – CA: SA MSHCP: C	Eats mostly live fish caught in shallow water. Occurs along coasts and at inland water bodies throughout much of the Americas. In California, winters in many areas but breeds primarily in	A	Suitable water bodies are absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			the northern part of the state.		
White-faced ibis	*Plegadis chihi* (nesting colony)	US: – CA: SA MSHCP: C	Winters locally in wet meadows, shallow freshwater marshes, ponds, lakes, rivers, flooded fields, and estuaries. May frequent brackish areas or feed in flooded fields. Known rookery in western Riverside County. In the Coachella Valley and Imperial Valley, this species primarily occurs in irrigated agricultural lands, particularly alfalfa and wheat.	A	Typical habitat is not present; not observed during the 2016 focused riparian bird or burrowing owl surveys.
Coastal California gnatcatcher	*Polioptila californica californica*	US: FT CA: SSC MSHCP: C	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 feet) elevation in cismontane southwestern California and Baja California.	A	Coastal sage scrub is absent.
Yellow warbler	*Setophagia petechia (nesting)*	US: – CA: SSC (breeding) MSHCP: C	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration. Occurs from western Mexico to northern South America in winter. Migrants are widespread and common. Three subspecies breed in California: *morcomi, brewsteri*, and *sonorana*. (Sonoran yellow warbler nests along the Colorado River.)	P	This species was observed in the BSA during the 2016 focused riparian bird survey.
Least Bell's vireo	*Vireo bellii pusillus*	US: FE CA: SE MSHCP: S	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 feet	HP	Riparian vegetation is sparsely scattered and suitable habitat is limited and disturbed; not

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			(0.6–3.0 meter) above ground. Nests from central California to northern Baja California. Winters in southern Baja California.		observed during the 2016 focused riparian bird survey.
Mammals					
Western mastiff bat	*Eumops perotis californicus*	US: – CA: SSC MSHCP: N	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	A	Suitable roosting habitat (crevices in vertical cliff faces, high buildings, and tunnels) is absent.
Yuma myotis	*Myotis yumanensis*	US: – CA: SA MSHCP: N	Optimal habitats are open forests and woodlands with sources of water over which to feed. Common and widespread in California. Uncommon in the Mojave and Colorado Desert regions, except for mountains. Ranging generally from sea level to 2,440 meters (8,000 feet). Roosts in buildings, mines, caves or crevices; occasionally in swallow nests and under bridges.	A	Suitable roosting habitat (buildings, mines, caves, or crevices) is absent.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	US: – CA: SSC MSHCP: N	Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves. Rare in California, where it is found in Riverside, San Diego, Imperial and possibly Los Angeles Counties. More common in Mexico.	A	Suitable roosting habitat (cliffs, rock outcrops, or slopes) is absent.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	US: – CA: SSC MSHCP: C	Variety of habitats including herbaceous and desert scrub areas, early stages of	P	Habitat is considered marginally suitable due to

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.		previous disturbance; however, this species was observed in the BSA during 2016 field surveys.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	US: – CA: SSC MSHCP: C	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	A	Typical habitat is not present.
Stephens' kangaroo rat	*Dipodomys stephensi*	US: FE CA: ST MSHCP: C	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemisia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow construction (neither sandy nor too hard). Not found in soils that are highly rocky or sandy, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San	A	Transitional habitat between grassland and coastal sage scrub is absent.

Table D: Special-Status Species Evaluated for Proposed Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			Bernardino County, below 915 meters (3,000 feet) elevation. In northwestern Riverside County, known only from east of Interstate 15. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.		
San Diego desert woodrat	*Neotoma lepida intermedia*	US: – CA: SSC MSHCP: C	Found in desert scrub and coastal sage scrub habitat, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	A	Suitable scrub habitats are absent.

STATUS AND HABITAT CODES	
US: Federal Classifications	
–	No applicable classification
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SCE	Candidate for State-listing as Endangered.
SSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP	California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
SA	Special Animal. Refers to any other animal monitored by the CNDDB, regardless of its legal or protection status.
1B	California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
2B	California Rare Plant Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.
California Rare Plant Ranks are assigned by a committee of government agency and nongovernmental botanical experts and are not official State designations of rarity status.	
MSHCP Status	
S	Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C	Species is adequately conserved under the MSHCP.
P	Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.
N	Species is not covered under the MSHCP.

STATUS AND HABITAT CODES	
Habitat Presence/Absence Determinations	
A	Habitat is absent, or habitat may be present but the species was determined to be absent.
HP	Habitat is or may be present. The species may be present
P	The species was determined to be present.

LISTED SPECIES AND CRITICAL HABITAT

Eighteen State/federally listed species were evaluated for the proposed project including eight plant species and 10 animal species. Habitat was present in the BSA for two of these listed species, least Bell' vireo and southwestern willow flycatcher. The 2016 focused surveys found these two riparian bird species to be absent from the BSA, and they are discussed further in Chapter 4. No federal critical habitats are present within the BSA.

NON-LISTED SPECIAL-STATUS SPECIES

Of the 50 non-listed special-status species identified in Table D, eight species were found to have potentially suitable habitat present within the BSA and four species (yellow warbler, orangethroat whiptail, coastal western whiptail, and San Diego black-tailed jackrabbit) were found to be present. A focused survey was also conducted for another of these species, burrowing owl, which is considered absent from the BSA. Project-related effects to the non-listed special status species are detailed in Chapter 4.

Results: Biological Resources, Discussion of Impacts and Mitigation

Habitats and Natural Communities of Special Concern

Certain habitats/natural communities are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) whether they support the habitat requirements of special-status plants or animals. The vegetation communities and land use within the BSA include developed/ disturbed, ruderal/nonnative grasslands, eucalyptus trees with scattered riparian vegetation, eucalyptus trees, and coast live oak woodland. In some cases, federal, State, and/or local agencies may consider the scattered riparian vegetation within the BSA important. These habitats are described in more detail below.

Table E provides project impact acreages for vegetation and land cover within the BSA. Project impacts were calculated using geographic information systems (GIS) software based on current design plans.

Table E: Impacts to Land Cover in the Biological Study Area

Vegetation Community	Total within BSA (acres)	Impacts (acres)	
		Temporary	Permanent
Developed	0.98	0.08	0.18
Ruderal	6.05	2.04	1.30
Eucalyptus Trees with Scattered Riparian Vegetation	0.90	0.34	0.06
Eucalyptus Trees	1.01	0.44	0.19
Coast Live Oak Trees	0.56	0.28	0.19
Total	**9.50**	**3.18**	**1.92**

Source: Compiled by LSA (November 2017)

DISCUSSION OF NATURAL COMMUNITY EUCALYPTUS TREES WITH SCATTERED RIPARIAN VEGETATION

Survey Results. The BSA contains 0.90 acre of eucalyptus trees with scattered riparian vegetation in the eastern portion of the Temescal Wash within the BSA (Figure 4). The eucalyptus trees with scattered riparian vegetation is dominated by eucalyptus trees with patches of arroyo willow and mule fat. This plant community is subject to the CDFW regulatory jurisdiction pursuant to Section 1602 of the California Fish and Game Code.

Project Impacts. As shown in Table E, the project will have 0.34 acre of temporary impacts and 0.06 acre of permanent impacts to eucalyptus trees with scattered riparian vegetation. These impacts are a result of permanent infrastructure, as well as construction easements, temporary equipment access areas, and temporary staging areas.

Avoidance and Minimization Efforts. The following measures are recommended as a means of avoiding and minimizing adverse impacts to habitats and natural communities of special concern that occur or have the potential to occur within the project footprint:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed along the boundaries of the project footprint. All construction equipment should be operated in a manner to prevent accidental damage to areas outside the project footprint. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the project boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.
- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the U.S.
- A weed abatement program will be developed by the City of Lake Elsinore to minimize the importation of non-native plant material during and after construction. Eradication strategies would be employed should an invasion occur.
- A biologist will monitor construction for the duration of the project construction to ensure that vegetation removal, Best Management Practices (BMPs), and all avoidance and minimization measures are properly constructed and followed.
- The portions of the Temescal Wash affected by the project will be recontoured to their original grades. A portion of Temescal Wash will be relocated.

Compensatory Mitigation. Project effects consisting of 0.34 acre of temporary impacts and 0.06 permanent impacts to eucalyptus trees with scattered riparian vegetation are not considered substantial.

Eucalyptus trees with scattered riparian vegetation affected by the project will fall under the regulatory authority of the USACE pursuant to Section 404 of the CWA, the CDFW pursuant to Section 1602 of the California Fish and Game Code, and the RWQCB pursuant to Section 401 of the CWA. Compensatory mitigation for impacts to this habitat will likely be required by those regulatory agencies where it is associated with jurisdictional waters subject to their respective jurisdictions. Compensatory mitigation will also be required by the MSHCP for the loss of this riparian/riverine habitat.

Cumulative Impacts. As described above, the project will result in the permanent removal of eucalyptus trees with scattered riparian vegetation within the BSA. The project will result in a minor but cumulative incremental loss of eucalyptus trees, which is a non-native species, and some riparian vegetation in the region.

Special-Status Plant Species

As identified in Table D, based on the results of a focused special status plant survey, no special-status plant species were found in the BSA. In addition, habitat in the BSA is considered unsuitable for these species due to disturbed habitat conditions. As a result, no project-related effects will occur to special-status plant species, and no avoidance, minimization, or mitigation measures are required.

Special-Status Animal Species Occurrences

Four non-listed special status species (yellow warbler, orangethroat whiptail, coastal western whiptail, and San Diego black-tailed jackrabbit) were found to be present in the BSA, and are discussed in further detail in the following sections.

Focused surveys were conducted for the least Bell's vireo and southwestern willow flycatcher, which are both federally/State listed as endangered, and the burrowing owl, a California Species of Special Concern. All three of these bird species were determined to be absent. The burrowing owl and least Bell's vireo have the potential to be affected by the project and are discussed further in the following sections. In addition, nesting migratory birds are discussed in the following sections. The remaining non-listed special-status species with potential to occur in the BSA have no official status, but merit consideration under CEQA in order to evaluate any potential adverse impact. Project impacts to these non-listed species are not considered substantial with implementation of avoidance and minimization measures discussed in this section for habitats and other special-status species present within the BSA.

DISCUSSION OF ORANGETHROAT WHIPTAIL AND COASTAL WESTERN WHIPTAIL

Survey Results. Ruderal vegetation, eucalyptus trees with scattered riparian vegetation, and coast live oak totaling 7.51 acres provides suitable habitat for the orangethroat whiptail, a California Species of Special Concern, and the coastal western whiptail, a California Special Animal. Both of these species are covered species under the MSHCP. These two species were observed within the BSA during the 2016 field surveys.

Project Impacts. The project will result in 2.66 acres of temporary indirect impacts associated with temporary construction easements, temporary equipment access areas, and temporary staging areas, and 1.55 acres of permanent impacts to suitable habitat in the BSA for orangethroat whiptail and coastal western whiptail.

Avoidance and Minimization Efforts. The following measures are recommended as a means of avoiding and minimizing adverse impacts to orangethroat whiptail and/or coastal western whiptail that occur or have the potential to occur within the project footprint:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed along the boundaries of the project footprint. All construction equipment should be operated in a manner to prevent accidental damage to areas outside the project footprint. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the project boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the U.S.

- A biologist will monitor construction for the duration of the project construction to ensure that vegetation removal, Best Management Practices (BMPs), and all avoidance and minimization measures are properly constructed and followed.

Compensatory Mitigation. The temporary loss of 2.66 acres and permanent loss of 1.55 acres of orangethroat whiptail and coastal western whiptail habitat is not considered substantial. With implementation of avoidance and minimization measures described above, no compensatory mitigation for these species is required.

Cumulative Impacts. The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. With participation in the MSHCP and implementation of the avoidance and minimization measures identified above, no substantial cumulative effects are anticipated to occur to the orangethroat whiptail and coastal western whiptail.

DISCUSSION OF BURROWING OWL

Survey Results. The BSA provides potentially suitable habitat for burrowing owl, a special-status species protected by the MBTA and California Fish and Game Code. The burrowing owl is also an MSHCP covered species. Although portions of the BSA are outside the MSHCP burrowing owl survey area, the entire BSA was evaluated to ensure the project compliance with the MBTA and Fish and Game Code. The BSA provides limited habitat for the burrowing owl. Eucalyptus trees with scattered riparian vegetation and coast live woodland are considered unsuitable habitat for the burrowing owl. Ruderal/nonnative grasslands adjacent to Temescal Wash were covered in a layer of eucalyptus mulch and were considered unsuitable. In addition, ruderal vegetation adjacent to eucalyptus trees with scattered riparian vegetation, eucalyptus trees, and coast live oak trees are considered unsuitable for the burrowing owl because the trees provide perch sites for hawks and large owls that prey on burrowing owl. Suitable habitat

areas consisted of ruderal vegetation on the northerly portion of the BSA (Figure 4). A focused survey for burrowing owl was conducted in 2016 in suitable habitat areas.

Burrowing owl was not detected within the BSA during the 2016 focused surveys. However, burrowing owl is a highly mobile species with the potential to move onto the proposed project site prior to construction. Therefore, a pre-construction focused survey conducted within three days prior to the start of construction activities would be required to verify the species' absence from the proposed project site.

Project Impacts. The focused surveys determined that burrowing owl was absent from the BSA at the time of the surveys. However, to comply with the MSHCP, California Fish and Game Code, and the MBTA, a pre-construction survey for this species will be required prior to the clearing of potential burrowing owl habitat to avoid potential project-related impacts, which may be direct (e.g., loss of occupied burrows with nests, eggs, or young) or indirect (e.g., construction noise).

Avoidance and Minimization Efforts. For the burrowing owl, the MSHCP has specific procedures to follow in order to comply with its conservation objectives, the California Fish and Game Code, and the MBTA. A pre-construction survey within three days prior to ground disturbance is mandatory in suitable habitat areas for compliance with the MSHCP conservation objectives.

Compensatory Mitigation. No mitigation is required if impacts are avoided as stated above; however, if burrowing owls are discovered during subsequent surveys, project-specific mitigation would be required. Mitigation measures would be developed and authorized through consultation with the Western Riverside Regional Conservation Authority (RCA), CDFW, and USFWS, as outlined in MSHCP Table 9.2 and Appendix E, Summary of MSHCP Species Survey Requirements.

Cumulative Impacts. The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. With participation in the MSHCP and implementation of the avoidance, minimization, and mitigation measures identified above, no substantial cumulative effects are anticipated to occur to the burrowing owl.

DISCUSSION OF LEAST BELL'S VIREO

Survey Results. The least Bell's vireo is federally/state listed as endangered and is a covered species under the MSHCP for which take of habitat is covered. Eucalyptus trees with scattered riparian vegetation within the BSA provides suitable habitat for this species. The 2016 focused survey determined the least Bell's vireo to be absent from the BSA. However, there are CNDDB occurrence records for this species indicating its

presence in the BSA in 2010 and 2011. Many trees have been removed from the BSA and adjacent area since the time of the occurrence records.

Project Impacts. As shown in Table E, the project will have 0.34 acre of temporary impacts and 0.06 acre of permanent impacts to eucalyptus trees with scattered riparian vegetation that is considered suitable habitat for least Bell's vireo. In addition, the project may result in temporary indirect construction-related effects to suitable habitat for this species. Implementation of the following measure will help avoid or minimize effects to the least Bell's vireo.

Avoidance and Minimization Efforts. The following measure is recommended as a means of avoiding or minimizing adverse impacts to least Bell's vireo that occur or have the potential to occur within the project footprint.

- Removal of eucalyptus trees with scattered riparian vegetation will occur prior to construction and between September 1 and February 14 to avoid least Bell's vireo breeding season, as well as the general breeding season for other nesting birds. If vegetation removal must occur during nesting season, a nest survey must be conducted by a qualified biologist within three days prior to vegetation removal activities to ensure that no active nests are present. If nests are present, no vegetation removal may occur within 500 feet of the active nest until the young have fledged or the nest is determined by a qualified biologist to be inactive.

Compensatory Mitigation. The temporary loss of 0.34 acre and permanent loss of 0.06 acre of least Bell's vireo habitat is not considered substantial. Least Bell's vireo habitat within the BSA was not occupied by vireo at the time of the 2016 focused survey. With implementation of the avoidance and minimization measure identified above, no compensatory mitigation is required.

However, least Bell's vireo habitat affected by the project will fall under the regulatory authority of the USACE pursuant to Section 404 of the CWA, the CDFW pursuant to Section 1602 of the California Fish and Game Code, and the RWQCB pursuant to Section 401 of the CWA. Compensatory mitigation for impacts to this habitat will likely be required by those regulatory agencies where it is associated with jurisdictional waters subject to their respective jurisdictions. Compensatory mitigation will also be required by the MSHCP for the loss of this riparian/riverine habitat.

Cumulative Impacts. The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. With participation in the MSHCP and implementation of the avoidance and minimization measure identified above, no substantial cumulative effects are anticipated to occur to the least Bell's vireo.

DISCUSSION OF YELLOW WARBLER

Survey Results. The 2016 focused riparian bird survey found the yellow warbler, a California Species of Special Concern and MSHCP covered species, to be present within the BSA.

Project Impacts. The yellow warbler has no official status but requires consideration under CEQA. The project will result temporary loss of 0.34 acre and permanent loss of 0.06 acre of suitable habitat (eucalyptus trees with scattered riparian vegetation) associated with this bird species within the BSA.

Avoidance and Minimization Efforts. This bird species occupies the same type of riparian habitat as the least Bell's vireo. Project implementation of the avoidance and minimization measure identified for least Bell's vireo will reduce the potential project effects to this bird species to less than significant levels.

Compensatory Mitigation. With implementation of the avoidance and minimization measure for the least Bell's vireo, no compensatory mitigation for yellow warbler is required.

Cumulative Impacts. The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. With participation in the MSHCP and implementation of the avoidance and minimization measure identified above, no substantial cumulative effects are anticipated to occur to the yellow warbler.

DISCUSSION OF SAN DIEGO BLACK-TAILED JACKRABBIT

Survey Results. The 6.05 acres of ruderal vegetation provides suitable habitat for the San Diego black-tailed jackrabbit, a California Species of Special Concern and covered species under the MSHCP. This species was observed within the BSA during the 2016 field surveys.

Project Impacts. The project will result in 2.04 acres of temporary indirect impacts associated with temporary construction easements, temporary equipment access areas, and temporary staging areas, and 1.30 acres of permanent impacts to suitable habitat in the BSA for San Diego black-tailed jackrabbit.

Avoidance and Minimization Efforts. The avoidance and minimization measures discussed above for the eucalyptus trees with scattered riparian vegetation and special-status whiptail species are commensurately applicable to the San Diego black-tailed jackrabbit.

Compensatory Mitigation. The temporary loss of 2.04 acres and permanent loss of 1.30 acres of suitable San Diego black-tailed jackrabbit habitat would not be considered substantial. With implementation of the avoidance and minimization measures for the eucalyptus trees with scattered riparian vegetation and special-status whiptail species described above, no compensatory mitigation for this species is required.

Cumulative Impacts. The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. With participation in the MSHCP and implementation of the measures identified above, no substantial cumulative effects are anticipated to occur to the San Diego black-tailed jackrabbit.

DISCUSSION OF NESTING MIGRATORY BIRDS

Survey Results. The BSA provides suitable nesting habitat for migratory birds, including special status-species discussed above.

Project Impacts. Potential project impacts to nesting raptors, special-status birds, and other migratory bird species may occur during the general bird breeding season (typically February 15 through August 31). Potential project-related impacts to the nesting birds may be direct (e.g., loss of nests, eggs, or young) or indirect (e.g., construction noise). Project effects can be avoided by conducting a pre-construction survey for nesting birds within three days prior to removal of trees and/or by removing vegetation outside of the bird breeding season and/or the use of exclusionary buffers if nests are found.

Avoidance and Minimization Efforts. To avoid potential effects to fully protected raptors, special-status bird species, and other nesting birds protected by the MBTA and the California Fish and Game Code, the following measures will be implemented:

- If feasible, project construction and vegetation removal should be completed outside of general bird breeding season (typically set as February 15 through August 31).
- In the event that vegetation removal cannot be conducted outside the bird breeding season, focused surveys will be conducted by a qualified biologist within three days prior to vegetation removal activities. Should nesting birds be found, an exclusionary buffer will be established by a qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

- Nesting bird habitat within the BSA will be resurveyed during the general bird breeding season if there is a lapse in construction activities longer than seven days.

Compensatory Mitigation. No mitigation is required if impacts are avoided as stated above.

Cumulative Impacts. With implementation of the avoidance and minimization measures identified above, no substantial cumulative effects are anticipated to occur to nesting migratory birds.

Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

The USFWS authorizes take of listed species and destruction of critical habitat through Section 7(a)(2) of FESA (16 USC 1531-1544). A species list was received from USFWS IPaC on March 5, 2018 (refer to Appendix B). An effect determination for every listed species and critical habitat known from the project area is included in Table F, either no effect; may affect, not likely to adversely affect (NLAA); or may affect, likely to adversely affect (LAA) determination is provided.

Table F: Effects Determination on USFWS Species

Species and Critical Habitat	Status	Effects Determination
Flowering Plants		
Munz's onion (*Allium munzii*)	Endangered	No effect
San Diego ambrosia (*Ambrosia pumila*)	Endangered	No effect
Slender-horned spineflower (*Dodecahema leptoceras*)	Endangered	No effect
Thread-leaved brodiaea (*Brodiaea flifolia*)	Threatened	No effect
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	Endangered	No effect
Spreading navarretia (*Navarretia fossalis*)	Threatened	No effect
Invertebrates		
Quino checkerspot butterfly (*Euphydryas editha quino*)	Endangered	No effect
Vernal pool fairy shrimp (*Branchinecta lynchi*)	Threatened	No effect
Riverside fairy shrimp (*Streptocephalus woottoni*)	Endangered	No effect
Fish		
Steelhead (*Oncorhynchus mykiss*)	Threatened	No effect
Birds		
Western snowy plover (*Charadrius alexandrinus nivosus*)	Endangered	No effect
Coastal California gnatcatcher (*Polioptila californica californica*)	Threatened	No effect
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	No effect
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	No effect
Mammals		
Stephens' kangaroo rat (*Dipodomys stephensi*)	Endangered	No effect

The project will have no take of federally listed species. Two federally listed species (least Bell's vireo and southwestern willow flycatcher) were determined absent based on focused survey results. Avoidance and minimization measures will be implemented for the least Bell's vireo as detailed in Chapter 4. Caltrans has made a determination of "no effect" for these species.

Essential Fish Habitat Consultation Summary

The project lies in a disturbed urban location and is located outside of the National Marine Fisheries Service jurisdictional boundary/quadrangle. Furthermore, none of the species under the jurisdiction of NMFS was listed on the IPAC species list from the Carlsbad-Palm Springs Field Office dated October 2017. For this reason, an NMFS species list was not requested from NMFS. NMFS species will not be affected.

California Endangered Species Act Consultation Summary

The CDFW authorizes take of endangered, threatened, or other species of concern through the provisions of Sections 2081 and 2080.1 of the California Fish and Game Code. Six of the species listed on the USFWS list are also State-listed species, as shown in Table G.

Table G: Take Determination on CDFW Species

Species	Status	Take Determination
Flowering Plants		
Munz's onion (*Allium munzii*)	Threatened	No take
Slender-horned spineflower (*Dodecahema leptoceras*)	Endangered	No take
Thread-leaved brodiaea (*Brodiaea flifolia*)	Threatened	No take
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	Endangered	No take
Birds		
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	No take
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	No take
Mammals		
Stephens' kangaroo rat (*Dipodomys stephensi*)	Threatened	No take

The project will have no take of State-listed species. State-listed least Bell's vireo and southwestern willow flycatcher were found to be absent based on focused survey results. Avoidance and minimization measure will be implemented for the least Bell's vireo as detailed in Chapter 4.

Wetlands and Other Waters Coordination Summary

Fieldwork associated with a Jurisdictional Delineation was conducted to determine the potential for federal and State jurisdictional waters and wetland resources in 2015, 2016, and 2017. The Jurisdictional Delineation report is provided as Appendix D.

The USACE regulates discharges of dredged or fill material into waters of the U.S. These waters include wetlands and nonwetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE

regulatory jurisdiction, pursuant to Section 404 of the CWA, is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or indirect (through a nexus identified in the USACE regulations). In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met.

The proposed project is within the jurisdiction of the Santa Ana RWQCB, which is responsible for the administration of Section 401 of the CWA. Water quality certification under Section 401 is required only as part of an application process for certain Federal licenses or permits. The applicable Federal permit in this case is a USACE Section 404 permit. The RWQCB may also choose to assert authority over "waters of the State" under waste discharge requirements pursuant to the Porter Cologne Act. Often, waters found to be isolated and not subject to CWA regulation still are regulated by the RWQCB under the Porter-Cologne Act.

The CDFW, through provisions of the California Fish and Game Code (Sections 1600–1616), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an ephemeral flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

TEMESCAL WASH

One potential jurisdictional feature, Temescal Wash, was evaluated within the BSA. Temescal Wash is tributary to the Santa Ana River at the Prado Flood Control Basin. The Santa Ana River conveys flows to the Pacific Ocean, a USACE traditional navigable waterway (TNW). Temescal Wash is an ephemeral, natural, earthen drainage that conveys flows in an easterly direction through the BSA for 1,217 feet and exits the BSA under a 23-foot wide, two-lane bridge at Bernard Street. Vegetation within Temescal Wash consists of a portion of the wash dominated exclusively by eucalyptus trees and another reach dominated by eucalyptus trees with scattered riparian vegetation. The eucalyptus trees with scattered riparian vegetation occur within the easterly portion of the wash and also include, to a lesser extent, arroyo willow and mule fat. Hardstem bulrush, blue elderberry, and young coast live oak trees are also present. The westerly portion of the drainage is dominated by a monotypic stand of eucalyptus trees.

Two sample plots (SPA and SPB) were evaluated in areas with the highest probability of meeting the USACE three-parameter wetland criteria. These sample plots did not satisfy USACE wetland criteria due to lack of hydric soils; therefore, this portion of Temescal Wash was not classified as wetland. Nevertheless, Temescal Wash does exhibit an ordinary high water mark and is connected to a TNW downstream and therefore would be considered nonwetland waters of the U.S.

The CDFW determined the limits of CDFW jurisdiction within the BSA.

Figure 6 shows potential jurisdictional waters and project impacts to potential jurisdictional waters as detailed below.

USACE JURISDICTION

The BSA was determined to have 0.45 acre of potential jurisdictional waters subject to USACE regulatory authority. The project would result in 0.18 acre of permanent effects and 0.07 acre of temporary effects on USACE nonwetland waters within Temescal Wash. The project applicant can request that the USACE verify the results and conclusions of the jurisdictional delineation report (Appendix D) through the formal Approved Jurisdictional Determination process or, the project applicant can submit a Preliminary Jurisdictional Determination in which case all of the areas delineated as jurisdictional waters are assumed to be waters of the U.S.

CDFW JURISDICTION

The BSA was determined to have 8.41 acres of potential jurisdictional area subject to CDFW regulatory authority. The project would result in 1.64 acres of permanent and 3.06 of temporary effects to CDFW jurisdictional streambed and associated riparian habitat. A California Fish and Game Code Section 1602 Notification of Streambed Alteration will need to be submitted to the CDFW for authorization of impacts to CDFW jurisdictional areas.

RWQCB JURISDICTION

Because there is no public guidance on determining RWQCB jurisdictional areas, RWQCB authority was determined based on the federal definition of wetlands and other waters of the U.S. as recommended by the State Water Resources Control Board September 2004 Workplan. The waters determined to be regulated by the USACE above would be subject to RWQCB jurisdiction under Section 401 of the CWA.

The project will have a net increase in USACE and CDFW jurisdictional areas. Impacts from the project will occur as a result of a portion of Temescal Wash being realigned and vegetation removal.

Compensatory mitigation is anticipated to be required to offset the loss of jurisdictional waters by the USACE, the CDFW, and the RWQCB at a minimum 1:1 mitigation ratio. Mitigation for effects to any regulated USACE nonwetland waters or "waters of the United States and State" will be consistent with the USACE *Compensatory Mitigation for Losses of Aquatic Resources* (USACE 2008), also known as the USACE Compensatory Mitigation Rule. The final determination of what is jurisdictional, what permits will be required, and whether mitigation will be required for such impacts ultimately is subject to the discretion of the agencies (i.e., USACE, CDFW, and RWQCB) during the Federal and State regulatory processes.

Invasive Species

Twenty-five exotic plants on the Cal-IPC Invasive Plant Inventory were identified as occurring in the BSA as shown in Table H. Each plant in the inventory is given an overall rating of high, moderate, or limited. Plants with a rating of high have severe ecological impacts. Plants with a rating of moderate have a substantial and apparent, but not severe, ecological impact. Plants with a limited rating are invasive but their ecological impacts are minor on a statewide level. Two plant species, Mediterranean tamarisk and foxtail chess, were identified in the BSA that have a high rating for ecological impacts.

Table H: Cal-IPC Invasive Plants Identified in the BSA and Ranking

Plant Species	Rank
Mediterranean tamarisk (*Tamarix ramosissima*)	High
Foxtail chess (*Bromus madritensis*)	High
Tocalote (*Centaurea melitensis*)	Moderate
Bull thistle (*Cirsium vulgare*)	Moderate
Shortpod mustard (*Hirschfeldia incana*)	Moderate
London rocket (*Sisymbrium irio*)	Moderate
Australian saltbush (*Atriplex semibaccata*)	Moderate
Tree of heaven (*Ailanthus altissima*)	Moderate
Tree tobacco (*Nicotiana glauca*)	Moderate
Mexican fan palm (*Washingtonia robusta*)	Moderate
Slender wild oat (*Avena barbata*)	Moderate
Wild oat (*Avena fatua*)	Moderate
Ripgut brome (*Bromus diandrus*)	Moderate
Mouse barley (*Hordeum murinum*)	Moderate
Smooth cat's ear (*Hypochaeris glabra*)	Limited
Fivehorn smotherweed (*Bassia hyssopifoli*)	Limited
Russian thistle (*Salsola tragus*)	Limited
Bur-clover (*Medicago polymorpha*)	Limited
Redstem stork's bill (*Erodium cicutarium*)	Limited
Horehound (*Marrubium vulgare*)	Limited

Table H: Cal-IPC Invasive Plants Identified in the BSA and Ranking

Plant Species	Rank
Eucalyptus (*Eucalyptus* sp.)	Limited
Curley dock (*Rumex crispus*)	Limited
Soft chess (*Bromus hordeaceus*)	Limited
Annual rabbitsfoot grass (*Polypogon monspeliensis*)	Limited
Common Mediterranean grass (*Schismus barbatus*)	Limited

In compliance with EO 13112, a weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed to prevent the introduction of and eliminate the establishment of invasive plants that could occur in the proposed project area. At a minimum, this program will include the following measures:

- During construction, the construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one project location to another.
- During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible.
- During construction, the construction contractor shall ensure that all active portions of the construction site are watered as necessary to prevent excessive amounts of dust.
- During construction, soil, gravel, and rock will be obtained from weed-free sources.
- Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control.
- After construction, affected areas adjacent to native vegetation will be revegetated with plant species that are native to the vicinity as approved by the District Biologist.
- After construction, all revegetated areas will avoid the use of species listed on Cal-IPC's California Invasive Plant Inventory that have a high or moderate rating.
- Erosion control and/or revegetation sites will be monitored after construction to detect and control the introduction/invasion of nonnative species. The monitoring period will be determined in consultation with resource agencies.
- Eradication procedures (e.g., spraying and/or hand weeding) will be outlined should an infestation occur; the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the District Biologist.

- All woody invasive species (e.g., tamarisk and eucalyptus trees) will be removed from the project limits.

Other

WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN

An MSHCP consistency analysis has been prepared for this project and is provided as Appendix F. The following summarizes the results of the analysis.

The MSHCP provides for the assembly of conservation lands consisting of Criteria Areas for the conservation of sensitive, threatened, and endangered species it covers. The MSHCP conservation area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks. The proposed project is a covered activity under Section 7.3.4 Covered Activities for Existing Roads within Existing Public/Quasi-Public Lands and within MSHCP Cell Group I (Criteria Cell 3750) and Cell Group J (Criteria Cell 3751). As a result, the proposed project must comply with the following sections of the MSHCP:

- Section 6.1.2: Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools;
- Section 6.1.3: Protection of Narrow Endemic Plant Species;
- Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface;
- Section 6.3.2: Additional Survey Needs and Procedures;
- Section 7.5.1 Guidelines for the Siting and Design of Planned Roads;
- Section 7.5.2 Guidelines for Construction of Wildlife Crossings Within Criteria Area and Public/Quasi-Public Lands;
- Section 7.5.3 Construction Guidelines; and
- Standard Best Management Practices in Appendix C of the MSHCP.

Section 6.1.2: Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools. The MSHCP species associated with riparian/riverine areas and vernal pools, as listed in Section 6.1.2, were assessed for the probability of occurring within and adjacent to the project site. No riparian/riverine species were found to be present within the BSA pursuant to the 2016 focused riparian bird survey, as detailed in Chapter 4. The BSA contains 8.41 acres of riparian/riverine habitat consistent with CDFW jurisdictional streambed and associated riparian vegetation as discussed above. The project will result in 1.64 acres of permanent and 3.06 acres of temporary effects to riparian/riverine habitat in the BSA. Because the project cannot avoid all impacts to riparian/riverine

areas, a Determination of Biologically Superior or Equivalent Preservation (DBESP) analysis will be required to mitigate for any impacts. The project will compensate for riparian/riverine impacts through a combination of on-site and off-site habitat restoration. Mitigation in the DBESP is meant to mitigate impacts of both the bridge and the City-funded roadway project and will be equivalent or superior to that which would occur if impacts to the riparian/riverine resources were avoided.

Section 6.1.3: Protection of Narrow Endemic Plant Species. The project site is located within the MSHCP NEPSSA for Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), slender-horned spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Satureja chandleri*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). None of these plant species was observed during the 2016 focused special status plant survey. They are considered absent from the BSA.

Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface. As a covered activity under Section 7.3.4, the project is subject to Guidelines Pertaining to the Urban/ Wildlands Interface. The guidelines describe management measures to avoid or reduce project effects related to drainage, toxics, lighting, noise, invasive species, barriers, grading, and land development.

Section 6.3.2: Additional Survey Needs and Procedures. The BSA is within the MSHCP Section 6.3.2 survey area for CASSA plants and burrowing owl. The project site is located within the MSHCP CASSA for plants including Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), round-leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and little mousetail (*Myosurus minimus*). None of these species was observed during the 2016 rare plant survey and they are considered absent from the BSA.

The focused burrowing owls survey determined that the burrowing owl was absent from the BSA at the time of the surveys; however, to comply with the MSHCP, California Fish and Game Code, and the MBTA, a pre-construction survey for this species will be required prior to project clearing, grading, and construction. Impacts to the burrowing owl will be avoided as detailed in Chapter 4.

Section 7.5.1: Guidelines for the Siting and Design of Planned Roads and 7.5.2 Guidelines for Construction of Wildlife Crossings within Criteria Area and Public/ Quasi-Public Lands. The Section 7.5.1 guidelines for siting and design provide recommendations to avoid and minimize impacts to sensitive species and habitats, such as complying with the MSHCP sections discussed above and the 7.5.2 Guidelines for

Construction of Wildlife Crossings. The project will comply with Section 7.5.1 and Section 7.5.2 Guidelines for Construction of Wildlife Crossings as discussed below.

Section 7.5.2 contains guidelines for roads that have the potential to result in impediments to wildlife movement. They include both general considerations and specific design guidelines for the construction of wildlife crossings where appropriate.

The proposed bridge will provide for wildlife movement consistent with Section 7.5.2. For wildlife undercrossing structures, such as the proposed bridge structure, the MSHCP requires a minimum openness ratio. The openness ratio (area of structure opening/ structure length) is commonly used to measure the probability of wildlife movement through a given structure. As calculated from the animal's perspective, the openness ratio is the undercrossing height multiplied by the undercrossing span, then divided by the road width. For large mammals (e.g., mule deer), the MSHCP requires a minimum openness ratio of 0.6 (as calculated in meters) with a minimum crossing height of 3 meters (10 feet) to 4 meters (13 feet). The MSHCP does not provide a minimum openness ratio for medium-sized mammals or smaller wildlife species, but recommends 1.0 to 1.5-meter culverts for medium-sized mammals and 1.0 to 0.5-meter culverts for smaller wildlife.

The proposed bridge will be 5.4 meters (17 feet, 7 inches) tall, 114.3 meters (375 feet) in span and 29.8 meters (98 feet) wide. The openness ratio of the proposed bridge would be approximately 20.7, which is well above the minimum 0.6 required for large mammals. In addition, the 5.4-meter (17 feet, 7 inches) height of the bridge is above the required height limit for large mammals. Based on this openness ratio, the proposed project will provide for large mammal wildlife movement.

The proposed project will incorporate other recommended wildlife crossing guidelines as applicable. Therefore, the project will comply with Section 7.5.2 Guidelines for Construction of Wildlife Crossings.

Section 7.5.3: Construction Guidelines and Appendix C Standard Best Management Practices. The project, as a covered activity under Section 7.3.4, is subject to compliance with MSHCP Section 7.5.3 Construction Guidelines and Volume 1, Appendix C, Standard Best Management Practices. These construction guidelines and standard best management practices will be incorporated, as applicable, by the proposed project.

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Appendix A – Figures

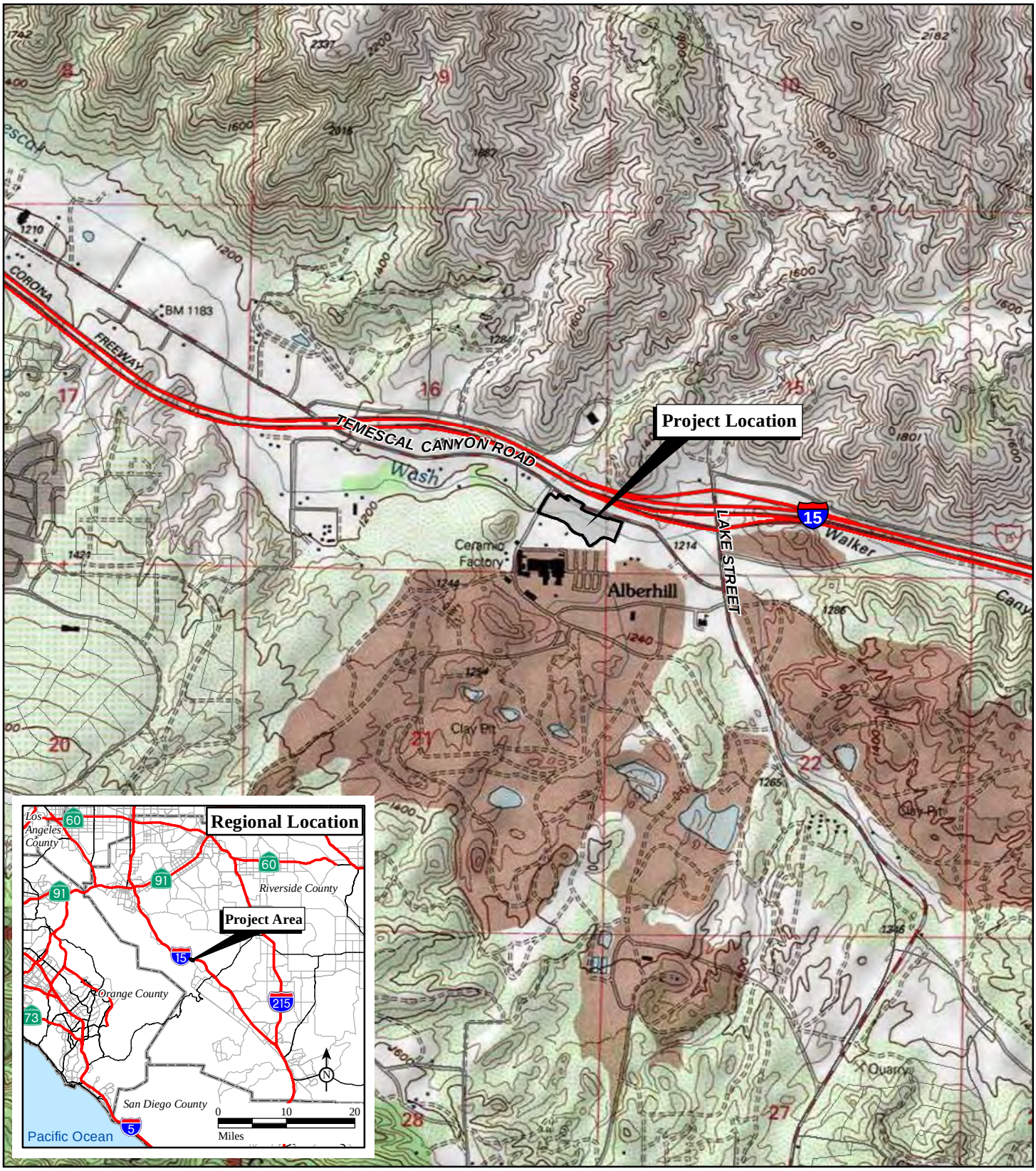

FIGURE 1

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0 1000 2000
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Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

BRLS 5074 (015)

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FIGURE 2

Biological Study Area
Grading Limits
Curb
Alignment
Edge of Pavement
Interim Access Road
Retaining Wall
Proposed ROW
Bridge Structure

N

0 75 150
FEET

SOURCE: Google Earth, 2016

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Site Plan

BRLS 5074 (015)

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Biological Study Area

Soils

CP: Clay Pits

GhC: Gorgonio loamy sand, 0 to 8 percent slopes

HnC: Honcut sandy loam, 2 to 8 percent slopes

N

0 75 150

FEET

SOURCE: Google Earth, 2016; Soil Data Mart, 2015

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FIGURE 3

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Soils

BRLS 5074 (015)

Biological Study Area

Photograph Locations

Land Cover Types

- Coast Live Oak Trees (0.56 Ac)
- Developed (0.98 Ac)
- Eucalyptus Trees (1.01 Ac)
- Eucalyptus Trees/Scattered Riparian (0.90 Ac)
- Ruderal (6.05 Ac)

N

0 50 100
FEET

Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 4

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Land Cover Types and Photograph Locations

BRLS 5074 (015)

Photograph 1: *View of mixed riparian vegetation along Temescal Wash dominated by arroyo willow, mule fat, and eucalyptus trees.*

Photograph 2: *View of general site conditions. Ruderal and non-native grassland vegetation in foreground.*

Photograph 3: *View of coast live oak trees along Temescal Canyon Road.*

Photograph 4: *View of eucalyptus mulch and Fremont cottonwood trees growing near the oak trees along Temescal Canyon Road.*

Photograph 5: *View of eucalyptus trees along Temescal Wash.*

FIGURE 5

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Site Photographs
BRLS 5074 (015)

Biological Study Area
Existing Channel
Proposed Channel
Grading Limits New
Bridge Structure
Bridge Piers

CDFW
Streambed/Riverine
No Impact
Permanent Impact (1.64 Ac includes 8 piers)
Temporary Impact (3.06 Ac)

USACE
Non-wetland Waters
No Impact
Permanent Impact (0.18 Ac)
Temporary Impact (0.07 Ac)

N

0 50 100
FEET

Source: Google Earth, 2016; Riverside County, 2015

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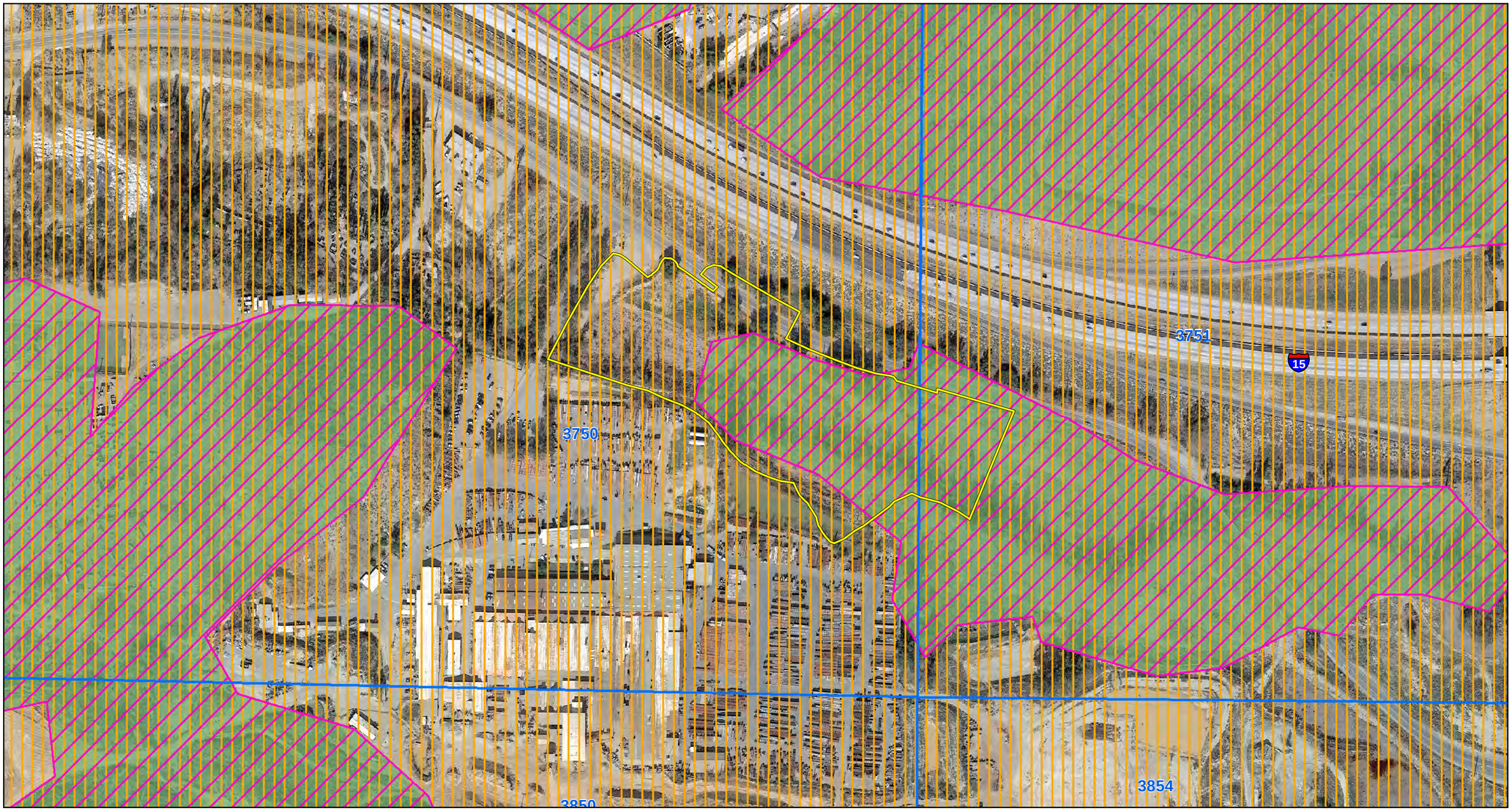
FIGURE 6

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study

Impacts to Potential Jurisdictional Waters

BRLS 5074 (015)



Biological Study Area
3850 Criteria Cells
MSHCP Burrowing Owl Survey Area
Criteria Area Species Survey
Narrow Endemic Plant Species Survey Area

N

0 125 250
FEET

FIGURE 7

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Natural Environment Study
MSHCP Criteria Cells, Survey Areas and Core/Linkage
BRLS 5074 (015)

Source: Google Earth, 2016; Riverside County, 2015; Federal Registry Critical Habitat, 2010

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Appendix B – USFWS IPaC

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: March 05, 2018
Consultation Code: 08ECAR00-2018-SLI-0032
Event Code: 08ECAR00-2018-E-01441
Project Name: Temescal Canyon Road Bridge Replacement and Road Realignment Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2018-SLI-0032

Event Code: 08ECAR00-2018-E-01441

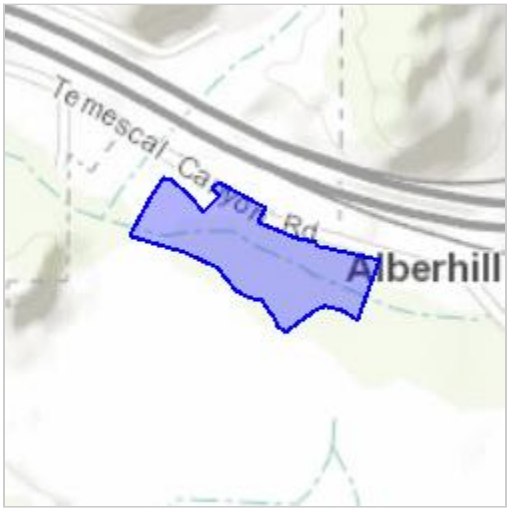
Project Name: Temescal Canyon Road Bridge Replacement and Road Realignment Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The City of Lake Elsinore (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to realign and replace a bridge on Temescal Canyon Road.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.729588460661056N117.39961093026596W



Counties: Riverside, CA

Endangered Species Act Species

There is a total of 14 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Stephens' Kangaroo Rat *Dipodomys stephensi (incl. D. cascus)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Endangered

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius alexandrinus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Insects

NAME	STATUS
Quino Checkerspot Butterfly *Euphydryas editha quino (=E. e. wrighti)* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5900	Endangered

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Munz's Onion *Allium munzii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2951	Endangered
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery *Eryngium aristulatum var. parishii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5937	Endangered
Slender-horned Spineflower *Dodecahema leptoceras* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4007	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Thread-leaved Brodiaea *Brodiaea filifolia* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix C – Survey Reports

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507
951.781.9310 TEL
951.781.4277 FAX
BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
PT. RICHMOND
ROCKLIN
SAN LUIS OBISPO

M E M O R A N D U M

DATE: June 24, 2016

TO: Denise Woodard, LSA Associates, Inc.

FROM: Stan Spencer, LSA Associates, Inc.

SUBJECT: Results of a Special-Status Plant Survey on the Temescal Canyon Road Bridge Replacement Project Site (LSA Project No. ACN1401)

This memo provides the results of a survey for special-status plants by LSA Associates, Inc. (LSA) for the above-referenced project site located at the southwest corner of Temescal Canyon Road and Lake Street in the City of Lake Elsinore, San Bernardino County, California (attached Figure 1).

BACKGROUND

The project site is within Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) survey areas for Narrow Endemic Plant Species Survey Area (NEPSSA) 1 and Criteria Area Species Survey Area (CASSA) 1 plant species (Table A). The study area (attached Figure 2) includes the Temescal Creek channel and adjacent upland areas. Elevation at the site varies from approximately 1,220 to 1,240 feet above mean sea level. Mapped soils are Tujunga loamy sand, channeled; Honcut sandy loam; Gorgonio loamy sand; and clay pits. The predominant vegetation communities are ruderal/non-native grassland, coastal sage scrub, eucalyptus groves, and eucalyptus tree/scattered riparian vegetation (attached Figure 2).

METHODS

The habitat assessment and survey for MSHCP survey plants was conducted by LSA biologists Stan Spencer and Denise Woodard on April 25, 2016, from 7:30 to 10:55 a.m. and by Stan Spencer on May 31 from 9:00 a.m. to 12:30 p.m. Site visits were timed to occur during the flowering periods of the target species. The entire study area was surveyed on each day by walking 20- to 40-foot transects. The survey was floristic in nature, and all plant species observed during the survey were identified to the extent necessary to determine rarity and listing status.

RESULTS

None of these target species or any other special-status plant species was observed during the survey, and all are determined to be absent from the project site (Table A). A list of all plant species identified during the survey is provided as Table B.

ATTACHMENTS

Figure 1: Regional and Project Location
Figure 2: Study Area and Vegetation and Land Use
Table A: MSHCP Narrow Endemic and Criteria Area Plant Survey Species
Table B: Plant Species Observed

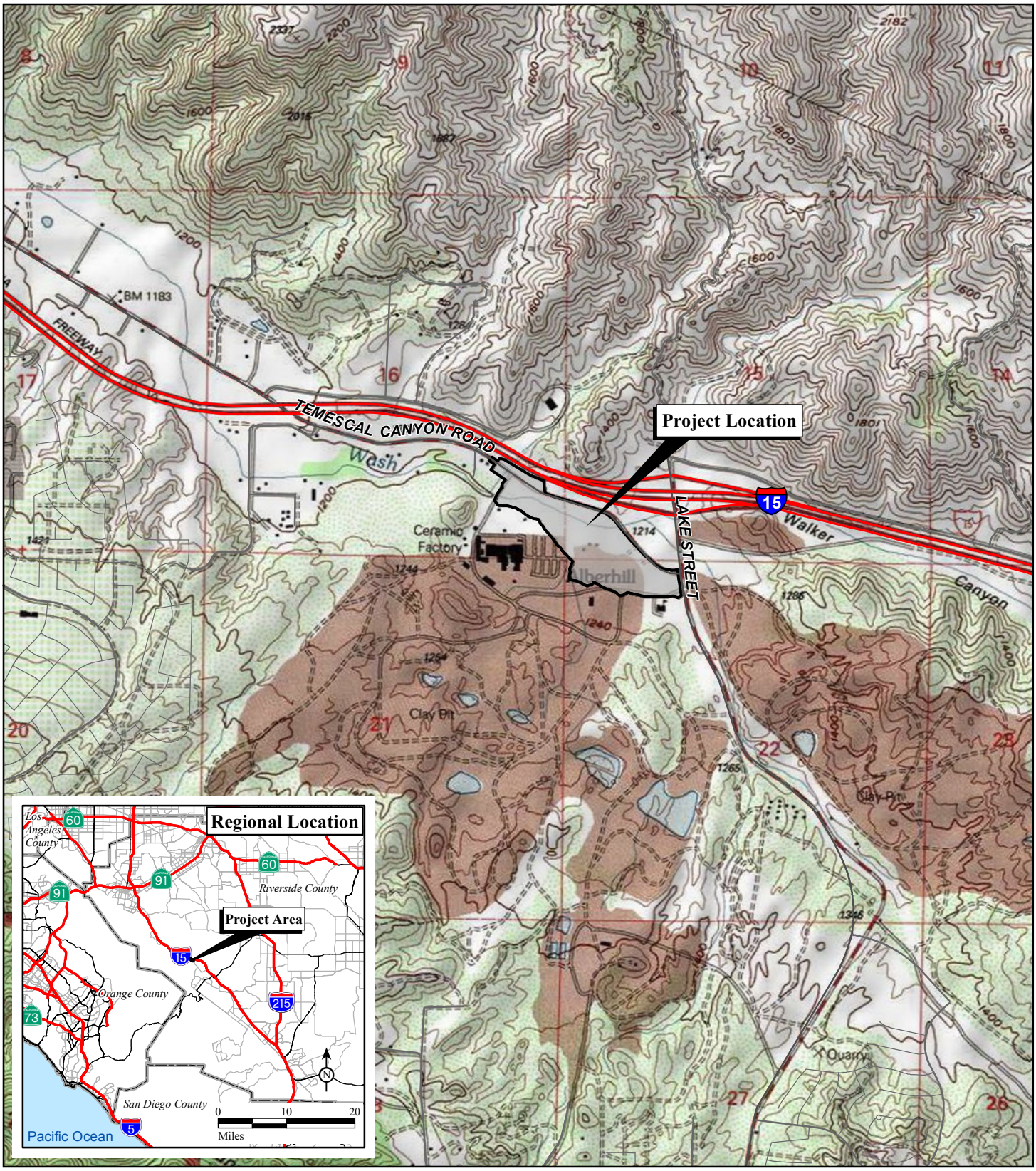


FIGURE 1

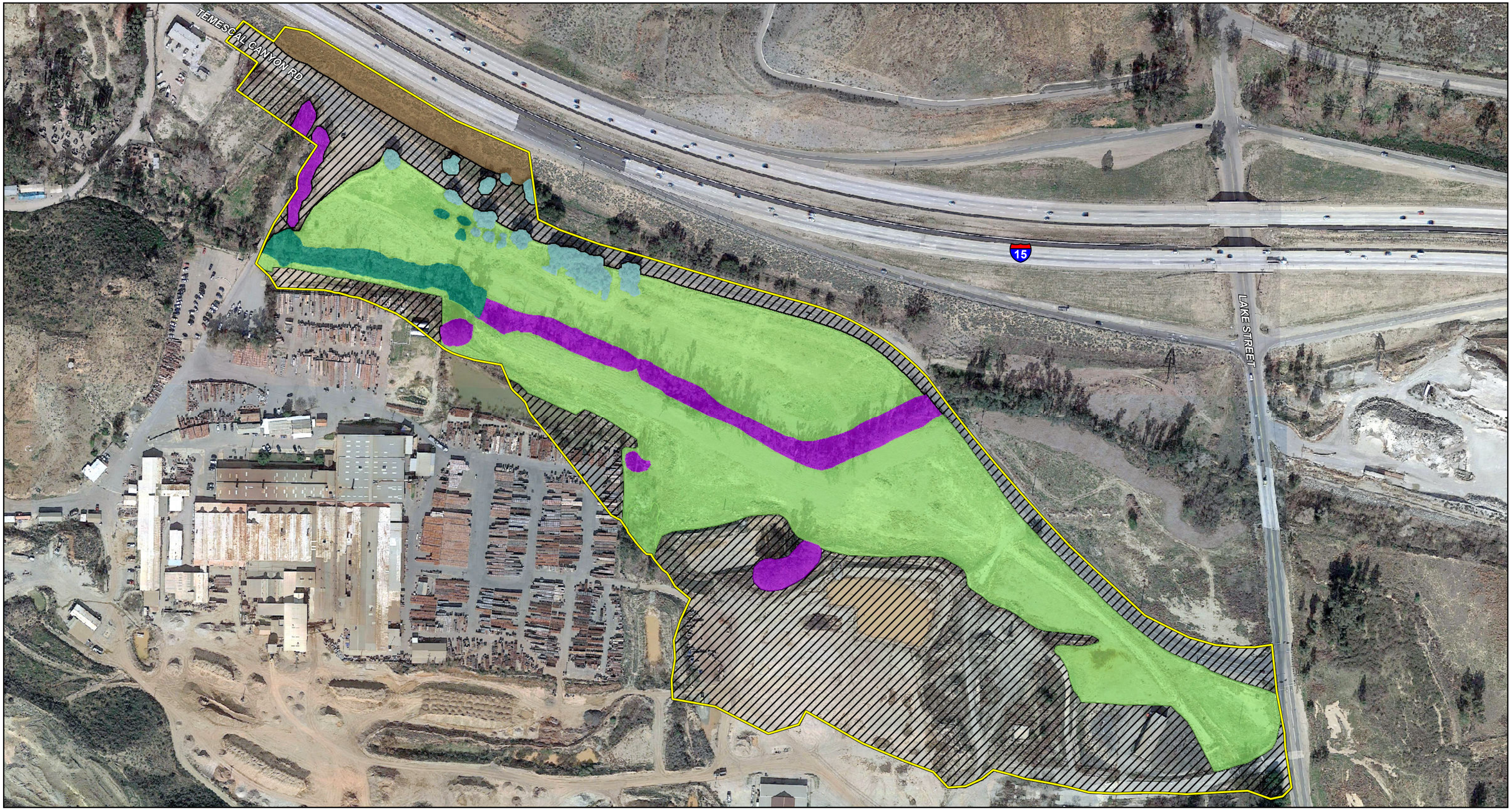
Temescal Canyon Road Bridge Replacement and Road Realignment Project
Special Status Plant Survey

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

BRLS 5074 (015)

I:\ACN1401\Reports\PlantSurvey\fig1_RegLoc (6/24/2016)



Special Status Plants Study Area

Vegetation and Land Use

- Developed/Disturbed
- Ruderal Non-native grasslands
- Eucalyptus Trees/Scattered Riparian Vegetation
- Eucalyptus Trees
- Coastal Sage Scrub
- Coast Live Oak Woodland

N

0 125 250

FEET

Source: Google Earth, 2016; Riverside County, 2015

I:\ACN1401\Reports\PlantSurvey\fig2_Veg.mxd (06/24/2016)

FIGURE 2

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Special Status Plant Survey

Study Area, Vegetation and Land Use

BRLS 5074 (015)

Table A: MSHCP Narrow Endemic and Criteria Area Plant Survey Species

Species	MSHCP Habitat	Habit and Blooming Period	Occurrence Probability
Munz's onion *Allium munzii*	Clay soils on mesic exposures or seasonally moist microsites in grassy openings of coastal sage scrub, chaparral, juniper woodland or valley and foothill grassland. The MSHCP account for this species states that "Munz's onion is found on clay and cobbly clay soils which include the following series: Altamont, Auld, Bosanko, Claypit, and Porterville." The account also mentions that "one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay." However, weathering of pyroxenite generally results in a clay soil. It is therefore expected that any Munz's onion population associated with pyroxenite outcrops would be in clay soils.	Perennial bulb April–May	Absent: Habitat is poor due to disturbance; not observed during focused survey.
San Diego ambrosia *Ambrosia pumila*	Open floodplain terraces on Garretson gravelly fine sandy loams, or in the watershed margins of vernal pools or alkali playas on Las Posas loam in close proximity to Willow silty alkaline soils. Occurs in sparse annual vegetation.	Perennial Generally non-flowering	Absent: Typical habitat conditions not present; not observed during focused survey.
Parish's brittlescale *Atriplex parishii*	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Annual June–October	Absent: No alkali soils.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Annual May–October	Absent: No alkali soils.
Thread-leaved brodiaea *Brodiaea filifolia*	Clay or alkaline silty-clay soils in semi-alkaline mudflats, vernal pools, mesic southern needlegrass grassland, mixed native-nonnative grassland and alkali grassland.	Perennial bulb March–June	Absent: Habitat is poor due to disturbance; not observed during focused survey.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Primarily alkaline soils in alkali scrub, alkali playas, riparian woodland, watercourses, and alkaline grasslands. The MSHCP account for this species states that "Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities … smooth tarplant is restricted to clay and alkaline, silty-clay soils."	Annual April–November	Absent: Typical habitat conditions not present; not observed during focused survey.
Slender-horned spineflower *Dodecahema leptoceras*	Sandy soils in association with mature alluvial scrub (Riversidean alluvial fan sage scrub); or gravel soils of Temecula arkose deposits (i.e. coarse, decomposing arkose) in association with open chamise chaparral in the Vail Lake area. The ideal habitat appears to be terraces and benches that receive overbank deposits every 50–100 years. The MSHCP account for this species states that "this species is dependent on mature alluvial scrub that is	Annual April–June	Absent: Typical habitat conditions not present; not observed during focused survey.

Table A: MSHCP Narrow Endemic and Criteria Area Plant Survey Species

Species	MSHCP Habitat	Habit and Blooming Period	Occurrence Probability
	maintained by periodic flooding and sediment transport and only occurs along Arroyo Seco and Kolb Creeks, Temescal Wash at Indian Creek, central Bautista Creek, Vail Lake and the upper San Jacinto River near Valle Vista and Hemet … Cryptogamic crusts are frequently present in areas occupied by slender-horned spine flower."		
Many-stemmed dudleya *Dudleya multicaulis*	Clay soils in open areas of barrens, rocky places, ridgelines, chaparral, coastal sage scrub, and southern needlegrass grasslands. Visible population size varies considerably year-to-year depending on rainfall patterns. The MSHCP account for this species states that "Many-stemmed dudleya is associated with openings in chaparral, coastal sage scrub, and grasslands underlain by clay and cobbly clay soils of the following series: Altamont, Auld, Bosanko, Claypit, and Porterville."	Perennial May–June	Absent: Typical habitat conditions not present; not observed during focused survey.
Round-leaved filaree *Erodium macrophyllum*	Clay soils in open cismontane woodland (e.g. oak, juniper woodlands) and valley and foothill grassland. The MSHCP account for this species states that it is restricted to "very friable clay soils. … Within the Plan Area, two of the mapped localities occur on Bosanko clay soils" and that "this species tends to be associated primarily with wild oats (*Avena fatua*)."	Annual/biennial March–May	Absent: Typical habitat conditions not present; not observed during focused survey.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Traver, Domino or (usually) Willows soils in alkali scrub, alkali playas, vernal pools, and alkali grasslands.	Annual February–June	Absent: No alkali areas, vernal pools, or typical soils.
Little mousetail *Myosurus minimus*	Alkaline soils in vernal pools and vernal plains. The MSHCP account for this species states that it "is found in areas that have semiregular inundation."	Annual April–May	Absent: No alkali soils.
Spreading navarretia *Navarretia fossalis*	Saline alkaline soils of vernal pools and depressions and ditches in areas that once supported vernal pools. The MSHCP account for this species states that it "is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake and Salt Creek in association with Willows, Domino and Traver soils" and that "in western Riverside County, spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within a larger vernal floodplains dominated by annual alkali grassland or alkali playa."	Annual May–June	Absent: No alkali soils.
California Orcutt grass *Orcuttia californica*	Alkaline soils and southern basaltic clay pan in vernal pools. The MSHCP account for this species states that, in Riverside County, it "is found in southern basaltic clay pan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet."	Annual April–June	Absent: No alkali soils.

Table A: MSHCP Narrow Endemic and Criteria Area Plant Survey Species

Species	MSHCP Habitat	Habit and Blooming Period	Occurrence Probability
San Miguel savory *Satureja chandleri*	Rocky, gabbroic and metavolcanic substrates in chaparral or oak woodland. MSHCP Table 6-1 lists chaparral, coastal sage scrub, cismontane woodland, riparian woodland, and valley and foothill grasslands as potential habitat for this species. However, this species prefers moist rocky canyons with trees or large shrubs, and would not be expected in coastal sage scrub or open grassland except at the margins of chaparral or oak woodland, nor would it be expected in woodlands outside of rocky canyons (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, December 8, 2004, and March 9, 2005). All occurrences of this species in the California Natural Diversity Data Base that include habitat information (16 occurrences in Riverside, Orange, and San Diego Counties) list coast live oak (*Quercus agrifolia*) or chaparral species as associates, or indicate that the habitat is chaparral, oak woodland, a chaparral-coastal sage scrub interface, or grassy openings in chaparral. In Riverside County, this species is known only from the Santa Ana Mountains and Santa Rosa Plateau, except for a dubious record of an occurrence near Sage Road south of Hemet (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, March 10, 2005; MSHCP species account for San Miguel savory).	Perennial March–May	Absent: No rocky, gabbroic, or metavolcanic substrates.
Hammitt's clay-cress *Sibaropsis hammittii*	Clay soils in chaparral and valley and foothill grassland habitats at 700 to 1,100 meters (2,300 to 3,600 feet) elevation. The MSHCP account for this species states that "Hammitt's clay-cress is associated with clay soils, such as Altamont, Auld, Bosanko, Claypit, and Porterville soil series" and that, in western Riverside County it "is only known from the Elsinore Peak area of the Santa Ana Mountains in grasslands."	Annual March–April	Absent: Outside elevation range; not observed during surveys.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Alkali soils in alkali playa, alkali annual grassland, and alkali vernal pools. The MSHCP account for this species states that "Wright's trichocoronis is restricted to highly alkaline, silty-clay soils in association with Traver, Domino, and Willows soils."	Annual May–September	Absent: No alkali soils.

Table B: Plant Species Observed

Scientific Name	Common Name
MAGNOLIOPHYTA: MAGNOLIOPSIDA	**DICOT FLOWERING PLANTS**
Adoxaceae	**Muskroot family**
Sambucus nigra ssp. *caerulea*	Blue elderberry
Aizoaceae	**Carpet weed family**
Mesembryanthemum nodiflorum (non-native species)	Slender-leaved ice plant
Amaranthaceae	**Amaranth family**
Amaranthus albus (non-native species)	Tumbleweed
Apocynacecae	**Dogbane family**
Funastrum hirtellum	Trailing townula
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia confertiflora	Weak-leaved burweed
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	Mugwort
Artemisia dracunculus	Tarragon
Baccharis salicifolia	Mule fat
Baccharis salicina	Emory's baccharis
Baccharis sarothroides	Broom baccharis
Bebbia juncea	Sweetbush
Centaurea melitensis (non-native species)	Tocalote
Cirsium vulgare (non-native species)	Bull thistle
Corethrogyne filaginifolia	California aster
Deinandra fasciculata	Fascicled tarweed
Deinandra kelloggii	Kellogg's tarweed
Encelia farinosa	Brittlebush
Erigeron canadensis	Canadian horseweed
Erigeron foliosus	Leafy daisy
Gutierrezia sarothrae	San Joaquin matchweed
Helianthus annuus	Common sunflower
Heterotheca grandiflora	Telegraph weed
Hypochaeris glabra (non-native species)	Smooth cat's-ear
Iva axillaris	Poverty weed
Lactuca serriola (non-native species)	Prickly lettuce
Lepidospartum squamatum	Scalebroom

Table B: Plant Species Observed

Scientific Name	Common Name
Malacothrix saxatilis	Cliff malacothrix
Oncosiphon piluliferum (non-native species)	Stinknet
Pseudognaphalium beneolens	Fragrant rabbit-tobacco
Pseudognaphalium californicum	Ladies' tobacco
Pseudognaphalium luteoalbum (non-native species)	Jersey cudweed
Pulicaria paludosa (non-native species)	Spanish false fleabane
Sonchus asper (non-native species)	Prickly sow thistle
Sonchus oleraceus (non-native species)	Common sow thistle
Stephanomeria exigua	Small wreath-plant
Tetradymia comosa	Hairy horsebrush
Uropappus lindleyi	Silver puffs
Boraginaceae	**Borage family**
Amsinckia intermedia	Common fiddleneck
Amsinckia menziesii/intermedia	Common fiddleneck
Emmenanthe penduliflora	Whispering bells
Eriodictyon crassifolium	Yerba santa
Eucrypta chrysanthemifolia	Common eucrypta
Heliotropium curassavicum	Salt heliotrope
Pectocarya linearis	Narrow-toothed pectocarya
Phacelia cicutaria	Caterpillar phacelia
Phacelia distans	Distant phacelia
Brassicaceae	**Mustard family**
Hirschfeldia incana (non-native species)	Shortpod mustard
Lepidium oblongum	Peppergrass
Sisymbrium irio (non-native species)	London rocket
Sisymbrium orientale (non-native species)	Indian hedgemustard
Cactaceae	**Cactus family**
Opuntia littoralis	Coastal prickleypear
Caryophyllaceae	**Pink family**
Spergularia bocconi (non-native species)	Boccone's sandspurry
Chenopodiaceae	**Saltbush family**
Atriplex argentea	Silverscale saltbush
Atriplex semibaccata (non-native species)	Australian saltbush
Atriplex suberecta (non-native species)	Peregrine saltbush
Bassia hyssopifolia (non-native species)	Fivehorn smotherweed

Table B: Plant Species Observed

Scientific Name	Common Name
Chenopodium berlandieri	Pitseed goosefoot
Chenopodium murale (non-native species)	Nettleleaf goosefoot
Salsola tragus (non-native species)	Russian thistle
Convolvulaceae	**Morning-glory family**
Calystegia macrostegia	Morning-glory
Cucurbitaceae	**Gourd family**
Marah macrocarpus	Cucamonga manroot
Euphorbiaceae	**Spurge family**
Croton californicus	California croton
Croton setigerus	Dove weed
Euphorbia albomarginata	Rattlesnake weed
Euphorbia maculata (non-native species)	Spotted spurge
Ricinus communis (non-native species)	Castor bean
Fabaceae	**Pea family**
Acmispon americanus	Spanish clover
Acmispon glaber	Deerweed
Acmispon heermannii	Lotus
Lupinus bicolor	Miniature lupine
Medicago polymorpha (non-native species)	Bur-clover
Melilotus albus (non-native species)	White sweetclover
Melilotus indicus (non-native species)	Annual yellow sweetclover
Fagaceae	**Beech family**
Quercus agrifolia	Coastal live oak
Geraniaceae	**Geranium family**
Erodium cicutarium (non-native species)	Redstem stork's bill
Lamiaceae	**Mint family**
Marrubium vulgare (non-native species)	Horehound
Salvia columbariae	Chia
Stachys ajugoides	Bugle hedge-nettle
Lythraceae	**Loosestrife family**
Lythrum californicum	California loosestrife
Malvaceae	**Mallow family**
Malacothamnus fasciculatus	Chaparral mallow
Malva parviflora (non-native species)	Cheeseweed mallow

Table B: Plant Species Observed

Scientific Name	Common Name
Meliaceae	**Mahogany family**
Melia azedarach (non-native species)	Persian lilac, Chinaberry
Moraceae	**Mulberry family**
Morus alba (non-native species)	White mulberry
Myrsinaceae	**Myrsine family**
Anagallis arvensis (non-native species)	Scarlet pimpernel
Myrtaceae	**Myrtle family**
Eucalyptus camaldulensis (non-native species)	River red gum
Eucalyptus sp. (non-native species)	Eucalyptus
Onagraceae	**Evening primrose family**
Eulobus californicus	Mustard-like evening primrose
Platanaceae	**Sycamore family**
Platanus racemosa	California sycamore
Polemoniaceae	**Phlox family**
Eriastrum sapphirinum	Sapphire woollystar
Polygonaceae	**Buckwheat family**
Eriogonum davidsonii	Davidson's buckwheat
Eriogonum elongatum	Long-stemmed eriogonum
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	Slender buckwheat
Polygonum aviculare (non-native species)	Common knotweed
Rumex crispus (non-native species)	Curly dock
Portulacaeae	**Purslane family**
Portulaca oleracea (non-native species)	Common purslane
Rhamnaceae	**Buckthorn family**
Ceanothus crassifolius	Hoaryleaf ceanothus
Rubiaceae	**Madder family**
Galium aparine	Goose grass
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix gooddingii	Goodding's willow
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Simaroubaceae	**Quassia family**
Ailanthus altissima (non-native species)	Tree of heaven

Table B: Plant Species Observed

Scientific Name	Common Name
Solanaceae	**Nightshade family**
Datura wrightii	Sacred thorn-apple
Nicotiana glauca (non-native species)	Tree tobacco
Solanum douglasii	Greenspot nightshade
Tamaricaceae	**Tamarisk family**
Tamarix ramosissima (non-native species)	Mediterranean tamarisk
Urticaceae	**Nettle Family**
Urtica dioica ssp. *holosericea*	Hoary nettle
MAGNOLIOPHYTA: LILIOPSIDA	**MONOCOT FLOWERING PLANTS**
Arecaceae	**Palm family**
Washingtonia robusta (non-native species)	Mexican fan palm
Cyperaceae	**Sedge family**
Cyperus eragrostis	Tall flatsedge
Schoenoplectus acutus	Hardstem bulrush
Poaceae	**Grass family**
Avena barbata (non-native species)	Slender wild oat
Avena fatua (non-native species)	Wild oat
Bromus diandrus (non-native species)	Ripgut brome
Bromus hordeaceus (non-native species)	Soft chess
Bromus madritensis (non-native species)	Foxtail chess
Distichlis spicata	Saltgrass
Hordeum murinum (non-native species)	Mouse barley
Polypogon monspeliensis (non-native species)	Annual rabbitsfoot grass
Schismus barbatus (non-native species)	Common Mediterranean grass
Stipa miliacea (non-native species)	Smilo grass

LSA

BERKELEY
CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: January 9, 2018

TO: Denise Woodard, LSA

FROM: Stan Spencer, LSA

SUBJECT: Fairy Shrimp Habitat Assessment for the Temescal Canyon Road Bridge Replacement Project Site (LSA Project No. ACN1401)

This memo provides the results of a an assessment of habitat suitability for sensitive fairy shrimp species by LSA for the above-referenced project site located at the southwest corner of Temescal Canyon Road and Lake Street in the City of Lake Elsinore, San Bernardino County, California (attached Figure 1).

A site visit to evaluate habitat suitability was conducted by Stan Spencer on May 31, 2016. Dr. Spencer also spoke with Kevin Beals (Pacific Clay Products, Inc.) on June 13 regarding uses and maintenance of basins in the study area. Dr. Spencer is familiar with habitat requirements of sensitive fairy shrimp species and is permitted to conduct surveys for threatened and endangered fairy shrimp species throughout California under U.S. Fish and Wildlife Service Permit TE777965. During the habitat assessment, Dr. Spencer walked the entire project site and investigated all depressions that could potentially provide habitat for sensitive fairy shrimp species.

Mapped soils on the site are Tujunga loamy sand, channeled; Honcut sandy loam; Gorgonio loamy sand; and clay pits. The predominant vegetation communities are non-native grassland, coastal sage scrub, Eucalyptus groves, and willow riparian woodland. There are four artificial basins (attached Figure 2) within or partially within the project area along the north edge of the Pacific Clay parking area and yards. These basins were constructed by Pacific Clay as part of a storm water pollution prevention program. They collect storm water runoff from adjacent artificial surfaces, including asphalt and gravel parking areas, a brick yard, and a graded yard for stockpiling various materials used in brickmaking. This low nutrient runoff of fluctuating chemistry is unlikely to be suitable for sensitive fairy shrimp species. The basins are maintained regularly (generally annually). Maintenance includes ripping, scraping, and removal of accumulated sediment from the bottoms. This regular removal of sediment makes the basins unsuitable for sensitive fairy shrimp species, as the fairy shrimp eggs, which are deposited on the surface of the soil, would be removed along with the sediment. The ruderal, depauperate nature of the vegetation in the basins is indicative of the continuous intense disturbance. Dominant species are all weedy annuals and include Canadian horseweed (*Erigeron canadensis*), common sunflower (*Helianthus annuus*), Spanish false fleabane (*Pulicaria paludosa*), Boccone's sandspurry (*Spergularia bocconei*), annual yellow sweetclover

(*Melilotus indicus*), white sweetclover (*Melilotus albus*), common knotweed (*Polygonum aviculare*), common purslane (*Portulaca oleracea*), annual rabbitsfoot grass (*Polypogon monspeliensis*), and foxtail chess (*Bromus madritensis*). There are no plant species in the basins that are indicative of vernal pool habitats.

Dr. Spencer searched the entire site for potential fairy shrimp habitat. The four basins discussed above were found to be unsuitable for sensitive fairy shrimp species. No other depressions, within clay or non-clay soils, were found on the site that were suitable as habitat for sensitive fairy shrimp species; thus, no fairy shrimp surveys are recommended for this project.

Attachments: Figure 1: Regional and Project Location
Figure 2: Study Area and Artificial Basins Locations

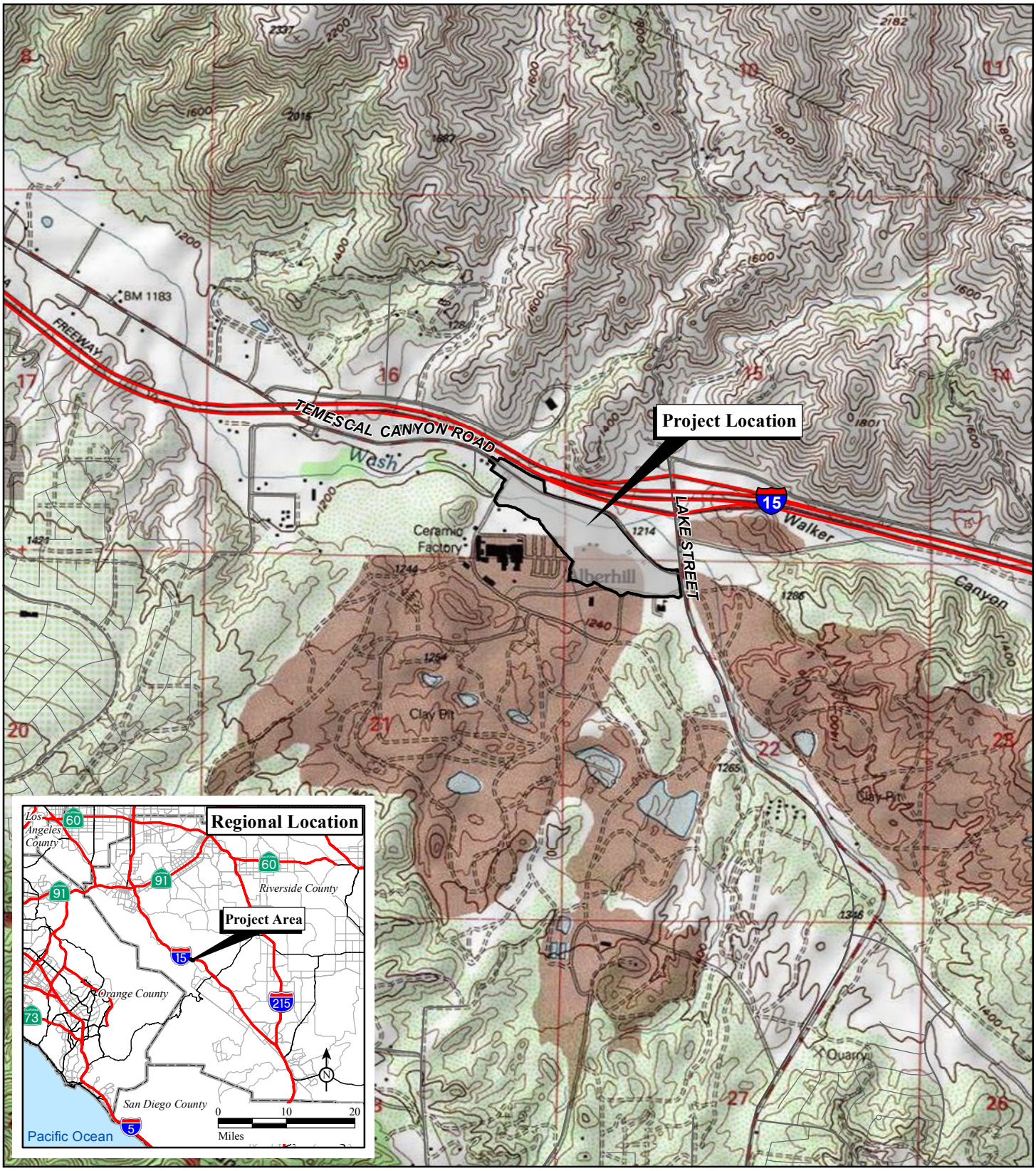


FIGURE 1

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Fairy Shrimp Habitat Assessment

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

BRLS 5074 (015)

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Fairy Shrimp Study Area

Detention Basin

N

0 125 250

FEET

Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 2

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Fairy Shrimp Habitat Assessment

Study Area and Artificial Detention Basin Locations

BRLS 5074 (015)

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507
951.781.9310 TEL
951.781.4277 FAX
BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
PT. RICHMOND
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: August 5, 2016

TO: Lynn Calvert-Hayes, LSA

FROM: Denise Woodard, LSA

SUBJECT: Results of a Focused Burrowing Owl Survey for the Temescal Canyon Road Bridge Replacement and Road Realignment Project (LSA Project No. ACN1401)

This memo documents the results of a survey for burrowing owl (*Athene cunicularia*) by LSA Associates, Inc. (LSA) for Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) compliance for the above-referenced project. The study area is located on the south side of Interstate 15, at the southwest corner of Temescal Canyon Road and Lake Street in Sections 15, 16, 21, and 22, Township 5 South, Range 5 West, San Bernardino Baseline and Meridian, City of Lake Elsinore, Riverside County, California, as shown on the United States Geological Survey (USGS) Alberhill, California 7.5-minute topographic quadrangle map (attached Figure 1).

BACKGROUND

Burrowing owls are found in open, dry grasslands; agricultural and range lands; desert habitats; and grass, forb, and shrub stages of pinyon and ponderosa pine habitats. They nest in abandoned burrows of ground squirrels or other animals, pipes, rock and debris piles, and other similar features.

Burrowing owls and their nests and eggs are protected from "take" (meaning destruction, pursuit, possession, etc.) under the Migratory Bird Treaty Act (MBTA) of 1918 and under Sections 3503, 3503.5, and 3800 of the California Fish and Game Code. Activities that cause destruction of active nests, or that cause nest abandonment and subsequent death of eggs or young, may constitute violations of one or both of these laws.

METHODS

A habitat assessment for burrowing owls was conducted by LSA biologists Denise Woodard and Claudia Bauer on October 16, 2017. Because access to adjacent parcels was not authorized, adjacent habitats within 500 feet of the project site were scanned through binoculars. The focused survey for burrows and owls was conducted by LSA biologists Denise Woodard and Stan Spencer in accordance with accepted protocol (County of Riverside's 2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area). Table A provides personnel, dates, survey type, times, and weather conditions of site visits. There was no precipitation during or within five days prior to the site visits.

Table A: Survey Personnel, Dates, Survey Type, and Weather Conditions

Personnel	Date	Survey Type	Time (24-hour) Start/Finish	Cloud Cover (%) Start/Finish	Wind (mph) Start/Finish	Temperature (°F) Start/Finish
Denise Woodard	5/19/16	Burrow and Owl	0530/0650	100/100	1–3/1–3	57/59
Denise Woodard, Stanley Spencer	6/10/16	Owl	0530/0800	100/100	1–3/1–3	59/66
Denise Woodard	6/20/16	Owl	0515/0715	0/0	1–3/1–3	75/84
Denise Woodard	6/30/16	Owl	0530/0725	0/0	1–3/1–3	66/70

The habitat assessment found suitable habitat within BSA. The burrow and burrowing owl surveys were conducted by walking throughout suitable habitat areas, pausing occasionally to scan the surrounding areas through binoculars. The initial burrow/burrowing owl survey included mapping potential burrows. Transects were spaced at no more than 65 feet, which allowed for 100 percent visual coverage of suitable habitat. Because access to adjacent parcels was not authorized, adjacent habitats within 500 feet of the project site were scanned through binoculars. Burrows encountered during the burrow and owl surveys were examined for owl sign (e.g., feathers, pellets, whitewash, and prey remnants).

SITE CONDITIONS AND SURVEY AREA

The survey area/Biological Study Area (BSA) includes Temescal Wash and adjacent upland areas. Elevation at the site varies from approximately 1,220 to 1,240 feet above mean sea level. Mapped soils are Tujunga loamy sand, channeled; Honcut sandy loam; Gorgonio loamy sand; and clay pits. The predominant vegetation communities are ruderal, coastal sage scrub, eucalyptus trees, eucalyptus trees/scattered riparian vegetation, and coast live oak trees. The study area also contains developed areas utilized by an existing clay mining facility and includes detention basins, dirt roads, soils stock piles, and out buildings. Attached Figure 2 shows the vegetation and land use within the study area and Figure 3 provides site photographs.

Although portions of the BSA are outside the MSHCP burrowing owl survey area, the entire BSA was evaluated to ensure the project compliance with the MBTA and Fish and Game Code. Potentially suitable habitat for the burrowing owl was limited within the survey area. Coastal sage scrub, eucalyptus trees, riparian trees and shrubs, and oak trees are considered unsuitable habitat for the burrowing owl. Nonnative grasslands immediately adjacent to Temescal Wash were covered in a layer of eucalyptus mulch and were considered unsuitable. Although examined as part of the survey, ruderal habitat adjacent to eucalyptus, riparian and coast live oak trees are considered unsuitable for the burrowing owl because the trees provide perch sites for hawks and large owls that prey on burrowing owl. Suitable habitat areas consisted on ruderal areas on the northerly and southwesterly portion of the site, disturbed areas and detention basin banks in the southeasterly portion of the site.

Areas adjacent to the project site are primarily developed, but potential habitat areas adjacent to the northwest and southwest survey area boundary were scanned with binoculars. All suitable ruderal habitat, coast live oak tree habitat, and disturbed areas without hardscape or structures, were walked during each site visit. Figure 4 shows the MSHCP burrowing owl survey area and burrowing owl suitable habitat.

SURVEY RESULTS

No burrowing owls or burrowing owl sign were found during the survey. Several California ground squirrel burrows of appropriate size to be utilized by burrowing owl were found on a berm on the westerly end of the survey area (Figure 3, Photograph 1), but no owls or owl sign were observed in or adjacent to these burrows.

Attachments: Figure 1: Regional and Project Location
Figure 2: Land Cover and Photograph Locations
Figure 3: Site Photographs
Figure 4: MSHCP Burrowing Owl Survey Area and Burrowing Owl Suitable Habitat

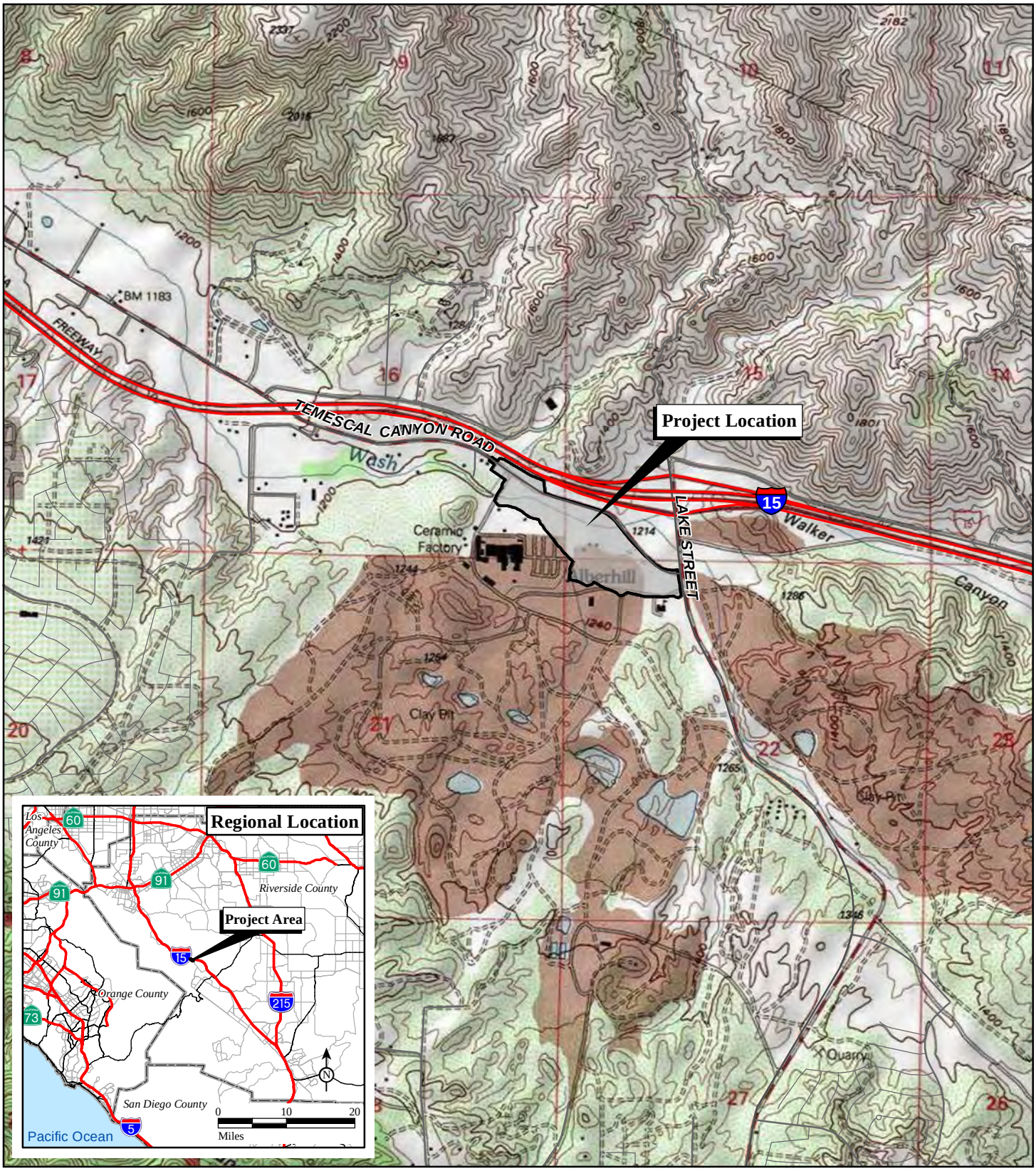

FIGURE 1

N

0 1000 2000
FEET

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Burrowing Owl Survey

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

BRLS 5074 (015)

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Biological Study Area

Photo Location

Vegetation and Land Use

Developed/Disturbed

Ruderal

Eucalyptus Trees/Scattered Riparian Vegetation

Eucalyptus Trees

Coastal Sage Scrub

Coast Live Oak Trees

N

0 125 250

FEET

Source: Google Earth, 2016; Riverside County, 2015

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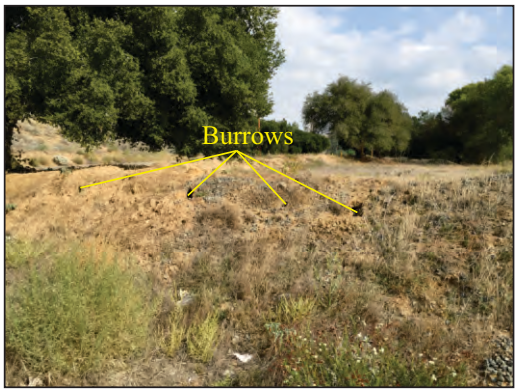
FIGURE 2

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Burrowing Owl Survey

Land Cover and Photograph Locations

BRLS 5074 (015)



Photograph 1: *View of California ground squirrel burrows on berm adjacent to Bernard Street.*

Photograph 2: *View of riparian habitat along Temescal Wash.*

Photograph 3: *View of eucalyptus trees along Temescal Canyon Wash.*

Photograph 4: *View of oak woodland along Temescal Canyon Road.*

Photograph 5: *View of non-native grasslands dominated by ruderal species.*

Photograph 6: *View of area affected by clay mining activities. A detention basin is shown in the upper left hand corner of the photograph.*

FIGURE 3

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Burrowing Owl Survey

Site Photographs
BRLS 5074 (015)

Biological Study Area

MSHCP Burrowing Owl Survey Area

Burrowing Owl Suitable Habitat

N

0 125 250

FEET

Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 4

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Burrowing Owl Survey

MSHCP Burrowing Owl Survey Area and Suitable Habitat

BRLS 5074 (015)

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507
951.781.9310 TEL
951.781.4277 FAX
BERKELEY CARLSBAD FRESNO IRVINE PALM SPRINGS PT. RICHMOND ROCKLIN SAN LUIS OBISPO

August 24, 2016

Ms. Stacey Love
U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Ms. Esther Burkett
Nongame Wildlife Program
California Department of Fish and Wildlife
1812 Ninth Street
Sacramento, California 95811

Subject: Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results for the Temescal Canyon Road Bridge Project, City of Lake Elsinore (LSA Project No. ACN1401)

Dear Ms. Love and Ms. Burkett:

This letter report documents the results of protocol surveys for the least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) conducted by LSA Associates, Inc. (LSA). Surveys were conducted at the Temescal Canyon Road Bridge Project, in the City of Lake Elsinore, Riverside County, California. The southwestern willow flycatcher and least Bell's vireo are listed as endangered by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

STUDY AREA

The study area is located on the south side of Interstate 15, at the southwest corner of Temescal Canyon Road and Lake Street in Sections 15, 16, 21, and 22, Township 5 South, Range 5 West, San Bernardino Baseline and Meridian as shown on the United States Geological Survey (USGS) *Alberhill, California* 7.5-minute topographic quadrangle map (Attachment A, Figure 1). The vegetation within the study area consists of non-native grasslands and riparian woodland, and ornamental trees. Several individual coast live oak (*Quercus agrifolia*) and Fremont cottonwood (*Populus fremontii*) were are also noted. The riparian woodland habitat occurs along Temescal Wash and is dominated by arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), and eucalyptus (*Eucalyptus* sp.). Attachment A, Figure 2, shows the study area overlain on aerial photograph.

METHODS

LSA biologists Denise Woodard and Stanley Spencer conducted eight protocol least Bell's vireo surveys (which also comprised five protocol southwestern willow flycatcher surveys) from April 14 to July 8, 2016. During each of the surveys, the biologists walked slowly along the edge of riparian habitat, listening for least Bell's vireos and southwestern willow flycatchers. A recording of southwestern willow flycatcher songs was played periodically along the survey route during all of the flycatcher surveys. The surveying biologist, with the aid of binoculars for viewing wildlife species, waited for several minutes after each playing to look and listen for both least Bell's vireos and southwestern willow flycatchers.

Surveys were conducted pursuant to LSA's Federal 10(a)(1)(A) Permit TE-777965 and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed

Birds (November 29, 2012–January 31, 2017). Table A provides the survey personnel, dates, time, and weather conditions for each site visit.

Table A: Survey Personnel, Dates and Weather Conditions

Personnel	Date	Time (24-hour) Start/Finish	Cloud Cover (%) Start/Finish	Wind (mph) Start/Finish	Temperature (°F) Start/Finish
Denise Woodard, Stanley Spencer	4/14/16	0600/0845	0/0	1–3/1–3	52/55
Denise Woodard, Stanley Spencer	4/25/16	0630/1055	20/20	1–3/1–3	55/69
Denise Woodard	5/19/16	0530/0650	100/100	1–3/1–3	57/59
Stanley Spencer	5/31/16	0610/0850	100/0	1</1–3	58/72
Denise Woodard, Stanley Spencer	6/10/16	0530/0800	100/100	1–3/1–3	59/66
Denise Woodard	6/20/16	0515/0715	0/0	1–3/1–3	75/84
Denise Woodard	6/30/16	0530/0725	0/0	1–3/1–3	66/70
Denise Woodard, Stanley Spencer	7/8/16	0530/0720	0/0	1–3/1–3	61/63

RESULTS

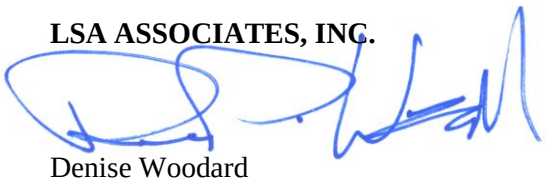
No least Bell's vireo or southwestern willow flycatchers were detected during the survey period. Attachment B provides the Willow Flycatcher Survey and Detection Form.

Attachment C provides a list of bird species detected during the survey and Attachment D provides California Native Species Field Survey Form for other special interest bird species observed during the survey.

Please contact me if you require any additional information.

Sincerely,

LSA ASSOCIATES, INC.

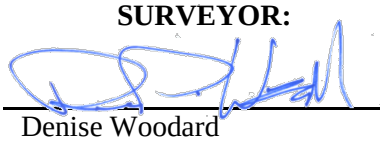


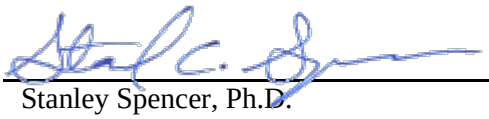
Denise Woodard
Associate/Senior Biologist

Attachments: Attachment A: Figures
Attachment B: Willow Flycatcher Survey and Detection Form
Attachment C: Bird Species Observed
Attachment D: California Native Species Field Survey Forms

cc: Richard Erickson, LSA Associates, Inc.

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:

SURVEYOR:	PERMIT NUMBER	DATE:
	TE-777965-7	August 24, 2016
Denise Woodard		

SURVEYOR:	PERMIT NUMBER	DATE:
	TE-777965-7	August 24, 2016
Stanley Spencer, Ph.D.		

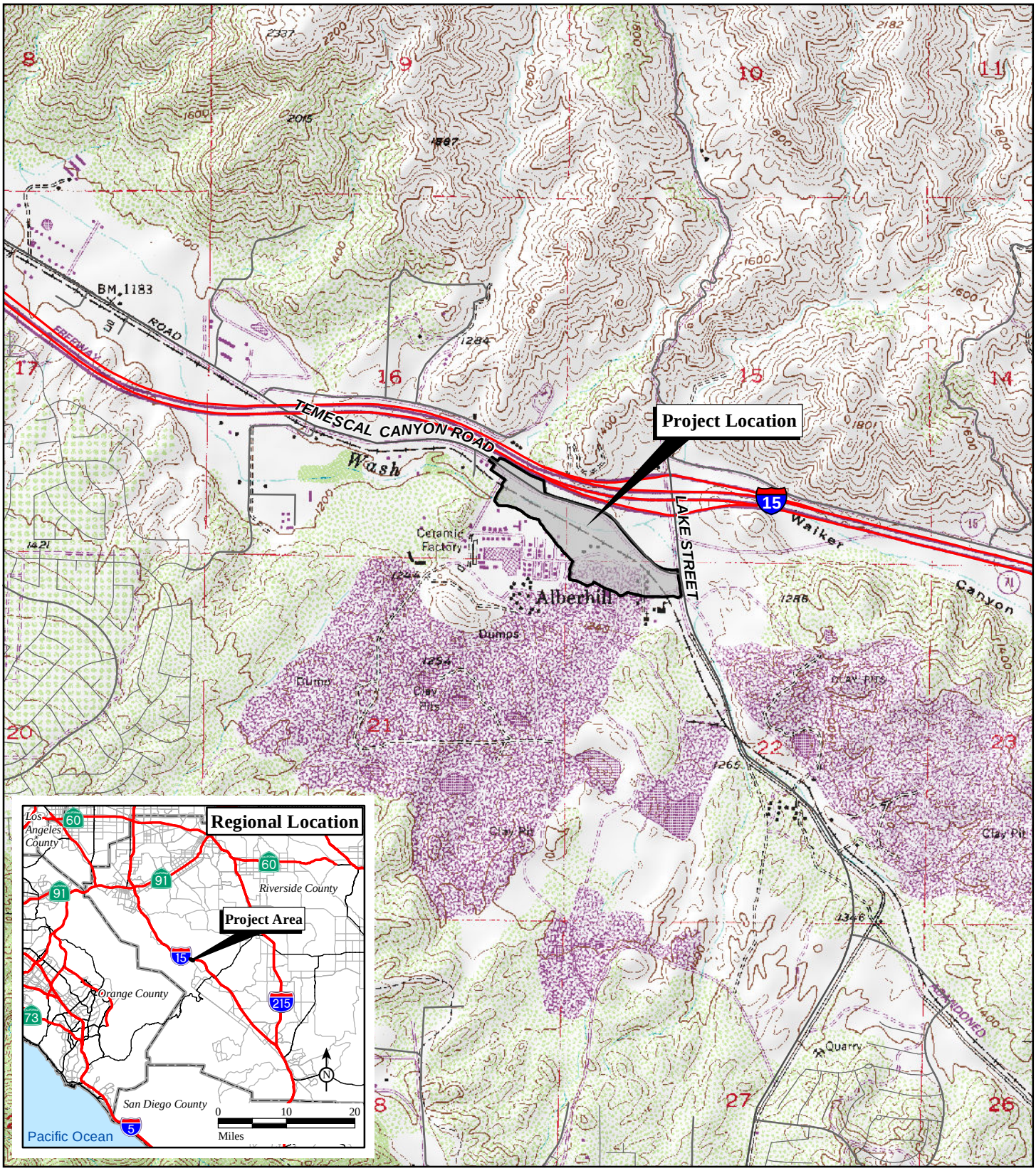


FIGURE 1

N

0 1000 2000
FEET

Temescal Canyon Road Bridge Replacement

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

Regional and Project Location

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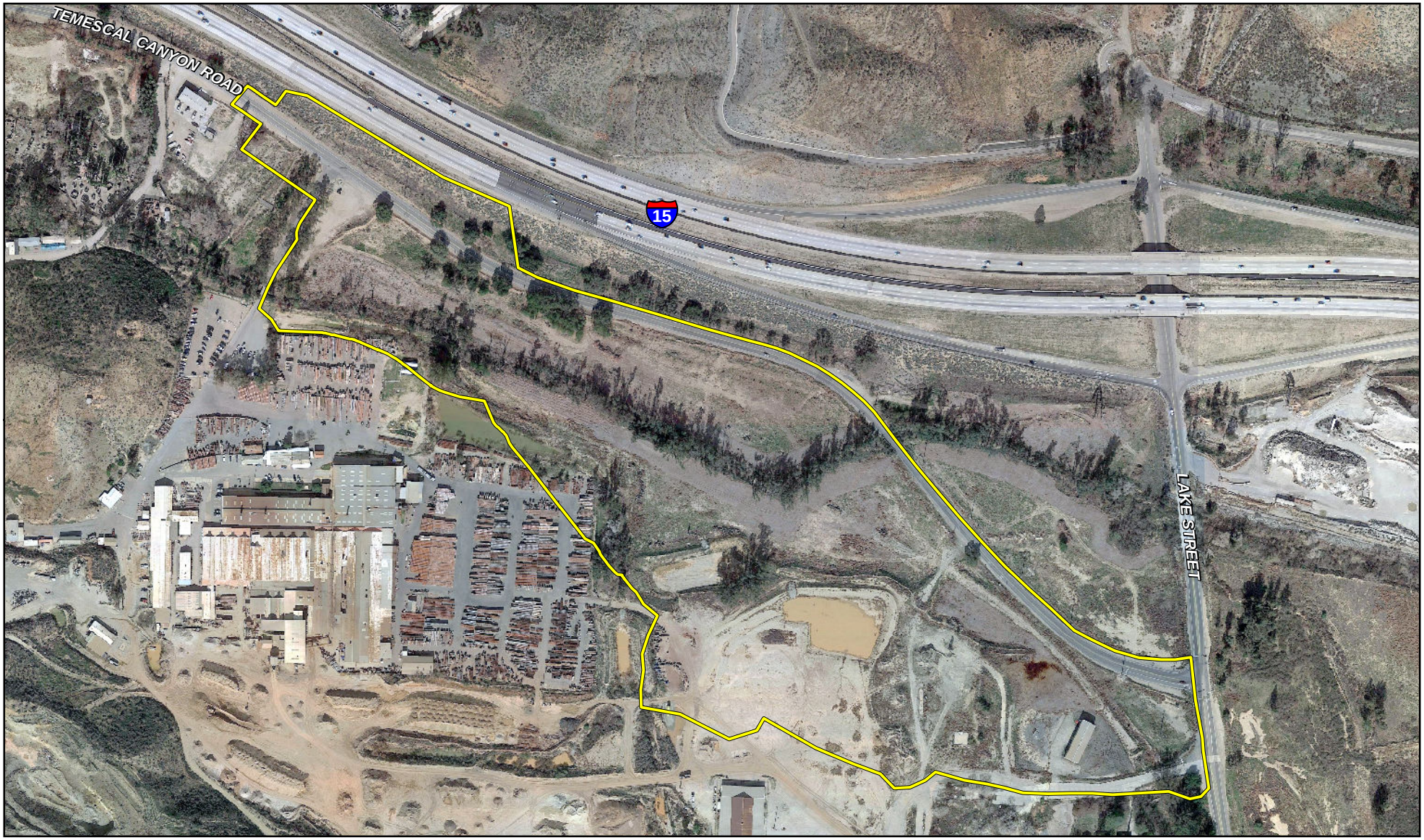

Biological Study Area

FIGURE 2

N

0 200 400
FEET

SOURCE: Google Earth, 2016

Temescal Canyon Road Bridge Replacement

Study Area

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Willow Flycatcher (WIFL) Survey and Detection Form (revised April, 2010)

Site Name: **Temescal Canyon Road Bridge Replacement** State: **California** County: **Riverside**

USGS Quad Name: **Alberhill** Elevation: **366** (meters)

Creek, River, or Lake Name: **Temescal Wash**

Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? ***Yes*** **X** ***No*** ____

Survey Coordinates: Start: E **462755.00** N **3732278.00** UTM Datum: **WGS84** (See instructions)

Stop: E **463302.00** N **3732150.00** UTM Zone: **11**

If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.

*****Fill in additional site information on back of this page*****

Survey # Observer(s) (Full Name)	Date (m/d/y) Survey Time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N If Yes, number of nests	Comments (e.g., bird behavior; evidence of pairs or breeding;-potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator.	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1	Date:									
Observer(s):	5/19/2016									
Denise	Start:									
Woodard	5:30	0	N/A	N/A	N/A					
	Stop:									
	6:50									
	Total hrs:									
	1:20									
Survey # 2	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/10/2016									
Denise	Start:									
Woodard	5:30	0	N/A	N/A	N/A					
	Stop:									
	8:00									
	Total hrs:									
	1.50									
Survey # 3	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/20/2016									
Denise	Start:									
Woodard	5:15	0	N/A	N/A	N/A					
	Stop:									
	7:15									
	Total hrs:									
	2.00									
Survey # 4	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	6/30/2016									
Denise	Start:									
Woodard	5:30	0	N/A	N/A	N/A					
	Stop:									
	7:25									
	Total hrs:									
	1.55									
Survey # 5	Date:						# Birds	Sex	UTM E	UTM N
Observer(s):	7/8/2016									
Denise	Start:									
Woodard	5:30	0	N/A	N/A	N/A					
	Stop:									
	7:20									
	Total hrs:									
	1.50									

Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals.	Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any WIFLs color-banded? Yes ____ No **X** If yes, report color combination(s) in the comments section on back of form and report to USFWS.
Total survey hrs: 8.55	0	0	0	0	

Reporting Individual: **Denise Woodard** Date Report Completed: **8/24/2016**

US Fish & Wildlife Service Permit #: **TE-777965** State Wildlife Agency Permit #: **SC-000777**

<u>Submit</u> form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual **Denise Woodard** Phone # **951-781-9310**

Affiliation **LSA Associates, Inc.** E-mail denise.woodard@lsa.net

Site Name **Temescal Canyon Road Bridge Replacement** Date report Completed **8/24/2016**

Was this site surveyed in a previous year? Yes____ No___X_ Unknown____

Did you verify that this site name is consistent with that used in previous yrs? Yes____ No____ Not Applicable **X**

If name is different, what name(s) was used in the past? **N/A**

If site was surveyed last year, did you survey the same general area this year? Yes____ No____ If no, summarize below.

Did you survey the same general area during each visit to this site this year? Yes____ No____ If no, summarize below.

Management Authority for Survey Area: Federal____ Municipal/County____ State____ Tribal____ Private **X**

Name of Management Entity or Owner (e.g., Tonto National Forest)

Length of area surveyed: **0.6** (km)

Vegetation Characteristics: Check (only one) category that best describes the predominant tree/shrub foliar layer at this site:

____ Native broadleaf plants (entirely or almost entirely, > 90% native)

X Mixed native and exotic plants (mostly native, 50 - 90% native)

____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.

Salix lasiolepis, Baccharis salicifolia, Eucalyptus sp.

Average height of canopy (Do not include a range): **9** (meters)

Attach the following: 1) copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections;
2) sketch or aerial photo showing site location, patch shape, survey route, location of any detected WIFLs or their nests;
3) photos of the interior of the patch, exterior of the patch, and overall site. Describe any unique habitat features in Comments.

Comments (such as start and end coordinates of survey area if changed among surveys, supplemental visits to sites, unique habitat features. Attach additional sheets if necessary.

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM E	UTM N	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

Bird Species Observed

Scientific Name	Common Name
AVES	**BIRDS**
Ardeidae	**Herons, Egrets, and Bitterns**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Nycticorax nycticorax	Black-crowned night-heron
Accipitridae	**Kites, Hawks, and Eagles**
Buteo jamaicensis	Red-tailed hawk
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Apodidae	**Swifts**
Aeronautes saxatalis	White-throated swift
Trochilidae	**Hummingbirds**
Archilochus alexandri	Black-chinned hummingbird
Calypte anna	Anna's hummingbird
Picidae	**Woodpeckers**
Picoides nuttallii	Nuttall's woodpecker
Colaptes auratus	Northern flicker
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
Corvidae	**Crows and Ravens**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Hirundinidae	**Swallows**
Hirundo rustica	Barn swallow
Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
Sturnus vulgaris (non-native species)	European starling

Bird Species Observed

Scientific Name	Common Name
Ptilogonatidae	**Silky flycatchers**
Phainopepla nitens	Phainopepla
Parulidae	**Wood Warblers**
Dendroica petechia	Yellow warbler
Dendroica coronata	Yellow-rumped warbler
Emberizidae	**Emberizines**
Melozone crissalis	California towhee
Melospiza melodia	Song sparrow
Cardinalidae	**Cardinals, Grosbeaks, and Allies**
Piranga ludoviciana	Western tanager
Passerina caerulea	Blue grosbeak
Icteridae	**Blackbirds, Orioles and Allies**
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
Icterus bullockii	Bullock's oriole
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Spinus psaltria	Lesser goldfinch

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 *email: WHDAB@dfg.ca.gov*

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work: 4 - 14 - 16

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Setophaga petechia*

Common Name: yellow warbler

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 3 Subsequent Visit? ☑ yes ☐ no
Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Denise Woodard
Address: 1500 Iowa Avenue, Suite 200
Riverside CA 92507
E-mail Address: denise.woodard@lsa.net
Phone: (951) 781-9310

Plant Information

Phenology: _____ % vegetative _____ % flowering _____ % fruiting

Animal Information

3 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☑ breeding ☐ wintering ☐ burrow site ☐ rookery ☑ nesting ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

Temescal Wash

County: Riverside Landowner / Mgr.: _____
Quad Name: Alberhill Elevation: 366 meters
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): _____
T____ R __ Sec ____ , ____ ¼ of _____ ¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
Datum: NAD27☐ NAD83☐ WGS84☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10☐ UTM Zone 11☐ *OR* Geographic (Latitude & Longitude)☐
Coordinates: Easting/Longitude _____ Northing/Latitude _____

Habitat Description *(plant communities, dominants, associates, substrates/soils, aspects/slope):*

The vegetation within the study area consists of non-native grasslands and riparian woodland, and ornamental trees. Several individual Coast live oak (Quercus agrifolia) and Fremont cottonwood (Populus fremontii) were are also noted. The riparian woodland habitat occurs along Temescal Wash and is dominated by arroyo willow (Salix lasiolepis), mule fat (Baccharis salicifolia), and eucalyptus (Eucalyptus sp.).

Other rare species? No

Site Information Overall site quality: ☐ Excellent ☐ Good ☑ Fair ☐ Poor

Current / surrounding land use: Clay mine, transportation infrastructure, commercial and rurual residential development.

Visible disturbances: Eucalyptus tree removal

Threats: Roadway infrastructure

Comments:

Determination: *(check one or more, and fill in blanks)*
- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☐ Other: LSA Associates, Inc. permitted biologist

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ☑ yes ☐ no

Appendix D – Jurisdictional Delineation

JURISDICTIONAL DELINEATION

TEMESCAL CANYON ROAD BRIDGE REPLACEMENT PROJECT

CITY OF LAKE ELSINORE

RIVERSIDE COUNTY, CALIFORNIA

LSA

January 15, 2018

JURISDICTIONAL DELINEATION

TEMESCAL CANYON ROAD BRIDGE REPLACEMENT PROJECT

CITY OF LAKE ELSINORE

RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

City of Lake Elsinore
130 South Main Street
Lake Elsinore, California 92530

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. ACN1401

LSA

January 15, 2018

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APPENDIX

INTRODUCTION

The City of Lake Elsinore (City) proposes to replace the existing 2-lane Temescal Canyon Road Bridge at Temescal Wash with a new realigned 4-lane bridge and roadway to provide sufficient hydraulic clearance for Temescal Wash and to accommodate anticipated traffic volumes consistent with the City's and regional circulation plans. The project site is located generally northwest of the intersection of Interstate 15 and Lake Street in the City of Lake Elsinore, Riverside County, California. More specifically, the project site is located in in Sections 15 and 16, Township 5 South, Range 5 West, San Bernardino Baseline and Meridian as shown on the United States Geological Survey (USGS) *Alberhill, California* 7.5-minute topographic quadrangle map (Figure 1).

This report presents the results of a delineation of potential wetlands and waters subject to the jurisdiction of the United States Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB) as part of the evaluation for potential permit requirements under Section 404 of the Federal Clean Water Act (CWA), for Streambed Alteration Agreement processing under Section 1600 et seq. of the California Fish and Game Code, and for water quality certification under Section 401 of the CWA, respectively. This jurisdictional delineation is also an important source of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) information for the evaluation of potential impacts associated with the proposed bridge replacement project.

BIOLOGICAL STUDY AREA

The Biological Study Area (BSA) is geographically situated along Temescal Wash, north of Alberhill and east of Lake Elsinore. The survey area includes a portion of Temescal Wash and adjacent upland areas. Elevations at the site vary from approximately 1,210 to 1,240 feet above mean sea level. Soils within the BSA, as mapped by the Natural Resource Conservation Service, Online Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) are Honcut sandy loam, 2 to 8 percent slopes; Gorgonio loamy sand, 0 to 8 percent slope, and clay pits. The predominant vegetation communities are ruderal/nonnative grasslands, eucalyptus trees, eucalyptus trees/ scattered riparian, and coast live oak woodland (upland). The southerly portion of the BSA is developed (Pacific Clay Products, Inc.). Surrounding land uses consist of undeveloped open space, and developed areas including transportation corridors, and rural residential and commercial development. Figure 2 shows vegetation and land use.

REGULATORY BACKGROUND

United States Army Corps of Engineers

The USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and nonwetland bodies of water that meet specific criteria. USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters [TNWs] used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations). The following definition of waters of the U.S. is taken from the discussion provided at 33 Code of Federal Regulations (CFR) 328.3:

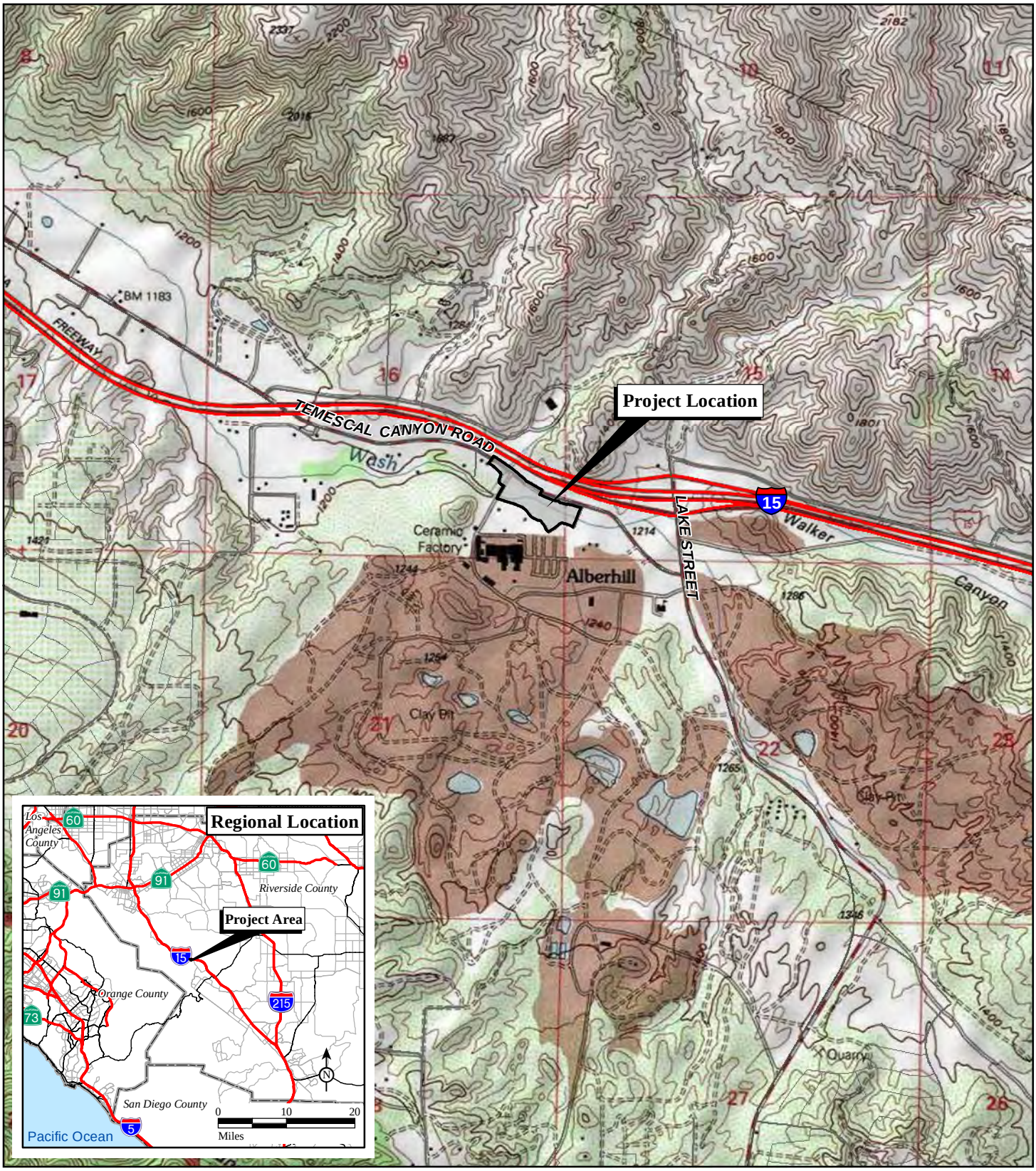


FIGURE 1

N

0 1000 2000
FEET

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Jurisdictional Delineation

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

BRLS 5074 (015)

I:\ACN1401\Reports\JuriDel\fig1_RegLoc.mxd (11/21/2017)

Biological Study Area (BSA)

Vegetation and Land Use

Coast Live Oak Trees

Coastal Sage Scrub

Developed

Eucalyptus Trees

Eucalyptus Trees/Scattered Riparian

Ruderal

N

0 75 150

FEET

Source: Google Earth, 2016; Riverside County, 2015

I:\ACN1401\Reports\JuriDel\fig2_Veg.mxd (12/8/2017)

FIGURE 2

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Jurisdictional Delineation

Vegetation and Land Use

"The term waters of the United States means:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce …;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) … the use, degradation or destruction of which could affect interstate or foreign commerce …;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition; and

(5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section."

The USACE typically considers any body of water displaying an ordinary high water mark (OHWM) for designation as waters of the U.S., subject to guidance derived from Supreme Court decisions. USACE jurisdiction over nontidal waters of the U.S. extends laterally to the OHWM or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area." (33 CFR 328.3) Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

As discussed above, USACE regulatory jurisdiction under Section 404 of the CWA is founded on a connection between the water body in question and interstate commerce. In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to a navigable water of the U.S. The 1984 rule that enabled the USACE to expand jurisdiction over isolated waters of this type became known as the Migratory Bird Rule. However, on January 9, 2001, the U.S. Supreme Court narrowly limited USACE jurisdiction of "nonnavigable, isolated, intrastate" waters based solely on the use of such waters by migratory birds and, particularly, the use of indirect indicators of interstate commerce (e.g., use by migratory birds that cross state lines) as a basis for jurisdiction. The Court's ruling derives from the case *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (SWANCC). The Supreme Court determined that the USACE had exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois, which provides habitat for migratory birds.

In 2006, the U.S. Supreme Court further considered USACE jurisdiction of "waters of the United States" in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as *Rapanos*. The Supreme Court concluded that wetlands are "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, the USACE issued guidance regarding the *Rapanos* decision. After consideration of public comments and agencies' experience, revised guidance was issued on December 2, 2008. This guidance states that the USACE will continue to assert jurisdiction over TNWs, wetlands adjacent to TNWs, relatively permanent

nonnavigable tributaries that have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are nonnavigable tributaries that are not relatively permanent and wetlands adjacent to nonnavigable tributaries that are not relatively permanent only after making a significant nexus finding. According to the guidance, the USACE generally will not assert jurisdiction over the following features: swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Furthermore, the preamble to USACE regulations (Preamble Section 328.3, Definitions) states that the USACE does not generally consider the following waters to be waters of the U.S. The USACE does, however, reserve the right to regulate these waters on a case-by-case basis.

- Nontidal drainage and irrigation ditches excavated on dry land;
- Artificially irrigated areas that would revert to upland if irrigation ceased;
- Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
- Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons; and
- Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for purposes of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the U.S.

Waters found to be isolated and not subject to CWA regulation may still be regulated by the RWQCB under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Wetlands

Wetland delineations for Section 404 purposes must be conducted according to the *Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region* (*Regional Supplement*) (USACE 2008b) and the USACE *1987 Wetland Delineation Manual* (*1987 Manual*) (Environmental Laboratory 1987). Where there are differences between the two documents, the *Regional Supplement* takes precedence over the *1987 Manual*.

The USACE and United States Environmental Protection Agency (EPA) define wetlands as follows:

> "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each

characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

Hydrophytic vegetation and hydric soils indicators provide evidence that episodes of inundation have lasted more than a few days or have occurred repeatedly over a period of years, but do not confirm that an episode has occurred recently. Conversely, wetland hydrology indicators provide evidence that an episode of inundation or soil saturation occurred recently, but do not provide evidence that episodes have lasted more than a few days or have occurred repeatedly over a period of years. Because of this, if an area lacks one of the three characteristics under normal circumstances, the area is considered nonwetland under most circumstances.

Determination of wetland limits may be obfuscated by a variety of natural environmental factors or human activities, collectively called "difficult wetland situations," including cyclic periods of drought and flooding or highly ephemeral stream systems. During periods of drought, for example, bank return flows are reduced and water tables are lowered. This results in a corresponding lowering of ordinary high water and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into nonwetland areas. In the highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive knowledge of local ecological conditions comes into play in delineating wetlands. The *Regional Supplement* provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on *The National Wetland Plant List* (Lichvar, et al., 2016). Each species on the list is rated according to a wetland indicator category per the 1987 Manual, as shown in Table A. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated as OBL, FACW, or FAC).

Table A: Hydrophytic Vegetation

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability > 99 percent)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability 67–99 percent)
Facultative	FAC	Equally likely to occur in wetlands and nonwetlands (estimated probability 34–66 percent)
Facultative Upland	FACU	Usually occur in nonwetlands (estimated probability 67–99 percent)
Obligate Upland	UPL	Almost always occur in nonwetlands (estimated probability > 99 percent)

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these

dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the USACE recommends the use of the "50/20" rule (also known as the dominance test) from the *Regional Supplement* for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, USACE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (USACE 2008b). If the plant community passes either the dominance test or prevalence index after reconsideration of the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils

Hydric soils[1] are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.[2] Soils are considered likely to meet the definition of a hydric soil when one or more of the following criteria are met:

1. All Histels except Folistels and Histosols except Folists;
2. Soils that are frequently ponded for a long duration or very long duration[3] during the growing season; or
3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. While saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters [cm], below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria, a National List of Hydric Soils was created from the National Soil Information System (NASIS) database and is updated annually.

---

1 The hydric soil definition and criteria included in the 1987 Manual are obsolete. Users of the Manual are directed to the United States Department of Agriculture (USDA) Natural Resources Conservation Service website for the most current information on hydric soils.

2 Current definition as of 1994 (FR July 13, 1994).

3 A long duration is defined as a single event ranging from 7 to 30 days; a very long duration is defined as a single event that lasts longer than 30 days.

The *Regional Supplement* has a number of field indicators that may be used to identify hydric soils. The NRCS (http://www.nrcs.usda.gov) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, the accumulation of organic matter, and the reduction, translocation, and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology parameter is satisfied when the area exhibits at least one of the primary indicators or two or more secondary indicators shown on the Wetland Determination Data Form – Arid West Region and identified in the *Regional Supplement* (USACE 2008b).

Hydrology is often the most difficult criterion to measure in the field due to seasonal and annual variations in water availability. Some of the indicators that are commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

California Department of Fish and Wildlife

The CDFW, formerly known as the California Department of Fish and Game (CDFG), through provisions of the California Fish and Game Code (Sec. 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

The CDFW has various definitions and descriptions of the terms “channel bed” and “banks.” The following definitions are taken from Appendix C: Legal Opinions of the CDFG’s *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607 California Fish and Game Cod*e (CDFG 1994) to characterize the bed and bank:

> The extent of a stream bed and banks can be measured by several means: (1) flood plain, depending on the return frequency considered and if the riparian vegetation is present in the flood plain; (2) the outer edge of riparian vegetation used as a line of demarcation; (3) the bank, channel, or levee that confines flows; and (4) the extent of riparian vegetation outside of a levee.

The following concepts are also described in *A Field Guide to Lake and Streambed Alteration Agreements* prepared by the CDFG Environmental Services Division in January 1994:

> Streams can include intermittent ephemeral streams, dry washes, canals, aqueducts, irrigation ditches if they support aquatic life, riparian vegetation, or seasonally stream-dependent terrestrial wildlife, such as amphibians.
>
> Natural attributes or biological components of a stream include aquatic and riparian vegetation, and all aquatic animals, including fish, amphibians, reptiles, invertebrates, and terrestrial species, which derive benefits from the stream system.

The CDFW regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by the CDFW. CDFW jurisdiction typically extends beyond the stream bed/ banks to the limits of the riparian vegetation (if present) associated with streams, rivers, or lakes. The CDFW defines riparian as:

> On, or pertaining to, the banks of a stream. As riparian vegetation or riparian woodland. Vegetation which occurs in and/or adjacent to a watercourse. For the purpose of administering Code Section 1600, et seq., this should be expanded to vegetation adjacent to lakes as well.[1]

An artificial waterway is considered natural if the landowners and the community regard the ditch as a natural drainage course and normal circumstances, as having existed over seven years ("Departmental Jurisdiction Over Waterways," CDFG memo dated October 17, 1988, and "Jurisdictional Issues in the Application of Fish and Game Code Sections 1601 and 1603," CDFG memo dated July 2, 1990). Other Legal Advisor recommendations to amend the CDFG Operating Manual include the following treatment of resources:

> Artificial waterways are jurisdictional if that constructed drainage now has attributes similar to a natural stream bed and that artificial channels or ditches without natural attributes are not subject to Fish and Game Code provisions.

In obtaining CDFW agreements, the limits of wetlands are not typically determined. The reason for this is that the CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, mule fat, and other vegetation typically associated with the banks of a stream or lake shorelines and may not be consistent with USACE definitions. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas and may include additional areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream, away from frequently saturated soils).

Regional Water Quality Control Board

The RWQCBs are responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the U.S., including

[1] *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607 California Fish and Game Code*, January 1994.

any wetlands). The RWQCB may also assert authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act of 1969.

METHODOLOGY

Preliminary fieldwork for this evaluation was conducted by consulting biologists Denise Woodard and Claudia Bauer on October 16, 2015, and additional fieldwork was conducted by consulting biologists Denise Woodard and Jim Harrison on September 29, 2016, and February 14, 2017. During each site visit, the BSA was surveyed on foot for both federal and state jurisdictional areas. CDFW jurisdiction within Temescal Wash was determined by Claire Engel of the CDFW during a project team on-site field meeting on August 25, 2017.

All areas supporting a prevalence of plant species that were potentially indicative of wetlands were evaluated according to wetland delineation procedures described in the 1987 Manual and the 2008 *Regional Supplement (Arid West)*. A representative sample plot was selected and examined in the field in each area where wetland jurisdiction was in question or needed to be confirmed. At the sample plot, the dominant and subdominant plant species were identified and their wetland indicator statuses noted (Lichvar, et al., 2016). Small pits (approximately 12–24 inches deep) were dug in order to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators were also noted. General site characteristics were also noted throughout all potential jurisdictional areas. Standard data forms were completed for each sample plot. Copies of these data forms are provided as Appendix A, Wetland Determination Data Forms.

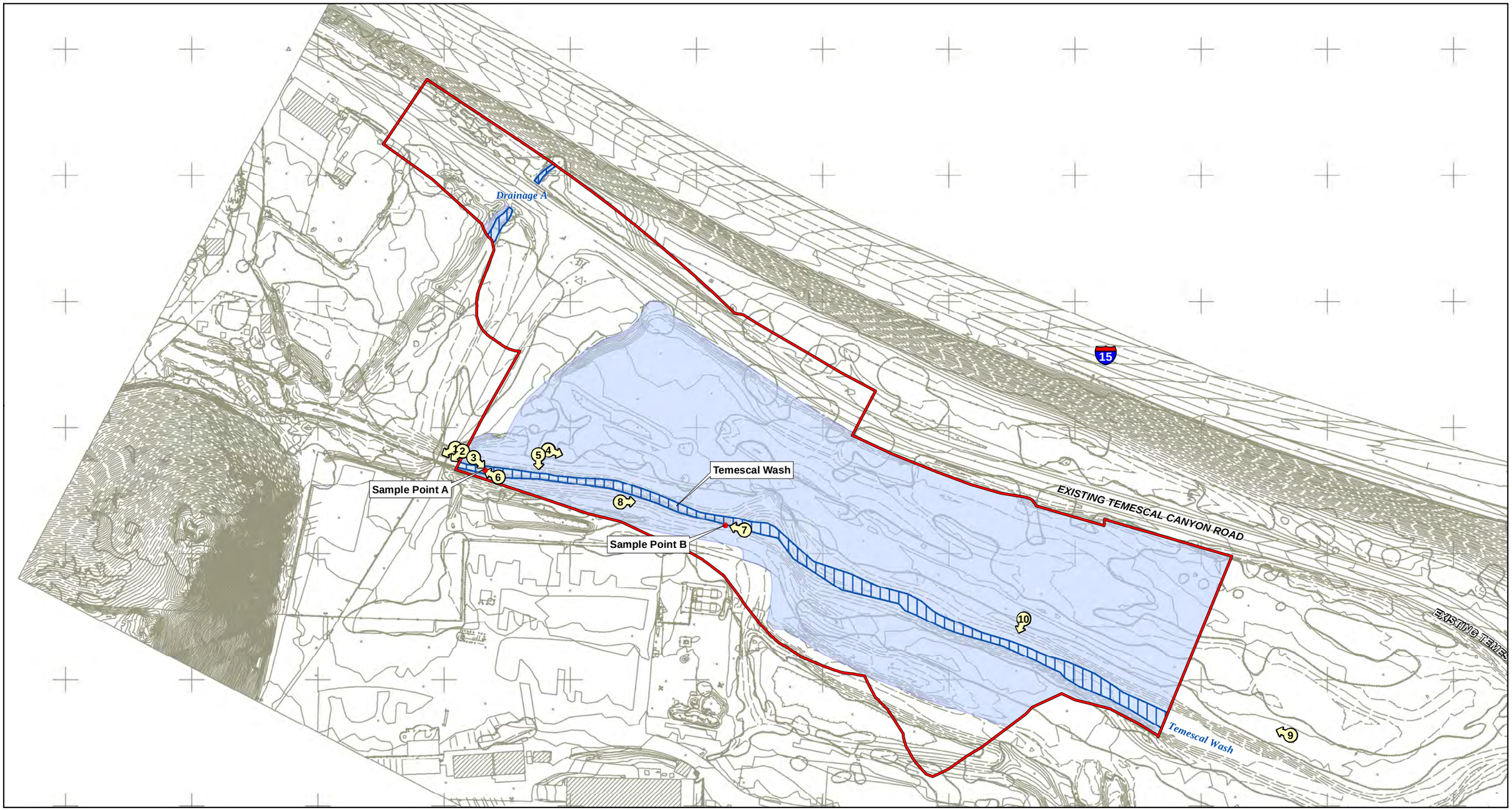
Areas of potential USACE jurisdiction were evaluated according to current USACE delineation criteria and guidance, as described previously in the Regulatory Background section. The boundaries of the potential jurisdictional areas were determined in the field and recorded using a global positioning system (GPS). GPS points were taken at periodic intervals along the portion of Temescal Wash in the BSA. Visible evidence of ordinary high water was used to delineate the extent of USACE jurisdiction, and the physical features of the channel banks and the dripline of any adjacent riparian vegetation extending beyond the bank edges were used to delineate the boundaries associated with CDFW jurisdiction. CDFW jurisdictional limits within Temescal Wash were determined by CDFW staff. Then, in the office, GPS points were plotted and aligned on a topographic base map using Geographic Information Systems (GIS) software.

The locations of the potential jurisdictional areas are shown in Figure 3. Representative site photographs are provided in Figure 4.

RESULTS

Potential Jurisdictional Areas

Two drainage features were evaluated within the BSA, Temescal Wash and an unnamed drainage feature identified as Drainage A for purposes of this report.



Jurisdictional Delineation Study Area
USACE Non-wetland Waters (0.49 Ac)
CDFW Streambed/Riparian (8.11 Ac)
Sample Plot
Photo Location

N

0 75 150
FEET

Source: Riverside County, 2015; Aguilar Consulting, 2016.

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FIGURE 3

Temescal Canyon Road Bridge
Replacement and Road Realignment Project
Jurisdictional Delineation

Potential Jurisdictional Waters and Photo Locations

BRLS 5074 (015)

Photograph 1:
View of Temescal Wash where it flows under Bernard Street via a concrete box culvert. Photograph taken October 16, 2015.

Photograph 2:
View of Temescal Wash where it flows under Bernard Street via a concrete box culvert. Photograph taken February 14, 2017.

Photograph 3:
View of flowing water within Temescal Canyon Wash. Photograph taken February 14, 2017.

FIGURE 4A

Temescal Canyon Road Bridge Replacement and Road Realignment Project Jurisdictional Delineation

Site Photographs

BRLS 5074 (015)

Photograph 4:
View of mixed riparian habitat within Temescal Wash. Photograph taken October 16, 2015.

Photograph 5:
View of Temescal Wash streambed and bank. Photograph taken February 14, 2017.

Photograph 6:
View of sample point A. Photograph taken October, 16, 2015.

FIGURE 4B

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Jurisdictional Delineation

Site Photographs

BRLS 5074 (015)

Photograph 7
View of sample point B. Photograph taken October 16, 2015.

Photograph 8
View of flowing water within Temescal Canyon Wash. Photograph taken February 14, 2017.

Photograph 9:
View of eucalyptus trees along Temescal Wash. Photograph taken October 16, 2015.

Photograph 10:
View of Temescal Wash in area dominated by eucalyptus trees. Photograph taken February 14, 2017.

FIGURE 4C

Temescal Canyon Road Bridge Replacement and Road Realignment Project
Jurisdictional Delineation

Site Photographs

BRLS 5074 (015)

Temescal Wash

Temescal Wash is tributary to the Santa Ana River at the Prado Flood Control Basin. The Santa Ana River conveys flows to the Pacific Ocean, a TNW. Temescal Wash is an ephemeral, natural, earthen drainage. Initial field observations associated with Temescal Wash and the rest of the BSA were made during the October 2015 site visit. A subsequent site visit was conducted in September 2016 at the end of the dry season in the midst of a severe prolonged drought. During the September 2016 site visit, Temescal Wash was dry, as expected, but LSA biologists nevertheless observed water staining and sediment marks on tree trunks and other vegetation that clearly denoted the OHWM from past storm events. These OHWMs extended beyond the limits of a low-flow channel that was also present. A site visit was conducted in February 2017 following a series of heavy rainfall events in order to make final revisions to the vegetation mapping and jurisdictional delineation and to observe the site conditions following storm events. During the 2017 site visit, there was distinct visible evidence of extreme flooding that had recently occurred across the site and extended beyond the channel banks in some instances. However, despite all the recent rainfall, it appeared that the water flowing in Temescal Wash at the time of the February 2017 site visit had receded substantially and the water levels along the majority of the wash appeared to coincide with the OHWMs observed during the previous September 2016 site visit.

During the February 2017 field evaluation, Temescal Wash was reportedly receiving additional runoff that was being released upstream from an Elsinore Valley Municipal Water District (EVMWD) water treatment facility (Denise Woodard and Jim Harrison pers. comm. with Kevin Beales of Castle and Cooke on February 14, 2016). However, assuming such practices do occur, these activities would be expected to periodically following heavy storm events, or when needed, and now represent the typical conditions associated with Temescal Wash.

Temescal Wash conveys flows in an easterly direction through the BSA for 1,217 feet. Temescal Wash exits the BSA under a 23-foot wide, two-lane bridge at Bernard Street. Vegetation within Temescal Wash consists of a portion of the wash dominated exclusively by eucalyptus trees and another reach dominated by eucalyptus trees with scattered riparian vegetation. The eucalyptus trees with scattered riparian vegetation occur within the easterly portion of the wash and is dominated by eucalyptus trees (*Eucalyptus* sp.) and to a lesser extent by arroyo willow (*Salix lasiolepis*) and mule fat (*Baccharis salicifolia*). Hardstem bulrush (*Schoenoplectus acutus*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), and young coast live oak trees (*Quercus agrifolia*) were also present. The westerly portion of the drainage is dominated by a monotypic stand of eucalyptus trees. Previously referenced Figure 2 shows vegetation and land use within the BSA.

During the October 2015 field evaluation, two sample plots (SPA and SPB) were evaluated in areas with the highest probability of meeting the USACE three parameter wetland criteria (see Wetland Determination Data Form for SPA and SPB provided in Appendix A, Figure 3, and Figure 4, Photographs 6 and 7). These sample plots do not satisfy USACE wetland criteria due to lack of hydric soils. The soils within both sample plots were sandy and well drained and likely are not anaerobic for long enough periods to support hydric soil indicators; therefore, Temescal Wash was not classified as wetland. Because Temescal Wash is an ephemeral drainage, it does not satisfy the criteria for a

Relatively Permanent Water (RPW). Thus, this drainage feature would not meet the USACE's significance nexus criteria.

Drainage A

Drainage A is an ephemeral natural earthen drainage that shows evidence of an OHWM and streambed and banks. Drainage A flows southwesterly and originates in the foothills northeast of Intestate 15. This drainage enters the BSA via a concrete box culvert under Interstate 15 and sheet flows across Temescal Canyon Road. South of Temescal Canyon Road, Drainage A leaves the BSA after 143 feet and extends another approximately 325 feet before it drains into Temescal Canyon Wash east of the BSA. Drainage A is vegetated by nonnative grasslands dominated by ruderal plant species. Therefore, Drainage A was not classified as USACE wetlands or riparian habitat regulated by the CDFW. In addition, this drainage feature does not satisfy the criteria for a USACE RPW. Thus, this drainage feature is not considered to be a USACE-regulated drainage feature that would meet significance nexus criteria. Due to the presence of bed and bank, this drainage would be subject to the regulatory authority of CDFW.

CONCLUSIONS

USACE Potential Jurisdiction

LSA biologists were fortunate to have observed site conditions both before and after a series of intense, heavy rainfall events this rainy season. In many cases, the limits of potential USACE jurisdiction recorded by GPS during the February 2017 site visit coincided with the OHWMs observed in the field during the September 2016 site visit. However, it was apparent on February 14, 2017, that the flow of water along portions of Temescal Wash had extended beyond the OHWM limits observed in September 2016; however, the OHWM measurements recorded in September 2016 were used, since those specific discrepancies can be attributed to extraordinary conditions as opposed to ordinary conditions.

The USACE is expected to regulate 0.45 acre within Temescal Wash and 0.03 acre within Drainage A as shown in Table B.

Table B: Potentially Jurisdictional Area Within Temescal Wash

Drainage	Length (linear feet)	Potential USACE Non-Wetland Waters (acres)	Potential CDFW Streambed/ Riparian (acres)
Temescal Wash	[1,217]	0.45	8.07
Drainage A	143	0.04	0.04
Total	1,360	0.49	8.11

CDFW Potential Jurisdiction

As shown in Table B, Temescal Wash contains 8.07 acres of streambed/riparian habitat and Drainage A contains 0.04 acre of streambed expected to be regulated by the CDFW.

RWQCB Potential Jurisdiction

Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands and other waters of the U.S. as recommended by the September 2004 Workplan. Since there are areas within the project area subject to USACE and CDFW jurisdiction, RWQCB jurisdiction in this case is coincident with USACE jurisdiction for purposes of the Section 401 water quality certification. The total area of potential RWQCB jurisdiction is 0.49 acre.

Previously referenced Table B provides the length and area measurements of the potentially jurisdictional area within Temescal Wash.

Please note the findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of the consultant biologists. These findings and conclusions should be considered preliminary until verified by the USACE, CDFW, and RWQCB.

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APPENDIX A

WETLAND DETERMINATION DATA FORM

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Temescal Bridge Project City/County: Elsinore / Riverside Sampling Date 10-16-15
Applicant/Owner: City of Elsinore / Pac Clay State CA Sampling Point: SPA
Investigators: Denise Woodard / Claudia Bauer Section, Township, Range: Section 11, T5S, R5W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): ____
Subregion (LRR): C Lat: 33.729896 Long: -117.401736 Datum: ____
Soil Map Unit Name: Clay Pits NWI classification: Riverine
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? No. Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___ Soil ___ or Hydrology ___ naturally problematic? No. (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present?	Yes	X	No		
Hydric soil present?	Yes		No	X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Wetland Hydrology present?	Yes	X	No		

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 10'd)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	10	Y	FACW
2.			
3.			
4.			
Total Cover:	10		

Sapling/Shrub Stratum (Plot size:)			
1. Baccharis salicifolia	10	Y	FAC
2.			
3.			
4.			
5.			
Total Cover:	10		

Herb Stratum (Plot size:)			
1. Scirpus sp.	70	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	90		

Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum: ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percentage of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence index worksheet

Total % Cover of:		Multiply by:	
OBL species		× 1 =	
FACW species		× 2 =	
FAC species		× 3 =	
FACU species		× 4 =	
UPL species		× 5 =	
Column Totals:	(A)		(B)
Prevalence Index = B/A =			

Hydrophytic Vegetation Indicators:
___ Dominance Test is > 50%
___ Prevalence Test is ≤ 3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: SPA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 3/3	100	N/A				Coarse Sand	Roots /
10-16"	7.5YR 4/6	98%	7.5YR 6/8	2	C	M/PL	" "	organic matter / shells

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[3]

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) **(Riverine)**
- X Sediment Deposits (B2) **Riverine)**
- X Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquatard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No ___ Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Temescal Bridge Project City/County: Elsinore / Riverside Sampling Date 10-16-15

Applicant/Owner: City of Elsinore / Pac Clay State CA Sampling Point: SPB

Investigators: Denise Woodard / Claudia Bauer Section, Township, Range: Section 16, T5S, R5W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): ___

Subregion (LRR): C Lat: 33.729701 Long: -117.400463 Datum: WGS84

Soil Map Unit Name: Clay Pits NWI classification: Riverine

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? No Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___ Soil ___ or Hydrology ___ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation present?	Yes X	No ___	Is the Sampled Area within a Wetland?	Yes ___ No ___
Hydric soil present?	Yes ___	No X		
Wetland Hydrology present?	Yes X	No ___		

Remarks:

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 10'd)	Absolute % Cover	Dominant Species?	Indicator Status
1. —			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1. Baccharis salic. folia	90	Y	FA
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum: ___ % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percentage of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence index worksheet

Total % Cover of:		Multiply by:	
OBL species	___	× 1 =	___
FACW species	___	× 2 =	___
FAC species	___	× 3 =	___
FACU species	___	× 4 =	___
UPL species	___	× 5 =	___
Column Totals:	___	(A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

___ Dominance Test is > 50%

___ Prevalence Test is ≤ 3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

SOIL

Sampling Point: SPB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 4/3	100					Sandy	
12-18"		97	7.5YR 6/8	3	C	M	silty Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[3]

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water Marks (B1) **(Riverine)**
- X Sediment Deposits (B2) **Riverine)**
- X Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquatard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix E – List of Plant and Animal Species Observed

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
PLANTS	
MAGNOLIOPHYTA: MAGNOLIOPSIDA	**DICOT FLOWERING PLANTS**
Adoxaceae	**Muskroot family**
Sambucus nigra ssp. *caerulea*	Blue elderberry
Aizoaceae	**Carpet weed family**
Mesembryanthemum nodiflorum (nonnative species)	Slender-leaved ice plant
Amaranthaceae	**Amaranth family**
Amaranthus albus (nonnative species)	Tumbleweed
Apocynacecae	**Dogbane family**
Funastrum hirtellum	Trailing townula
Asteraceae	**Sunflower family**
Ambrosia acanthicarpa	Annual bur-sage
Ambrosia confertiflora	Weak-leaved burweed
Ambrosia psilostachya	Western ragweed
Artemisia californica	California sagebrush
Artemisia douglasiana	Mugwort
Artemisia dracunculus	Tarragon
Baccharis salicifolia	Mule fat
Baccharis salicina	Emory's baccharis
Baccharis sarothroides	Broom baccharis
Bebbia juncea	Sweetbush
Centaurea melitensis (nonnative species)	Tocalote
Cirsium vulgare (nonnative species)	Bull thistle
Corethrogyne filaginifolia	California aster
Deinandra fasciculata	Fascicled tarweed
Deinandra kelloggii	Kellogg's tarweed
Encelia farinosa	Brittlebush
Erigeron canadensis	Canadian horseweed
Erigeron foliosus	Leafy daisy
Gutierrezia sarothrae	San Joaquin matchweed
Helianthus annuus	Common sunflower
Heterotheca grandiflora	Telegraph weed
Hypochaeris glabra (nonnative species)	Smooth cat's-ear
Iva axillaris	Poverty weed
Lactuca serriola (nonnative species)	Prickly lettuce
Lepidospartum squamatum	Scalebroom
Malacothrix saxatilis	Cliff malacothrix
Oncosiphon piluliferum (nonnative species)	Stinknet
Pseudognaphalium beneolens	Fragrant rabbit-tobacco
Pseudognaphalium californicum	Ladies' tobacco

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Pseudognaphalium luteoalbum (nonnative species)	Jersey cudweed
Pulicaria paludosa (nonnative species)	Spanish false fleabane
Sonchus asper (nonnative species)	Prickly sow thistle
Sonchus oleraceus (nonnative species)	Common sow thistle
Stephanomeria exigua	Small wreath-plant
Tetradymia comosa	Hairy horsebrush
Uropappus lindleyi	Silver puffs
Boraginaceae	**Borage family**
Amsinckia intermedia	Common fiddleneck
Amsinckia menziesii/intermedia	Common fiddleneck
Emmenanthe penduliflora	Whispering bells
Eriodictyon crassifolium	Yerba santa
Eucrypta chrysanthemifolia	Common eucrypta
Heliotropium curassavicum	Salt heliotrope
Pectocarya linearis	Narrow-toothed pectocarya
Phacelia cicutaria	Caterpillar phacelia
Phacelia distans	Distant phacelia
Brassicaceae	**Mustard family**
Hirschfeldia incana (nonnative species)	Shortpod mustard
Lepidium oblongum	Peppergrass
Sisymbrium irio (nonnative species)	London rocket
Sisymbrium orientale (nonnative species)	Indian hedgemustard
Cactaceae	**Cactus family**
Opuntia littoralis	Coastal prickleypear
Caryophyllaceae	**Pink family**
Spergularia bocconi (nonnative species)	Boccone's sandspurry
Chenopodiaceae	**Saltbush family**
Atriplex argentea	Silverscale saltbush
Atriplex semibaccata (nonnative species)	Australian saltbush
Atriplex suberecta (nonnative species)	Peregrine saltbush
Bassia hyssopifoli (nonnative species)	Fivehorn smotherweed
Chenopodium berlandieri	Pitseed goosefoot
Chenopodium murale (nonnative species)	Nettleleaf goosefoot
Salsola tragus (nonnative species)	Russian thistle
Convolvulaceae	**Morning-glory family**
Calystegia macrostegia	Morning-glory
Cucurbitaceae	**Gourd family**
Marah macrocarpus	Cucamonga manroot
Euphorbiaceae	**Spurge family**
Croton californicus	California croton

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Croton setigerus	Dove weed
Euphorbia albomarginata	Rattlesnake weed
Euphorbia maculata (nonnative species)	Spotted spurge
Ricinus communis (nonnative species)	Castor bean
Fabaceae	**Pea family**
Acmispon americanus	Spanish clover
Acmispon glaber	Deerweed
Acmispon heermannii	Lotus
Lupinus bicolor	Miniature lupine
Medicago polymorpha (nonnative species)	Bur-clover
Melilotus albus (nonnative species)	White sweetclover
Melilotus indicus (nonnative species)	Annual yellow sweetclover
Fagaceae	**Beech family**
Quercus agrifolia	Coastal live oak
Geraniaceae	**Geranium family**
Erodium cicutarium (nonnative species)	Redstem stork's bill
Lamiaceae	**Mint family**
Marrubium vulgare (nonnative species)	Horehound
Salvia columbariae	Chia
Stachys ajugoides	Bugle hedge-nettle
Lythraceae	**Loosestrife family**
Lythrum californicum	California loosestrife
Malvaceae	**Mallow family**
Malacothamnus fasciculatus	Chaparral mallow
Malva parviflora (nonnative species)	Cheeseweed mallow
Meliaceae	**Mahogany family**
Melia azedarach (nonnative species)	Persian lilac, Chinaberry
Moraceae	**Mulberry family**
Morus alba (nonnative species)	White mulberry
Myrsinaceae	**Myrsine family**
Anagallis arvensis (nonnative species)	Scarlet pimpernel
Myrtaceae	**Myrtle family**
Eucalyptus camaldulensis (nonnative species)	River red gum
Eucalyptus sp. (nonnative species)	Eucalyptus
Onagraceae	**Evening primrose family**
Eulobus californicus	Mustard-like evening primrose
Platanaceae	**Sycamore family**
Platanus racemosa	California sycamore
Polemoniaceae	**Phlox family**
Eriastrum sapphirinum	Sapphire woollystar

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Polygonaceae	**Buckwheat family**
Eriogonum davidsonii	Davidson's buckwheat
Eriogonum elongatum	Long-stemmed eriogonum
Eriogonum fasciculatum	California buckwheat
Eriogonum gracile	Slender buckwheat
Polygonum aviculare (nonnative species)	Common knotweed
Rumex crispus (nonnative species)	Curly dock
Portulacaeae	**Purslane family**
Portulaca oleracea (nonnative species)	Common purslane
Rhamnaceae	**Buckthorn family**
Ceanothus crassifolius	Hoaryleaf ceanothus
Rubiaceae	**Madder family**
Galium aparine	Goose grass
Salicaceae	**Willow family**
Populus fremontii	Fremont cottonwood
Salix gooddingii	Goodding's willow
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Simaroubaceae	**Quassia family**
Ailanthus altissima (nonnative species)	Tree of heaven
Solanaceae	**Nightshade family**
Datura wrightii	Sacred thorn-apple
Nicotiana glauca (nonnative species)	Tree tobacco
Solanum douglasii	Greenspot nightshade
Tamaricaceae	**Tamarisk family**
Tamarix ramosissima (nonnative species)	Mediterranean tamarisk
Urticaceae	**Nettle Family**
Urtica dioica ssp. *holosericea*	Hoary nettle
MAGNOLIOPHYTA: LILIOPSIDA	**MONOCOT FLOWERING PLANTS**
Arecaceae	**Palm family**
Washingtonia robusta (nonnative species)	Mexican fan palm
Cyperaceae	**Sedge family**
Cyperus eragrostis	Tall flatsedge
Schoenoplectus acutus	Hardstem bulrush
Poaceae	**Grass family**
Avena barbata (nonnative species)	Slender wild oat
Avena fatua (nonnative species)	Wild oat
Bromus diandrus (nonnative species)	Ripgut brome
Bromus hordeaceus (nonnative species)	Soft chess
Bromus madritensi (nonnative species)	Foxtail chess

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Distichlis spicata	Saltgrass
Hordeum murinum (nonnative species)	Mouse barley
Polypogon monspeliensis (nonnative species)	Annual rabbitsfoot grass
Schismus barbatus (nonnative species)	Common Mediterranean grass
Stipa miliacea (nonnative species)	Smilo grass
INVERTEBRATES	
Lepidoptera	**Butterflies and Moths**
Pieridae	**Sulphers and Whites**
Artogeia rapae	Cabbage white
Pontia protodice	Common (checkered) white
Colias eurytheme	Alfalfa butterfly
REPTILES	
Teiidae	**Whiptails**
Aspidoscelis hyperythra	Orangethroat whiptail
Aspidoscelis tigris stejnegeri	Coastal western whiptail
BIRDS	
Accipitridae	**Kites, Hawks, and Eagles**
Buteo jamaicensis	Red-tailed hawk
Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Apodidae	**Swifts**
Aeronautes saxatalis	White-throated swift
Ardeidae	**Herons, Egrets, and Bitterns**
Ardea herodias	Great blue heron
Ardea alba	Great egret
Nycticorax nycticorax	Black-crowned night-heron
Cardinalidae	**Cardinals, Grosbeaks, and Allies**
Piranga ludoviciana	Western tanager
Passerina caerulea	Blue grosbeak
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Corvidae	**Crows and Ravens**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Emberizidae	**Emberizines**
Melozone crissalis	California towhee
Melospiza melodia	Song sparrow

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Fringillidae	**Finches**
Carpodacus mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Hirundinidae	**Swallows**
Hirundo rustica	Barn swallow
Icteridae	**Blackbirds, Orioles and Allies**
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	Brown-headed cowbird
Icterus cucullatus	Hooded oriole
Icterus bullockii	Bullock's oriole
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
Parulidae	**Wood Warblers**
Dendroica petechia	Yellow warbler
Dendroica coronata	Yellow-rumped warbler
Picidae	**Woodpeckers**
Picoides nuttalii	Nuttall's woodpecker
Colaptes auratus	Northern flicker
Ptilogonatidae	**Silky flycatchers**
Phainopepla nitens	Phainopepla
Sturnidae	**Starlings**
Sturnus vulgaris (nonnative species)	European starling
Trochilidae	**Hummingbirds**
Archilochus alexandri	Black-chinned hummingbird
Calypte anna	Anna's hummingbird
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Tyrannidae	**Tyrant Flycatchers**
Sayornis nigricans	Black phoebe
Myiarchus cinerascens	Ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird
MAMMALS	
Canidae	**Foxes, Wolves and Dogs**
Canis latrans	Coyote
Geomyida	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
Leporidae	**Rabbits and Hares**
Lepus californicus bennettii	San Diego black-tailed jackrabbit
Sylvilagus audubonii	Desert cottontail

Appendix E: List of Plant and Animal Species Observed

Scientific Name	Common Name
Sciuridae	**Squirrels**
Spermophilus beecheyi	California ground squirrel

Appendix F – MSHCP Consistency Analysis

Western Riverside County Multiple Species Habitat Conservation Plan Consistency Analysis

Temescal Canyon Road Bridge Replacement and Road Realignment Project

City of Lake Elsinore

Riverside County, California

Prepared for:

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January 30, 2018

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APPENDIX

Chapter 1.0 Introduction

The City of Lake Elsinore (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to realign and replace a bridge on Temescal Canyon Road. This report documents the project's consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

The MSHCP was adopted by the County of Riverside in June 2003. As a Permittee, the City has the responsibility to implement and adhere to the provisions of the MSHCP as well as to the MSHCP Implementing Agreement. The MSHCP is a comprehensive, multijurisdictional habitat conservation plan and Natural Communities Conservation Plan (NCCP) for the conservation of species and their associated habitats in western Riverside County. The MSHCP provides authorization for take of listed plant and animal species to Permittees for otherwise lawful activities consistent with MSHCP requirements and terms and conditions. Take of threatened, endangered, and rare species is authorized by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), collectively referred to as the Wildlife Agencies. The Wildlife Agencies provided incidental take authorization through the MSHCP for otherwise lawful actions (i.e., public and private projects) in exchange for compliance with provisions of the MSHCP including the assembly and management of a coordinated Conservation Area/Reserve.

As a Permittee to the MSHCP, the City must comply with the following:

1) Policies for the Protection of Species Associated with Riparian/Riverine areas and Vernal Pools per Section 6.1.2 of the MSHCP.
2) Policies for the Protection of Narrow Endemic Plant Species (NEPS) per Section 6.1.3 of the MSHCP.
3) Guidelines Pertaining to the Urban/Wildlands Interface per Section 6.1.4 of the MSHCP.
4) Additional Survey Needs and Procedures per Section 6.3.2 of the MSHCP.
5) Section 7.5.1: Guidelines for the Siting and Design of Planned Roads.
6) Section 7.5.2: Guidelines for Construction of Wildlife Crossings within Criteria Area and Public/Quasi-Public (PQP) Lands.
7) Section 7.5.3: Construction Guidelines.
8) Standard Best Management Practices in Appendix C of the MSHCP.

1.1 Project Location

The project site, or biological study area (BSA), is located in the City of Lake Elsinore, Riverside County (County), California in Sections 15, 16, 21, and 22, Township 5 South, Range 5 West, San Bernardino Baseline and Meridian as shown on the United States Geological Survey (USGS) *Alberhill, California* 7.5-minute topographic quadrangle map. Figure 1 shows the regional location and project limits (all figures are included in Appendix A).

1.2 Project Purpose and Need

1.2.1 Purpose

The purpose of the project is to replace the existing structurally and hydraulically deficient bridge with a new bridge on a new roadway alignment to ensure public safety, enhance vehicular and non-motorized traffic circulation in the area, and provide an all-weather 100-year crossing over Temescal Wash.

1.2.2 Need

The need for the project is to construct a new bridge that meets current design standards and accommodates local requirements. The project will improve traffic safety and circulation by providing a roadway alignment and section (sidewalk and bike lane) that conforms to the Circulation Element of the City's General Plan.

1.3 Project Description

The proposed bridge (Figure 2) is 98 feet wide (with a curb-to-curb width of 80 feet), 375 feet long, from abutment to abutment, 308 feet long, from toe of slope to toe of slope, with a bridge deck thickness that ranges from 5.25 to 7.25 feet and bridge height that ranges from 16.41 to 17.39 feet. The bridge will be striped with a 14-foot painted median, two 12-foot inside lanes, two 15-foot outside lanes, two 6-foot shoulders that can accommodate a Class II bike lane, and two 6-foot sidewalks separated from vehicular traffic with a 2-foot concrete barrier, which is necessary due to a posted speed limit greater than 45 miles per hour (mph). This proposed bridge and approximately 200 feet of the roadway, northwest of the bridge and 131 feet southeast of the bridge will be constructed using Highway Bridge Program (HBP) and local funding. The project is estimated to start in March 2020 and the duration of construction is estimated to be 16 months.

The road realignment connecting the proposed bridge to Lake Street is separate from this undertaking and part of the adjacent Alberhill Villages Specific Plan (AVSP) Project. It will conform to the City's standard for a "Major Highway" with a right-of-way width of 100 feet. This roadway segment from approximately 131 feet southeast of the bridge will connect to Lake Street approximately 180 feet south of the current intersection, which conforms to the location

detailed in the City's General Plan Circulation Element. In the interim, the AVSP Project will construct a 2-lane roadway that will include a 696-foot roadway transition.

The City is constructing 649 feet of the roadway from 200 feet northwest of the bridge to existing Temescal Canyon Road.

The 649-foot roadway transition segment from the proposed bridge to the existing 2-lane Temescal Canyon Road to the northwest, from approximately 200 feet northwest of the bridge to the existing Temescal Canyon Road is separate from this undertaking and will be constructed using local funding. However, the City is proposing this section of the roadway also to be subject to the MSHCP Consistency Analysis.

The realigned Temescal Canyon Road will intersect Lake Street approximately 180 feet south of the current intersection, which conforms to the location detailed in the City's General Plan Circulation Element.

On May 22, 2017, an amendment to 2017 Federal Transportation Improvement Program (FTIP) was made to update the description for the bridge replacement and roadway realignment project as follows: "PROJECT ID: RIV111203; IN LAKE ELSINORE – TEMESCAL CANYON ROAD BRIDGE REPLACEMENT/REALIGNMENT; REPLACE TEMESCAL CANYON ROAD 2-LANE BRIDGE WITH A 4-LANE BRIDGE OVER TEMESCAL WASH, 0.42 MILE WEST OF LAKE STREET AND PROVIDE TRANSITION TO A 2-LANE ROADWAY (BOTH SIDES). OTHER IMPROVEMENTS INCLUDE CONSTRUCTION OF 706 FT OF SIDEWALK AND STRIPING 8 FT CLASS II BIKE LANES ON EACH SIDE OF THE BRIDGE [BRIDGE NO. 56C0050]."

As previously stated, the proposed bridge is on a new roadway alignment. In the interim, the existing roadway northwest of the relocated bridge and the new roadway southeast of the relocated bridge will be two lanes (one lane in each direction). In the future, both segments of the roadway will be widened to four lanes.

The area to be potentially affected by the project includes properties within the AVSP in the City of Lake Elsinore. The project will require the permanent acquisition of new right-of-way for roadway and habitat restoration, as well as, temporary construction easements, and permanent easements for drainage. Since the proposed bridge is not located in an existing roadway, it will not require relocation of existing utilities (water, sewer, cable, telephone, gas, electric utilities, etc.). However, the bridge sidewalk and deck will include utility openings to accommodate future utilities.

The project will include minimal drainage improvements within Temescal Wash. Activities will include minor regrading of the creek near the bridge and construction of concrete slope protection, cutoff wall, and riprap launch pad to protect the bridge abutments from scour. A 478-foot linear segment of the existing low-flow channel will be permanently relocated to convey low

flows through the proposed bridge. The relocated low-flow channel will extend approximately 324 feet downstream of the proposed bridge. It will also extend approximately 154 feet upstream of the proposed bridge. The approximate total construction area of the project is 6.2 acres with an impervious area of approximately 3.0 acres (proposed roadway pavement, bridge, and concrete slope protection near the bridge abutment). In contrast, the impervious area (roadway pavement and bridge) of the existing Temescal Canyon Road is approximately 1.8 acres.

According to the City, and based on the proposed grading and bridge height, the newly constructed bridge would not require any ongoing maintenance. Furthermore, it should be noted that this proposed bridge project is not related to, does not rely on, and will not result in any further grading or channelization of the wash downstream or upstream of the project limits.

1.4 MSHCP Fees

In addition to compliance with Sections 6.1.2 (Riparian/Riverine and Vernal Pools), 6.1.3 (Narrow Endemics), 6.1.4 (Urban Wildlands Interface), 6.3.2 (Additional Surveys), and 7.5 (Guidelines for Facilities within the Criteria Area and Public\Quasi-Public Lands), Section 12.2.2 of the MSHCP Implementing Agreement requires MSHCP Permittee regional infrastructure projects to contribute funding to MSHCP implementation. The RCA Board of Directors adopted a policy regarding public project funding contributions to the MSHCP that requires City and County roadways covered by the MSHCP to contribute 5 percent of project construction costs of any new or capacity enhancing/widening project, excluding Transportation Uniform Mitigation Fee (TUMF) and Measure A sales tax fund sources. Also, contingent on approval of Federal Highway Administration, any federally funded portion of the project's construction would be subject to the MSHCP fee contribution. The 5 percent contribution, like the Local Development Mitigation Fee payment by private projects, is a requirement of MSHCP participation.

Chapter 2.0 Methods

2.1 Literature Review

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-status biological resources (e.g., plant and animal species) in or within the vicinity of the BSA. The BSA is the proposed project footprint plus an approximately 50-foot buffer to accommodate areas of permanent and temporary construction-related effects. Based on species-specific survey requirements (e.g., burrowing owl), the buffer area was extended, as feasible, to accommodate these species. Please note the focused species surveys included a larger study area to accommodate a previous project footprint.

Federal and State lists of special-status species were examined. Current and historical aerial photographs were also reviewed in Google Earth and GeoSearch (http://www.geosearch.net/QuickMap/Indexhtm?/DataID=Standard0000155213). The project is located outside of the National Marine Fisheries Service (NMFS) jurisdictional boundary/quadrangle, and the BSA is outside the range of species under NMFS jurisdiction listed on the USFWS Information Planning and Conservation System (IPaC) species list, identified below. Therefore, the NMFS species list was not requested from NMFS. Current database records reviewed included the following:

- California Natural Diversity Data Base (CNDDB). 2017. CDFW. Rarefind 5. October 2017. California 7.5-minute USGS quadrangles searched: *Alberhill, Lake Elsinore, Lake Mathews*, and *Steele Peak*.
- California Native Plant Society (CNPS). Inventory of Rare and Endangered Plants (CNPSEI online edition, v8.03). Website: http://www.cnps.org/inventory. October 2017. California 7.5-minute USGS quadrangles searched: *Alberhill, Lake Elsinore, Lake Mathews*, and *Steele Peak*.
- USFWS, Information Planning and Conservation System (IPaC). Website: http://www.ecos.fws.gov (accessed October 2017).
- MSHCP, Volume 1, The Plan, Parts 1 and 2. 2003. Riverside County Transportation and Land Management Agency, Inc.
- Temescal Canyon Road Bridge Replacement and Road Realignment Project Natural Environment Study. 2018. LSA Associates, Inc.

2.2 Field Reviews

On-site field investigations were conducted in 2015, 2016, and 2017 to identify vegetation communities, habitats for special-status species, potential jurisdictional waters, and other biological resource issues. Based on the literature review and initial field investigations, focused field surveys were completed as follows:

- Special status plants focused survey;
- Fairy shrimp habitat assessment;
- Burrowing owl habitat assessment and focused survey;
- Riparian birds focused survey; and
- Jurisdictional delineation.

These studies are provided as appendices in the *Temescal Canyon Road Bridge Replacement and Road Realignment Project Natural Environment Study* (LSA 2018).

2.2.1 Special Status Plants

The BSA is within MSHCP plant survey areas, specifically the Narrow Endemic Plant Species Survey Area (NEPSSA) and the Criteria Area Species Survey Area (CASSA). The habitat assessment and survey for MSHCP special-status plants in the NEPSSA and CASSA survey areas were conducted by LSA biologists Stan Spencer and Denise Woodard on April 25 and May 31, 2016. Rainfall was near normal for the Lake Elsinore area for the 2015/2016 wet season. According to WeatherCurrents (http://weathercurrents.com/lakeelsinore/ ArchivePrecipitation.doc), the average precipitation in the Lake Elsinore area is 11.08 inches and the precipitation during the 2015/2016 wet season was 10.10 inches. Site visits were timed to occur during the flowering periods of the target species as required per MSHCP Table 6-1, other than for Parish's brittlescale, which is considered absent based on the lack of suitable habitat, as discussed in Section 4.7.1. The entire study area was surveyed each day by walking 20- to 40-foot transects. The survey was floristic in nature and all plant species observed during the survey were identified to the extent necessary to determine rarity and listing status.

2.2.2 Fairy Shrimp Habitat Assessment

A habitat assessment for fairy shrimp was conducted within the BSA by USFWS-permitted (USFWS Permit TE-777965-10) fairy shrimp biologist Stan Spencer on May 31, 2016. Dr. Spencer walked the entire BSA and investigated all depressions that could potentially provide habitat for special-status fairy shrimp species.

2.2.3 Burrowing Owl

A habitat assessment and focused burrowing owl and burrow survey was conducted by LSA biologists Denise Woodard, Claudia Bauer, and Stan Spencer in accordance with accepted

survey instructions (County of Riverside's *2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*). The habitat assessment was conducted by LSA biologists Denise Woodard and Claudia Bauer on October 16, 2015. Because access to adjacent parcels was not authorized, adjacent habitats within 500 feet of the project site were scanned through binoculars. The focused survey for burrows and owls was conducted by LSA biologists Denise Woodard and Stan Spencer. There was no precipitation during or within five days prior to the site visits. Table A provides personnel, dates, survey type, times, and weather conditions of the focused survey site visits.

Table A: Burrowing Owl Survey Personnel, Dates, Survey Type and Weather Conditions

Personnel	Date	Survey Type	Time (24-hour) Start/Finish	Cloud Cover (%) Start/Finish	Wind (mph) Start/Finish	Temperature (°F) Start/Finish
Denise Woodard	5/19/16	Burrow and Owl	0530/0650	100/100	1–3/1–3	57/59
Denise Woodard, Stanley Spencer	6/10/16	Owl	0530/0800	100/100	1–3/1–3	59/66
Denise Woodard	6/20/16	Owl	0515/0715	0/0	1–3/1–3	75/84
Denise Woodard	6/30/16	Owl	0530/0725	0/0	1–3/1–3	66/70

The habitat assessment found habitat suitable for the burrowing owl. The burrow and burrowing owl surveys were conducted by walking throughout suitable habitat areas, pausing occasionally to scan the surrounding areas through binoculars. The initial burrow/burrowing owl survey included mapping potential burrows. Transects were spaced at no more than 65 feet, which allowed for 100 percent visual coverage of suitable habitat. Because access to adjacent parcels was not authorized, adjacent habitats within 500 feet of the project site were scanned through binoculars. Burrows encountered during the burrow and owl surveys were examined for owl sign (e.g., feathers, pellets, whitewash, and prey remnants).

2.2.4 Riparian Birds

LSA biologists Denise Woodard and Stanley Spencer conducted eight protocol least Bell's vireo (*Vireo bellii pusillus*) surveys (which also comprised five protocol southwestern willow flycatcher [*Empidonax traillii extimus*] surveys) on April 14 and 25, May 19 and 31, June 10, 20, and 30, and July 8, 2016. During each of the surveys, the biologists walked slowly along the edge of riparian habitat, listening for least Bell's vireos and southwestern willow flycatchers. A recording of southwestern willow flycatcher songs was played periodically along the survey route during all of the flycatcher surveys. The surveying biologist, with the aid of binoculars for viewing wildlife species, waited for several minutes after each playing to look and listen for both least

Bell's vireos and southwestern willow flycatchers. Surveys were conducted pursuant to Federal 10(a)(1)(A) Permit TE 777965 and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Birds (November 29, 2012–January 31, 2017).

2.2.5 Jurisdictional Delineation

The fieldwork for this jurisdictional delineation was conducted by LSA biologists Denise Woodard and Claudia Bauer on October 16, 2015, and by Denise Woodard and Jim Harrison on September 29, 2016, and February 14, 2017. The BSA was surveyed on foot for both Federal and State jurisdictional areas. Areas of potential jurisdiction were evaluated according to currently accepted Federal and State regulations and guidelines. The area was also surveyed for resources that meet the MSHCP Section 6.1.2 definition of "riparian" and "riverine". CDFW jurisdiction within Temescal Wash was determined by Claire Engel of the CDFW during a project team field meeting on August 25, 2017. MSHCP Section 6.1.2 resources are generally similar to CDFW jurisdictional boundaries.

Chapter 3.0 Environmental Setting

3.1 Study Area

The BSA is located along a section of Temescal Wash, south of Temescal Canyon Road and east of Lake Street. The BSA includes Temescal Canyon Wash and adjacent uplands. Temescal Wash is mainly vegetated with eucalyptus trees with some scattered patches of riparian plants. Areas outside the wash are vegetated by ruderal vegetation, coast live oak woodland, and developed areas. The southerly portion of the BSA is developed by the existing Pacific Clay Products, Inc., and an abandoned railroad right-of-way occurs along the northerly side of Temescal Wash. Surrounding land uses consist of undeveloped open space and developed areas including transportation corridors and rural residential and commercial development. Details of the biological and physical conditions within the BSA are discussed below.

3.2 Physical Conditions

The BSA is geographically situated along Temescal Wash, north of Alberhill and east of Lake Elsinore. The topography is relatively flat, with elevations ranging from 1,220 to 1,240 feet above mean sea level (amsl). Soils within the BSA, as mapped by the Natural Resource Conservation Service, Online Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm), are provided in Table B and shown in Figure 3.

Table B: Soils Within the BSA

Soil Type	Percentage Slope
Clay Pits	0
Gorgonio Loamy Sand	0 to 8
Honcut Sandy Loam	2 to 8
Tujunga Loamy Sand, Channeled	0 to 8

Source: Natural Resource Conservation Service (2003).

3.3 Vegetation/Natural Communities

Vegetation within the BSA has been affected by current and past land use practices (clay mining) in the project area. Current land uses in the general area include I-15 and other roadway infrastructure, clay mining activities, and scattered commercial and rural residential development. A railroad also historically paralleled the north side of Temescal Wash within the BSA. Land cover within the BSA includes developed, ruderal vegetation, eucalyptus trees with scattered riparian vegetation, eucalyptus trees, coast live oak trees, and coastal sage scrub.

Figure 4 shows land cover within the BSA, Figure 5 provides site photographs, and Table C shows the acreage of each vegetation type and land use within the BSA. The vegetation communities within the BSA are discussed below.

Table C: Land Cover Occurring within the Biological Study Area

Vegetation Community	Acreage
Developed	2.52
Ruderal	6.05
Eucalyptus Trees with Scattered Riparian Vegetation	0.90
Eucalyptus Trees	1.31
Coast Live Oak Trees	0.56
Coastal Sage Scrub	0.26
Total	**11.60**

3.3.1 Developed

The extreme southeasterly portion of the site is currently used for clay mining activities and includes roads, stockpile areas, structures, and detention basins. The vegetation in these areas ranges from devoid to sparsely scattered ruderal vegetation.

3.3.2 Ruderal

Ruderal vegetation is the dominant vegetation within the BSA. This vegetation occurs in areas that have been previously cleared of trees, primarily eucalyptus trees, in the winter of 2013/ 2014. Mulch from cleared trees covers much of this area adjacent to Temescal Canyon Wash. Dominant ruderal plant species identified include Russian thistle (*Salsola tragus*), common sunflower (*Helianthus annuus*), telegraph weed (*Heterotheca grandiflora*), Canadian horseweed (*Erigeron canadensis*), foxtail chess (*Bromus madritensis*), and mouse barley (*Hordeum murinum*).

3.3.3 Eucalyptus Trees with Scattered Riparian Vegetation

The eucalyptus trees with scattered riparian vegetation occur within the easterly portion of Temescal Wash and adjacent areas. The area is dominated by eucalyptus trees (*Eucalyptus* sp.) and to a lesser extent by arroyo willow (*Salix lasiolepis*) and mule fat (*Baccharis salicifolia*). Hardstem bulrush (*Schoenoplectus acutus*), individual blue elderberry (*Sambucus nigra* ssp. *caerulea*), individual Fremont cottonwood (*Populus fremontii*), and young coast live oak trees (*Quercus agrifolia*) are also present.

3.3.4 Eucalyptus Trees

A monotypic stand of eucalyptus trees occurs within the westerly portion of Temescal Wash. Individual eucalyptus trees outside Temescal Wash are also present.

3.3.5 Coast Live Oak Trees

The coast live oak trees parallel the southerly side of Temescal Canyon Road within the BSA. Based on historic aerial photograph review, coast live oak trees were ornamentally planted along either side of Temescal Canyon Road in the project area between 1938 and 1953.

3.3.6 Coastal Sage Scrub

Coastal sage scrub is located within the northwesterly portion of the BSA between Temescal Canyon Road and Interstate 15. Coastal sage scrub is dominated by California buckwheat (*Eriogonum fasciculatum*).

Chapter 4.0 Results

4.1 Project Impact Area

The proposed project impact area includes the maximum disturbance limit, which includes the project improvements, temporary construction easements, temporary equipment access areas, and temporary staging areas. The project impact acreages shown below differ from the Natural Environment Study report, since the Natural Environment Study report only covers the federally funded portion of the project.

4.2 Vegetation Communities and Land Covers

Table D provides project impact acreages to vegetation and land uses within the BSA. Project effects were calculated using geographic information systems (GIS) software based on current design plans.

Table D: Impacts to Land Cover in the Biological Study Area

Land Cover	Total within BSA (acres)	Impacts (acres)	
		Temporary	Permanent
Developed	2.52	0.12	1.25
Ruderal	6.05	2.04	1.30
Eucalyptus Trees/Scattered Riparian Vegetation	0.90	0.34	0.06
Eucalyptus Trees	1.31	0.46	0.22
Coastal Sage Scrub	0.26	0	0.01
Coast Live Oak Trees	0.56	0.28	0.19
Total	**11.60**	**3.24**	**3.03**
Total Impact Area		**6.27**	

Source: Compiled by LSA (November 2017)

4.3 Riparian/Riverine and Vernal Pools Resources (MSHCP Section 6.1.2 Compliance)

4.3.1 Riparian/Riverine and Vernal Pools Resources

Section 6.1.2 of the MSHCP describes the process through which the protection of Riparian/ Riverine areas and Vernal Pools is intended to occur within the MSHCP area. The MSHCP defines Riparian/Riverine areas as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of

the year." The Riparian/Riverine areas discussed in this report are based on the CDFW jurisdictional areas determined by CDFW as detailed in the Jurisdictional Delineation Report (LSA 2017).

Two potential riparian/riverine features, Temescal Wash and a tributary to Temescal Wash (Drainage A), were identified within the BSA and are discussed below.

Temescal Wash. Temescal Wash is tributary to the Santa Ana River at the Prado Flood Control Basin. The Temescal Wash channel is an ephemeral, natural, earthen drainage that conveys flows in an easterly direction through the BSA for 1,217 feet and exits the BSA under a 23-foot wide, two-lane bridge at Bernard Street. Vegetation within the Temescal Wash channel consists of eucalyptus trees on the westerly portion of the channel and eucalyptus trees with scattered riparian vegetation on the easterly portion of the channel. Riparian/riverine areas outside the channel are dominated by ruderal vegetation. Coast live oak trees border Temescal Canyon Road and three individual Fremont cottonwoods were noted in proximity to the coast live oak trees. Refer to Figure 4 for vegetation within the BSA.

Drainage A. Drainage A is an ephemeral, natural earthen drainage that shows evidence of streambed and banks. Drainage A flows in a southwesterly direction and originates in the foothills northeast of Intestate 15. This drainage enters the BSA via a concrete box culvert under Interstate 15 and sheet flows across Temescal Canyon Road. South of Temescal Canyon Road, Drainage A leaves the BSA and eventually drains into Temescal Wash east of the BSA. Drainage A is vegetated by ruderal plant species. Therefore, Drainage A does not support riparian habitat, but it would be considered an MSHCP riverine resource. The project will avoid impacts to Drainage A.

4.3.2 Vernal Pools Resources

Fairy shrimp habitat, including vernal pools, is considered absent from the BSA. Dr. Spencer searched the entire site (Figure 6) for potential fairy shrimp habitat. Four basins within the BSA were found to be unsuitable for special-status fairy shrimp species. The basins were constructed by Pacific Clay as part of a storm water pollution prevention program. They collect storm water runoff from adjacent artificial surfaces, including asphalt and gravel parking areas, a brick yard, and a graded yard for stockpiling various materials used in brickmaking. This low-nutrient runoff of fluctuating chemistry is unlikely to be suitable for special-status fairy shrimp species. No other depressions, within clay or non-clay soils, that were suitable as habitat for sensitive fairy shrimp species were found on the site; thus, no fairy shrimp surveys were recommended.

4.3.3 Functions and Values of Riparian/Riverine Resources

The following is a qualitative assessment of functions and values of the riparian/riverine resources within the BSA, focusing on how they will affect downstream values related to conserved species. The purpose of the procedures described in this section is to ensure that the

biological functions and values of these habitat areas are maintained in compliance with MSHCP Section 6.1.2.

Hydrologic Regime. This function is the ability of a wetland or stream to absorb and store water below ground. The degree of this saturation is dependent on the soil composition and is affected by prior flooding events. For example, clay soils possess more pore space than sandy soils. However, the smaller pore size slows the rate at which water is absorbed and released; therefore, clay soil has a lower capacity to store water than sandy soils. The storage of water below ground allows for the fluctuation between anaerobic and aerobic conditions that benefit environmental conditions necessary for microbial cycling.

Soils within the BSA are classified as clay pits and loamy sands. These soils are considered to have a low to moderate value for the hydrologic regime.

Flood Storage and Flood Flow Modification. This function is determined based on the ability of a wetland or riverine system at which the peak flow in a watershed can be attenuated during major storm events and during peak domestic flows to take in surface water that may otherwise cause flooding. This is dependent on the size of the wetland or riverine systems, the amount of water it can hold, and the location in the watershed. For instance, larger wetlands or riverine systems that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the wetland or riverine system may also affect flood storage by dissipating the energy of flows during flood events.

The Temescal Wash low-flow channel and adjacent riparian/riverine habitats within the BSA are considered to have a moderate to high value for flood storage and flood flow modification.

Sediment Retention. Removal of sediment is the process that keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. Similar to the above, the vegetation, shape, and configuration of a wetland riverine system will also affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function would be demonstrated (i.e., high) if the turbidity of the incoming water is greater than that of the outgoing water.

Storm events within the BSA are of short duration and higher velocities and are primarily contained within the low-flow channel of Temescal Wash. Therefore, sediment retention of riparian/riverine areas is considered to have a low value.

Nutrient Retention and Transformation. Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive with regard to nutrients than upland habitats. The regular availability of water associated with the wetland or riparian system may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be used by a variety of aquatic and terrestrial wildlife downstream.

The BSA does not contain wetlands and consists primarily of upland habitats (ruderal vegetation). The eucalyptus trees/scattered riparian and eucalyptus trees habitats are considered to provide a low to moderate value for nutrient retention and transformation.

Toxicant Trapping. The major processes by which wetlands remove nutrients and toxicants are as follows: (1) by trapping sediments rich in nutrients and toxicants, (2) by absorption to soils high in clay content or organic matter, and (3) through nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal.

The BSA does not contain wetlands and the riparian/riverine habitats in the BSA are considered to provide of low value for toxicant trapping based, considering the low value of these habitats to provide for sediment retention.

Social Significance. This is a measure of the probability that a wetland or stream will be used by the public because of its natural features, economic value, official status, and/or location. This includes use by the public for recreational uses (e.g., boating, fishing, birding, and walking) and other passive recreational activities. A wetland or riverine system that is used as an outdoor classroom, is a location for scientific study, or is near a nature center would have a higher social significance standing.

Temescal Wash is a prominent geographic feature within the BSA and adjacent upstream and downstream areas. Riparian/riverine areas within the BSA provide for passive recreational uses such as open space value and aesthetics. These riparian/riverine areas are within private property and are not open to public recreation activities such as birding and walking, but are in view of major transportation corridors. Because Temescal Wash is a prominent geographic feature and provides for passive recreational activities, social significance is considered to be of moderate value.

Wildlife Habitat. General habitat suitability is the ability of wetlands and riverine systems to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As plant community diversity increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife.

Riparian/riverine habitats within the BSA are considered to have a high value for wildlife habitat. Temescal Wash within the BSA is within MSHCP conservation areas and within an MSHCP linkage that is considered essential to regional wildlife movement. Riparian/riverine and habitats within the BSA provide for regional wildlife movement to other riparian/riverine habitats along Temescal Wash, as well as adjacent upland habitats, upstream and downstream of the BSA.

Aquatic Habitat. The ability of a wetland or riverine system to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

Temescal Wash is an ephemeral riverine system and does not support aquatic invertebrates or fish. However, Temescal Wash provides temporary ponding areas that support the reproductive cycles of amphibian species, such as the western toad (*Anaxyrus boreas*).

4.3.4 Impacts to Riparian/Riverine Resources

Table E shows the impacts to riparian/riverine vegetation.

Table E: Impacts to Riparian/Riverine Vegetation

Vegetation Community	Total Riparian/Riverine (acres)	Impacts (acres)	
		Temporary	Permanent
Ruderal	5.76	2.01	1.22
Eucalyptus Trees/Scattered Riparian Vegetation	0.90	0.34	0.06
Eucalyptus Trees	0.88	0.43	0.19
Coastal Sage Scrub	0	0	0
Coast Live Oak Trees	0.53	0.28	0.17
Total	**8.07**	**3.06**	**1.64**

Source: Compiled by LSA (November 2017)

The project will have 3.06 acres of temporary impacts and 1.64 acres of permanent impacts to riparian/riverine vegetation with the BSA as shown in Figure 7.

For project effects to riparian/riverine resources, the following avoidance and minimization measures will be incorporated:

- Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed along the boundaries of the project footprint. All construction equipment should be operated in a manner to prevent accidental damage to areas outside the project footprint. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at

the project boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.

- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the U.S.

- A weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an invasion occur.

- A biologist will monitor construction for the duration of the project construction to ensure that vegetation removal, BMPs, and all avoidance and minimization measures are properly constructed and followed.

- The portions of the Temescal Wash affected by the project will be recontoured to their original grades. A portion of Temescal Wash will be relocated.

Because the project cannot avoid impacts to riparian/riverine areas, the preparation of a Determination of Biologically Superior or Equivalent Preservation (DBESP) analysis has been prepared to mitigate for project effects to riparian/riverine resources. The project will compensate for riparian/riverine impacts through a combination of on-site and off-site habitat restoration. For the temporary loss of 3.06 acres and the permanent loss of 1.64 acres of riparian/riverine resources, the project will mitigate for temporary impacts at a 1:1 ratio and at a 3:1 ratio for permanent impacts. Table F provides the total acreage of mitigation compensation.

Table F: Total Acres of Mitigation Compensation

Impact Type	Impact (acres)	Mitigation Ratio	Mitigation (acres)
Temporary	3.16	1:1	3.06
Permanent	1.64	3:1	4.92
Total	**4.80**	**—**	**7.98**

Mitigation for 7.98 acres of temporary and permanent impacts will be provided through a combination of on-site and off-site habitat restoration. As determined in coordination with RCA and the Wildlife Agencies, the project will restore 6.22 acres on site, as shown in Figure 8. A Habitat Mitigation and Monitoring Plan (HMMP) will be prepared and implemented for the 6.22-acre on-site restoration area. The purpose of the HMMP will be to improve the function of values of Temescal Creek as a natural ephemeral stream and to improve habitat for regional wildlife movement.

The remaining mitigation of 1.76 acres will occur off site through one of the following options:

Option 1: Purchase of 1.76 acres of restoration credits from a CDFW-approved mitigation bank or in lieu fee program.

Option 2: Provide 1.76 acres of mitigation on City-owned property. Provide long-term habitat restoration/enhancement and management with a non-wasting endowment for an existing fairy shrimp conservation area. An HMMP would be prepared and the lands would be managed by a CDFW-approved conservation organization.

Option 3: RCA and Wildlife Agency-approved mitigation site for 1.76 acres. A restoration or enhancement mitigation opportunity, such as on an RCA conserved property within the MSHCP, may become available by the time the project is ready to purchase off-site mitigation and provide appropriate funding for restoration/enhancement activities. It would preferably be located in or along Temescal Wash.

The preferred option shall be selected prior to any vegetation removal or ground disturbance associated with the proposed project and the City shall notify the RCA and Wildlife Agencies of the selected option immediately after the decision has been made. Initiation of the selected option shall also occur prior to vegetation removal or any ground disturbance, but may be finalized/completed within six months of the start of construction. If necessary, any extension of the off-site mitigation option should be done through a request submitted to RCA and the Wildlife Agencies.

In addition to the 1.76 acres of off-site mitigation, the 6.22 acres of mitigation through on-site restoration will be guided by a separate HMMP, which will be implemented to improve the function and values of Temescal Wash as a natural ephemeral stream and improve habitat for regional wildlife movement.

4.4 Species Associated with Riparian/Riverine Areas and Vernal Pools

The definition of Riparian/Riverine habitats is based on potential for the habitat to support Riparian/Riverine Covered Species, which are described below. The MSHCP species associated with Riparian/Riverine areas and Vernal Pools, as listed in Section 6.1.2, were assessed for probability of occurring within and adjacent to the BSA. The results of the fairy shrimp habitat assessment found the BSA does not provide suitable habitat for special-status fairy shrimp. Therefore, the project will have no effects on special-status fairy shrimp. One listed species, least Bell's vireo, has the potential to occur within the BSA. Potential project effects to the least Bell's vireo are discussed below.

4.4.1 Least Bell's Vireo

The least Bell's vireo is federally/State listed as endangered and is a covered species under the MSHCP for which take of habitat is covered. Eucalyptus trees with scattered riparian habitat within the BSA provide suitable habitat for this species. The 2016 focused riparian bird survey

bird determined the least Bell's vireo to be absent from the BSA. However, there are CNDDB occurrence records for this species indicating its presence in the BSA in 2010 and 2011. Many trees have been removed from the BSA and adjacent areas since the time of the occurrence records.

The following measure will be implemented as a means of avoiding or minimizing adverse impacts to least Bell's vireo that occur or have the potential to occur within the project footprint.

- Removal of eucalyptus trees with scattered riparian vegetation will occur prior to construction and between September 1 and February 14 to avoid least Bell's vireo breeding season, as well as the general breeding season for other nesting birds. If vegetation removal must occur during nesting season, a nest survey must be conducted by a qualified biologist within three days prior to vegetation removal activities to ensure that no active nests are present. If nests are present, no vegetation removal may occur within 500 feet of the active nest until the young have fledged or the nest is determined by a qualified biologist to be inactive.

4.5 Section 6.1.3: Protection of Narrow Endemic Plant Species

The BSA is located within the MSHCP NEPSSA for special-status plants (Figure 9). Special-status plants in this NEPSSA survey area include Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), slender-horned spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), San Miguel savory (*Satureja chandleri*), Hammitt's clay-cress (*Sibaropsis hammittii*), and Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*). Habitat for these species is either considered unsuitable or low quality due to the disturbed habitat conditions (Table G) as a result of current and historic land uses. All natural habitat within the BSA has been removed, with exception of limited native riparian habitat in the Temescal Wash channel. The ruderal areas of the BSA were formerly vegetated with eucalyptus trees in the winter of 2013/2014 and did not serve as suitable habitat for NEPSSA plant species. As a result, no NEPSSA plant species were observed during the 2016 focused special-status plant survey and all are considered absent from the BSA. Therefore, the project will have no impacts to NEPSSA plants.

Table G: MSHCP Narrow Endemic Plant Survey Species

Species	Typical Habitat Conditions	Blooming Period	Occurrence Probability
Munz's onion *Allium munzii*	Clay soils on mesic exposures or seasonally moist microsites in grassy openings of coastal sage scrub, chaparral, juniper woodland or valley and foothill grassland. The MSHCP account for this species states that "Munz's onion is found on clay and cobbly clay soils	Perennial bulb April–May	Absent: Although clay pit soils are present within the, clay habitat is poor due to disturbance; not observed during focused survey.

Table G: MSHCP Narrow Endemic Plant Survey Species

Species	Typical Habitat Conditions	Blooming Period	Occurrence Probability
	which include the following series: Altamont, Auld, Bosanko, Claypit, and Porterville." The account also mentions that "one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay." However, weathering of pyroxenite generally results in a clay soil. It is therefore expected that any Munz's onion population associated with pyroxenite outcrops would be in clay soils.		
San Diego ambrosia *Ambrosia pumila*	Open floodplain terraces on Garretson gravelly fine sandy loams, or in the watershed margins of vernal pools or alkali playas on Las Posas loam in close proximity to Willow silty alkaline soils. Occurs in sparse annual vegetation.	Perennial Generally non-flowering	Absent: Typical habitat conditions not present; not observed during focused survey.
Slender-horned spineflower *Dodecahema leptoceras*	Sandy soils in association with mature alluvial scrub (Riversidean alluvial fan sage scrub); or gravel soils of Temecula arkose deposits (i.e. coarse, decomposing arkose) in association with open chamise chaparral in the Vail Lake area. The ideal habitat appears to be terraces and benches that receive overbank deposits every 50–100 years. The MSHCP account for this species states that "this species is dependent on mature alluvial scrub that is maintained by periodic flooding and sediment transport and only occurs along Arroyo Seco and Kolb Creeks, Temescal Wash at Indian Creek, central Bautista Creek, Vail Lake and the upper San Jacinto River near Valle Vista and Hemet. Cryptogamic crusts are frequently present in areas occupied by slender-horned spine flower."	Annual April–June	Absent: Typical habitat conditions not present; not observed during focused survey.
Many-stemmed dudleya *Dudleya multicaulis*	Clay soils in open areas of barrens, rocky places, ridgelines, chaparral, coastal sage scrub, and southern needlegrass grasslands. Visible population size varies considerably year-to-year depending on rainfall patterns. The MSHCP account for this species states that "Many-stemmed dudleya is associated with openings in chaparral, coastal sage scrub, and grasslands underlain by clay and cobbly clay soils of the following series: Altamont, Auld, Bosanko, Claypit, and Porterville."	Perennial May–June	Absent: Typical habitat conditions not present; not observed during focused survey.
Spreading navarretia *Navarretia fossalis*	Saline alkaline soils of vernal pools and depressions and ditches in areas that once supported vernal pools. The MSHCP account for this species states that it "is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake and Salt Creek in association with Willows, Domino and Traver soils" and that "in western Riverside County, spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within a larger vernal floodplains dominated by annual alkali grassland or alkali playa."	Annual May–June	Absent: No alkali soils.
California	Alkaline soils and southern basaltic clay pan in vernal	Annual	Absent: No alkali soils.

Table G: MSHCP Narrow Endemic Plant Survey Species

Species	Typical Habitat Conditions	Blooming Period	Occurrence Probability
Orcutt grass *Orcuttia californica*	pools. The MSHCP account for this species states that, in Riverside County, it "is found in southern basaltic clay pan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet."	April–June	
San Miguel savory *Satureja chandleri*	Rocky, gabbroic and metavolcanic substrates in chaparral or oak woodland. MSHCP Table 6-1 lists chaparral, coastal sage scrub, cismontane woodland, riparian woodland, and valley and foothill grasslands as potential habitat for this species. However, this species prefers moist rocky canyons with trees or large shrubs, and would not be expected in coastal sage scrub or open grassland except at the margins of chaparral or oak woodland, nor would it be expected in woodlands outside of rocky canyons (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, December 8, 2004, and March 9, 2005). All occurrences of this species in the California Natural Diversity Data Base that include habitat information (16 occurrences in Riverside, Orange, and San Diego Counties) list coast live oak (*Quercus agrifolia*) or chaparral species as associates, or indicate that the habitat is chaparral, oak woodland, a chaparral-coastal sage scrub interface, or grassy openings in chaparral. In Riverside County, this species is known only from the Santa Ana Mountains and Santa Rosa Plateau, except for a dubious record of an occurrence near Sage Road south of Hemet (Andrew C. Sanders, UC Riverside Herbarium, pers. comm. to Stan Spencer, March 10, 2005; MSHCP species account for San Miguel savory).	Perennial March–May	Absent: No rocky, gabbroic, or metavolcanic substrates.
Hammitt's clay-cress *Sibaropsis hammittii*	Clay soils in chaparral and valley and foothill grassland habitats at 700 to 1,100 meters (2,300 to 3,600 feet) elevation. The MSHCP account for this species states that "Hammitt's clay-cress is associated with clay soils, such as Altamont, Auld, Bosanko, Claypit, and Porterville soil series" and that, in western Riverside County it "is only known from the Elsinore Peak area of the Santa Ana Mountains in grasslands."	Annual March–April	Absent: Outside elevation range; not observed during surveys.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Alkali soils in alkali playa, alkali annual grassland, and alkali vernal pools. The MSHCP account for this species states that "Wright's trichocoronis is restricted to highly alkaline, silty-clay soils in association with Travers, Domino, and Willows soils."	Annual May–September	Absent: No alkali soils.

4.6 Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface

The following Urban/Wildlands Interface Guidelines, where applicable, will be incorporated into project plans:

- **Drainage.** Proposed developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Storm water improvements shall be designed to prevent or reduce the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area.

- **Toxics.** Land uses in proximity to the MSHCP Conservation Area that are potentially toxic or may adversely affect wildlife species, habitat, and water quality include the use of chemicals and fertilizers for agricultural and commercial and residential uses, and petroleum product runoff from paved surfaces. These potential toxicants are not anticipated to be substantially increased by the proposed project. As discussed above, any storm water improvements will be designed to prevent or reduce toxic loads.

- **Lighting.** Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.

- **Noise.** Proposed noise-generating activities and land uses potentially affecting the MSHCP Conservation Area shall be minimized by incorporating setbacks, berms, walls or other noise reduction methods per applicable guidelines related to residential noise standards.

- **Invasive Species.** Any proposed landscaping adjacent to the MSHCP Conservation Area shall not be composed of invasive, nonnative plants listed in Table 6-2 of the MSHCP.

- **Barriers.** The project will incorporate barriers along the edges of the project site to minimize undirected public access, illegal trespass, off-road vehicle traffic, domestic animal predation, and dumping in the MSHCP Conservation Area. Boundary barriers may include rocks/boulders, fencing, and walls with Western Riverside County Regional Conservation Authority (RCA) Wildlife Area signage.

- **Grading/Land Development.** Manufactured slopes shall not extend across the parcel line of the MSHCP Conservation Area. All land disturbances associated with construction and operation of the project, including fire management/fuel modification, will be wholly contained within the proposed project parcel boundary.

4.7 Section 6.3.2: Additional Survey Needs and Procedures

The BSA is within the MSHCP Section 6.3.2 survey areas for CASSA plants and burrowing owl (Figure 9).

4.7.1 CASSA Plants

The project site is located within the MSHCP CASSA (Figure 9) for special-status plants including Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), thread-leaved brodiaea (*Brodiaea filifolia*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), round-leaved filaree (*Erodium macrophyllum*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and little mousetail (*Myosurus minimus*). Habitat for these species is either considered unsuitable or low quality due to the disturbed habitat conditions (Table H) as a result of current and historic land uses. All natural habitat within the BSA has been removed, with exception of limited native riparian habitat in Temescal Wash. The ruderal areas of the BSA were formerly vegetated with eucalyptus trees in the winter of 2013/2014 and did not serve as suitable habitat for CASSA plant species. As a result, no CASSA plant species were observed during the 2016 rare plant survey and are considered absent from the BSA. Therefore, the project will have no impacts to CASSA plants.

Table H: MSHCP Criteria Area Plant Survey Species

Species	MSHCP Habitat	Blooming Period	Occurrence Probability
Parish's brittlescale *Atriplex parishii*	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Annual June–October*	Absent: No alkali soils.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Domino, Willows and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Annual May–October	Absent: No alkali soils.
Thread-leaved brodiaea *Brodiaea filifolia*	Clay or alkaline silty-clay soils in semi-alkaline mudflats, vernal pools, mesic southern needlegrass grassland, mixed native-nonnative grassland and alkali grassland.	Perennial bulb March–June	Absent: Habitat is poor due to disturbance; not observed during focused survey.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Primarily alkaline soils in alkali scrub, alkali playas, riparian woodland, watercourses, and alkaline grasslands. The MSHCP account for this species states that "Suitable habitat for the smooth tarplant includes	Annual April–November	Absent: Typical habitat conditions not present; not observed during focused survey.

Table H: MSHCP Criteria Area Plant Survey Species

Species	MSHCP Habitat	Blooming Period	Occurrence Probability
	alkali scrub, alkali playas, and grasslands with alkaline affinities smooth tarplant is restricted to clay and alkaline, silty-clay soils."		
Round-leaved filaree *Erodium macrophyllum*	Clay soils in open cismontane woodland (e.g. oak, juniper woodlands) and valley and foothill grassland. The MSHCP account for this species states that it is restricted to "very friable clay soils. Within the Plan Area, two of the mapped localities occur on Bosanko clay soils" and that "this species tends to be associated primarily with wild oats (*Avena fatua*)."	Annual/biennial March–May	Absent: Typical habitat conditions not present; not observed during focused survey.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Traver, Domino or (usually) Willows soils in alkali scrub, alkali playas, vernal pools, and alkali grasslands.	Annual February–June	Absent: No alkali areas, vernal pools, or typical soils.
Little mousetail *Myosurus minimus*	Alkaline soils in vernal pools and vernal plains. The MSHCP account for this species states that it "is found in areas that have semiregular inundation."	Annual April–May	Absent: No alkali soils.

*Focused surveys for this species were conducted outside of the typical blooming period; however, because the site does not contain alkali soils, this species is presumed absent.

4.7.2 Burrowing Owl

The BSA provides potentially suitable habitat for burrowing owl, a special-status species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. Although portions of the BSA are outside the MSHCP burrowing owl survey area (Figure 10), the entire BSA was evaluated to ensure the project compliance with the MBTA and Fish and Game Code. A habitat assessment found that portions of the BSA provide suitable habitat for the burrowing owl. Eucalyptus trees/scattered riparian vegetation, coast live oak trees, and coastal sage scrub are considered unsuitable habitat for the burrowing owl. Ruderal vegetation adjacent to Temescal Wash was covered in a layer of eucalyptus mulch and was considered unsuitable. Although examined as part of the survey, ruderal habitat adjacent to eucalyptus trees/scattered riparian vegetation, eucalyptus trees, and coast live oak trees is considered unsuitable for the burrowing owl because the trees provide perch sites for hawks and large owls that prey on burrowing owl. Suitable habitat areas surveyed consisted of ruderal vegetation (Figure 10).

No burrowing owls or burrowing owl sign were found during the focused burrow and owl survey. Several California ground squirrel burrows of appropriate size to be utilized by burrowing owl were found on a berm on the westerly end of the survey area (Figure 10), but no owls or owl sign were observed in or adjacent to these burrows.

The burrowing owl is a highly mobile species with the potential to move onto the proposed project site prior to construction. The following measure will be implemented as a means of avoiding or minimizing adverse impacts to the burrowing owl within the project footprint.

- A pre-construction survey within three days prior to ground disturbance is required in suitable habitat areas for compliance with the MSHCP conservation objectives.
- If burrowing owls have colonized the project site prior to the initiation of construction, the project proponent should immediately inform the Wildlife Agencies and the RCA, and would need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance.

4.7.3 Additional Species Observed or Expected to Occur within the Study Area

The BSA provides nesting habitat for migratory birds, including special-status bird species. One special-status MSHCP covered bird species, yellow warbler (*Dendroica petechial*), was detected in the BSA.

To avoid potential effects to fully protected raptors, special-status bird species, and other nesting birds protected by the MBTA and the California Fish and Game Code, the following measures will be implemented:

- If feasible, project construction and vegetation removal should be completed outside of general bird breeding season (typically set as February 15 through August 31).

- In the event that vegetation removal cannot be conducted outside the bird breeding season, focused surveys will be conducted by a qualified biologist within three days prior to vegetation removal activities. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

- Nesting bird habitat within the BSA will be resurveyed during the general bird breeding season if there is a lapse in construction activities longer than seven days.

4.8 Section 7.3.5: Planned Roads Within the Criteria Area

The BSA is located in the Elsinore Valley Area Plan of the MSHCP and is a covered activity under MSHCP Section 7.3.5: Planned Roads within the Criteria Area. The entire BSA is located within MSHCP Cell Group I (Criteria Cell 3750) and Cell Group J (Criteria Cell 3751) as shown in Figure 9. In Cell Group I, conservation will contribute to assembly of Proposed Constrained

Linkage 6. It will focus on riparian habitat associated with Temescal Wash, and areas conserved within this Cell Group will be connected to riparian habitat proposed for conservation in Cell Group J to the east and in Cell Group H to the west. Conservation within this Cell Group will be approximately 5 percent of the Cell Group focusing in the southern portion. In Cell Group J, conservation will contribute to Proposed Core 1. It will focus on coastal sage scrub, chaparral, grassland, riparian scrub, woodland, and forest habitat. The conserved areas will be connected to upland habitat proposed for conservation in Cell #3853 and #3855 and Cell Group O, all to the south, to coastal sage scrub habitat proposed for conservation in Cell Group L to the east, to riparian habitat proposed for conservation in Cell Group I to the west, and to existing PQP lands to the north and west. Conservation in the Cell Group will range from 75 to 85 percent of the Cell Group focusing in the western and northern portions of the Cell Group.

Temescal Canyon Roadway is identified as a Major covered roadway (118-foot right-of-way) in a Criteria Area according to Section 7.3.5 and Figure 7-1 of the MSHCP. Figure 7-1 of the MSHCP, identifies the General Plan Circulation Element roadways as covered roadways. Planned roadways, which includes improvements to existing roadways and construction of new roadways, are proposed to occur in Criteria Areas to serve future development anticipated in the Permittees General Plans.

The proposed project is the realignment of Temescal Canyon Road between existing Temescal Canyon Road and Lake Street. The realigned roadway is 118 feet wide and includes a 375-foot long bridge over Temescal Wash. The City is proposing to remove 21 feet in width of the existing Temescal Canyon Road between the existing bridge over Temescal Wash to 112 feet south of Bernard Street for a length of 1,250 feet (totaling 2.37 acres). Twelve feet in width of the existing pavement (0.34 acre) will remain to allow maintenance vehicles access to utilities located in the existing roadway and bridge. In addition, there is 0.51 acre of new roadway impact outside the 118 feet of covered right-of-way.

The total impact (Figure 11) from leaving the existing pavement and for areas outside the MSHCP-covered 118 feet of roadway is 0.58 acre (0.34 acre existing pavement + 0.51 acre of new roadway impacts = 0.58 acre). Therefore, 0.58 acre of roadway would be required to be removed from MSHCP General Plan-covered roadways within the City of Lake Elsinore to account for the project encroachment of 0.58 acre.

As a covered activity under the MSHCP Section 7.3.5, the project will be subject to the following:

- Section 7.5.1: Guidelines for the Siting and Design of Planned Roads.
- Section 7.5.2: Guidelines for Construction of Wildlife Crossings Within Criteria Area and Public/Quasi-Public Lands.
- Section 7.5.3: Construction Guidelines.

- Standard Best Management Practices in Appendix C of the MSHCP.

These guidelines and BMPs are detailed below.

4.9 Sections 7.5.1: Guidelines for the Siting and Design of Planned Roads and 7.5.2: Guidelines for Construction of Wildlife Crossings within Criteria Area and Public/Quasi-Public Lands

Section 7.5.1 guidelines for siting and design provide recommendations to avoid and minimize impacts to sensitive species and habitats, such as complying with the MSHCP sections discussed above and the Section 7.5.2 Guidelines for Construction of Wildlife Crossings. The project will comply with Section 7.5.1 and Section 7.5.2, as discussed below.

The project consultants coordinated with the Western Riverside County Regional Conservation Authority (RCA), USFWS, CDFW, USACE and RWQCB on June 14, August 8, and September 13, 2017, to review the project's consistency with the MSHCP. In addition, a field meeting with the project consultants, the RCA, USFWS, and CDFW occurred on August 25, 2017. Although Planned Roadways are not subject to Reserve Assembly requirements relative to acreage conserved, maintaining the function of Reserve features (e.g., linkages) is still required. The consultation resulted in concerns raised related to potential impacts to Constrained Linkage 6 as a result of the originally proposed 306-foot bridge. As a result of the consultation, the bridge design was lengthened to 375 feet. The 375 feet bridge design was determined to be acceptable to the RCA, USFWS and CDFW and is considered consistent with Section 7.5.1.

Section 7.5.2 contains guidelines for roads that have the potential to result in impediments to wildlife movement. They include both general considerations and specific design guidelines for the construction of wildlife crossings where appropriate.

The proposed bridge will provide for wildlife movement consistent with Section 7.5.2. For wildlife undercrossing structures, such as the proposed bridge structure, the MSHCP requires a minimum openness ratio. The openness ratio (area of structure opening/structure length) is commonly used to measure the probability of wildlife movement through a given structure. As calculated from the animal's perspective, the openness ratio is the undercrossing height multiplied by the undercrossing span, then divided by the road width. For large mammals (e.g., mule deer), the MSHCP requires a minimum openness ratio of 0.6 (as calculated in meters) with a minimum crossing height of 3 meters (10 feet) to 4 meters (13 feet). The MSHCP does not provide a minimum openness ratio for medium-sized mammals or smaller wildlife species, but recommends 1.0 to 1.5-meter culverts for medium-sized mammals and 1.0 to 0.5-meter culverts for smaller wildlife.

The proposed bridge lowest height point is 5.0 meters (16.41 inches), the span is 93.9 meters (308 feet) from toe of slope to toe of slope, and the width is 29.8 meters (98 feet). Based on these dimensions, the openness ratio of the proposed bridge would be 15.8, which is well above

the minimum 0.6 required for large mammals. In addition, the 5.0-meter (16.41 inches) height of the bridge is above the required height limit for large mammals, e.g., 3–4 meters (9.8 to 13.1 feet) for mule deer. Based on this openness ratio, the proposed project will provide for large mammal wildlife movement.

In addition, the project will restore vegetation within the BSA, which will further support regional wildlife movement.

4.10 MSHCP Section 7.5.3: Construction Guidelines

The following guidelines will be applied, as applicable, to the project so that impacts to species and habitat are reduced as construction occurs:

1. Plans for water pollution prevention and erosion control will be prepared. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control.

2. Timing of construction activities will consider seasonal requirements for breeding birds and migratory non-resident species. Habitat clearing will be avoided during species active breeding season typically set as February 15 through August 31.

3. Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.

4. Short-term stream diversions, if needed, will be accomplished by use of sandbags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.

5. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off site.

6. Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from reentering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where it cannot reenter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize release of debris or sediment into streams.

7. No erodible materials will be deposited into water courses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.

8. The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on preexisting access routes to the greatest extent possible.

9. Equipment storage, fueling, and staging areas will be sited on non-sensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types.

10. The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.

11. During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by Covered Species that are outside of the project footprint will be avoided.

12. Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.

13. Training of construction personnel will be provided.

14. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.

15. When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to Riversidean sage scrub vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.

16. Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.

17. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner as to contain runoff.

18. Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

4.11 Standard Best Management Practices

The proposed project will comply with MSHCP Volume 1, Appendix C, Standard Best Management Practices. The following conditions shall be applied to the project so that impacts

are reduced to species as construction occurs. Compliance with these conditions is required by the Cities as Permittees per the Implementing Agreement Section 13.7 (A).

1. A qualified biologist shall conduct a training session for project personnel prior to grading. The training shall include a description of species of concern and their habitats, the general provisions of the Federal Endangered Species Act (FESA) and the MSHCP, the need to adhere to the provisions of the FESA and the MSHCP, the penalties associated with violating the provisions of the FESA, the general measures being implemented to conserve species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.

2. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.

3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via preexisting access routes to the greatest extent possible.

4. The upstream and downstream limits of the project's disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.

5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.

6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian bird species identified in MSHCP Global Species Objective No. 7.

7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal in stream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences to prevent debris or sediment from returning to the stream.

8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities including but not limited to the City of Lake Elsinore,

USFWS, CDFW, and RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

9. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.

10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.

11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to preexisting contours and revegetated with appropriate native species.

12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.

13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).

14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimum area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

15. The MSHCP Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.

Chapter 5.0 Consistency Findings

The BSA is within the MSHCP Elsinore Area Plan and is within the Criteria Cells 3750 and 3751; therefore, applicable measures identified in Sections 6.1.4: Urban/Wildlands Interface Guidelines; 7.5.1: Guidelines for the Siting and Design of Planned Roads; 7.5.2: Guidelines for Construction of Wildlife Crossings Within Criteria Areas and Public/Quasi-Public Lands; 7.5.3: Construction Guidelines; and Best Management Practices in Appendix C of the MSHCP will be implemented by the project.

NEPSSA and CASSA plants are absent from the BSA and the project will have no effects these plant species.

The project will have effects to riparian/riverine resources including riparian/riverine habitat. A DBESP was prepared to address project effects to riparian/riverine resources.

The least Bell's vireo and burrowing owl were found to be absent from the BSA and any potential project effects to this species will be avoided.

Through implementation of avoidance, minimization, and mitigation measures identified in in this document, the project, as planned, is consistent with applicable MSHCP requirements.

Chapter 6.0 References

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Riverside County Transportation and Land Management Agency. 2003. *Western Riverside County Multiple Species Habitat Conservation Plan, Volume I: The Plan,* Parts 1 and 2.

United States Fish and Wildlife Service (USFWS) September, Information Planning and Conservation System (IPaC). http://www.ecos.fws.gov/ipac.

Appendix A Figures

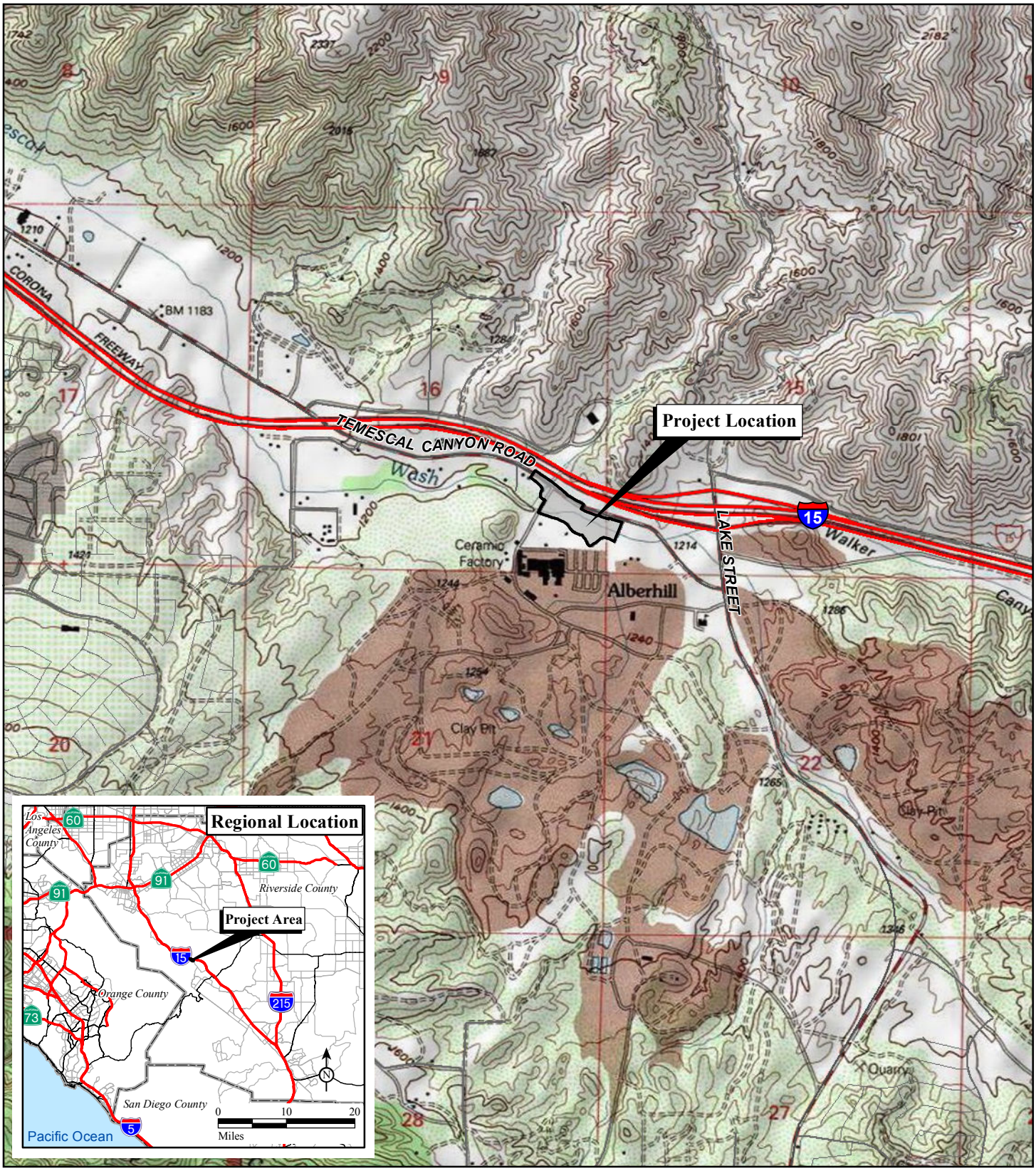

FIGURE 1

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

Regional and Project Location

SOURCE: USGS 7.5' Quad: Alberhill, 1988; Riverside County, 2015.

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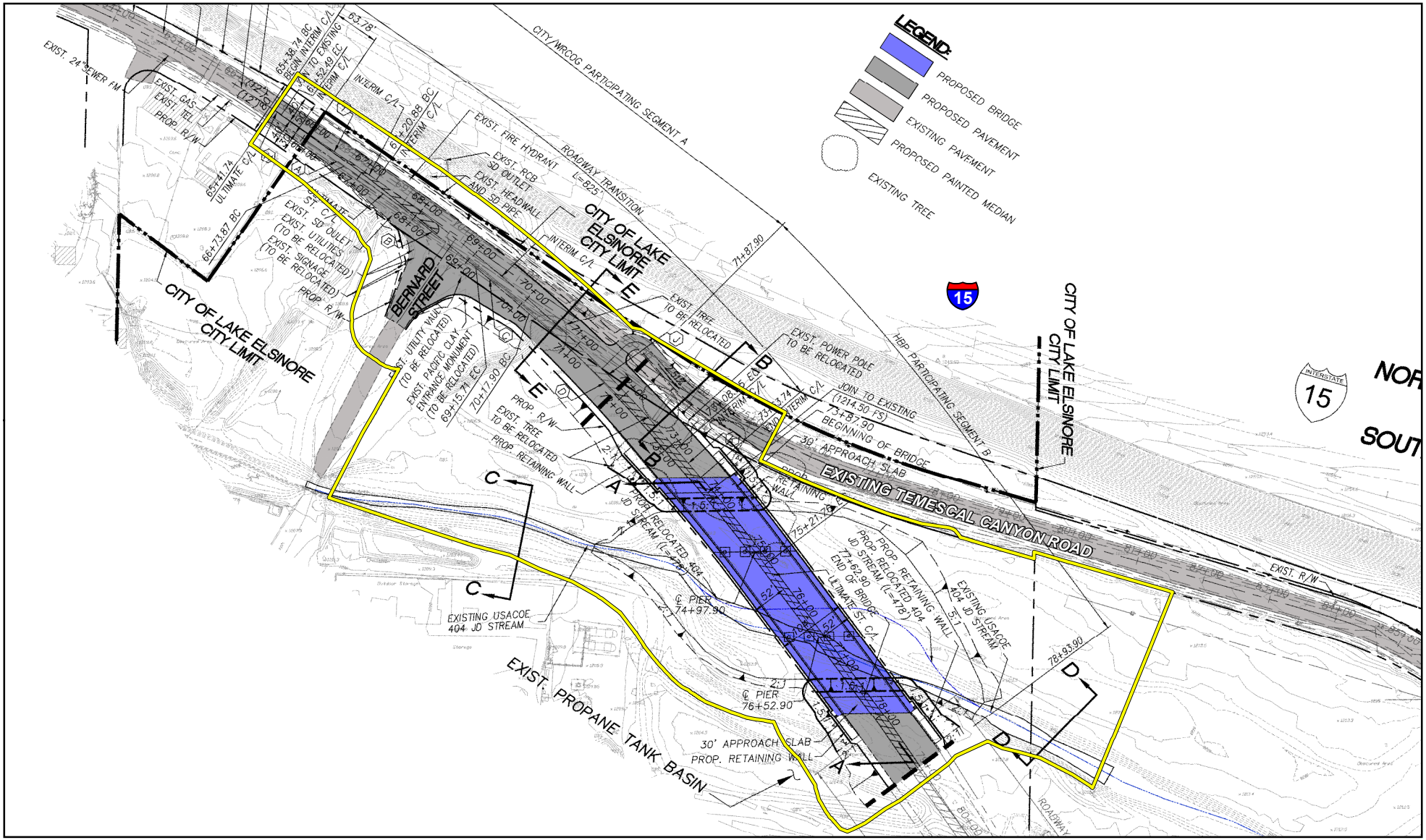

FIGURE 2

Biological Study Area (BSA)

0 100 200
FEET

SOURCE: Google Earth, 2016; Aguilar Consulting, 2018.

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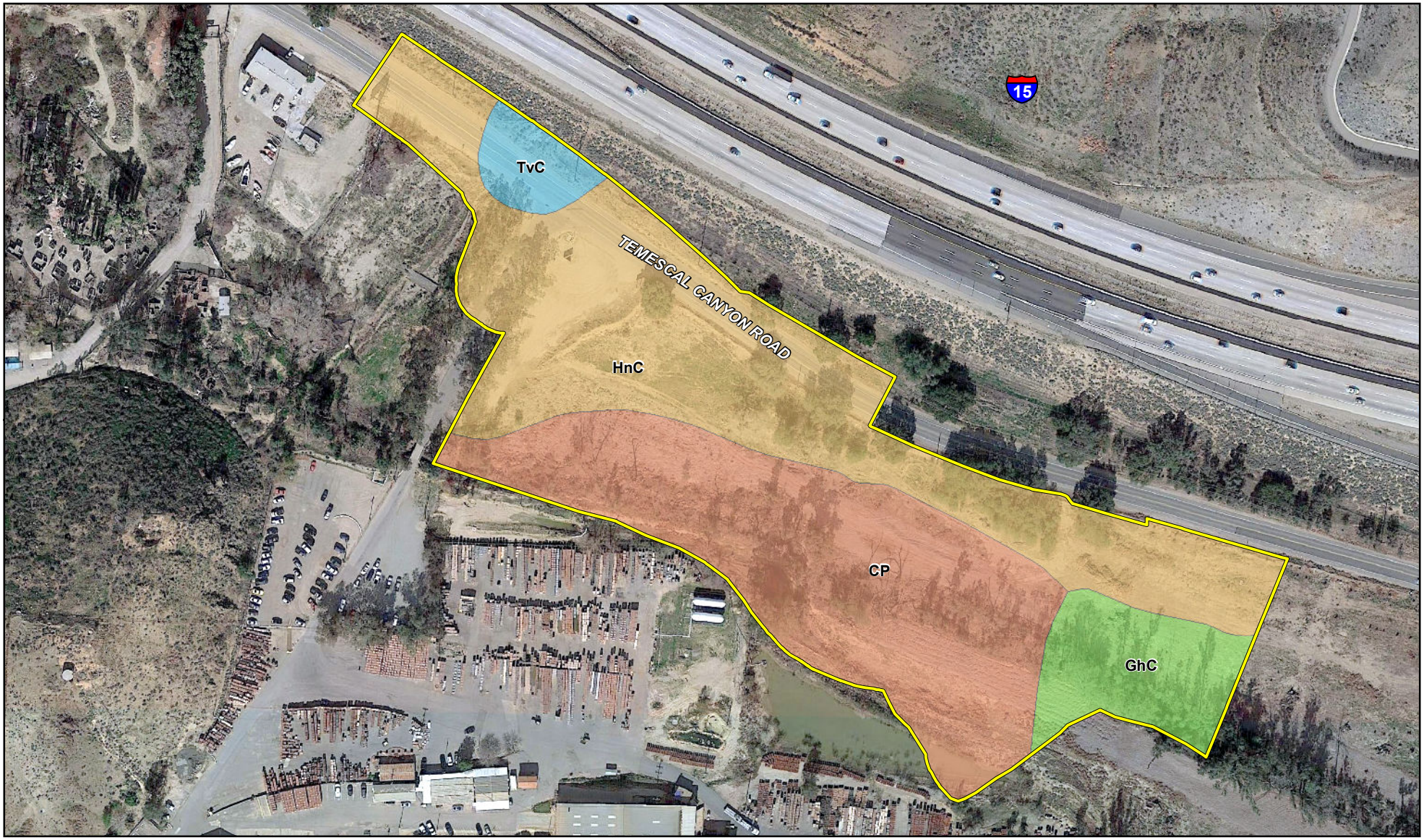
Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

Site Plan

BRLS 5074 (015)



Biological Study Area (BSA)

Soils

- CP: Clay Pits
- GhC: Gorgonio loamy sand, 0 to 8 percent slopes
- HnC: Honcut sandy loam, 2 to 8 percent slopes
- TvC: Tujunga loamy sand, channeled, 0 to 8 percent slopes

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0 100 200
FEET

SOURCE: Google Earth, 2016; Soil Data Mart, 2015

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FIGURE 3

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

Soils

BRLS 5074 (015)

Biological Study Area (BSA)

Photograph Locations

Land Cover Types

- Coast Live Oak Trees (0.56 Ac)
- Coastal Sage Scrub (0.26 Ac)
- Developed (2.52 Ac)
- Eucalyptus Trees (1.31 Ac)
- Eucalyptus Trees/Scattered Riparian (0.90 Ac)
- Ruderal (6.05 Ac)

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0 75 150
FEET

Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 4

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MHSCP Consistency Analysis

Land Cover Types and Photograph Locations

BRLS 5074 (015)

Photograph 1: *View of mixed riparian vegetation along Temescal Wash dominated by arroyo willow, mule fat, and eucalyptus trees.*

Photograph 2: *View of general site conditions. Ruderal and non-native grassland vegetation in foreground.*

Photograph 3: *View of coast live oak trees along Temescal Canyon Road.*

Photograph 4: *View of eucalyptus mulch and Fremont cottonwood trees growing near the oak trees along Temescal Canyon Road.*

Photograph 5: *View of eucalyptus trees along Temescal Wash.*

FIGURE 5

Temescal Canyon Road Bridge Replacement and Road Realignment Project MSHCP Consistency Analysis

Site Photographs

BRLS 5074 (015)

Biological Study Area (BSA)

Fairy Shrimp Study Area

Detention Basin

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0 125 250

FEET

Source: Google Earth, 2016; Riverside County, 2015

FIGURE 6

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MHSCP Consistency Analysis

Fairy Shrimp Study Area and Artificial Detention Basin Locations

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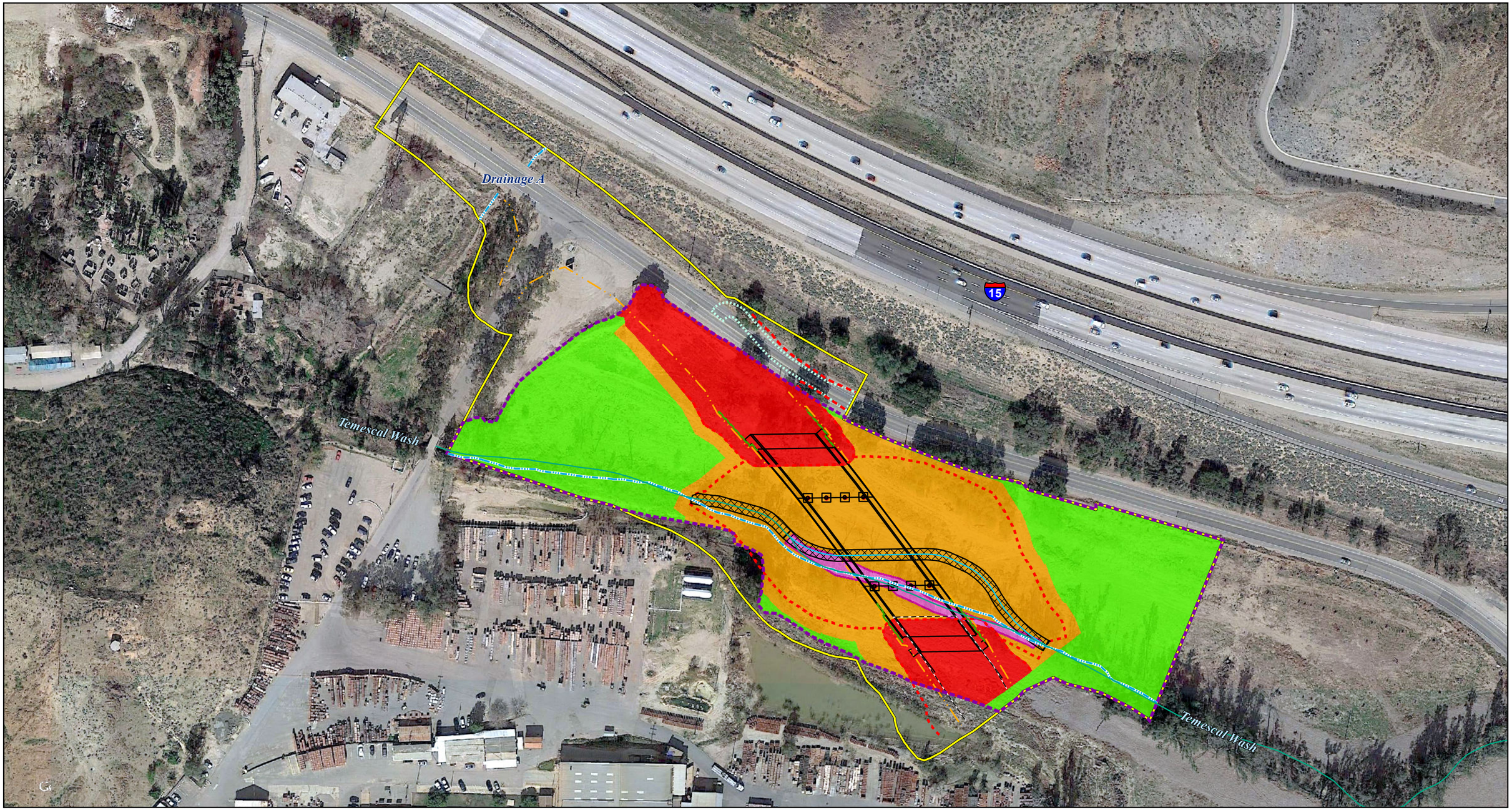

Biological Study Area (BSA)
Existing Channel
Proposed Channel
Proposed Low Flow Channel
Existing Riparian/Riverine
Drainages
Grading Limits
Bridge Structure
Interim Access Road
Edge of Pavement
Proposed ROW
Retaining Wall
Piers
No Impact
Permanent Impact (1.46 Ac includes 6 piers)
Permanent Impact Existing Temescal Wash Channel (0.18 Ac includes 2 piers)
Temporary Impact (3.06 Ac)

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0 75 150
FEET

Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 7

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

Riparian/Riverine Impacts

BRLS 5074 (015)

Biological Study Area (BSA)
Existing Channel
Proposed Channel
Existing Riparian/Riverine
Proposed Low Flow Channel
Grading Limits
Edge of Pavement
Proposed ROW
Retaining Wall
Bridge Structure
Interim Access Road
Restoration Area (6.22 Ac)

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Source: Google Earth, 2016;
Riverside County, 2015

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FIGURE 8

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

Habitat Restoration Area

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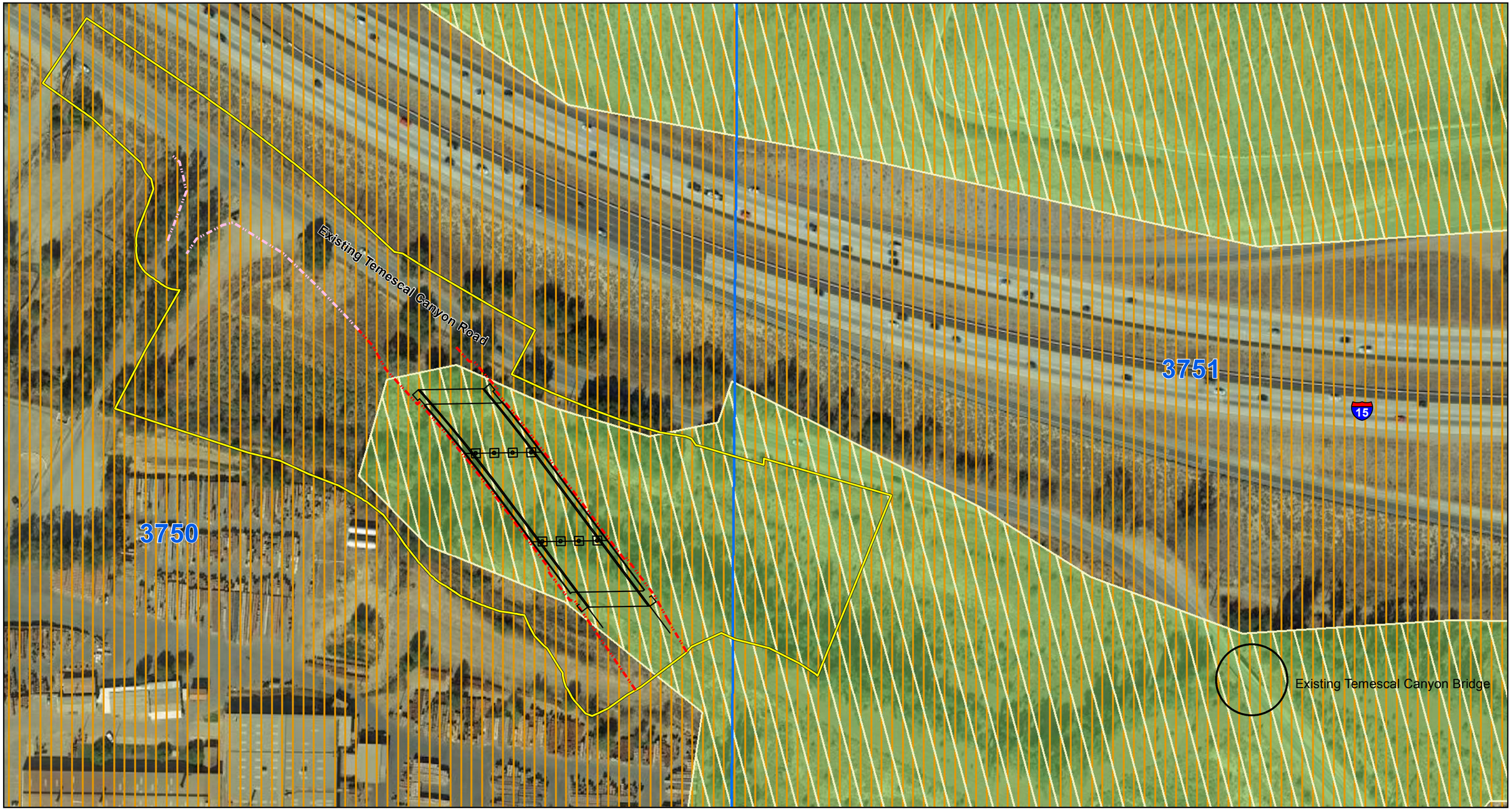

Biological Study Area (BSA)
3850 Criteria Cells
MSHCP Burrowing Owl Survey Area
Criteria Area Species Survey (Plants)
Narrow Endemic Plant Species Survey Area
Bridge Structure
ROW for Bridge to be Built by Project
ROW for Roadway to be Built by City

N

0 75 150
FEET

Source: Google Earth, 2016; Riverside County, 2015.

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FIGURE 9

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

MSHCP Reserve Assembly and Survey Areas

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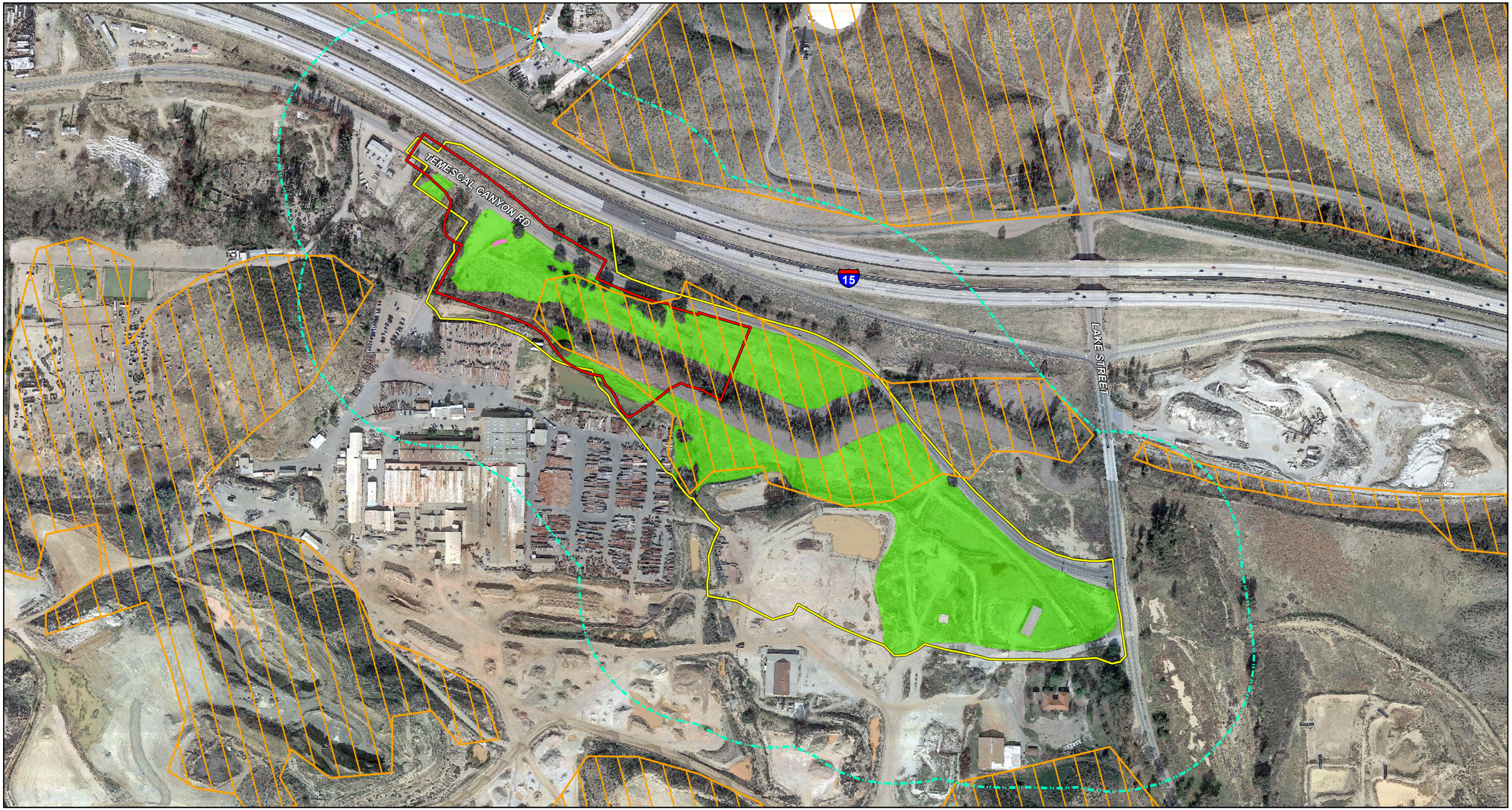

Biological Study Area (BSA)
Burrowing Owl Study Area
500 foot Buffer of BSA
MSHCP Burrowing Owl Survey Area
Burrowing Owl Suitable Habitat
California Ground Squirrel Burrows

N

0 185 370
FEET

Source: Google Earth, 2016; Riverside County, 2015

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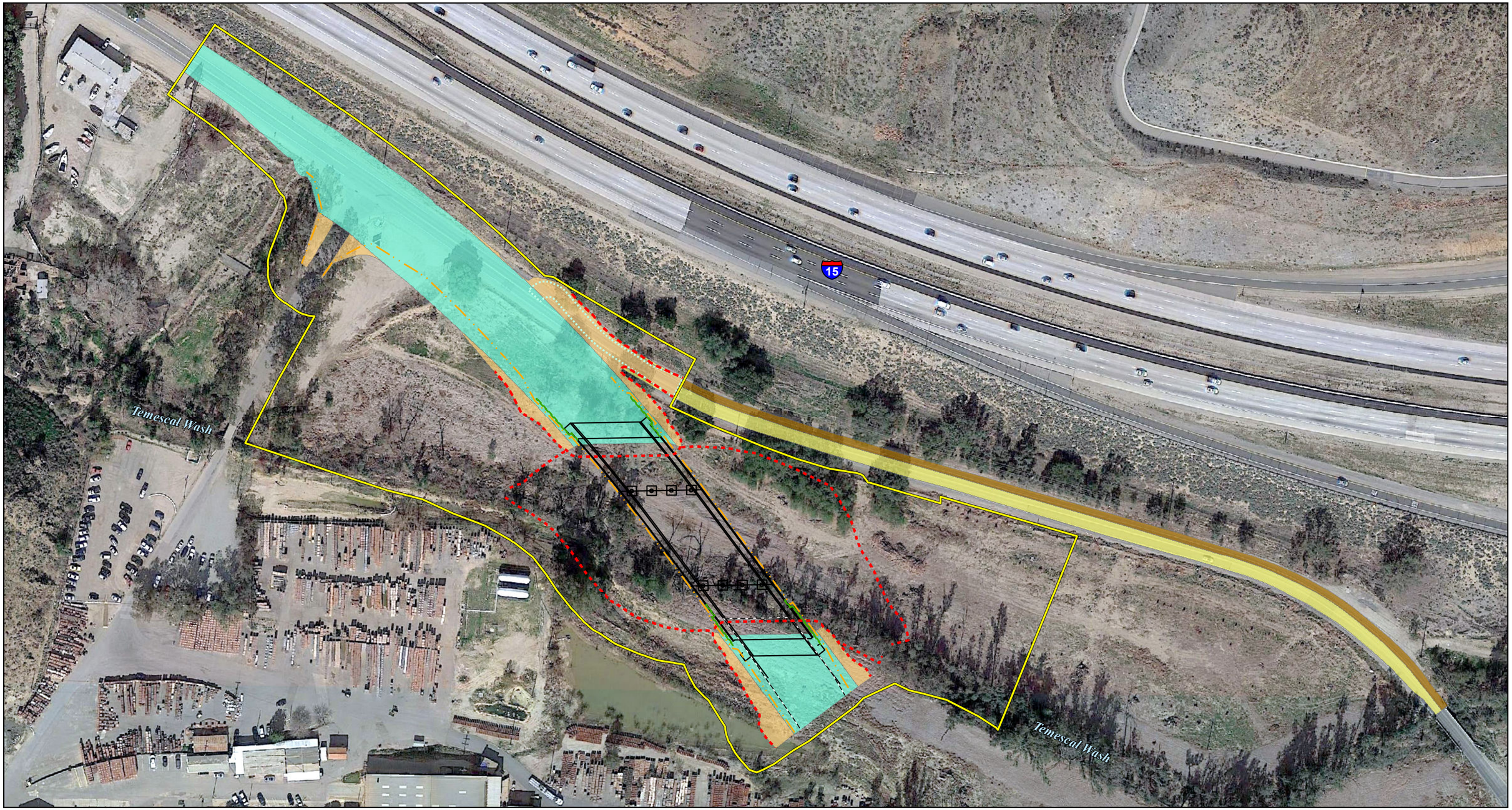
FIGURE 10

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

MSHCP Burrowing Owl Survey Area and Suitable Habitat

BRLS 5074 (015)



Biological Study Area (BSA)
Bridge Structure
Interim Access Road
Grading Limits
Edge of Pavement
Proposed ROW
Retaining Wall

New Temescal Canyon Road
MSHCP Covered Roadway (2.37 Ac)
Not Covered Area (0.51 Ac)

Existing Temescal Canyon Road
To Remain in Place (0.34 Ac)
To be Removed (0.58 Ac)

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Source: Google Earth, 2016; Riverside County, 2015

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FIGURE 11

Temescal Canyon Road Bridge Replacement and Road Realignment Project
MSHCP Consistency Analysis

MSHCP Covered Roadways

BRLS 5074 (015)