Buckman Springs Road Bridge Widening Project *BA*

Unincorporated Community of Campo, San Diego County

County of San Diego

BRLS-5957 (084)

January 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

DRAFT Biological Assessment

Buckman Springs Road Bridge Widening Project

Unincorporated Community of Campo, San Diego County

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BRLS-5957 (084)

January 2019

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LIST OF ACRONYMS

BMP	Best Management Practices
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
County	County of San Diego
dba	A-weighted decibels
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GPS	Global Positioning System
LAA	Likely to Adversely Affect
NES-MI	Natural Environment Study (Minimal Impacts)
NLAA	Not Likely to Adversely Affect
PCEs	primary constituent elements
PCT	Pacific Crest Trail
PIA	Potential Impact Area
PIT	Passive Integrated Transponder
RE	resident engineer
U.S.C.	U.S. Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

GLOSSARY

BEST MANAGEMENT PRACTICE (BMP): Any program, technology, process, operating method, measure, or device that controls, prevents, removes or reduces pollution.

dba: A-weighted decibels are adjusted to approximate the way the average person hears sound.

DECIBEL: With respect to sound, decibels measure a scale from the threshold of human hearing, 0 decibels, upwards towards the threshold of pain, about 120-140 decibels. Because decibels are such a small measure, they are computed logarithmically and cannot be added arithmetically. An increase of 10 decibels is perceived by the human ear as a doubling of noise.

DIRECT EFFECTS: Effects that are caused by an action and occur at the same time and place as the action.

ENDANGERED: Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.

EROSION: The wearing away of the land surface by running water, wind, ice, or other geological agents.

FEDERAL HIGHWAY ADMINISTRATION (FHWA): The Federal agency within the U.S. Department of Transportation responsible for administering the Federal-aid Highway Program and the Motor Carrier Safety Program.

FLOODPLAIN: Any land area subject to inundation by floodwaters from any source.

HABITAT: Place where a plant or animal lives.

IGNEOUS ROCKS: Formed when magma (liquid rock material) cools below the earth's surface or when lava cools above ground.

INDIRECT EFFECTS: Effects that are caused by an action and occur later in time, or at another location, yet are reasonably foreseeable.

MARSH: Wetland dominated by grassy vegetation, such as cattails and sedges.

PROJECT (FHWA): 23 Code of Federal Regulations §1.2 defines a project as an undertaking by a State highway department for highway construction, including preliminary engineering, acquisition of rights-of-way and actual construction, or for highway planning and research, or for any other work or activity to carry out the provisions of the Federal laws for the administration of Federal-aid for highways.

REGULATORY AGENCY: An agency that has jurisdiction by law.

RIPARIAN: Along banks of rivers and streams; riverbank forests are often called gallery forests.

STATE WATER RESOURCES CONTROL BOARD: The principal authority of California for regulation of the quantity and quality of waters of the State, established by act of the legislature in 1967. It assumed responsibility for administration of the Porter-Cologne Water Quality Control Act of 1969.

THREATENED: A species that is likely to become endangered in the foreseeable future in the absence of special protection.

WATERSHED: The area of land that drains into a specific waterbody.

WATERS OF THE UNITED STATES: As defined by the United States Army Corps of Engineers (USACE) in 33 CFR 328.3(a):

1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:
    (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    (iii) Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundment of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs 1-4;
6. The territorial seas;
7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.

WETLAND: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Biological Assessment Outline for Caltrans FESA Section 7 Consultations:

U.S. Fish and Wildlife Service

Executive Summary

The purpose of this biological assessment is to provide technical information and to review the proposed project in sufficient detail to determine to what extent the proposed project may affect threatened, endangered, or proposed species. The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this biological assessment under its assumption of responsibility at 23 United States Code (U.S.C.) 327(a)(2)(A). The biological assessment is also prepared in accordance with 50 CFR 402, legal requirements found in Section 7 (a)(2) of the Endangered Species Act (16 U.S.C. 1536(c)) and with FHWA and Caltrans regulation, policy, and guidance. The document presents technical information upon which later decisions regarding project effects are developed. This biological assessment evaluated the potential for listed species identified by the U.S. Fish and Wildlife Service and the U.S. Forest Service for this project and reported in database searches to occur at the Buckman Springs Road Bridge.

The proposed project is a FHWA-funded project to widen the existing two-lane bridge with a concrete deck, rehabilitate the deck, and upgrade the substandard and deteriorating timber rails. The purpose of the project is to widen and rehabilitate Buckman Springs Road Bridge to meet the federal bridge safety requirements established by the American Association of State Highway Transportation Officials.

The surveys for this biological assessment included protocol surveys for the least Bell's vireo (*Vireo bellii pusillus*) and the southwestern willow flycatcher (*Empidonax traillii extimus*). The protocol surveys were negative; however, there remains a moderate potential for least Bell's vireo and a low potential for southwestern willow flycatcher to occur on site. A 2011 protocol survey for arroyo toad (=arroyo southwestern toad, *Anaxyrus californicus*) was positive and the site is considered occupied by arroyo toad.

The project includes bridge foundation retrofitting, bridge pier extension, grading, installation of storm drain infiltration trenches, salvage and replacement of riprap, and improvements to the bridge. Construction equipment and activity that could trample or remove vegetation will be limited to the mapped Potential Impact Area (PIA), which includes staging areas and a temporary access road. Water diversion pipes will be installed through the PIA and covered with temporary fill and scaffolding to allow equipment and personnel to work in the area. Arroyo toad exclusion fencing will be installed around the PIA, tarps will be laid down to catch construction dust and debris, and temporary signs will be put up to redirect hikers using the Pacific Crest Trail. Following bridge work, the water diversion pipes, temporary fill, temporary access road, tarps, scaffolding, temporary signs, and exclusion fencing would be removed, and the temporary impact area would be restored to pre-project contours and revegetated. The project also includes a Groundwater Dewatering Study as Phase 1.

If present during project activities, least Bell's vireo could be directly or indirectly impacted by vegetation trimming or noise during the breeding season. Therefore, the project will include conservation measures including avoidance of the breeding season or a pre-activity survey. With the implementation of the measures proposed herein for least Bell's vireo, the project may affect but is not likely to adversely affect the species.

If present during project activities, arroyo toad could be directly and indirectly impacted by inadvertent trampling, crushing, and/or entrapment of individuals and/or occupied burrows. Therefore, the project will include conservation measures for the installation of arroyo toad exclusion fencing, pre-activity toad surveys, relocation of toads found within the PIA, and biological monitoring. Despite the incorporation of all feasible conservation measures, the project may adversely affect arroyo toad; however, the potential take is limited to a very low number of individuals, and is likely to consist of temporary handling, relocation, and displacement rather than mortality, and is not expected to jeopardize the continued existence of the species.

Chapter 1. Introduction

1.1. Purpose and Need of the Proposed Action

The proposed Buckman Springs Road Bridge Widening Project is a Federal Highway Administration (FHWA)-funded project to widen the existing two-lane bridge with a concrete deck, rehabilitate the deck, and upgrade the substandard and deteriorating timber rails. The purpose of the project is to widen and rehabilitate Buckman Springs Road Bridge to meet the federal bridge safety requirements established by the American Association of State Highway Transportation Officials. The work will be done using the methods described in Section 1.4.1.

1.2. Threatened, Endangered, Proposed Threatened or Proposed Endangered Species, Critical Habitat

A list of federally threatened, endangered, or proposed species potentially present within the project vicinity was obtained from U.S. Fish and Wildlife Service (USFWS) and is provided in Appendix A (U.S. Fish and Wildlife Service [USFWS] 2015). The following species and designated critical habitat were identified and considered during this analysis:

<u>Listed Species</u>

- Arroyo (=arroyo Southwestern Toad) (*Anaxyrus californicus*) Critical Habitat
- Arroyo (=arroyo Southwestern Toad) (*Anaxyrus californicus*) E
- Least Bell's vireo (*Vireo bellii pusillus*) E
- Southwestern willow flycatcher (*Empidonax traillii extimu*s) E
- Quino checkerspot butterfly (*Euphydryas editha quino*) E

The listed species and their effect determination are summarized in Table 1, below.

Table 1: Official Species List

Common Name	Scientific Name	Status	Determination
Arroyo (=arroyo Southwestern) Toad	*Anaxyrus californicus*	E	May Affect, Likely to Adversely Affect
Arroyo (=arroyo Southwestern) Toad Critical Habitat	*Anaxyrus californicus*		May Affect, Not Likely to Adversely Affect
Least Bell's Vireo	*Vireo bellii pusillus*	E	May Affect, Not Likely to Adversely Affect
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E	No effect.
Quino checkerspot butterfly	*Euphydryas editha quino*	E	No effect.

Work on the Buckman Springs Road Bridge will occur within the riparian corridor, with staging in an upland area 1.5 kilometers to the west. Arroyo toads are presumed present within the action area (as defined in Section 1.4.4, excluding the staging area) based on the presence of suitable habitat and recorded observations in the area, and the proposed avoidance measures may not completely avoid take; therefore, the work may adversely affect the arroyo toad. However, this low level of take is not expected to jeopardize the continued existence of the species.

The project site supports suitable habitat for least Bell's vireo, as discussed in Section 4.2. Protocol level surveys for least Bell's vireo were negative for the action area (HELIX Environmental Planning, Inc. [HELIX] 2017a, RECON 2011b); however, the species has moderate potential to occur within the action area. With pre-activity surveys and monitoring during project activities, the proposed work is not likely to adversely affect least Bell's vireo. Southwestern willow flycatchers are not known or expected to occur on site because protocol surveys for this species in 2011 and 2017 (RECON 2011b, HELIX 2017b) were negative and the closest recorded observation of this species is located approximately 22 miles northwest of the site in a different watershed. Therefore, the proposed work will have no effect on the species. Suitable habitat for Quino checkerspot butterfly is not present within the action area because no larval host plants or hilltopping areas were observed within the action area; therefore, the proposed work will have no effect on the species.

<u>Critical Habitat</u>

The proposed action (i.e., the project) addressed within this document falls within Critical Habitat for arroyo toad (USFWS 2018). As discussed in Section 4.3, the action area supports the primary constituent elements (PCEs) for arroyo toad and the project will impact critical habitat. The project incorporates avoidance and minimization measures to minimize impacts to PCEs and restore temporary impacts; therefore, the proposed work is not likely to adversely affect designated critical habitat.

1.3. Consultation History

As stated above, a list of federally threatened, endangered, or proposed species potentially present within the project vicinity was obtained from USFWS on November 25, 2015, and is provided in Appendix A. The 2015 list superseded the previous list provided by USFWS in 2011 (USFWS 2011a) when a Biological Assessment was completed for geotechnical borings conducted in preparation for the project (ICF International Jones & Stokes 2012). A list of federally threatened, endangered, or proposed species or USFS Sensitive Species present within the Cleveland National Forest was obtained from USFS on February 28, 2018 (USFS 2018).

1.4. Description of Proposed Action

1.4.1. Project Summary

The Buckman Springs Road Bridge Widening Project (herein referred to as "project") entails the rehabilitation and widening of the existing bridge crossing of Buckman Springs Road over Cottonwood Creek (Bridge No. 57C-0270). The project is proposed by the County of San Diego (County) Department of Public Works, in cooperation with the California Department of Transportation (Caltrans) District 11.

Buckman Springs Road Bridge is an approximately 450-foot-long, two-lane bridge with a concrete bridge deck and nine piers. The existing 27-foot-wide bridge carries two lanes of traffic over Cottonwood Creek. The project would widen the bridge by up to six feet, nine inches total to create two 15-foot-wide lanes. The underground foundations of four of the piers would be retrofitted, and each of the nine piers would be lengthened by 1.5 feet on each end. Substandard and deteriorated timber rails and concrete overhangs would be removed and replaced with new girders, overhangs, bridge metal railings, and Caltrans' standard timber/metal Midwest guardrail system at the two bridge approaches. The bridge deck surface would be overlaid with a polyester concrete overlay and restriped.

To improve the storm water treatment of the bridge, all bridge deck drainage flows would be directed to three corners of the bridge at the approach ends. Curb inlets would allow the deck's sheet-flow to enter storm drain infiltration trenches located at the three corners of the bridge approaches. The storm drain would flow through the infiltration trenches and exit the bottom of the trenches through two 18-inch diameter drain pipes (one at each end of the bridge). The drain pipe would convey the flows to energy dissipater rip rap pads at the bottom of the embankment.

Grading would be required at either end of the bridge. Four oak trees and seven cottonwood trees would be removed to accommodate grading. Graded areas would be revegetated with native species after construction, and trees would be replaced with in-kind species. Two signs, a "slow to 40 mph at the curve" speed limit sign at the eastern end of the bridge, and a 6.5-mile marker at the western end of the bridge, would be relocated to within five to 10 feet of their existing locations. The existing reflective striped delineator signs would be removed during construction. Utilities, including AT&T lines, would be relocated along the alignment of the new bridge.

Construction of the project is expected to take approximately 12 months. During construction, a 16-foot-wide temporary road (for construction vehicles only) would be created immediately northeast of the Buckman Springs Road Bridge from Buckman Springs Road. This would enable construction vehicles to access the underside of the bridge. Construction staging would occur on a City-owned parcel one half mile away on Morena Stokes Valley Road. Traffic would be limited to a single 12-foot-wide travel lane through the center of the bridge as necessary during construction. The Pacific Crest Trail (PCT) would be temporarily relocated outside the project's impact area along the northeastern boundary of the project during construction. The trail relocation would be accomplished by placing signs to redirect foot traffic and would not include any grading or ground disturbance. After construction a small 10-foot section of the PCT will be re-routed slightly around the base of the new bridge abutment slope. The ground beneath the bridge would be restored to pre-project conditions and replanted with native species after construction.

Phase 1

Dewatering may be required during retrofitting of the existing bridge footings. The construction dewatering would be localized around each of the four piers that are to be retrofitted. In order to understand the dynamics of the localized groundwater, a Groundwater Dewatering Study (GWDS) will be needed prior to awarding the construction contract.

The GWDS will involve drilling three eight-inch diameter holes adjacent to the existing bridge. Two of the holes are used to monitor Groundwater levels while the center hole is used to pump out water and time the drawdown rate. This would give the Contractor who would ultimately conduct the construction of the bridge footings an estimate of the quantity of water they may need to dewater during the bridge footing retrofit and the time they have to install the retrofit for each pier.

The water that is encountered during the GWDS will be pumped out of the hole and sprayed evenly on the surface of the creek bed just downstream of the bridge. Water would be applied in a way that does not cause substantial sediment erosion.

In order to minimize impacts to the creek and to sensitive arroyo toad individuals that may be present, the following methods will be used to conduct the GWDS.

1. The GWDS will be conducted outside of the arroyo toad breeding season which is defined as March 31-July 1.

2. Prior to the initiation of the GWDS, an arroyo toad exclusion fence will be installed in an approximately 50- x 50-foot area.

3. An arroyo toad biologist approved by the Carlsbad United Fish and Wildlife Service (USFWS) will conduct arroyo toad surveys within this 50- x 50-foot fenced area for six consecutive nights.

4. Any arroyo toads encountered during these surveys will be relocated to suitable habitat approved by the USFWS.

5. Surveys will continue until there have been two consecutive negative surveys.

6. A drill rig will be lowered from the bridge by a crane into the fenced area and hoisted back up once the drilling is complete.

7. Once the GWDS test is concluded, the arroyo toad fence around the 50- x 50-foot area will be removed.

1.4.2. Authorities and Discretion

The biological assessment is prepared in accordance with legal requirements found in Section 7(a)(2) of the Endangered Species Act (16 U.S.C. 1536(c)) and with FHWA and Caltrans regulation, policy, and guidance.

Under the provisions of the Federal Endangered Species Act (FESA) of 1973 as amended (16 United States Code Section 1531 et seq.), federal agencies are directed to conserve threatened and endangered species and the habitats in which these species are found. Federal agencies are to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any endangered, threatened, or proposed (for listing as threatened or endangered) species or its critical habitat. This biological assessment provides documentation to meet federal requirements for the proposed action. This biological assessment was prepared under Section 7 of the FESA regulations, and in accordance with 1998 procedures set forth by the USFWS. Since the bridge is located partly on U.S. Forest Service (USFS) land, coordination with the USFS will be required.

1.4.3. Project Location

Buckman Springs Road Bridge over Cottonwood Creek (Bridge No. 57C-0270) is located approximately 1.5 miles southwest of Interstate 8 in the unincorporated community of Campo, San Diego County, California (Figure 1). The action area is depicted within the U.S. Geological Survey (USGS) Morena Reservoir 7.5-minute quadrangle (northwest quarter of Section 8, Township 17 South, Range 5 East) (Figure 2). Surrounding lands are undeveloped and consist of passive conservation land located partly within the Cleveland National Forest and partly within Lake Morena County Park. See Appendix B for representative photographs.

1.4.4. Define Action Area

The action area for the project was established by mapping a 300-foot buffer around the PIA. Construction activities and equipment that could crush or remove vegetation will be limited to the mapped PIA, which includes staging and access areas. A 300-foot buffer is used as a standard noise buffer for most construction equipment. A buffer was not applied to the staging area, although it is part of the PIA, because it will only be used for storage and staging, and not for activities that generate significant noise, light, or other indirect impacts. The bridge is visible from a substantial distance upstream and downstream; however, the visual observation of the proposed work is not expected to affect most species at a distance of more than 300 feet. Best Management Practices (BMPs) will be implemented to prevent paint, dust, or other pollutants from leaving the immediate

vicinity of the work. Therefore, a 300-foot buffer includes all areas to be affected directly or indirectly by the proposed action. The action area was also the study area and is shown on Figure 3.

1.4.5. Conservation Measures

1.4.5.1. Project Design Modifications for Avoidance and Minimization

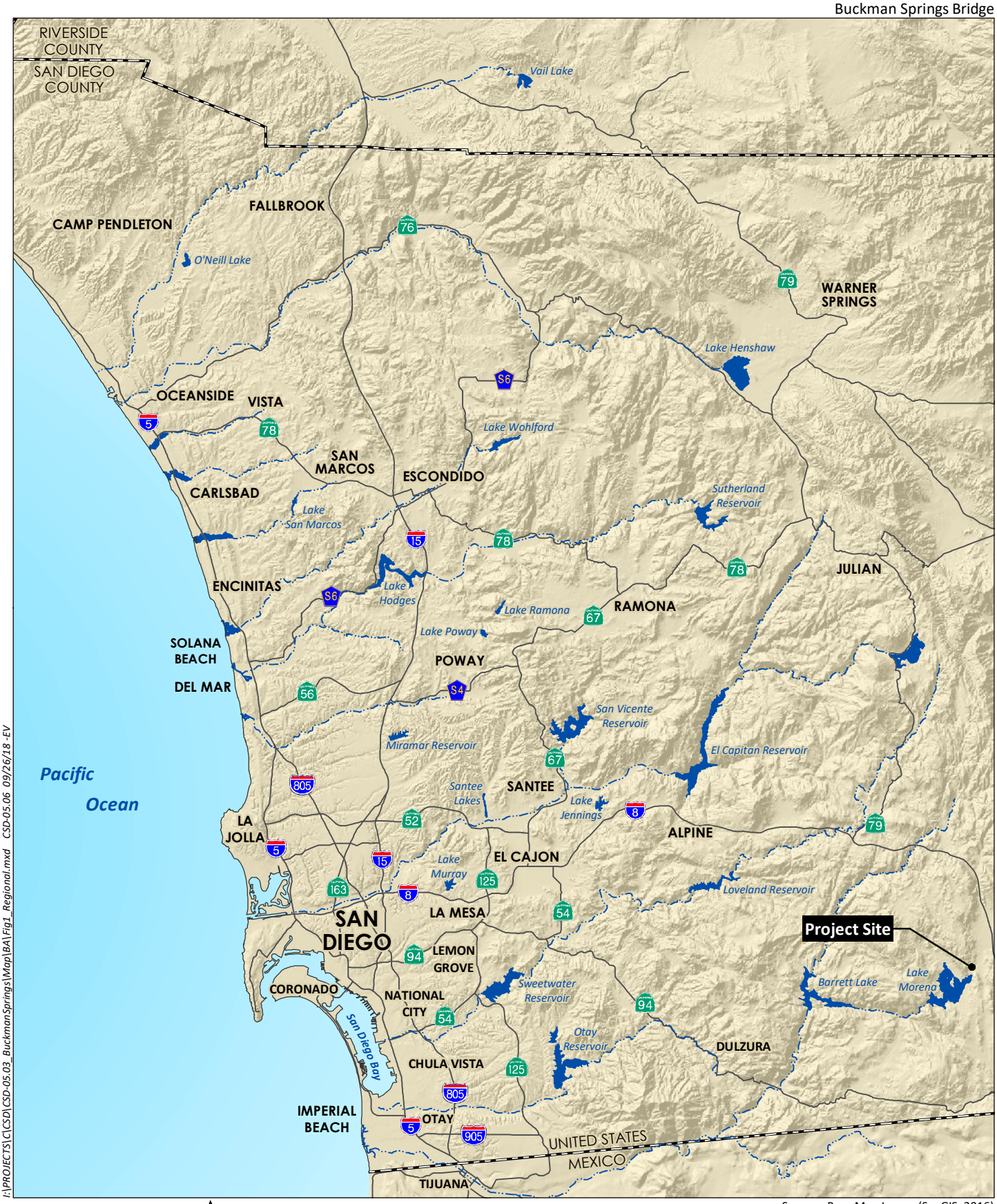
The project design was modified several times to avoid and minimize impacts. The original project design would have placed riprap over a larger area and located storm water BMPs at the bottom of the slope, resulting in a larger permanent impact footprint and removal of more trees than the final design. The staging area was carefully placed in an area of relatively flat non-native grassland that will not require grading, thus avoiding impacts to more sensitive habitat types, trees, or jurisdictional waters.

During construction, two 36-inch pipes will be installed in the work area to capture water flows in Cottonwood and La Posta Creeks and route them through the PIA. The diversion pipes will be buried under temporary fill to allow construction equipment to drive over them, and a mat will be placed between the temporary fill and the native soil to keep them separate and keep the native soil in place when the temporary fill is removed. Tarps will also be laid down under the bridge to catch construction dust, coatings, and debris and keep them from entering the stream. Access down to the streambed will be limited to one temporary access road, which was carefully placed to minimize impacts. As discussed in Section 5.1.2 below, work is expected to start in approximately August 2019 and last approximately 12 months, meaning that only one arroyo toad breeding season (March 15 to July 1) would be affected. Arroyo toad exclusion fencing will be installed to keep project activities within the PIA and arroyo toad outside of the PIA. During Phase 1, which will take two days, impacts will be minimized by lowering equipment directly from the bridge, working outside of the arroyo toad breeding season, and using arroyo toad exclusion fencing around the Phase 1 work area shown on Figure 3, as described in Section 1.4.1.

1.4.5.2. Species Specific Avoidance/Minimization Measures or BMPs from the USFWS/National Oceanic and Atmospheric Administration Fisheries BA Checklists

Protocol surveys were conducted for least Bell's vireo, southwestern willow flycatcher, and arroyo toad prior to project activities (HELIX 2017a, HELIX 2017b, RECON 2011a, RECON 2011b). Although the least Bell's vireo survey was negative, the Buckman Springs Road Bridge site is considered moderately suitable for least Bell's vireo. The southwestern willow flycatcher survey was also negative, and the species is not expected to occur on site. The site is presumed occupied by arroyo toad based on the results of the 2011 protocol survey. As a result, the conservation measures summarized here and detailed in Section 5.5.1 were developed to minimize impacts to the least Bell's vireo and arroyo toad.

If work is proposed to start during the least Bell's vireo breeding season (March 15 to September 15), a pre-activity nesting bird survey will occur and buffers, and/or noise attenuation measures will



I:\PROJECTS\C\CSD\CSD-05.03_BuckmanSprings\Map\BA\Fig1_Regional.mxd CSD-05.06 09/26/18 -EV

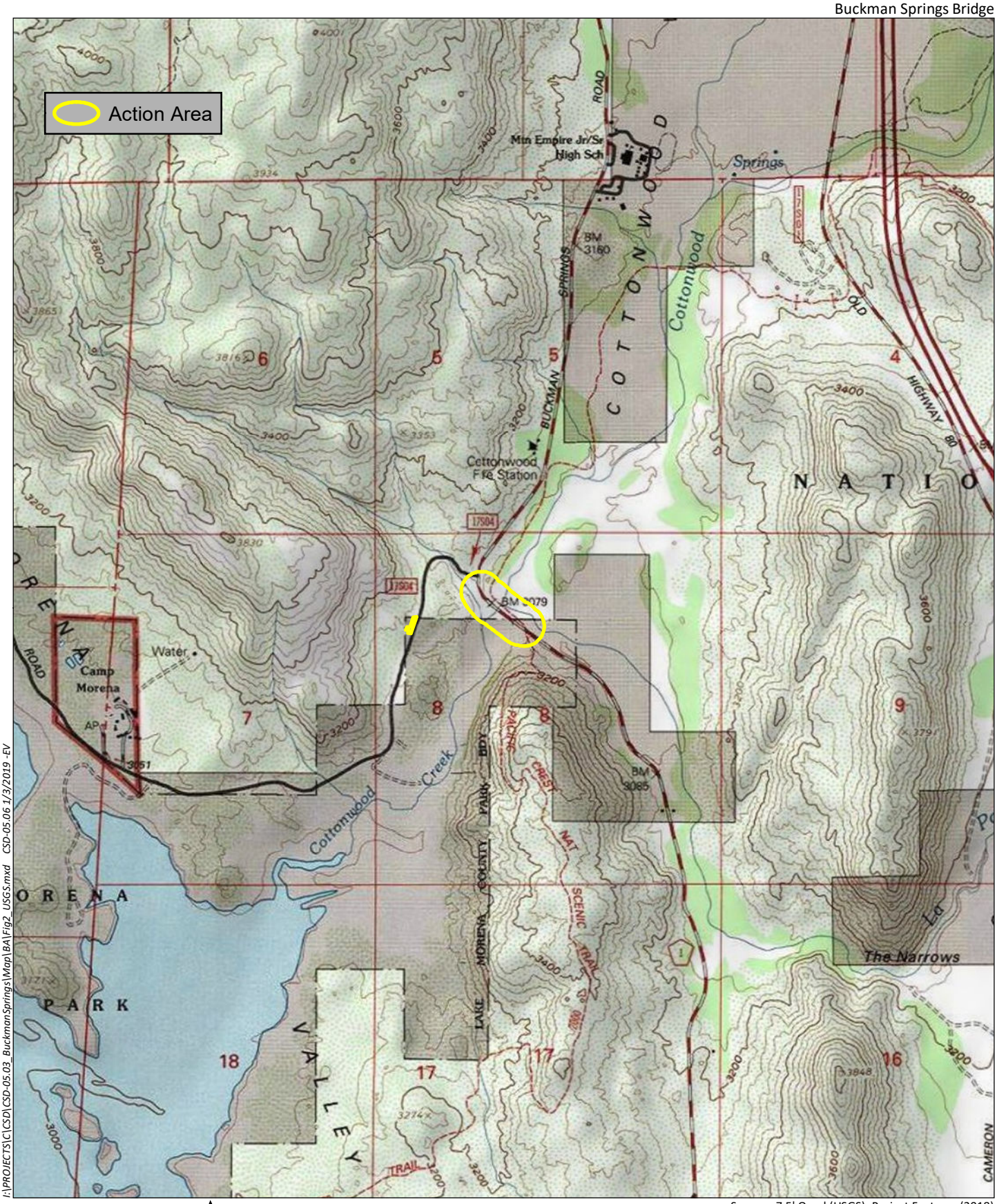
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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0 2,000 Feet

Source: 7.5' Quad (USGS); Project Features (2018)

HELIX Environmental Planning

USGS Topography

Figure 2

Buckman Springs Bridge

- Action Area
- Permanent Impact
- Temporary Impact
- Phase 1 Groundwater Dewatering Study Work Area
- Existing Bridge Pier
- Oak Root Zone (50 Feet)

Vegetation

- Big Sagebrush Scrub
- Coast Live Oak Woodland
- Disturbed Habitat
- Herbaceous Wetland
- Mule Fat Scrub
- Non-native Grassland
- Southern Arroyo Willow Riparian Forest
- Southern Mixed Chaparral
- Unvegetated Channel
- Urban/Developed

Cottonwood Creek

La Posta Creek

Buckman Springs Road

Morena Stokes Valley Road

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0 150 Feet

Source: 7.5' Quad (USGS); Project Features (2019)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 3

be implemented if nests are found, as detailed in Section 5.5.1. These measures will address least Bell's vireo, including breeding adults, eggs, and juveniles.

Arroyo toad exclusionary fencing will be placed around the PIA (except for the staging area) during project activities. The fencing will have a single layer of sand bags and is approved by the USFWS. A six-day/six-night arroyo toad survey will be conducted after the fencing is installed to ensure no toads remain in the PIA. These measures will address arroyo toad, including adults, breeding adults, eggs, and tadpoles. These conservation measures are discussed in more detail in section 5.5.1, and in section 1.4.1 for Phase 1.

Permanent habitat impacts are less than significant and do not require compensatory mitigation. Temporary impact areas will be revegetated when construction is finished, based on a restoration plan to be prepared for County approval by a County-approved revegetation planner. The restoration plan will specify maintenance and monitoring requirements and success criteria.

1.4.5.3. CONSERVATION MEASURES

In summary, conservation measures for the project include avoidance and minimization of impacts through careful design of the project activities, access, and staging, as well as the proposed timing of work, pre-construction surveys, and avoidance measures including arroyo toad exclusion fencing. These conservation measures are discussed in detail in section 5.5.1.

1.4.6. Interrelated and interdependent Actions

There are no interrelated or interdependent actions known.

Chapter 2. Study Methods

2.1. Summary

The study methods used to complete this biological assessment include a literature search, focused presence/absence surveys for rare plants, least Bell's vireo, and southwestern willow flycatcher, and review of previous focused surveys for the least Bell's vireo, southwestern willow flycatcher, arroyo toad, and bats. In addition to the species lists from USFWS (Appendix A; USFWS 2015) and USFS (USFS 2018), searches for sensitive species were conducted of the California Department of Fish and Wildlife's (CDFW) CNDDB (California Department of Fish and Wildlife 2018), USFWS Species Database, and California Native Plant Society's Inventory of Rare and Endangered Plants (California Native Plant Society 2018).

The critical habitat designations and PCEs for arroyo toad and least Bell's vireo were reviewed. Survey protocols were also reviewed prior to conducting the least Bell's vireo and southwestern willow flycatcher protocol surveys.

Surveys for the least Bell's vireo were conducted following the USFWS survey protocol (USFWS 2001). The surveys were conducted by walking along the edges of, as well as within, potential least

Bell's vireo habitat in the survey area while listening for least Bell's vireo and viewing birds with the aid of binoculars. The survey route was arranged to help ensure complete survey coverage of habitat with potential for occupancy by least Bell's vireo (HELIX 2017a).

Surveys for the southwestern willow flycatcher were conducted following the USFWS survey protocol (Sogge et al. 2010). The surveys were conducted by walking within and along the perimeter of suitable southwestern willow flycatcher habitat. Surveys were conducted with binoculars to aid in bird detection. Recorded southwestern willow flycatcher vocalizations were played every 20 to 30 meters followed by a one-minute silent period to listen for a response. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by southwestern willow flycatcher (HELIX 2017b).

Rare plant surveys were conducted in spring and summer, when most sensitive plant species can be identified. Plant and animal species observed or otherwise detected were recorded in field notebooks. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs.

2.2. Personnel and Survey Dates

HELIX Environmental Planning, Inc. (HELIX) biologists conducted eight least Bell's vireo surveys between April 12, 2017 and June 26, 2017, and five southwestern willow flycatcher surveys between May 15, 2017 and July 6, 2017. HELIX biologists Beth Ehsan and Stacy Nigro conducted a general biological survey and jurisdictional delineation, as discussed in the Natural Environment Study (Minimal Impacts) (NES-MI; HELIX 2018). Rare plant surveys were conducted in spring and summer of 2018. Table 2 shows survey dates, times, and conditions for the surveys.

Table 2: Summary of Biological Surveys

Date	Surveyor	Survey	Time	Weather Conditions
4/12/17	Ben Rosenbaum	Least Bell's Vireo 1/8	7:20 AM 9:20 AM	46°F, wind 1-2 mph, 0% clouds 65°F, wind 1-2 mph, 0% clouds
4/24/17	Ben Rosenbaum	Least Bell's Vireo 2/8	7:50 AM 9:50 AM	49°F, wind 1-2 mph, 100% clouds 65°F, wind 2-6 mph, 0% clouds
5/5/17	Ben Rosenbaum	Least Bell's Vireo 3/8	9:00 AM 10:15 AM	76°F, wind 1-2 mph, 15% clouds 81°F, wind 2-5 mph, 10% clouds

Table 2: Summary of Biological Surveys (cont.)

Date	Surveyor	Survey	Time	Weather Conditions
5/15/17	Ben Rosenbaum and Erica Harris[1]	Least Bell's Vireo 4/8 and Southwestern Willow Flycatcher 1/5	7:00 AM 8:50 AM	45°F, wind 1-3 mph, 100% clouds 51°F, wind 2-4 mph, 100% clouds
5/25/17	Erica Harris And Dane van Tamelen[2]	Least Bell's Vireo 5/8	7:20 AM 9:20 AM	57°F, wind 0-1 mph, 30% clouds 64°F, wind 1-3 mph, 0% clouds
6/5/17	Beth Ehsan and Erica Harris[1]	Least Bell's Vireo 6/8 and Southwestern Willow Flycatcher 2/5	7:30 AM 9:00 AM	64°F, wind 0-1 mph, 0% clouds 81°F, wind 0-1mph, 0% clouds
6/15/17	Ben Rosenbaum and Erica Harris[1]	Least Bell's Vireo 7/8 and Southwestern Willow Flycatcher 3/5	7:15 AM 8:35 AM	65°F, wind 1-2 mph, 0% clouds 74°F, wind 1-2 mph, 0% clouds
6/26/17	Ben Rosenbaum and Erica Harris[1]	Least Bell's Vireo 8/8 and Southwestern Willow Flycatcher 4/5	7:30 AM 8:50 AM	71°F, wind 0-1 mph, 45% clouds 92°F, wind 0-1 mph, 35% clouds
7/6/17	Erica Harris	Southwestern Willow Flycatcher 5/5	7:05 AM 9:00 AM	87°F, wind 1-2 mph, 0% clouds 92°F, wind 1-2 mph, 0% clouds
7/11/17	Beth Ehsan and Stacy Nigro	General Biological Survey. Vegetation Mapping. Jurisdictional Delineation	N/A	N/A
4/10/18	Beth Ehsan and Amy Mattson	Spring Rare Plant Survey	N/A	N/A
6/26/18	Amy Mattson	Summer Rare Plant Survey	N/A	N/A

NOTE: LBVI = least Bell's vireo

2.3. Resource Agency Coordination and Professional Contacts

To date, no additional agency coordination/consultation has occurred beyond the coordination discussed in Sections 1.2 and 1.3.

2.4. Limitations and Assumptions that may Influence Results

Due to the timing of the surveys, wintering and some migrating birds would not have been detected. However, surveys for listed species were conducted according to established standard USFWS guidelines/protocols and during appropriate times to ensure detection, if present, of the target species. Protocol arroyo toad surveys have not been conducted since 2011 to confirm the exact number of arroyo toads within the action area; however, this is not a significant limitation since arroyo toad presence was assumed, and the exact number of toads wouldn't change the conservation measures or conclusions of this biological assessment. The low rainfall in the 2017-2018 rainy season may have affected detection of rare plants; however, the potential for rare plants was also assessed based on habitat suitability, as detailed in the NES-MI (HELIX 2018). Therefore, the low rainfall did not affect the conclusions of this biological assessment.

Chapter 3. Environmental Baseline

The Environmental Baseline describes the setting in which the project will occur and includes the effects from past and present federal, state, and private actions; proposed federal projects with completed section 7 consultations; and contemporaneous State or private actions with consultation in progress. The environmental baseline also considers non-permitted actions (i.e., other non-federal actions occurring within the action area).

3.1. Habitat Conditions in the Action Area

The Buckman Springs Road Bridge spans Cottonwood Creek and La Posta Creek, which flows into Cottonwood Creek immediately south of the bridge. Cottonwood Creek is open with a sandy bottom and meandering low-flow channel with sandy terraces and evidence of past pooling. Many of the PCEs for arroyo toad breeding habitat are present, as detailed in Section 4.3. The action area also supports a canopy of willow riparian vegetation, shorter mule fat scrub, and foraging habitat that are PCEs for least Bell's vireo habitat, as detailed in Section 4.2.

3.2. Summary of Environmental Baseline

The surveys and research for the project followed USFWS protocol and included searches of CNDDB and other databases, as described in Chapter 2. Cottonwood Creek was flowing on April 12, 2017 when the least Bell's vireo surveys started but was dry by July 11, 2017. The creek was dry on April 10, 2018 and June 26, 2018.

3.3. Describe the Action Area

As discussed in Section 1.4.4, the action area bridge includes the staging area and a 300-foot buffer around the bridge PIA. Project staging will include parking vehicles and stacking materials at the staging location shown on Figure 3, installing a temporary access road down to the streambed, installing water diversion pipes under the bridge, installing arroyo toad exclusion fencing around the PIA, installing a scaffolding system on top of the temporary fill, putting up signs to redirect hikers

using the PCT, and placing tarps underneath the work area as needed to capture construction dust and debris. The work itself includes bridge foundation retrofitting, bridge pier extension, grading, installation of storm drain infiltration trenches, salvage and replacement of riprap, improvements to the bridge, and a GWDS as Phase 1, as described in Section 1.4.1. There would be no dredging, dredge spoil piles, or borrow areas. Construction equipment and activity that could trample or remove vegetation will be limited to the mapped PIA, which includes staging and access areas. A 300-foot buffer was selected because it is used as a standard noise buffer for most construction equipment. Following bridge work, the water diversion pipes, temporary fill, temporary access road, tarps, scaffolding, temporary signs, and exclusion fencing would be removed, and the temporary impact area would be restored to pre-project contours and revegetated.

The action area includes southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, non-native grassland, disturbed habitat, and developed land (Figure 3). Surrounding lands are undeveloped and consist of passive conservation land located partly within the Cleveland National Forest and partly within Lake Morena County Park. The PCT crosses Buckman Springs Road south of the bridge and parallels the northeastern side of the bridge before turning northeast to parallel Cottonwood Creek. The action area is gently sloped, except for the slopes adjacent to the developed roadway. Elevation ranges from about 3,060 feet below the bridge to about 3,090 feet in the upland areas and 3,100 feet in the staging area. Soils within the action area include Mottsville loamy coarse sand along the creeks and in the staging area, acid igneous rock land in the northwest and southeast ends of the action area, and La Posta rocky loamy coarse sand in the west end of the action area.

A total of 137 plant species were observed during surveys, including 101 native species and 36 non-native species. No sensitive plant species were observed during surveys, nor are they expected to occur within the PIA. A total of 32 animal species were observed during surveys conducted for this study, including six mammals, one reptile, 16 birds, and nine insects. Species observed within the action area during current project surveys include two County-listed sensitive bird species: red-shouldered hawk (*Buteo lineatus*; County Group 1) and turkey vulture (*Cathartes aura*; County Group 1). An additional six County-listed bird species and one mammal species were observed during previous surveys: Cooper's hawk (*Accipiter cooperii*; CDFW Watch List; County Group 1), green heron (*Butorides virescens*; County Group 2), white-tailed kite (*Elanus leucurus*; CDFW Fully Protected; County Group 1), mountain quail (*Oreortyx pictus*; County Group 2), yellow warbler (*Setophaga petechia*; USFWS Birds of Conservation Concern, CDFW SSC; County Group 2), western bluebird (*Sialia mexicana*; County Group 2), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; CDFW SSC; County Group 2). Additionally, other surveys have identified pallid bat (*Antrozous pallidus*; CDFW SSC, USFS Sensitive; County Group 2) and arroyo toad (*Anaxyrus californicus*; federally listed endangered and CDFW SSC; County Group 1) in the action area.

Cottonwood Creek likely serves as a wildlife corridor through the area, although wildlife can also move through the undeveloped land surrounding the creek. The creek does not flow year-round at this location; therefore, it does not support perennial aquatic species. The action area supported common non-native species including short-pod mustard (*Hirschfeldia incana*) and brome grasses (*Bromus* spp.), particularly in the non-native grassland, but they are not unusually abundant.

The action area supports non-wetland waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act, non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act; and riparian habitat and unvegetated streambed subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code. Jurisdictional areas within the PIA are summarized in Table 3. Jurisdictional delineation maps and data sheets are included in the NES-MI (HELIX 2018).

Table 3: Jurisdictional Areas within the PIA

Jurisdictional Areas	Acres	Linear Feet
U.S. Army Corps of Engineers/Regional Water Quality Control Board Jurisdictional Areas		
Wetland Waters of the U.S./State	0.01	81.5
Non-wetland Waters of the U.S./State	0.09	252.5
Total	**0.10**	**334**
California Department of Fish and Wildlife (CDFW) Jurisdictional Areas		
CDFW Riparian Habitat	0.75	244.5
Streambed	0.09	91.5
Total	**0.84**	**336**

Chapter 4. Federally-Listed/Proposed Species and Designated Critical Habitat within Action Area

4.1. Federally-Listed/Proposed Species

Two listed species, the least Bell's vireo and arroyo toad, have the potential to be impacted by the project.

4.2. Discussion of Least Bell's Vireo

Least Bell's vireo is a small, grey, migratory songbird that utilizes riparian vegetation for foraging and nesting. Most nesting activity occurs from April 10 to July 31, although March 15 through September 15 is the full nesting season. A pair will build an open cup nest in a variety of riparian plants that provide concealment with dense foliage. Clutches are typically three to four eggs and nestlings fledge 10 to 12 days after hatching. Least Bell's vireos are foliage gleaners and will obtain their arthropod prey from the leaves, branches, and bark of riparian vegetation. Most pairs will raise only one brood per season but can initiate as many as five nests per season. Least Bell's vireos typically leave their breeding grounds by September. Least Bell's vireos winter in southern Baja California, Mexico and begin returning to southern California in mid- to late-March (Kus 2002). The least Bell's

vireo population has declined dramatically in both numbers and distribution. This subspecies was listed as endangered by the USFWS in 1986 and the majority of its remaining population is found in southern California (USFWS 2006).

According to the Designation of Critical Habitat for the least Bell's vireo (USFWS 1994), the PCEs that support feeding, nesting, roosting, and sheltering are essential to the conservation of the least Bell's vireo. These habitat features can be described as riparian woodland vegetation that generally contains both canopy and shrub layers and includes some associated upland habitats. Least Bell's vireos meet their survival and reproductive needs (food, cover, nest sites, nestlings, and fledgling protection) within the riparian zone in most areas. In some areas, they also forage in adjacent upland habitats (USFWS 1994). They utilize riparian vegetation for nesting that provides concealment in dense foliage, such as willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), and cottonwood (*Populus fremontii*; Kus 2002).

Willow riparian forest occurs along Cottonwood Creek, north and south of the bridge. The southern arroyo willow riparian forest within the action area is densest in the canopy layer, while the shrub layer is less developed, but there are some understory grasses and shrubs providing nesting PCEs, and there is mid-stature mule fat scrub adjacent to the riparian forest. The presence of water in Cottonwood Creek, when flowing, maintains humidity that would promote insects upon which least Bell's vireos can feed. The action area supports 5.27 acres of southern arroyo willow riparian forest and 3.02 acres of mule fat scrub, which are least Bell's vireo habitat. The action area also supports coast live oak woodland, big sagebrush scrub, and southern mixed chaparral, which can provide upland foraging. While no critical habitat is designated in this area, the presence of habitat containing PCEs and the historical detections nearby make this area potential suitable breeding, foraging, and dispersal habitat for least Bell's vireo.

Riparian vegetation continues both upstream and downstream along Cottonwood Creek and upstream along La Posta Creek, most of which is either County park land or part of the Cleveland National Forest. This provides a good supply of least Bell's vireo habitat in the surrounding area.

4.3. Discussion of Arroyo Toad

Arroyo toads are small toads found in coastal and desert drainages in California and Baja California, Mexico. They occupy aquatic, riparian, and upland habitat in suitable drainages within its range. Arroyo toads breed and deposit egg masses in shallow, sandy pools that are usually bordered by sand and gravel flood terraces in slow-moving streams (USFWS 2009). They are active from the first substantial rains in January to March through August or September. Adults are nocturnal and feed on a wide variety of arthropod prey. Breeding is aquatic and occurs from March 15 to July 1. Eggs are laid in pools or areas of quiet, shallow water with sandy or gravel bottoms and without any emergent vegetation or debris. Females do not produce a second clutch during the breeding season, though males can mate with multiple females. Tadpoles hatch after four to six days and reach metamorphosis in 72 to 80 days. The tadpoles feed on loose organic material, such as algae, bacteria, and diatoms. Juveniles remain on the bordering banks of the pools to feed until the pool dries out. Juveniles eat ants almost exclusively. During the non-breeding season, adults and

subadults burrow into upland terraces into dry or slightly damp fine sands to seek shelter during the day and other periods of inactivity. They also use the marginal zones between stream channels and upland terraces for burrowing, especially during late fall and winter (USFWS 2009). They go into estivation to prevent dehydration during hot or dry times and will generally stay in their burrows starting in late summer from mid-August to January. Arroyo toads are adapted for living in dynamic habitat conditions, but with habitat loss, were listed as endangered by USFWS in 1994 (USFWS 2014).

According to the Revised Critical Habitat Designation for the arroyo toad, the PCEs of critical habitat for the arroyo toad (USFWS 2011b) are the following:

1) Rivers or streams with hydrologic regimes that supply water to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads. Breeding pools must persist a minimum of two months for the completion of larval development. However, due to the dynamic nature of southern California riparian systems and flood regimes, the location of suitable breeding pools may vary from year to year. Specifically, the conditions necessary to allow for successful reproduction of arroyo toads are:

    - Breeding pools that are less than six inches (15 centimeters) deep;
    - Areas of flowing water with current velocities less than 1.3 feet per second (40 centimeters per second); and
    - Surface water that lasts for a minimum of two months during the breeding season (a sufficient wet period in the spring months to allow arroyo toad larvae to hatch, mature, and metamorphose).

2) Riparian and adjacent upland habitats, particularly low-gradient (typically less than six percent) stream segments and alluvial streamside terraces with sandy or fine gravel substrates that support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles; and adjacent valley bottomlands that include areas of loose soil where toads can burrow underground, to provide foraging and living areas for juvenile and adult arroyo toads.

3) A natural flooding regime or one sufficiently corresponding to a natural regime that (A) is characterized by intermittent or near-perennial flow that contributes to the persistence of shallow pools into at least mid-summer; (B) maintains areas of open, sparsely vegetated, sandy stream channels and terraces by periodically scouring riparian vegetation; and (C) also modifies stream channels and terraces and redistributes sand and sediment, such that breeding pools and terrace habitats with scattered vegetation are maintained.

4) Stream channels and adjacent upland habitats that allow for movement to breeding pools, foraging areas, overwintering sites, upstream and downstream dispersal, and connectivity to areas that contain suitable habitat.

Buckman Springs Road Bridge spans an open river with a sandy bottom, sandy terraces, evidence of past pooling, and other PCEs for breeding habitat that make the area highly suited for use and occupation by arroyo toads. The action area is designated Critical Habitat and one arroyo toad was observed within 100 feet of the bridge in 2011 (RECON 2011a). Arroyo toads are assumed present in this action area due to the suitability of the habitat and past observations of arroyo toad in the area. The action area supports 17.56 acres of suitable arroyo toad habitat, given that all the habitats within the action area except for disturbed habitat, developed land, and the staging area could support either breeding or estivation.

Arroyo toad habitat continues both upstream and downstream along Cottonwood Creek and upstream along La Posta Creek, most of which is either County park land or part of the Cleveland National Forest. This provides a good supply of arroyo toad habitat in the surrounding area.

4.4. Survey Results

The action area contains willow riparian forest and mule fat scrub at Buckman Springs Road Bridge that are indicative of least Bell's vireo habitat. A protocol survey was conducted in 2017 and was negative for least Bell's vireos. A previous 2011 protocol survey detected one dispersing male but was negative for breeding least Bell's vireo. Although surveys were negative, the habitat is still considered suitable for this species. Least Bell's vireos have been detected approximately four miles north along Cottonwood Creek, less than a mile southeast along La Posta Creek, and approximately five miles southwest along Cottonwood Creek downstream from Lake Morena. The staging area does not support least Bell's vireo habitat.

The action area contains an open, sandy, low-gradient stream that is indicative of arroyo toad habitat. A protocol survey conducted in 2011 detected one juvenile within the action area, and the habitat is considered suitable for this species. Arroyo toads have been detected multiple times within a one-mile radius both upstream and downstream of the site. The staging area is located more than one kilometer in distance from the creek, and thus is not considered to be foraging habitat for the arroyo toad (USFWS 1999). The rocky, sloping terrain between the creek and the staging area would also discourage arroyo toads from accessing the staging area.

4.5. Status of Designated Critical Habitat in the Action Area for Arroyo Toad

The entire action area is designated Critical Habitat for arroyo toad and, except for the staging area, supports PCEs for arroyo toad, which are listed in Section 4.3. Shallow, slow moving surface water persisted throughout the approximately two-month toad survey period in 2011, meaning that Cottonwood Creek has a hydrologic regime that supplies water to provide space, food, and cover needed to sustain eggs, tadpoles, metamorphosing juveniles, and adult breeding toads, at least in wetter years. The action area includes alluvial streamside terraces with sandy or fine gravel substrates that support the formation of shallow pools and sparsely vegetated sand and gravel bars for breeding and rearing of tadpoles and juveniles. The site also includes adjacent valley bottomlands with loose soil and dependable subsurface moisture for adults to burrow during the non-breeding season. The natural flooding regime maintains areas of open, sparsely vegetated, sandy

stream channel and terrace habitats. The stream banks allow arroyo toads to access foraging and overwintering areas, and the stream channel provides connectivity for upstream and downstream dispersal. Therefore, the site supports the PCEs for arroyo toad.

Chapter 5. Effects of the Project on the Action Area

5.1. Deconstruct Action

Construction activities at Buckman Springs Road Bridge have the potential to impact least Bell's vireo. The project will temporarily remove 0.32 acre of southern arroyo willow riparian forest and 0.42 acre of mule fat scrub. This could pose a direct risk to least Bell's vireo if nesting within the vegetation to be removed. In addition, the grading, construction of the temporary access road, installation of temporary fill, and other project activities will generate noise. This could pose an indirect risk to least Bell's vireo if nesting in the area subject to noise from project activities.

Excavation for bridge foundation retrofitting, grading for the access road and on either end of the bridge, placement of water diversion pipes and temporary fill on the creek bed, and Phase 1 activities all could pose a direct risk to arroyo toad if present within the PIA. The project will temporarily impact 0.09 acre of non-vegetated channel that is potential arroyo toad breeding habitat and another 1.14 acres of native habitat that could be used for arroyo toad foraging or estivation.

5.1.1. Construction Scenario (Summary)

Work is anticipated to begin in August 2019 and will last approximately 12 months. The action area, which includes direct and indirect impacts, totals 19.17 acres and includes southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, non-native grassland, disturbed habitat, and developed land (Table 4). The area of potential impacts (the PIA) totals 1.94 acres and includes southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, non-native grassland, disturbed habitat, and developed land (Table 4). No sensitive habitat types are permanently impacted in a significant quantity; all significant sensitive habitat impacts are temporary.

Table 4: Potential Impact Areas

Vegetation Community/ Habitat Type	Action Area (acres)*	PIA		
		Permanent Impacts (acres)*	Temporary Impacts (acres)*	Total Impacts (acres)*
Southern Arroyo Willow Riparian Forest	5.24	<0.01	0.32	0.32
Mule Fat Scrub	3.03	<0.01	0.42	0.42
Herbaceous Wetland	0.06	<0.01	0.01	0.01
Non-vegetated channel	0.74	<0.01	0.09	0.09
Coast Live Oak Woodland	3.3	<0.1	0.1	0.1
Big Sagebrush Scrub	0.5	<0.1	0.1	0.1
Southern Mixed Chaparral	1.5	--	--	--
Non-native Grassland	3.5	<0.1	0.5	0.5
Disturbed Habitat	0.6	<0.1	0.2	0.2
Developed Land	0.7	0.1	0.1	0.2
TOTAL	**19.17**	**0.1**	**1.84**	**1.94**

*Upland habitats are rounded to the nearest tenth and wetland/riparian habitats are rounded to the nearest hundredth. Totals reflect rounding.

5.1.2. Sequencing and Schedule

Work is anticipated to begin in August 2019 and will last approximately 12 months. Installation of toad exclusion fencing will take one week. Arroyo toad surveys will take one week. Following arroyo toad fencing and surveys, the approximately 12-month construction schedule will begin. Clearing and grubbing, water pollution control measure installation (including water diversion pipes), and traffic control set-up will occur in month 1. Roadway excavation, Phase 1 approach roadway construction, and railings will occur in months 2 and 3. Bridge pile construction and foundation footing retrofit will occur in months 2 through 5, with each of the four piers taking one month. Phase 1 roadway approach paving and footing backfill will occur in month 4. Bridge deck placement will occur in months 5 through 7. Phase 2 approach roadway construction will occur in months 5 and 6. Phase 2 approach roadway paving will occur in month 7. Polyester concrete overlay will occur in months 7 and 8. Bridge railings, green street BMPs, and planting mitigation areas will occur in months 8 through 12. Traffic control pick up will occur in months 11 and 12 and the roadway will be opened to traffic in months 10 through 12. The removal of arroyo toad exclusion fencing and water diversion pipes will occur in month 12.

If work is proposed to start during the migratory bird and tree-nesting raptor breeding season (January 15 to August 31), a pre-activity nesting bird survey will be conducted as detailed in the NES-MI (HELIX 2018). If work is proposed to start during the maternity season for bats (April 1 to September 15), a pre-activity bat survey will be conducted, as detailed in the NES-MI (HELIX 2018). If work starts between March 15 and September 15, a pre-activity survey for least Bell's vireo will be conducted, as detailed in Section 5.5.1. The pre-activity nesting bird and bat surveys and

concurrence are expected to take one week and can be conducted concurrently with the arroyo toad survey.

The Phase 1 GWDS will occur before project construction begins and will take two days.

5.1.3. Stressors from Project Actions

Stressors induce an adverse response in an organism by any physical, chemical, or biological alteration of the environment (or resource) that can lead to a response from the individual. Stressors can act directly on an individual or indirectly through effects to a resource. Potential stressors from the proposed work for least Bell's vireo include removal of vegetative cover and nesting sites and noise from project activities. Potential stressors from the proposed work for arroyo toad and arroyo toad critical habitat include disturbance and compaction of the soil surface, removal of vegetation, alteration of channel morphology, vehicle strike, crushing of buried arroyo toads, and introduction of pollutants.

5.1.4. Project Operation and Maintenance

After construction is finished, the temporary impact areas will be restored to pre-project contours and revegetated with native species. A restoration plan will be prepared for County approval by a County-approved revegetation planner. The restoration plan will specify maintenance and monitoring requirements and success criteria. Maintenance of the restoration area during the monitoring period will consist primarily of non-native plant removal done on foot with hand-held tools, which should have only minimal impacts to least Bell's vireo and arroyo toad. The bridge itself is not expected to require ongoing maintenance.

5.2. Exposure to Stressors from the Action

Exposures are defined as the interaction of the species, their resources, and the stressors that result from the project action. At Buckman Springs Road Bridge, removal of riparian vegetation could expose least Bell's vireos to an indirect stressor by removing potential breeding and foraging habitat and modifying the microclimate. There is a potential for removal of riparian vegetation to directly affect least Bell's vireo by removing an active nest. Project noise could also expose least Bell's vireos to an indirect stressor and affect breeding if work occurs during the breeding season.

Activities in the creek bed and upland estivation areas could expose arroyo toads to a direct stressor of crushing by construction equipment and personnel and placement of water diversion pipes and temporary fill. Activities in the creek bed and installation of pipes to divert water could result in an indirect stressor to arroyo toads by modifying channel morphology, causing siltation downstream or head cutting upstream, and disturbing the soil in the creekbed. Work on the bridge could also result in an indirect stressor to arroyo toads by introducing construction dust and debris into the habitat. Noise and lighting will not be a stressor to arroyo toad breeding because construction will be limited to the daylight hours, with no lighting, and arroyo toads breed at night.

Spatial changes to arroyo toad critical habitat would be limited to temporary impacts, as native habitat would not be permanently removed. Temporal changes to critical habitat would include placement of temporary fill and water diversion pipes that would render 0.09 acre of non-vegetated

channel unsuitable for breeding during the 18-month construction season. Grading, temporary fill, vegetation removal, and staging activities would make 1.14 acres of native habitat unsuitable for foraging or estivation due to loss of cover, loss of forage, and loss of soil for burrowing during the 18-month construction period. The actual flow regime of Cottonwood Creek and La Posta Creek would not be affected during construction because water would still flow through the PIA via water diversion pipes laid at the thalweg of each creek. Mats would be placed between native soil and temporary fill to keep them separate. After construction the water diversion pipes, temporary fill, and mats would be removed, and the original contour of the creek would be restored, with no removal or addition of soil. The retrofitting of the bridge foundation will be buried underground and the changes to the bridge piers are limited to lengthening them by 1.5 feet on either end without widening, thus minimizing any impacts to water flow under the bridge. The project will not fragment critical habitat because all impacts are temporary, and the habitat will retain its current connectivity after the project is completed. The project will not reduce access to adjacent habitat because the project will include 36-inch water diversion pipes that would allow aquatic wildlife and smaller terrestrial species to move through the PIA during construction, while birds will be able to fly over or around the PIA and larger mammals could move through the undeveloped habitat that surrounds the PIA on all sides.

5.3. Response to the Exposure

Least Bell's vireos have the potential to be occupying habitat adjacent to Buckman Springs Road Bridge from mid-March to September. If work occurs within the breeding season (March 15 to September 15), both adult (male and female) and juvenile least Bell's vireos could be affected by removal of habitat and modification of the microclimate. Changes to the physical habitat could affect habitat quality, foraging ability, and nest placement until the affected vegetation grows back. Adult and juvenile least Bell's vireos could also be affected by noise during the 18-month work period. Disturbance during breeding and nest building could interfere with least Bell's vireos courtship vocalization or cause pairs to move to a different territory or abandon a nest, which could result in mortality of eggs or loss of time for successful reproduction. Because protocol least Bell's vireo surveys were negative and the habitat quality is moderate, the probability of least Bell's vireo exposure is low, and the number of individuals exposed is expected to be low, if any.

Arroyo toads have the potential to be present within the PIA year-round, either using the stream channel or occupying upland burrows. Work outside of the breeding season could potentially harm adult toads that are burrowed underground within the upland portion of the PIA by crushing. Noise and visual disturbance from work outside of the breeding season would not be a stressor to arroyo toads outside of the PIA, since they would be burrowed underground. Work during the arroyo toad breeding season (March 15 to July 1) could potentially harm tadpoles and juvenile arroyo toads due to crushing from equipment and personnel working in the streambed. Diverting water around the site during the breeding season after eggs had been laid could affect the hydrology of pools with eggs and cause die-off. However, these effects will not occur because of the pre-activity surveys and toad exclusion fencing that will be installed before the water diversion pipes are installed and other project activities begin. Siltation downstream and head cutting upstream can be an issue if a project changes the shape or grade of a stream; however, since the water diversion pipes will be placed along the natural thalweg of the two streams, those issues should be minimal. Project activities could also modify habitat through soil disturbance, changes to channel morphology, and introduction of

pollutants. This could lower habitat quality and could affect adult burrowing habitat and breeding pools. However, this is not expected to occur because grading and construction equipment will not leave the fenced PIA, water will be diverted through the construction area, mats will be used to separate temporary fill from native soil, and tarps will be laid down to catch construction dust and debris. The number of arroyo toads potentially exposed is assumed to be low since only one juvenile was observed during the 2011 protocol survey.

Out of the 19.17 acres of arroyo toad critical habitat in the action area, only 1.94 acres would be directly impacted, or 1.54 acres after excluding disturbed and developed habitat. All of these impacts would be temporary. Out of the four PCEs (hydrologic regime, alluvial terraces, flooding regime, and connectivity), the first three would be exposed temporarily during the construction period, while habitat connectivity would be retained even during construction. Following construction, all the temporary fill would be removed, the soil would be returned to its original contours and vegetation would be restored, restoring arroyo toad PCEs within the PIA.

5.4. Effects of the Action

Effect is a description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effect (50 CFR 402.02). The effect of the action is the consequence (behavioral, physical, or physiological) of a response to a stressor.

As stated above, protocol surveys for least Bell's vireos were negative; therefore, there is a low potential for least Bell's vireos to be affected. Least Bell's vireos may be exposed to project noise or precluded from nesting within the action area during project construction. However, since Buckman Springs Road Bridge occurs along a continuous riparian corridor, vireos could move upstream or downstream and find suitable nesting and foraging habitat unaffected by noise from the action. The least Bell's vireo habitat removed during project construction will be restored following project completion. Therefore, within a few years any changes in foraging area and microclimate will be gone. The temporary reduction of the riparian forest and mule fat scrub around the bridge is occurring in locations that are currently not occupied or in proximity to least Bell's vireo, and it is an insignificant effect.

Arroyo toads are assumed present within the PIA. The proposed action will potentially result in impacts to (or take of) individual arroyo toads within the PIA. The proposed action will also temporarily impact arroyo toad critical habitat within the PIA, but the PCEs of the critical habitat within the PIA will be restored following project completion. However, this low level of take is not expected to jeopardize the continued existence of the species.

5.5. Conservation Measures and Compensation Proposal

5.5.1. Conservation Measures

As stated in Section 1.4.5.1 above, water diversion pipes will be installed to maintain water flow, if any, and keep pollutants from entering the water. Tarps will be laid down to catch construction dust and debris. Work is proposed to start in August so that the 18-month construction period will only impact one least Bell's vireo and arroyo toad breeding season. Conservation measures for Phase 1 are listed in Section 1.4.1.

At Buckman Springs Road Bridge, the following least Bell's vireo conservation measures apply:

- If work is proposed to start during the least Bell's vireo breeding season (March 15 to September 15), a pre-activity nesting bird survey will be conducted within seven days prior to starting work to identify any nesting vireos or other riparian birds within 500 feet of the PIA. If work stops for more than seven days, the pre-activity survey will be repeated before re-starting work during the breeding season.

- If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, vegetation trimming and other project activities shall be allowed to proceed.

- If nesting birds are found, the biologist shall flag the active nests and project activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged. Project-related maintenance activities that could generate noise in excess of 60 A-weighted decibels (dBA) within 300 feet of a nest (500 feet for raptors) shall either: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient. Buffer distances may be adjusted as recommended by the qualified biologist depending on the sensitivity of the species.

The following arroyo toad conservation measures apply at the project site, not including the staging area on Morena Stokes Valley Road:

- Construction activities will only occur during daytime hours. No night lighting is permitted for use during construction of the project. No lighting will be installed on the new roadway as part of this project.

- Arroyo toad exclusionary fencing shall be installed around the PIA by the contractor prior to starting work. This fence will exclude arroyo toads from the PIA, including the access road. Project activities shall be confined within the fenced area. The arroyo toad exclusion fence should consist of filter fabric at least two feet high, staked firmly to the ground with the lower one foot of material stretching outward along the ground and secured with a continuous line of sandbags (i.e., there should be no space between the sandbags). No digging or vegetation removal should be associated with the installation of the fence and all materials will be removed when the project is complete.

- The County will be responsible for hiring a Carlsbad Fish and Wildlife Office-approved biologist experienced in handling arroyo toad to work as the project biological monitor and toad expert. The qualified biologist shall monitor the installation of the toad exclusion fencing.

- Once the fence is installed, a qualified biologist would conduct a six-day/six-night arroyo toad survey of the entire area inside the fence to ensure no toads remain in the PIA. If pre-activity conditions are dry, the area inside the exclusionary fencing will be sprayed with water during the arroyo toad survey to simulate a precipitation event. Water spraying will occur at least

one hour after sunset when the air temperature is greater than 50 degrees Fahrenheit. If no toads are encountered within the exclusion fencing area, then project activities shall be allowed to commence under the supervision of a biological monitor.

- In the event that arroyo toads are confirmed inside of the exclusionary fencing area, any individuals encountered within the exclusion fencing area will be relocated to suitable habitat outside the PIA by a qualified biologist approved by the USFWS to handle the species. Surveys shall continue until there have been two consecutive nights without toads inside the fence. The final survey shall be conducted within one week prior to the start of project activities.

- The USFWS-authorized biologist should coordinate with appropriate property owners and with the USFWS to determine a specific translocation site prior to moving any arroyo toads. In addition, any arroyo toads captured should be checked for a Passive Integrated Transponder (PIT) tag and be scanned with a PIT-tag reader if a PIT-tag is present. The date, time of capture, specific location of capture (using Global Positioning System [GPS]), PIT-tag code, approximate size, age, and health of the individual should be recorded and provided to the USFWS, within two weeks of the translocation, in both hard copy and digital format.

- Once project activities begin, a biological monitor authorized to handle arroyo toads will be on site weekly or as necessary to ensure the integrity of the exclusionary fencing.

- If any toads are identified by construction personnel, then the resident engineer (RE) should be notified immediately. The RE will then notify the authorized biologist who shall be solely responsible for the translocation of toads outside of the PIA. No one other than the approved biologist is permitted to handle or bother the toads in any way.

- The USFWS-authorized biologist shall maintain a complete record of all arroyo toads encountered and moved from harm's way during the project activities. Information shall include: location, date and time of observation, details of the observed behavior, relocation site, estimated number of toads seen or heard, and photographs (when possible).

- If the arroyo toad exclusion fencing is found damaged during construction, the contractor is responsible for repairing the fence within 24 hours and notifying the RE. If the exclusion fencing is found damaged in such a way thereby allowing arroyo toads access to the PIA, arroyo toad exclusion surveys will be repeated by the approved biologist for a minimum of three consecutive nights prior to any additional construction activities occurring in the area.

- Prior to the onset of project activities, employees that would work on the project (including temporary workers, contractors, and subcontractors) would be educated and instructed on the arroyo toad conservation measures including the following by the qualified biologist and County staff: limiting activities to within the fenced arroyo toad exclusion area, keeping vehicles and equipment on the bridge and road, and the location of approved staging area and access path. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology,

sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the area. It is the contractor's responsibility to inform all workers and subcontractors of the environmental requirements of the project.

- Project work during rain events will be avoided to the greatest extend feasible as arroyo toads may become active during rain events and the movement of personnel and equipment through wet soils may result in sedimentation into breeding habitat. To ensure that work is completed as rapidly as possible such that the temporal disturbance of the habitat is limited, work may continue during a light or intermittent rain, if the USFWS-authorized biologist, using his/her best judgment, determines that increased impacts to arroyo toads are unlikely.
- All trash must be removed from work sites or completely secured in a wildlife proof container at the end of each workday.
- Pets of project personnel are not allowed in the PIA.
- Movement of construction personnel, vehicles, and equipment shall be confined to existing roads and areas within arroyo toad exclusionary fencing. Vehicle ingress/egress will only be allowed from the one location for each enclosed area. The ingress/egress locations will be resealed at the conclusion of each workday (prior to dusk) to ensure the exclusionary fencing is complete and fully functional.
- Siltation and erosion in and around the impact area shall be controlled during construction activities with BMPs.
- Equipment storage, repair, and fueling shall only take place in the designated staging and/or work areas and will avoid potential contamination of the waterway. Erodible material shall be stockpiled only within the PIA and in compliance with all wetland and water quality permitting.

5.5.2. Compensation

- Upon completion of construction activities, temporary impact areas, including 0.32 acre of southern arroyo willow riparian forest, 0.42 acre of mule fat scrub, 0.01 acre of herbaceous wetland, 0.09 acre of non-vegetated channel, 0.1 acre of coast live oak woodland, 0.1 acre of big sagebrush scrub, and 0.5 acre of non-native grassland, will be restored in place, providing on-site, in-kind mitigation at a 1:1 ratio. The impact area shall be restored to its original pre-construction conditions, with respect to contours and vegetation composition, to the extent feasible. Restoration will include planting at least 14 cottonwood trees to replace the seven cottonwood trees to be removed by the project and at least eight coast live oak trees to replace the four coast live oak trees to be removed by the project, a 2:1 ratio. Restoration will follow a restoration plan to be prepared for County approval by a County-approved revegetation planner. The restoration plan will specify maintenance and monitoring requirements and success criteria.

5.6. Effects of Interrelated and Interdependent Actions/Conclusions and Determination

There are no interrelated or interdependent actions known, and thus no effects from such actions.

5.7. Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area described in this biological assessment. Future Federal actions that are unrelated to the proposed action are not considered in this this section because they require separate consultation pursuant to Section 7 of the Act. There are no future non-federal actions known within the action area, and thus no cumulative effect.

5.8. Determination

5.8.1. Species and critical habitat determination

1.) No Effect

A no effect determination was made for the following species. No consultation is required.

- Southwestern willow flycatcher
- Quino checkerspot butterfly

2.) May Affect-Not Likely to Adversely Affect (NLAA)

A may affect-not likely to adversely affect determination was made for the following species. Informal consultation is required.

- Least Bell's vireo
- Arroyo toad critical habitat

3.) May Affect-Likely to Adversely Affect (LAA)

A may affect-likely to adversely affect determination was made for the following species. Formal consultation is required.

- Arroyo toad

5.8.2. Discussion supporting determination

There will also be no effect to southwestern willow flycatcher because the action area is not located within critical habitat and the species is not known or expected to occur within the action area. The species was not detected during protocol surveys in 2011 and 2017, and the closest recorded observation of this species is located over 20 miles northwest of the site in a different watershed. The Quino checkerspot butterfly is also not expected to occur within the action area. Suitable habitat for Quino checkerspot butterfly is not present within the action area because it lacks the

larval host plants that are necessary for larvae, nor does it include hilltopping areas that would attract adults. Therefore, there will be no effect on these listed species.

Protocol surveys for least Bell's vireo were negative, which indicates the habitat is not being used by least Bell's vireos. The habitat is moderately suitable for least Bell's vireo, and thus there is a possibility that least Bell's vireo will use the habitat next season, although unlikely. Temporary impact areas will be restored following project completion, and project activities will either occur outside of the breeding season or require a pre-activity survey. With incorporation of the above conservation measures, potential impacts to vireo will be minimized to the point where such effects are insignificant. For the purposes of Section 7 consultation, an insignificant effect is one that is sufficiently small that a person would not be able to meaningfully measure, detect, or evaluate it. Therefore, least Bell's vireo is given a may affect-not likely to adversely affect determination.

The entire action area is designated arroyo toad critical habitat and the majority of the action area supports arroyo toad PCEs, and there will be temporary impacts to critical habitat, as described above. However, all the avoidance and minimization measures listed in Sections 1.4.1 and 5.5.1 will be implemented, thus minimizing adverse effects to PCEs. Therefore, arroyo toad critical habitat is given a may affect-not likely to adversely affect determination.

Arroyo toad was observed in the past and is presumed present at Buckman Springs Road Bridge. There will be direct temporary impacts to arroyo toad breeding habitat. There will be work occurring in upland habitats that may be occupied by the arroyo toad outside the breeding season. As described in Sections 5.1 through 5.5, arroyo toads could be directly and indirectly impacted by inadvertent trampling, crushing, and/or entrapment of individuals and/or occupied burrows. The project incorporates avoidance and minimization measures into the project description as described in Section 5.5.1 above, including installing arroyo toad exclusion fencing, conducting toad surveys to confirm there are no toads within the PIA, relocating toads outside of the PIA, and education and monitoring. Implementation of the proposed conservation measures will reduce the impacts to the arroyo toad to the greatest extent possible while still meeting the purpose and need for the project. Implementation of the proposed measures could result in handling of toads by a USFWS-authorized biologist to temporarily relocate them from the PIA. Mortality of toads during these activities is unlikely but cannot be completely ruled out. Therefore, arroyo toad is given a may affect-likely to adversely affect determination. However, this low level of take is not expected to jeopardize the continued existence of the species.

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Appendix A List of Threatened and Endangered Species that May Occur (USFWS)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
PHONE: (760)431-9440 FAX: (760)431-5901
URL: www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0123 November 25, 2015
Event Code: 08ECAR00-2016-E-00213
Project Name: Buckman Springs Road Bridge Retrofit

Subject: 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

United States Department of Interior
Fish and Wildlife Service

Project name: Buckman Springs Road Bridge Retrofit

Official Species List

Provided by:

Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
(760) 431-9440
http://www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0123
Event Code: 08ECAR00-2016-E-00213

Project Type: TRANSPORTATION

Project Name: Buckman Springs Road Bridge Retrofit
Project Description: The County of San Diego Department of Public Works, in cooperation with Caltrans District 11, proposes to retrofit this structure. The project would be federally funded through the Local Assistance Program. The effort includes widening both sides of the bridge deck, as well as foundation work on the existing piers in the creek, including footing extension and widening of the pier that starts below the creek bed.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-116.49988174438477 32.71568882281545, -116.49962425231932 32.71603184221921, -116.49762868881226 32.71475453959189, -116.49813294410704 32.714122651670934, -116.50011777877809 32.71538190959915, -116.49988174438477 32.71568882281545)))

Project Counties: San Diego, CA

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
arroyo toad *(Anaxyrus californicus)* Population: Entire	Endangered	Final designated	
Birds			
Least Bell's vireo *(Vireo bellii pusillus)* Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher *(Empidonax traillii extimus)* Population: Entire	Endangered	Final designated	
Insects			
Quino Checkerspot butterfly *(Euphydryas editha quino (=e. e. wrighti))* Population: Entire	Endangered	Final designated	

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Amphibians	Critical Habitat Type
arroyo toad *(Anaxyrus californicus)* Population: Entire	Final designated

Appendix B Representative Site Photos

Photo 1. View of the north side of the Buckman Springs Road Bridge, looking south.

Photo 2. View of non-native grassland on the north side of the Buckman Springs Road Bridge, looking southwest.

Photo 3. View of Cottonwood Creek on the north side of the bridge, looking north. Dried algal mats show the low flow channel.

Photo 4. View of the south side of the Buckman Springs Road Bridge, looking north.

Photo 5. View of sample point 1 in herbaceous wetland along the eastern edge of Cottonwood Creek, south of the bridge. Sample point was determined to support wetland waters of the U.S./State and CDFW jurisdictional riparian habitat.

Photo 6. View of sample point 2 in southern arroyo willow riparian forest on a terrace above the eastern edge of Cottonwood Creek, south of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 7. View of sample point 3 in herbaceous wetland along La Posta Creek, underneath the bridge. Sample point was determined to support wetland waters of the U.S./State and CDFW jurisdictional riparian habitat.

Photo 8. View of sample point 4 in southern arroyo willow riparian forest on a terrace above the western edge of Cottonwood Creek, south of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 9. View of sample point 5 in mule fat scrub on a terrace above the western edge of Cottonwood Creek, north of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 10. View of the staging area, looking northeast. The staging area extends from Corral Canyon Trail on the right to the edge of the coast live oak tree on the left.