NATURAL ENVIRONMENT STUDY (Minimal Impacts)

I-215/University Parkway Interchange Improvement Project



San Bernardino, CA

08-SBd-215-PM 11.35/11.95 EA 0E4200 Project No. 080000083



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Natural Environment Study

(Minimal Impacts)

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San Bernardino County, California

District 8RIV/SBd-[I-215]-[PM 11.35/11.95]

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Summary

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) and the City of San Bernardino (City), is proposing to improve the Interstate 215 (I-215)/University Parkway Interchange in the City of San Bernardino, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). Caltrans is also the lead agency under the National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA), in accordance with NEPA (42 United States Code [USC] 4321 et seq.); and the Council on Environmental Quality (CEQ) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500–1508).

The proposed I-215 University Parkway Interchange Improvement Project (Project) is intended to provide operational improvements to traffic flow within the Project limits. SBCTA proposes to replace the existing University Parkway tight diamond interchange configuration with a Diverging Diamond Interchange (DDI) configuration. The existing undercrossing would remain in place. This concept would improve all four legs of the current interchange and would improve directional movement through the system. Using the DDI system, the interchange would allow more efficient left-turn and right-turn movements at all ramp terminals. The Project limits are located within Caltrans and City right-of-way (ROW). The areas within and immediately adjacent to the Project limits are predominately developed and generally consist of commercial/retail land uses. The existing interchange serves as a main point of access for students, faculty, and visitors of California State University, San Bernardino (CSUSB).

The purpose of this Natural Environment Study (Minimal Impacts) [NES(MI)] is to describe the existing biological resources and to review the proposed Project in sufficient detail to determine to what extent the Project may affect biological resources. The results presented in the NES(MI) are based on literature searches and biological resource surveys conducted in 2017. A reconnaissance-level biological resource survey, habitat assessment, and jurisdictional delineation survey were performed to document the existing condition of biological resources within the Biological Study Area (BSA). The BSA is located in a mostly-developed area at the I-215/University Parkway Interchange in the City of San Bernardino.

The proposed Project would not result in direct impacts to any special-status vegetation communities or any threatened or endangered plant or wildlife species. Drainage features identified within the BSA consist of ditches constructed in uplands in order to contain freeway runoff. Based on their characteristics, these features have been determined to be non-jurisdictional. The U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife have the ultimate authority of determining whether or not permits would be required for project impacts to these features. The Project supports suitable habitat for nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 and would result in loss of 0.04 acre of California buckwheat scrub which has low potential to support native plants and wildlife. California buckwheat scrub within the Project limits provides low quality, but suitable habitat, to support the federally- listed as threatened coastal California gnatcatcher (*Polioptila californica californica*). Avoidance measures will be implemented in order to avoid potential impacts to these protected resources.

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LIST OF ABBREVIATED TERMS

BSA	biological study area
BUOW	burrowing owl
CAGN	coastal California gnatcatcher
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of San Bernardino
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
EFH	Essential Fish Habitat
FESA	Federal Endangered Species Act
FR	Federal Register
ft	foot/feet
GIS	geographic information system
in	inch(es)
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NEPA	National Environmental Policy Act
NES (MI)	Natural Environment Study (Minimal Impacts)
OHWM	ordinary high water mark
Project	I-215/University Parkway Interchange Improvement Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWANCC	Solid Waste Agency of North Cook County
SWPPP	Storm Water Pollution Prevention Plan
TNW	Traditional Navigable Water
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1. Introduction

The San Bernardino County Transportation Authority (SBCTA), in cooperation with the California Department of Transportation (Caltrans) and the City of San Bernardino (City), is proposing to improve the Interstate 215 (I-215)/University Parkway Interchange in the City of San Bernardino, California (Figure 1-1). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). Caltrans is also the lead agency under the National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA), in accordance with NEPA (42 United States Code [USC] 4321 et seq.); and the Council on Environmental Quality (CEQA) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500–1508).

The I-215/University Parkway Interchange Improvement Project (Project) is intended to provide operational improvements to traffic flow within the Project limits. SBCTA proposes to replace the existing University Parkway tight diamond interchange configuration with a Diverging Diamond Interchange (DDI) configuration. The existing undercrossing would remain in place. This concept would improve all four legs of the current interchange and would improve directional movement through the system. Using the DDI system, the interchange would allow more efficient left-turn and right-turn movements at all ramp terminals. The Project limits (**Error! Reference source not found.**), are located within Caltrans and City right-of-way (ROW). The areas within and immediately adjacent to the Project limits are predominately developed and generally consist of commercial/retail land uses. The existing interchange serves as a main point of access for students, faculty, and visitors of California State University, San Bernardino (CSUSB).

The purpose of this Natural Environment Study (Minimal Impacts) [NES(MI)] is to describe the existing biological resources and to review the proposed Project in sufficient detail to determine to what extent the Project may affect biological resources.

1.1 **Project Purpose**

The purpose of the proposed Project is to plan for the projected regional population growth, CSUSB enrollment increases, and increased traffic demands at the existing I-215/University Parkway interchange for the planning design year of 2040. The Project proposes to reconfigure the interchanges to improve traffic operations. The Project objectives are to:

- Support anticipated regional growth and proposed local-area projects
- Relieve congestion by providing improved signalized intersection operational efficiency through the interchange area
- Improve vehicular, bicycle, and pedestrian access through the freeway ramp intersections

1.2 Project Need

Sustained growth and development in the area has increased commuter traffic at the I-215/University Parkway interchange. The interchange is the primary freeway access for CSUSB and a number of businesses and area residents. This has caused inadequate interchange queuing capacity and existing geometric deficiencies, including the following:

- Southbound (SB) I-215 entrance and exit ramps are operating near or over the design capacity during peak period traffic volumes
- Northbound (NB) I-215 entrance and exit ramps are operating near or over the design capacity during peak period traffic volumes
- Intersection delays attributable to excessive traffic and deficient traffic signal operations

The accident analysis provided in the *Project Study Report* (PSR) dated October 2016 indicates the collision rates at both the NB exit and SB entrance ramps at the interchange have higher than state average accident rates. Improvements at these locations are needed to alleviate traffic collisions, making it safer for commuters.

To accommodate the growth and future operational needs within the corridor, the existing interchange would require improved operational efficiency and employ improved vehicular, bicycle, and pedestrian pathways. The proposed Project would address these local circulation issues.

1.3 **Project Description**

The proposed Project is located in the City of San Bernardino, San Bernardino County, California (see Figure 1-1). Specifically the proposed Project is mapped within an unsectioned portion of Township 1N, Range 4W of the San Bernardino North 7.5' U.S. Geological Survey (USGS) Quadrangle. The Project occurs approximately 1,000 feet to the northwest and southeast along both sides of the I-215 where the interstate intersects University Parkway (see Figure 1-2). A portion of the Project limits extends along University Parkway between Varsity Avenue/State Street and Hallmark Parkway.

The Project is proposing to improve the I-215/University Parkway Interchange in the City of San Bernardino, California. A total of two alternatives are being evaluated as part of the I-215/University Parkway Interchange Improvement Project. These two alternatives include Alternative 1 (No Build) and Alternative 2 (Diverging Diamond Interchange [DDI]).

Alternative 2 (DDI) would provide operational improvements to traffic flow associated with the I-215/University Parkway Interchange. Alternative 2 (DDI) proposes to replace the existing University Parkway tight diamond interchange configuration with a DDI configuration. The existing undercrossing would remain in place. This concept would improve all four legs of the current interchange and improve directional movement through the system. Using the DDI system, the interchange would allow more efficient left-turn and right-turn movements at all ramp terminals.

A DDI is the proposed design configuration for the I-215/University Parkway Interchange because of its ability to eliminate multiple traffic signal phases, which would reduce delay and would improve traffic flow for multiple movements within the constrained area. A DDI would

alleviate congestion within the interchange and would relieve congestion that currently extends to the two adjacent local intersections on each side of I-215 on University Parkway.

Improvements under the proposed Project (Alternative 2) would occur within areas of previously disturbed soils located in the general vicinity of the existing I-215/University Parkway Interchange. No building structures would be disturbed as part of the proposed Project, including the existing University Parkway undercrossing and I-215 bridge structure. ROW requirements would potentially include partial acquisitions and temporary construction easements (TCE). Although no property relocations are anticipated as part of the proposed Project, changes to vehicular access at two areas along University Parkway are anticipated: the Scottish Rite Property located at 4400 N. Varsity Avenue and a retail plaza located at 4004-4020 University Parkway.

Two driveways currently serve the Scottish Rite property. Primary driveway access for this property exists off of North Varsity Avenue, and secondary driveway access exists off of University Parkway, just north of the I-215 NB on-ramp. The secondary driveway access for the Scottish Rite property, would be relocated north of its current location along University Parkway. Removal of the existing secondary driveway off of University Parkway would occur after the relocated secondary driveway is complete.

A retail plaza located at 4004 – 4020 University Parkway, would also experience changes to vehicular and pedestrian access. Two driveways located off of University Avenue currently serve this retail plaza. The northern driveway serving this retail plaza, closest to the SB I-215 off-ramp, would be removed as part of the proposed Project. Prior to removal of the northern driveway, the southern driveway (also located on University Parkway) would be modified to improve vehicular access to the retail plaza. Parking within the retail plaza would be modified as part of the proposed Project. However, at a minimum, the number of parking spaces removed would be replaced.

Additional improvements as part of the proposed Project (Alternative 2) include the provision of street lighting; traffic signal modifications; minor paving; minor utility relocations; signage changes; restriping, turn lanes; and bicycle, pedestrian, and median streetscape improvements. Bicycle and pedestrian access within the Project limits, identified in Figure 1-2, will be maintained throughout construction activities. No transmission towers are located within the Project limits.



Figure 1-1. Project Location Map





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Figure 1-2. Project Limits

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2. Study Methods

2.1 Federal Laws and Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the U.S. Fish and Wildlife Service (USFWS), which administers the FESA for all terrestrial species. The first pathway, a Section 10(a) incidental take permit, applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the FESA. The second pathway, a Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

2.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act establishes guidelines to assist the Regional Fishery Management Councils and the Secretary of Commerce in the description and identification of Essential Fish Habitat (EFH) in fishery management plans, the identification of adverse effects to EFH, and the identification of actions required to conserve and enhance EFH. This Act requires the National Marine Fisheries Service to protect EFH for those fish species regulated under the federal Fisheries Management Plan. The National Marine Fisheries Service requires any federal agencies to consult with NMFS on all actions that could adversely impact EFH.

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of Federal Regulations Part 10, including feathers, or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 Code of Federal Regulations 21). Sections 3505, 3503.5, and 3800 of the California Fish and Game Code also prohibit the take, possession, or destruction of birds, their nests, or eggs.

All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC], Section 703 et seq.) and California statute (Fish and Game Code Section 3503.5). The golden eagle and bald eagle are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 United States Code, Section 669 et seq.).

2.1.4 Clean Water Act – U.S. Army Corps of Engineers

The Clean Water Act establishes a program to regulate the discharge of dredge and fill material into waters of the U.S., including wetlands. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404 permit or authorization to use an existing USACE nationwide permit must be obtained if any portion of an activity will result in dredge or fill impacts to a river, stream, or stream bed that has been determined to be a jurisdictional. When applying for a permit, a company or organization must show that they would avoid wetlands where practicable, minimize wetland impacts, and provide compensation for any unavoidable destruction of wetlands (CWIS 2007).

2.1.5 Clean Water Act – Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA. Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters.

2.1.6 Executive Order 13112

Executive Order 13112 - Invasive Species directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. As part of the proposed action, the USFWS and the USACE would issue permits and would, therefore, be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species.

2.2 State and Local Laws and Regulations

2.2.1 California Endangered Species Act

Sections 2050 through 2098 of the Fish and Game Code outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the Fish and Game Code prohibits the taking of plants and animals listed under the California Endangered Species Act (CESA). Section 2081 established an incidental take permit program for state-listed species. In addition, the Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) gives the California Department of Fish and Wildlife (CDFW) authority to designate state endangered, threatened, and rare plants and provides specific protection measures for designated populations.

The CDFW has also identified many "Species of Special Concern" (SSC). Species with this status have limited distribution or the extent of their habitats has been reduced substantially such that their populations may be threatened. Thus, their populations are monitored and they may receive special attention during the environmental review process. While they do not have statutory protection, they may be considered rare under the California Environmental Quality Act (CEQA) and are thereby warranted specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. The CEQA Guidelines Section 15065 ("Mandatory Findings of Significance") identifies a substantial reduction in numbers of a rare or endangered species as a significant effect. CEQA Guidelines Section 15380 ("Rare or Endangered Species") provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Plant species that are not state or federally listed, but that occur on the California Native Plant Society's (CNPS) California Rare Plant Rank Lists 1A, 1B, and 2 would typically be considered under the CEQA.

2.2.2 Lake and Streambed Alteration Program

The State of California regulates water resources under Section 1600-1616 of the California Fish and Game Code. Section 1602 states:

"An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake."

CDFW jurisdiction includes ephemeral, intermittent and perennial watercourses and extends to the top of the bank of a stream or lake if unvegetated, or to the limit of the adjacent riparian habitat located contiguous to the watercourse if the stream or lake is vegetated.

Projects that require an SAA may also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

2.2.3 Fully Protected Species

Sections 3500 to 5500 of the Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these Sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Specific sections of the Fish and Game Code pertinent to the current Project include:

- Section 3503 (which prohibits the taking, possession, or needless destruction of the nest or eggs of any bird),
- Section 3503.5 (which prohibits the taking, possession, or destruction of any bird in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or the taking, possession, or destruction of the nest or eggs of any such bird), and
- Section 3513 (which prohibits the taking or possession of any migratory non-game bird as designated in the MBTA).

2.2.4 City of San Bernardino General Plan – Natural Resources and Conservation Chapter

California State law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term general plan that addresses, at a minimum: land use, circulation, housing, conservation, open space, noise, and safety. The City of San Bernardino General Plan was adopted in November 2005 (City of San Bernardino 2005).

The Natural Resources and Conservation Element (Chapter 12) of the General Plan provides guidance for the preservation, use, and enhancement of natural resources. The Goals and Policies in this element are intended to maintain, improve, or preserve the quality and supply of the City's natural resources. The southeastern portion of the BSA occurs within and adjacent to a designated Biological Resource Management Area (BRM). The General Plan outlines policies associated with BRM areas, which are summarized below:

12.1.3 Require that all proposed land uses in the "Biological Resource Management Area" (BRM), be subject to review by the Environmental Review Committee.

12.1.4 Require that development in the BRM:

- a. Submit a report prepared by a qualified professional(s) that addresses the proposed project's impact on sensitive species and habitat, especially those that are identified in State and Federal conservation programs;
- b. Identify mitigation measures necessary to eliminate significant adverse impacts to sensitive biological resources;
- c. Define a program for monitoring, evaluating the effectiveness of, and ensuring the adequacy of the specified mitigation measures; and

d. Discuss restoration of significant habitats.

2.3 Studies Required

The purpose of the biological surveys and subsequent analysis provided in this study includes the following:

- To characterize vegetation and habitats within the Biological Study Area (BSA);
- To identify known or potential wildlife and fish migration corridors that may be affected by the proposed Project;
- To identify wetlands and waters potentially under the jurisdiction of the USACE and CDFW;
- To identify the known or potential presence of federally listed special-status plant and wildlife species or designated critical habitat;
- To identify the known or potential presence of California-listed special-status plant and animal species; and
- To identify sensitive species including state species of concern and other protections under federal and state regulations (i.e., fully protected species).

2.3.1 Definition of Biological Study Area

The BSA was determined using the maximum disturbance limits associated with proposed project activities and a 50-foot buffer, where accessible, and was used as the study limit boundaries for these field studies. In addition to the BSA, a 500-foot buffer was established around the project survey boundary to evaluate potential burrowing owl habitat. This buffer area was not delineated or mapped for vegetation. The BSA and anticipated disturbance limits are shown on Figure 2-1.

2.3.2 Literature Search and Field Reviews

A list of special-status species and habitats that have the potential to occur within the vicinity of the BSA was prepared using information provided by the CDFW's California Natural Diversity Database (CNDDB) Rarefind program (CDFW 2018) and the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (Online Edition, v. 8-02; CNPS 2018). Searches of these databases were conducted for USGS quadrangles within a 5-mile radius surrounding the BSA (*Devore, Fontana, Harrison Mountain, San Bernardino North*, and *San Bernardino South*, USGS 7.5' quadrangles) prior to conducting the field survey. These database searches were conducted again in March 2018. An unofficial USFWS Species List

was generated using the online IPaC ECOS System on March 6th, 2017. An official USFWS species list was obtained from the online IPaC ECOS System on March 26th, 2018. Appendix A includes the official USFWS Species List, and updated CNDDB and CNPS record search results.

In addition to a review of special-status species databases, the following resources were reviewed prior to the field survey:

- Aerial photographs of the Project footprint at a scale of 1:2,400 to determine general vegetation communities and the potential locations of USACE, RWQCB, and CDFW jurisdictional areas;
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil mapping data (Figure 2-2).
- United States Geological Survey (USGS) map (Figure 2-2) to determine the presence of any "blue line" drainages or other mapped water features;
- State of California Transportation Agency as-built drawings of the I-215/University Parkway Interchange (1955) (Appendix D); and
- San Bernardino County Department of Public Works Flood Control Facilities Maps (2017).



Figure 2-1. Biological Study Area



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Figure 2-2. Mapped Soils Overlaid on USGS Topographic Mapping

2.3.3 General Survey

A general field survey was conducted within the BSA by HDR biologists Ingrid Eich and Sarah Barrera on March 9, 2017. Field studies conducted in support of this report include a general biological resources survey, habitat assessments for special status species known from the region, and a delineation of features potentially subject to the jurisdiction of the USACE, RWQCB, and/or CDFW.

Where access permitted, the BSA was surveyed opportunistically on foot. Where access was prohibited (i.e., businesses, fenced areas, etc.) vegetation communities were mapped opportunistically from adjacent areas with the use of binoculars.

During the general biological field survey, plants encountered were identified where possible. Ornamental species that were not identifiable in the field were not collected for further classification. Botanical species discussed in this report follow both Latin and common names taken from the Jepson Manual (Hickman 1993) using the most up-to-date scientific names provided from the online version, the Jepson eFlora (Regents of the University of California 2017).

Wildlife species detected during the general biological survey were recorded. Species were detected by sight and/or specific calls. Binoculars were used to aid in the identification of species, potential nest locations, and foraging areas. Locations of state and/or federally listed/special-status species were mapped, if found, and numbers of individuals were either counted or estimated.

Vegetation communities were generally mapped onto an aerial photograph prior to the site visit and ground-truthed during the site visit using the vegetation map loaded to an iPad. Hard copy maps were also used during ground-truthing. Vegetation communities were classified using the standard Holland classification as described in Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Lists of plant and wildlife species observed within the BSA are included in Appendix B. Site photographs are included as Appendix C.

2.3.4 Jurisdictional Delineation

A jurisdictional delineation was conducted by HDR Biologists Ingrid Eich and Sarah Barrera on March 9, 2017. HDR biologists examined the BSA to determine the limits of: (1) USACE jurisdiction pursuant to Section 404 of the CWA; and (2) CDFW jurisdiction pursuant to Sections 1600-1616 of the California Fish and Game Code. The Project limits were evaluated in accordance with the 1987 USACE Wetland Delineation Manual (Environmental Laboratory 1987), the 2008 Interim Regional Supplement to the USACE Wetland Delineation Manual: Arid West Supplement (Arid West Supplement) (USACE 2008a), the Regulatory Program CWA Guidance to Implement the U.S. Supreme Court Decision for the Rapanos and Carabell Cases (USACE 2008b), and the Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States (USACE 2008c).

When a potential jurisdictional feature was encountered, the length of the feature was walked and the outer jurisdictional limits were recorded on 1:2,400 -scale aerial maps and an iPad using Esri's ArcCollector application and an external GPS receiver with an accuracy of 0.5 feet. In general, the OHWM was typically indicated by a break in the bank slope, scouring, or destruction of vegetation. Other data recorded included bank height and morphology, substrate type, and all vegetation within and adjacent to the streambed. Soil test pits were not conducted as no potential features supported hydrophytic vegetation, "normal circumstances" were present and Chapter 5 of the Arid West Supplement, Difficult Wetland Situations in the Arid West, was not applicable.

All location data was collected using a Trimble Geo7X handheld Global Positioning System (GPS) unit. Upon completion of fieldwork, all data collected in the field were incorporated into a Geographic Information System (GIS) data base. The resulting GIS data was then used to quantify the extent of potential jurisdictional features.

2.3.5 Burrowing Owl Habitat Assessment

Per the guidelines presented in the Staff Report on Burrowing Owl Mitigation (State of California Natural Resources Agency 2012), the burrowing owl (BUOW) habitat assessment included 100 percent cover of the BSA and a 150-meter (500-foot) buffer around the potential disturbance limits, where accessible. Biologists assessed all habitat within the BUOW survey area for the presence of burrows, burrow surrogates, fossorial mammal dens, well drained soils, available prey, and short or sparse vegetation. Where access was prohibited (i.e., gated, private property, steep slopes, etc.), biologists used binoculars and aerial photography to determine suitability. During the initial field visit, locations of suitable habitat were identified and delineated as having a marginal potential to support BUOW based on the friability of the soil and the presence of fossorial mammal burrows. One small area of marginally suitable BUOW habitat was located adjacent to the NB I-215 off-ramp at University Parkway. This habitat is highly disturbed, less than 6-acres in size, and adjacent to bigh-traffic areas of the freeway and an adjacent shopping center. BUOW are not anticipated to breed in this area due to proximity to high levels of traffic and noise. Focused BUOW surveys were not conducted due to the low suitability of habitat within the BSA.

2.3.6 Rare Plant Habitat Assessment

No focused botanical surveys were completed due to the lack of suitable habitat present within and in the vicinity of the BSA. All potential impact areas within the BSA are highly disturbed and do not provide suitable habitat for sensitive botanical species. All plant species identified during the general biological survey are included in Appendix B, Plant and Wildlife Species Observed.

2.3.7 Personnel and Survey Dates

HDR biologists Ingrid Eich and Sarah Barrera conducted all biological resources field studies on March 09, 2017. Surveys were conducted between 0900 and 1400. Temperatures ranged between 75 and 90 degrees Fahrenheit, skies were clear, and winds were between approximately 2 and 5 miles per hour.

2.4 Agency Coordination and Professional Contacts

A USFWS species list was acquired using the online Information for Planning and Conservation (IPaC) tool on March 26th, 2018. The IPaC tool provides a list of proposed, threatened, or endangered species and critical habitat potentially occurring in the vicinity of the BSA. This list is provided in Appendix A.

2.5 Limitations That May Influence Results

The BSA is located within a developed transportation corridor and is primarily surrounded by commercial and residential development. Ornamental species of plants were identified only to the extent that the field surveyor was able to identify in the field. In December 2017 a wildfire burned part of the southeast portion of the BSA, adjacent to the northbound I-215 off-ramp at University Parkway. Vegetation on the west-facing cut slope that had been revegetated with

coastal scrub species [brittlebush (*Encelia farinosa*) and California buckwheat (*Eriogonum fasciculatum*)] is now burned. Vegetation mapping was not revised to reflect this change as it may recover based on the fire-adapted nature of sage scrub species. For example, the California buckwheat woody root crowns that remain may sprout new growth. No other limitations were expected or encountered that would severely influence the results or substantially alter the findings of the surveys.

3. Results: Environmental Setting

3.1 Existing Biological and Physical Conditions

3.1.1 Physical Conditions

The BSA is located within an urban area associated with the I-215/University interchange located in the City of San Bernardino (see Figure 2-1). Land uses immediately surrounding the Project limits are commercial and residential with undeveloped areas located adjacent to I-215 at the BSA's southern limits. As described in The Jepson Manual (Hickman, J.C., ed. 1993), the BSA is located in the South Coast subregion of the Southwestern California region. This subregion extends along the Pacific Coast, from Point Conception located in southwestern Santa Barbara County to Mexico. Prior to intense urbanization beginning in the early 1900s, vegetation in the subregion was predominated by coastal sage scrub (CSS) and chaparral habitat types.

3.1.1.1 Topography

The BSA occurs on an alluvial fan at the foothills of the San Bernardino National Forest (Figure 2-1). The BSA gently slopes downward from the northeast to the southwest. As previously noted, the BSA occurs within a highly developed area and consists primarily of the I-215/University Parkway interchange transportation corridor. A large, isolated open space area occurs along the southeastern boundary of the BSA. Pedestrian and vehicle traffic is high throughout the BSA.

3.1.1.2 *Climate and Hydrology*

The BSA occurs within the Santa Ana Watershed (HUC 18070203). The Santa Ana Watershed covers approximately 2,840 square miles over portions of Orange, Riverside, San Bernardino, and Los Angeles counties. The watershed consists mainly of high mountain ranges that surround and divide large, dry alluvial valleys. Drainage within the BSA is highly altered from natural conditions, but prior to development, the BSA received overland sheet flow from upland areas to the northeast, prior to those flows reaching Cajon Creek to the west.

3.1.1.3 Soils

Soils within the BSA were identified using the Natural Resources Conservation Service's (NRCS) Web Soil Survey (accessed online; USDA 2017). The BSA supports four soil types, including Friant-Rock outcrop complex, Hanford coarse sandy loam, Tujunga loamy sand, and Tujunga gravelly loamy sand, as described below (Figure 2-2).

• **Friant-Rock outcrop complex** – The Friant series consists of shallow, well drained soils that formed in material weathered from mica schist, quartz schist and gneiss. Friant soils are on mountainous uplands between 500 and 3,500 feet in elevation. These soils are well drained with medium to very rapid runoff and moderately rapid permeability. These soils are slightly acidic to neutral.

- Hanford coarse sandy loam, 9 to 15 percent slopes The Hanford series consists of very deep, well drained soils that formed in moderately coarse textured alluvium dominantly from granite. Hanford soils are on stream bottoms, floodplains and alluvial fans from 150 to 3,500 feet in elevation. These soils have negligible to low runoff and moderately rapid permeability and are slightly acidic to slightly alkaline.
- **Tujunga loamy sand, 0 to 5 percent slopes** The Tujunga series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. Tujunga soils are on alluvial fans and floodplains, including urban areas below elevations of 1,970 feet. These soils are slightly acidic to moderately alkaline.
- Tujunga gravelly loamy sand, 0 to 9 percent slopes see above description.

3.1.2 Biological Conditions in the BSA

The majority of the BSA is developed and consists of the I-215 and University Parkway ROW and adjacent commercial and residential development. In general, the BSA supports a low diversity of plant species and plant and wildlife species normally associated with disturbed or developed areas. The BSA supports drainages that were built in upland areas to support development of I-215 and University Parkway, but does not support any naturally-occurring drainage features.

3.1.2.1 Description of Vegetation Communities

The BSA supports four different land covers, with the predominant land cover identified as urban/developed. Ornamental, Disturbed, and Non-Native Grassland communities occur in the areas immediately adjacent to the I-215/University Parkway interchange. Both slopes adjacent to the NB and SB I-215 slopes at the southern end of the BSA support California buckwheat scrub and California buckwheat scrub – Disturbed. Both of these slopes were previously disturbed as part of I-215 development and appear to have been revegetated with native plants following slope grading. Non-native Grassland and California buckwheat scrub – Disturbed habitats located on the eastern slope of I-215 were burned in a wildfire in December 2017, after field surveys were conducted. Vegetation was not remapped following the fires, as it is unknown what the characteristics of the vegetation that reestablishes in this area will consist of. Some burned root crowns of brittlebush remained in the CBS-Disturbed community, but the burned area is adjacent to areas with a high cover of nonnative grasses and forbs that could invade. A map depicting vegetation communities within the BSA is included as Figure 3-1.



Figure 3-1. Vegetation Communities Within the BSA

A summary of existing acreages is provided in Table 3-1 and a description of each community is provided below

Vegetation Community	Existing Acreage	
California buckwheat scrub	1.57	
California buckwheat scrub – Disturbed	0.18	
Non-Native Grassland	8.39	
Urban/Developed	13.05	
Total Acreage	23.19	

 Table 3-1. Vegetation Communities within the BSA

California Buckwheat Scrub (Holland Code 32000)

California buckwheat scrub (CBS) is included in the Holland classification California buckwheat series, a subset of Coastal Scrub. This community occurs in uplands, on slopes and occasionally on rarely flooded low-gradient deposits along streams. Soils are generally shallow and rocky. CBS is composed of a variety of soft low shrubs characteristically dominated by drought-deciduous species such California buckwheat (*Eriogonum fasciculatum*), deer weed (*Acmispon glaber*), and sages (*Salvia* spp.), with scattered evergreen shrubs, such as lemonadeberry (*Rhus integrifolia*).

CBS occurs in the southern portion of the BSA, west of the University Parkway on-ramp to SB I-215 and east of the I-215 northbound off-ramp at University Parkway. Within the BSA, CBS habitat is dominated by California buckwheat with a smaller cover of brittlebush (*Encelia farinosa*), with non-native annual grasses in the understory. Shortpod mustard (*Hirschfedia incana*) is the dominant plant in a portion of CBS habitat on the eastern slope; however since California buckwheat and brittlebush occur in this area, it was classified as CBS (Disturbed). The CBS within the BSA occurs on the two cut-slopes adjacent to I-215, indicating that naturally-occurring vegetation in this area was cleared prior to 1980, based on a review of historic aerials, and revegetated with CBS species. A fire in December 2017 burned much of the CBS habitat on the eastern slope. However, it is anticipated that this area will regenerate as CBS or CBS (Disturbed) and is included in the total acreage for these communities. The BSA supports 1.57 acres of CBS and 0.18 acre of CBS (Disturbed).

Non-Native Grassland (Holland code 11300/Holland code 42200)

The majority of vegetation within the BSA consists of habitat that is frequently subject to disturbance due to its proximity to a highly developed areas. Due to the high level of disturbance, non-native grasses that easily colonize disturbed areas have established.

According to Holland (1986), non-native grassland (NNG) is characterized by a dense to sparse cover of annual grasses with flowering culms generally between 0.2 and 0.5 meter (0.7 and 1.6 feet) high, and sometimes up to 1 meter (3 feet) high. Some characteristic species include wild oat (*Avena* spp.), bromes (*Bromus diandrus, B. madritensis, B. hordeaceus*), filaree (*Erodium*

spp.), and fescue (*Vulpia* spp.). In addition, NNG is often associated with numerous species of wildflowers. NNG typically occurs on fine-textured clay soils that are moist to waterlogged during the winter rainy season and very dry during the summer and fall (Holland 1986). NNG may support special-status plant and animal species and provide valuable foraging habitat for raptors (birds of prey). NNG is not a sensitive plant community recognized by the USFWS.

NNG Habitat occurs throughout the majority of the BSA along medians and slopes adjacent to I-215 and University Parkway. Much of this habitat is subject to regular mowing for vegetation control. Dominant species within Disturbed/NNG within the BSA include red brome (*Bromus madritensis*), wild oats (*Avena sp.*), ripgut brome (*Bromus diandrus*) and shortpod mustard (*Hirschfeldia incana*).

A total of 8.4 acres of NNG habitat were mapped within the BSA.

Urban/Developed (No Holland Code; Oberbauer Code 12000)

Urban/Developed (UD) land is comprised of areas of intensive use with much of the land constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is highly modified and characterized by permanent or semipermanent structures, pavement, unvegetated areas and landscaped areas that require irrigation. Holland does not provide a classification for UD areas, however these spaces dominate much of the southern California landscape and have been described in more recent classification systems developed for southern California, including the 2008 Draft Vegetation Communities of San Diego County (Oberbauer et al 2008). UD areas typically provide high value or function for human use, but provide little habitat value to wildlife. Ornamental plantings can provide some use for wildlife movement or use by species adapted to human presence.

Within the BSA, UD includes paved roads, urban development, areas where non-native ornamental species and landscaping have been installed, and bare ground with compacted soils that no longer support vegetation. A total of 10.66 acres of UD land occur within the BSA.

3.1.2.2 Botanical Species

Botanical species identified within the BSA were dominated by species common to disturbed areas. They consisted of non-native grasses and mustards, ornamental shrubs and trees, and native shrubs used in restoration areas. All botanical species observed within the BSA are listed in Appendix B, with the exception of some ornamental species that were not known in the field and not collected for further identification.

No special status botanical species were observed and none are expected due to the high level of disturbance in the BSA.

3.1.2.3 Wildlife Species

Wildlife species observed within the BSA consisted only of those common to disturbed areas and adapted to human presence. Species observed include house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), black phoebe (*Sayornis nigricans*), and western fence lizard (*Sceloporus occidentalis*). The list of wildlife species observed within the BSA is included in Appendix B.

No special status wildlife species were observed, but the BSA does support marginally suitable habitat for BUOW, CAGN, and nesting birds protected under the MBTA. These special status resources are discussed further in Section 4.

3.1.2.4 Habitat Connectivity

The southeastern portion of the BSA occurs adjacent to the Shandin Hills, a low-elevation mountain range which provides an estimated 700 acres of an open space directly adjacent to the eastern edge of the BSA. The Shandin Hills are surrounded by development and are completely isolated from any other open space areas. Although this area provides local connectivity for urban-tolerant wildlife species, such as coyotes, birds, and rabbits, it is not connected to a larger wildlife linkage or corridor. There is an estimated 16-acre area of undeveloped land adjacent to the western edge of the BSA that consists of disturbed habitat that is completely surrounded by development. It is also isolated from any other open space areas and does not provide any direct linkage to Cajon Wash/Lytle Creek located approximately 1.75 miles west of the BSA.

3.1.3 Regional Species and Habitats and Natural Communities of Concern

The BSA is located in an urbanized area that no longer supports substantial habitat for native plants or wildlife. The surrounding area is highly developed and the BSA is completely isolated from any regional wildlife corridors or other movement areas.

The results of the literature review identify 24 special-interest plant species and 17 specialinterest wildlife species that are known to occur in the region. Four plant species are listed on the state and/or federal endangered species lists. These include Nevin's barberry (*Berberis nevinii*), thread-leaved brodiaea (*Brodiaea filifolia*), slender-horned spineflower (*Dodecahema leptoceras*), and Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*). Five wildlife species are listed on the state and/or federal endangered species lists. These include southwestern willow flycatcher (*Empidonax traillii extimus*), CAGN, least Bell's vireo (*Vireo bellii pusillus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), and Stephens' kangaroo rat (*Dipodomys stephensi*). These species, their habitat requirements, and potential to occur within the BSA are included in Table 3-2. Species that require additional analysis due to the presence of potentially suitable habitat within the BSA are addressed in Chapter 4, Biological Resources, Discussion of Impacts and Mitigation.

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
Plants	Plants				
Ambrosia monogyra Singlewhorl burrobush	US: – CA: 2B	Sandy soils in washes and ravines in chaparral and desert scrub below 500 meters (1,640 feet) elevation. In California, known from Riverside, San Bernardino, and San Diego Counties. Also occurs in Arizona, New Mexico, Texas, and Mexico.	Blooms August through November (perennial shrub)	A	No washes or ravines in BSA.
Astragalus hornii var. hornii Horn's milk-vetch	US: – CA: 1B	Alkaline playas and lake margins from 60 to 850 meters (200 to 2,800 feet) elevation. In California, known only from Inyo and Kern Counties. Believed extirpated from San Bernardino County. Also occurs in Nevada.	Blooms May through October	A	No alkaline areas in BSA.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the BSA
Occurring or Known to Occur in the BSA						
Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale	
Berberis nevinii	US: FE	Gravelly wash margins in alluvial	Blooms		No washes in	
	CA: SE/1B	scrub or coarse soils and rocky	March		BSA.	
Nevin's barberry		slopes in chaparral at 275 to 825	through June			
		meters (900 to 2,700 feet)	(evergreen			
		elevation. Known occurrences at	shrub, survey	Δ		
		higher elevations are planted (not	year-round)	, (
		natural). Known only from Los				

Table 3-2, Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially

			ACTIVITY	Fleselly	
Species	Status	Habitat and Distribution	Period	Absent	Rationale
Berberis nevinii Nevin's barberry	US: FE CA: SE/1B	Gravelly wash margins in alluvial scrub or coarse soils and rocky slopes in chaparral at 275 to 825 meters (900 to 2,700 feet) elevation. Known occurrences at higher elevations are planted (not natural). Known only from Los Angeles, San Bernardino, Riverside, and San Diego Counties, California.	Blooms March through June (evergreen shrub, survey year-round)	A	No washes in BSA.
Brodiaea filifolia Thread-leaved brodiaea	US: FT CA: SE/1B	Usually on clay or associated with vernal pools or alkaline flats; occasionally in vernally moist sites in fine soils (clay loam, silt loam, fine sandy loam, loam, loamy fine sand). Typically associated with needlegrass or alkali grassland or vernal pools. Occurs from 25 to 1,120 meters (80 to 3,700 feet) elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties, California.	Blooms March through June (perennial herb)	A	No clay soils, vernal pools, or alkaline flats in BSA.
Carex comosa Bristly sedge	US: – CA: 2B	Bogs and fens, freshwater marshes and swamps, and lake margins below 425 meters (1,400 feet). Known from Lake, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties; and Idaho, Oregon, and Washington. Believed extirpated from San Bernardino County (last known occurrence was in 1882).	Blooms May through September	A	No suitable habitat types in BSA.
Centromadia pungens ssp. laevis Smooth tarplant	US: – CA: 1B	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Blooms April through November (annual herb)	A	No alkaline areas in BSA.
Chorizanthe parryi var. parryi Parry's spineflower	US: – CA: 1B	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 40 to 1,705 meters (100 to 5,600 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	Blooms April through June (annual herb)	A	No sandy or rocky soils in BSA.
Chorizanthe xanti var. leucotheca White-bracted spineflower	US: – CA: 1B	Sandy to gravelly places in Mojave desert scrub, pinyon and juniper woodland, or coastal scrub at 300 to 1,200 meters (980 to 3,900 feet) elevation. Reported from Los Angeles, Riverside, and San Bernardino Counties.	Blooms April through June (annual herb)	A	No sandy or gravelly soils in BSA.

			Activity	Habitat Present/	
Species	Status	Habitat and Distribution	Period	Absent	Rationale
Dodecahema leptoceras Slender-horned spineflower	US: FE CA: SE/1B	Sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (<i>Lastarriaea coriacea</i>) and other native annual species, and is often associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 200 to 760 meters (600 to 2,500 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.	Blooms April through June (annual herb)	A	No alluvial fan sage scrub in BSA.
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	US: FE CA: SE/1B	Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 90 to 625 meters (300 to 2,100 feet) elevation in San Bernardino and Riverside Counties.	Blooms May through September	A	No alluvial fan sage scrub or chaparral habitat in BSA.
Fimbristylis thermalis Hot springs fimbristylis	US: – CA: 2B	Meadows and seeps (alkaline, near hot springs) in elevations from 120 to 1,340 meters (400 to 4,400 feet). Known from Inyo Kern, Mono, and San Bernardino Counties, California, and Arizona and Nevada.	Blooms July through September (perennial herb)	A	No suitable habitat types in in BSA.
Helianthus nuttallii ssp. parishii Los Angeles sunflower	US: – CA: 1A	Marshes and swamps (coastal salt and freshwater) at 10 to 500 meters (30 to 1,600 feet) elevation. This species is historically known from Los Angeles, Orange and San Bernardino Counties, California. Last seen in 1937. Presumed extinct. Plants found in 2002 at Castaic Spring along the Santa Clara River in Los Angeles County were initially reported as possibly this taxon, but instead appear to be hybrids or evolutionary intermediates between <i>H. nuttallii</i> and <i>H. californicus</i> , based on chromosome counts and pollen morphology (<i>A Quantitative</i> <i>Analysis of Pollen Variation in Two</i> <i>Southern California Perennial</i> Helianthus (Heliantheae:	Blooms August through October (perennial herb)	A	No suitable habitat types in BSA.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat PotentiallyOccurring or Known to Occur in the BSA

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially
Occurring or Known to Occur in the BSA

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
		<i>Asteraceae)</i> , J.M. Porter and N. Fraga, 2004).			
Horkelia cuneata ssp. puberula Mesa horkelia	US: – CA: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 70 to 825 meters (200 to 2,700 feet) elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	Blooms February through July (sometimes to September) (perennial herb)	A	No sandy or gravelly soils in BSA.
Imperata brevifolia California satintail	US: - CA: 2B	Desert seeps, springs, moist canyons, canals, alkaline sinks, and similar wet areas below 500 meters (1,600 feet) elevation. Widespread in California and the western U. S. Also occurs in Mexico.	Blooms September through May (perennial grass)	A	No suitable habitat types in BSA.
Lycium parishii Parish's desert- thorn	US: – CA: 2B	Coastal scrub and Sonoran desert scrub at 135 to 1,000 meters (440 to 3,300 feet) elevation. In California, known from Imperial and San Diego Counties. Report from Riverside County is based on a misidentification. Known only historically from San Bernardino County (benches and/or foothills north of San Bernardino).	Blooms March through April (deciduous shrub)	A	BSA is outside of species' current range.
Malacothamnus parishii Parish's bush mallow	US: – CA: 1A	Known only from one occurrence in 1895, in chaparral and CSS at 490 meters (1,600 feet) elevation in vicinity of San Bernardino. Presumed extinct.	Blooms June through July (deciduous shrub)	HP	Known only from 1895 type collection. High level of disturbance in BSA would exclude this species. All coastal scrub in BSA is result of revegetation of freeway cut slopes. These slopes have very compacted soils and support low species diversity. Perennial not observed during field survey.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially
Occurring or Known to Occur in the BSA

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
Monardella pringlei Pringle's monardella	US: – CA: 1A	Sandy hills in CSS at 300 to 400 meters (980 to 1,300 feet) elevation. Known only from two occurrences west of Colton. Last seen in 1941. Habitat lost to urbanization. Presumed extinct.	Blooms May through June	A	BSA is outside of species' known range.
Opuntia basilaris var. brachyclada Short-joint beavertail	US: – CA: 1B	Sandy soil or coarse, granitic loam in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland at 425 to 1,800 meters (1,400 to 5,900 feet) elevation. Known only from Los Angeles and San Bernardino Counties, along the desert (north) slopes of the San Gabriel and San Bernardino Mountains, and in the Providence Mountains.	Blooms April through June; identifiable year-round (succulent shrub)	A	BSA is outside of species' range. No suitable habitat in BSA.
Schoenus nigricans Black bog-rush	US: – CA: 2B	Marshes and swamps (often in alkali soils) in elevations from 140 to 2,130 meters (500 feet to 7,000 feet). Known from Inyo and San Bernardino Counties, California, and Nevada, Texas, and elsewhere.	Blooms August through September (perennial herb)	A	No marshes or swamps in BSA.
Senecio aphanactis Chaparral ragwort	US: – CA: 2B	Openings (especially alkaline flats) in cismontane woodland, CSS, and chaparral at 15 to 800) meters (50 to 2,600 feet) elevation. Known in California from Alameda, Contra Costa, Fresno, Los Angeles, Merced, Monterey, Orange, Riverside, Santa Barbara, Santa Clara, San Diego, San Luis Obispo, Solano, and Ventura Counties. Also occurs in Baja California.	Blooms January through April (annual herb)	A	No alkaline flats in BSA. Not known from San Bernardino County.
Sidalcea neomexicana Salt Spring checkerbloom	US: – CA: 2B	Alkaline springs and brackish marshes below 1,530 meters (5,000 feet) elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico.	Blooms March through June (perennial herb)	A	No alkaline habitat in BSA.
Sphenopholis obtusata Prairie wedge grass	US: – CA: 2B	Cismontane woodland, meadows and seeps at 300 to 2,000 meters (1,000 to 6,600 feet) elevation. Widely distributed. In Southern California, known only from San Bernardino, Riverside (Santa Ana River), and perhaps San Diego Counties.	Blooms April through July (perennial herb)	A	No suitable man-made "aquatic habitat" in BSA.

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
Symphyotrichum defoliatum San Bernardino aster	US: – CA: 1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (<i>The</i> <i>Vascular Plants of Western</i> <i>Riverside County, California.</i> F.M. Roberts et al., 2004).	Blooms July through November (perennial herb)	A	No vernally wet sites in BSA.
Thelypteris puberula var. sonorensis Sonoran maiden fern	US: – CA: 2B	Seeps and along streams in meadows at 50 to 610 meters (170 to 2,000 feet) elevation. Known from western Riverside, southwest San Bernardino, Santa Barbara, and Los Angeles Counties.	Blooms January through September (perennial herb)	A	No seeps or meadows in BSA.
Fish			•		•
Rhinichthys osculus ssp. 3 Santa Ana speckled dace	US: – CA: SSC	Found in the headwaters of the Santa Ana and San Gabriel River drainages. Found in riffles in small streams and shore areas with abundant gravel and rock.	Year-round	A	No suitable habitat in BSA.
Reptiles					
Phrynosoma blainvillii (coronatum) Coast horned lizard	US: – CA: SSC	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills. Along Pacific coast from Baja California border west of the deserts and the Sierra Nevada, north to the Bay Area, and inland as far north as Shasta Reservoir, and south into Baja California.	Diurnal. Active during warm weather, inactive during extended periods of low temperatures or extreme heat. Breeds April to June. Juveniles hatch August to September.	A	No loose, sandy soils with suitable habitat in BSA. Soils in BSA are compacted due to disturbance and development.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat PotentiallyOccurring or Known to Occur in the BSA

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially
Occurring or Known to Occur in the BSA

Species Thamnophis hammondii Two-striped garter snake	Status US: – CA: SSC	Habitat and Distribution Highly aquatic. Found around pools, creeks, cattle tanks, and other water sources, often in rocky areas in oak woodland, chaparral, brushland, and coniferous forest. From Monterey County to northwest Baja California.	Activity Period Diurnal, active at night and at dusk during hot weather in some areas. Active from January to November depending on weather conditions. Breeds late March-early April, juveniles born late July- August.	Habitat Present/ Absent	Rationale No suitable habitat in BSA.
Birds					
Athene cunicularia (burrow sites and some wintering sites) Burrowing owl	US: – CA: SSC (breeding and some wintering sites)	Open, treeless areas with low, sparse vegetation, usually on gentle sloping terrain. Found in grasslands, deserts, and steppe environments; on golf courses, pastures, agricultural fields, airport medians, road embankments, cemeteries, and urban vacant lots. Associated with burrowing animals such as prairie dogs, ground squirrels, and tortoises.	Year-round. Active during the day.	HP	May occur in NNG habitat on east side of BSA. Low potential for occurrence due to high level of disturbance, small size of isolated suitable habitat area, and frequent human presence.
Empidonax traillii extimus Southwestern willow flycatcher	US: FE CA: SE	Breeds in southern California, Arizona, New Mexico, Nevada, Utah, and Texas in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands including lakes and reservoirs. The dense vegetation occurs within the first 10 to 13 feet above the ground. Habitat patches must be at least 0.25 acres in size and at least 30 feet wide. Prefers nesting in native vegetation but will use thickets dominated by non-native tamarisk or mixed native non-native stands.	May through September	A	No riparian habitat in BSA.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially	
Occurring or Known to Occur in the BSA	

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
Gymnogyps californianus California condor	US: FE CA: FE	Nest in rock crevices or caves in cliffs in the mountains of southern California north of the Los Angeles basin, Arizona, and Baja California. Feed only on carrion, foraging in oak savanna foothills and open grasslands.	Year-round	A	BSA is outside of species' current range and not near known nesting sites.
Polioptila californica californica Coastal California gnatcatcher	US: FT CA: SSC	Prefers open sage scrub with California sagebrush as a dominant or co-dominant species. More abundant near sage scrub- grassland interface than where sage scrub grades into chaparral.	Year-round	HP	Suitable habitat occurs in CBS and CBS (Disturbed). See text for further discussion.
Vireo bellii pusillus Least Bell's vireo	US: FE CA: SE	Inhabits lowland riparian forests and willow thickets. Also found in foothill streams and scattered location in the Mojave Desert. Rnages from Santa Barbara south to San Diego County.	April through September	A	No riparian habitat in BSA.
Mammals					
Eumops perotis californicus Western mastiff bat	US: – CA: SSC	Occurs near significant rock features offering suitable roosting habitat. Found in a variety of habitats including desert scrub, chaparral, oak woodland, dry desert washes, flood plains, CSS, grasslands, agricultural areas, and ponderosa pine. Primarily a crevice dwelling species, often found under large exfoliating slabs of granite, sandstone slabs or in columnar basalt, on cliff faces or in large boulders. Roosts are generally high above the ground with a clear vertical drop. Primarily feeds on moths, but also includes beetles and crickets.	Year-round; nocturnal	A	No rock features in BSA.
Lasiurus xanthinus Western yellow bat	US: – CA: SSC	Found in Los Angeles and San Bernardino Counties, south to the Mexican border. Inhabits foothill riparian, desert riparian, desert wash, and palm oasis habitats below 2000'. Roosts in trees, including palm trees. Feeds on flying insects, forages over water and among trees.	Year-round; nocturnal	A	No riparian, desert wash, or palm oasis habitat in BSA.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially
Occurring or Known to Occur in the BSA

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
Nyctinomops femorosaccus Pocketed free- tailed bat	US: – CA: SSC	Found in Riverside, San Diego, and Imperial Counties in pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Feeds on flying insects, primairly large moths. Roosts in rock crevices in cliffs, rock outcrops, caverns, or buildings.	Year-round; nocturnal	A	No high cliffs or rugged rock outcroppings in the BSA.
Lepus californicus bennettii San Diego black- tailed jackrabbit	US: – CA: SSC	Inhabits a variety of open and semi-open habitats, primarily grasslands, Riversidean sage scrub, Riversidean alluvial fan sage scrub, Great Basin sagebrush, desert scrub, agricultural fields, and juniper and oak woodlands.	Year-round, diurnal and crepuscular activity	HP	Could occur in vegetated areas throughout the BSA, more likely in areas adjacent to open space.
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	US: – CA: SSC	Inhabits coastal scrub, chamise- redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Found in San Diego, Riverside, and San Bernardino Counties below 4,500 feet. Favors rocky, gravelly, or sandy ground.	Year-round; nocturnal	A	No rocky, gravelly, or sandy soils in BSA.
Dipodomys merriami parvus San Bernardino kangaroo rat	US: FE CA: SSC	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern portion of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon.	Year round; nocturnal	A	No alluvial fans, braided river channels, active channels or terraces in BSA.
Dipodomys stephensi Stephens' kangaroo rat	US: FE CA: ST	Inhabits annual and perennial grassland habitats but may occur in coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas such as abandoned agricultural fields. Preferred perennials are buckwheat and chamise, preferred annuals are brome grass and filaree. Found in San Jacinto valley, southwestern San Bernardino County and porthern San Diego	Year-round, nocturnal	A	BSA is outside of species' range.

Table 3-2. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially
Occurring or Known to Occur in the BSA

Species	Status	Habitat and Distribution	Activity Period	Habitat Present/ Absent	Rationale
		between 55 and 1,250 meters elevation.			
Neotoma lepida intermedia San Diego desert woodrat	US: – CA: SSC	Found in desert scrub and CSS habitat, especially in association with cactus patches. Builds stick nests around cacti, or on rocky crevices. Occurs along the Pacific slope from San Luis Obispo County to northwest Baja California.	Year-round, mainly nocturnal, occasionally crepuscular and diurnal	A	No cactus patches in BSA.
Perognathus longimembris brevinasus Los Angeles pocket mouse	US: – CA: SSC	Inhabits lower elevation grassland, alluvial sage scrub, and CSS. Found in coastal basins of southern California, from San Fernando Valley east to Cabazon, south through San Jacinto and Temecula Valleys to Aguanga, Warner Pass, Vail, and Temecula.	Active March to September; hibernation period dependent on availability of forb and grass seeds. Nocturnal.	HP	Marginally suitable habitat in CBS and CBS (Disturbed), but unlikely due to proximity to I- 215 and high level of disturbance.
Taxidea taxus American badger	US: – CA: SSC	Inhabits drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Burrows dug in relatively dry, often sandy soils, usually in areas with sparse overstory cover. Frequently reuse old burrows.	Year-round; nocturnal and diurnal	A	No suitable open habitat or friable soils for burrows.

LEGEND: Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC)

3.1.3.1 Special-Interest Plants

After a thorough literature review, it was determined that 24 special-status plant species occur or have the potential to occur within the vicinity of the BSA. A total of 4 of these species are federally and/or State-listed endangered or threatened. The BSA does not contain suitable habitat to support these or any of the special-interest plant species identified for the region. Further information on these species, including status, habitat requirements, and potential for occurrence, is summarized in Table 3-2.

3.1.3.2 Special-Interest Wildlife

The BSA supports suitable habitat for a variety of special-interest wildlife species. After a thorough literature review, it was determined that 17 special-status wildlife species occur or have the potential to occur within the vicinity of the BSA. A total of 5 of these species are federally and/or State-listed endangered or threatened, or proposed endangered or threatened. Further information on these species, including status, habitat requirements, and potential for occurrence, is summarized in Table 3-2. No special-interest wildlife species were observed within the BSA. Species that have potentially suitable habitat present within the BSA are discussed further in Chapter 4.

3.1.3.3 *Natural Communities*

Natural communities are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring in those habitats. Special-interest natural communities identified in the region include southern cottonwood willow riparian forest, southern mixed riparian forest, southern riparian forest, southern riparian scrub, and southern sycamore alder riparian woodland. The BSA does not support any of these natural communities. The BSA does support CBS, which has the potential to provide habitat for a number of special-interest plant and wildlife resources. However, as previously discussed, CBS and CBS(Disturbed) habitat within the BSA is of low species diversity, located adjacent to I-215, and previously subjected to clearing.

4. Results: Biological Resources, Discussion of Impacts & Mitigation

Anticipated project impacts to biological resources as well as avoidance and minimization measures to reduce these impacts are discussed in the following sections.

4.1 Natural Communities of Special Concern

Proposed project impacts to natural communities within the BSA are identified in Table 4-1 and shown on Figure 4-1. The southern portion of the BSA supports CBS and CBS (Disturbed) habitat on the eastern and western slopes south of University Parkway. No other special-interest natural communities occur in the BSA.

Natural Environment Study (Minimal Impact)

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Figure 4-1. Proposed Impacts to Vegetation Communities

Natural Environment Study (Minimal Impact)

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Vegetation Community	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Impacts (acres)
California buckwheat scrub	<0.01	0.04	0.04
California buckwheat scrub – Disturbed	-	-	-
Non-Native Grassland	0.94	3.02	3.96
Urban/Developed	6.34	5.01	11.35
Total Impacts	7.28	8.07	15.35

Table 4-1. Potential Project Impacts to Natural Communities within the BSA

4.1.1 Discussion of Natural Community California Buckwheat Scrub

CBS is generally a patchy vegetation community found in diverse habitat mosaics and is dominated by a suite of shrub species found in southern California. It is a subtype of coastal scrub. Within coastal scrub habitats, shrub cover is dense and generally continuous, with low moisture content. Coastal scrub communities are characterized by steep, xeric slopes. Annual herbs, including weedy grasses and forbs and native wildflowers, are common in openings and disturbed areas.

Throughout southern California, coastal scrub communities have become displaced by spreading urbanization. Many rare and endangered species occur in coastal scrub and associated plant communities. Consequently, degradation and displacement of coastal scrub has also resulted in substantial habitat loss for a variety of animal species. Therefore, the CDFW and USFWS have special concern for these habitat types.

4.1.1.1 Survey Results

The BSA supports 1.57 acres of CBS and 0.18 acre of CBS (Disturbed). These communities occur on the steep cut-slopes adjacent to I-215, just south of University Parkway. Within the BSA, this community is dominated by California buckwheat and brittlebush with non-native grasses in the understory. Species diversity is low, and soils are compacted. Due to the high disturbance and proximity to I-215, it is not expected to support most of the special-interest plant or wildlife species generally associated with this habitat. It does have low potential to support CAGN, Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).

4.1.1.2 Avoidance and Minimization Efforts

The following measures will be incorporated to avoid and minimize impacts to CBS habitat and special-interest species that could occur in this natural community:

- **BIO-1** To avoid impacts to nesting birds, any native vegetation removal or tree (native or exotic) trimming activities will occur outside of the nesting bird season. In the event that vegetation clearing is necessary during the nesting season (i.e., February 15–August 31), a qualified biologist will conduct a pre-construction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer should be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.
- **BIO-2** Non-impacted CBS and CBS (Disturbed) habitat that is outside of the project limits will be identified as Environmentally Sensitive Areas (ESAs). Prior to construction, exclusionary fencing will be installed around all ESAs, under supervision of a biologist familiar with the biological resources in the BSA, to prevent accidental encroachment into these areas.
- **BIO-3** A weed abatement program will be developed and implemented by the San Bernardino County Transportation Authority's (SBCTA) Resident Engineer and their subcontractors in order to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an invasion occur.
- **BIO-4** When work is conducted during the fire season (as identified by the San Bernardino County Fire Authority) adjacent to any vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) will be available on site during all phases of project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise the construction contractors regarding fire risk from all construction-related activities.

4.1.1.3 *Project Impacts*

The proposed Project would result in direct permanent and temporary impacts to CBS habitat through disturbance and/or removal of existing vegetation. Areas of temporary impacts will only be affected during construction to allow for construction and equipment staging. Temporarily impacted CBS habitat within the BSA will be restored to natural contours and hydroseeded with CBS species following completion of construction activities that encroach on these areas. Permanent impacts may include complete removal of vegetation within the CBS community to provide for extension of the I-215 SB on-ramp at University Parkway (see Table 4-2).

	Temporary Impacts (ac)	Permanent Impacts (ac)
California Buckwheat Scrub	<0.01	0.04
California Buckwheat Scrub (Disturbed)	-	-
Total Impacts	<0.01	0.04

Table 4-2. Anticipated Project Impacts to California Buckwheat Scrub

4.1.1.4 Compensatory Mitigation

CBS within the project boundaries is not protected by any Federal, State, or local regulations. Direct permanent impacts to 0.04 acre of CBS would not contribute to substantial degradation of this community or associated plant and wildlife species in the region. No compensatory mitigation is proposed for permanent impacts to CBS.

4.1.1.5 *Cumulative Effects*

As described above, the Project will result in the permanent and temporary removal of CBS habitat within the Project disturbance limits and may result in adverse effects on the plant and animal species associated within this natural community. Other cumulative projects in the same geographic area may also result in the permanent and/or temporary removal of CBS and may result in adverse effects on the plant and animal species associated with this natural community. The Project will result in loss of a maximum of 0.04 acre of CBS within the BSA. This habitat is highly disturbed and more closely resembles nonnative annual grassland than CSS. Therefore, the Project will not contribute to cumulative effects to CBS or associated plant and wildlife species.

4.2 Special Status Plant Species

As discussed in Section 3.1.3.1, the BSA does not contain habitat to support any of the specialstatus plant species known to occur in the region. Therefore, the project will not result in impacts to any special-status plant species and no avoidance, mitigation, or minimization measures are proposed in regards to special-status plant species.

4.3 Special Status Wildlife Species

Animals are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. No special-status wildlife species were observed within the BSA during field surveys. Two species, CAGN and BUOW, have a low potential to occur in the BSA, as discussed below.

4.3.1 Discussion of Coastal California Gnatcatcher

The CAGN is a resident songbird that typically nests and forages in moderately dense stands of CSS coastal scrub communities below 2,500 ft in elevation in southern California. CAGN usually defend breeding territories ranging in size from two to 14 acres and occupy home ranges that vary in size from 13 to 39 acres. The breeding season of the CAGN generally extends from

February 15 through August 30. After the chicks have fledged, juveniles remain closely associated with their parents for up to several months and may disperse up to 9 miles from their natal territory.

4.3.1.1 Survey Results

The CAGN was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 acres in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties was designated as critical habitat for the CAGN (65 FR 63680). New boundaries for designated critical habitat encompassing a total of 495,795 acres were proposed in April 2003 (68 FR 20228). On December 19, 2007, the USFWS designated 197,303 acres as revised final critical habitat (72 FR 72010).

Within the BSA, suitable habitat for CAGN occurs within the Buckwheat Scrub and Buckwheat Scrub – Disturbed communities. There is a total of 1.8 acres of low-quality suitable habitat for CAGN within the BSA. No CAGN were detected in or adjacent to the BSA during the field survey. The nearest and most recent documented observation of CAGN in the vicinity is 1.75 miles northeast of the site, recorded on May 24, 1925. Additionally, the BSA is isolated from large tracts of suitable habitat on both sides of I-215 and habitat within the BSA is in close vicinity to high levels of traffic and traffic noise associated with I-215. As a result, CAGN have a low probability of occurring within the BSA. The BSA is not within any designated critical habitat for CAGN.

4.3.1.2 *Project Impacts*

The proposed project will result in direct impacts to 0.05 acre of low-quality suitable CAGN habitat within the BSA. Due to this isolation of this habitat from known CAGN occurrences, and proximity of this habitat to highly disturbed areas, CAGN are not anticipated to occupy CBS or CBS (Disturbed) within the BSA.

If CAGN occupy the CBS or CBS (Disturbed) communities within the BSA, the Project could potentially result in indirect impacts to this species as a result of temporarily increased noise and activity levels in adjacent areas and permanent loss of 0.04 acre of low-quality habitat. For the most part, CAGN within adjacent areas would be able to move away from disturbance areas and indirect impacts would not be substantial. However, if CAGN are nesting adjacent to active project disturbance areas, the Project could result in take of CAGN. While possible, the likelihood of CAGN nesting in or adjacent to the BSA is low due to the disturbed environment and high levels of human activity within the BSA.

4.3.1.3 Avoidance and Minimization Efforts

In order to avoid direct impacts to CAGN, Measures BIO-1 through BIO-4 will be implemented. In addition, the following avoidance measures will also be implemented:

BIO-5 Should construction be initiated during CAGN breeding season (February 15- August 31) three separate days of pre-construction nesting surveys will be conducted within 7 days of construction. Should breeding CAGN be identified within 500 feet of the project, project activities will not be allowed within 500 feet of the active nest and additional noise mitigation measures will be implemented as needed to maintain noise levels of less than 60 dBA Leq at the nest location. Section 7 consultation will be initiated with U.S. Fish and Wildlife Service prior to conducting project activities within 500 feet of the active nest.

4.3.1.4 Compensatory Mitigation

The Project would result in permanent loss of 0.04 acre of low-quality CBS habitat. Since the potential impacts to habitat with a low potential to support CAGN are minimal, no compensatory mitigation is proposed.

4.3.1.5 *Cumulative Impacts*

With implementation of Measures BIO-1 through BIO-5, the proposed Project would not result in direct impacts to CAGN and would not substantially contribute to cumulative impacts to CAGN in the region.

4.3.2 Discussion of Burrowing Owl

4.3.2.1 *Survey Results*

A habitat suitability assessment was conducted for BUOW at the time of the general field survey. Habitat within most of the BSA is not suitable for this species due to development, lack of vegetation and proximity to freeways and busy roadways, suitable burrowing owl habitat areas are confined to a small portion of NNG on the eastern slope of I-215, just south of the NB University Parkway off-ramp. This area provides marginally suitable habitat for BUOW. This small area of NNG supports shortpod mustard which can grow too tall for burrowing owls, and is immediately adjacent to I-215 and a busy shopping center. However, this area is adjacent to approximately 700 acres of open space associated with the Shandin Hills, leaving a small potential that BUOW could use this area for foraging if they occupy burrows in adjacent open space.

4.3.2.2 *Project Impacts*

The proposed Project will not result in any permanent or temporary direct impacts to potentially suitable BUOW habitat within the BSA.

4.3.2.3 Avoidance and Minimization Efforts

In order to avoid indirect impacts to BUOW that may occur in NNG habitat adjacent to Project work areas, Measure BIO-6 will be implemented:

BIO-6 A pre-construction survey for BUOW should be conducted by a qualified biologist within 30-days prior to vegetation clearing/grading. If BUOW are found within 200 meters of the project limits during the pre-construction survey, the biologist will determine appropriate measures necessary to ensure that there is no take of active BUOW nests and CDFW conservation requirements with regards to BUOW are met.

4.3.2.4 Compensatory Mitigation

With implementation of Measure BIO-6, the Project will not result in direct impacts to BUOW or its habitat. Therefore, no compensatory mitigation in regard to BUOW are anticipated.

4.3.2.5 *Cumulative Impacts*

With implementation of Measure BIO-6, the Project will not result in direct impacts to BUOW or its habitat and will not contribute towards cumulative impacts to this species within the region.

4.3.3 Discussion of Bat Species

Bats are known to use features in highway bridges such as expansion joints, crevices, or areas sheltered by bridge support beams as daytime and nighttime roosts. Roosts provide important refugia as they provide protection from predators, weather changes, and areas to rest while foraging. While bats do not roost in every highway bridge, certain features make some bridges more suitable for bat roosting than others. These features include:

Day Roosts

- Constructed of concrete;
- Rainwater sealed at the top;
- Vertical crevices 0.5 to 1.25 inches wide and 12 in or greater in depth;
- Roost height 10 ft or more above the ground;
- Full sun exposure during the day; and
- Not situated over busy roadways.

Night Roosts

- Bridges with large thermal mass that remains warm at night;
- Constructed of pre-stressed concrete girder spans, cast-in place spans, or steel Ibeams;
- Vertical concrete surfaces between beams;
- Avoid bridges with flat-bottomed surfaces that lack inter-beam spaces; and
- Close to foraging habitat (Keeley and Tuttle, 1999).

Bridges without some of these features can still support bat roosting.

4.3.3.1 *Survey Results*

The I-215 bridge over University Parkway provides low-quality suitable habitat for roosting bats. Due to the type of bridge construction, the bridge does not support crevices that meet "ideal" conditions for day roosts (Keeley and Tuttle 1999) such as water-protected vertical crevices between 0.5 and 1.25 inches wide and at least 12 inches deep, and not being situated over busy roadways. Night roosts do not require crevices, but are generally located in close proximity to foraging habitat (Keeley and Tuttle 1999). Based on a review of aerial photographs, the nearest riparian habitat is an approximately 1-acre area associated with a mitigation project at Cesar Chavez Middle School, approximately 3.1 miles north of the BSA. Pocketed free-tailed bats have been documented to use bridges in other areas, but their use of bridges has not been documented in California (Erickson 2002).

None of the special-status bat species identified in Table 3-2 are expected to roost in the BSA. Due to the lack of preferred crevices, high amount of traffic under this bridge, and distance from foraging habitat bats are not likely to occur within the BSA, and bat sign was not observed during the field survey. However, surveys were conducted during the daytime when bats are

typically roosting and more difficult to observe. A focused survey to determine the presence of bats was not conducted as this species has a low potential to roost within the BSA.

4.3.3.2 *Project Impacts*

The proposed Project would not result in direct impacts to the I-215 over University Parkway bridge, however work under the bridge could result in indirect impacts to roosting bats due to factors such as exhaust from construction equipment or lighting used during nighttime work.

4.3.3.3 Avoidance and Minimization Efforts

Although special-status bat species are not anticipated to occur in the BSA, due to seasonal variation of roosting locations, the following measures will be incorporated to avoid impacts to native bat species:

- **BIO-7**: A qualified bat biologist who is familiar with crevice dwelling bat and bird species shall survey the I-215 over University Parkway bridge in June, prior to construction, to assess the potential for the bridge's use for bat roosting, bat maternity roosting, and bird roosting/nesting because maternity roosts and nests are generally formed in spring. The qualified bat biologist shall also perform preconstruction surveys within two weeks prior to construction because bat and bird roosts can change seasonally. These surveys will include a combination of structure inspections, exit counts, and acoustic surveys.
- **BIO-8**: If a roost is detected, a bat management plan shall be prepared if it is determined that project activities would result in impacts to roosting bats. The bat management plan will be submitted for California Department Fish and Wildlife (CDFW) approval prior to implementation and will include appropriate avoidance and minimization efforts such as:

Daytime Work Hours. All work conducted under the I-215 bridge shall take place during the day. If this is not feasible, lighting and noise shall be directed away from night roosting and foraging areas.

Reduced use of Combustion Equipment. Construction personnel shall avoid parking construction-related combustion equipment (such as generators, pumps, and vehicles) under the I-215 bridge to the fullest extent possible. Construction activities shall avoid severely restricting airspace access to the roosts.

Temporary Exclusion. If recommended by the qualified bat biologist, to avoid indirect disturbance of bats and birds while roosting in areas that would be adjacent to construction activities, any portion of the structure that is deemed by a qualified bat biologist to have potential bat or bird roosting habitat and may be affected by the proposed project shall have temporary bat and bird eviction and exclusion devices installed under the supervision of a qualified and permitted bat biologist prior to the initiation of construction activities. Eviction and subsequent exclusion will be conducted during the fall (September or October) to avoid trapping flightless young bats inside during the summer months or hibernating/overwintering individuals during the winter. Such exclusion efforts are dependent on weather conditions, take a minimum of two weeks to implement, and must be continued to keep the structures free of bats and birds until the completion of construction. All eviction and/or exclusion techniques shall be coordinated between the qualified bat biologist and the appropriate resource agencies (e.g., CDFW) if the structure is occupied by bats.

4.3.3.4 Compensatory Mitigation

Since the Project will not result in direct impacts to special status bat species, no compensatory mitigation is proposed.

4.3.3.5 *Cumulative Impacts*

Project impacts to special status bat habitat within the BSA are minimal and are not expected to substantially contribute to cumulative impacts to these habitats in the vicinity of the Project.

4.3.4 Other Special Status Wildlife Species

Of the 12 non-listed special-status wildlife species known to occur within the vicinity of the Project, three were determined to have potential for occurrence within the BSA: black-tailed jackrabbit, western burrowing owl, and Los Angeles pocket mouse. Project impacts and avoidance measures for BUOW are discussed in Section 4.3.2, above. The remaining special status wildlife species that have a potential to occur within the BSA are discussed below.

4.3.4.1 Survey Results

Suitable habitat to support these species within the BSA occurs in the CBS, CBS (Disturbed) and NNG communities at the southern end of the BSA. None of these species were observed within the BSA during the field survey.

4.3.4.2 *Project Impacts*

As shown in Table 4-1, the proposed Project would result in permanent loss of 0.04 acre of CBS habitat and 3.02 acre of NNG habitat and temporary impacts to <0.01 acre of CBS and 0.94 acre of NNG within the BSA.

4.3.4.3 Avoidance and Minimization Efforts

Measures BIO-1 through BIO-8 will be implemented to reduce Project impacts to special-status wildlife species within and/or adjacent to Project work areas.

4.3.4.4 Compensatory Mitigation

Since the project will result in a small amount of temporary and permanent impacts to suitable habitat for these species, no compensatory mitigation is proposed.

4.3.4.5 *Cumulative Impacts*

Project impacts to CBS and NNG habitat within the BSA are minimal and are not expected to substantially contribute to cumulative impacts to these habitats in the vicinity of the Project.

4.4 Discussion of Wildlife Movement Corridors

As discussed in Section 3.1.2.4, the southeastern portion of the BSA occurs adjacent to the Shandin Hills, approximately 700 acres of open space, and an estimated 16-acre area of undeveloped land adjacent to the western edge of the BSA. It is also isolated from any other open space areas and does not provide any direct linkage to Cajon Wash/Lytle Creek located approximately 1.75 miles west of the BSA. The proposed Project will not affect any connection of the BSA to adjacent open space areas, and no Project impacts to wildlife movement corridors are anticipated.

5. Conclusions and Regulatory Determination

5.1 Federal Endangered Species Act Consultation Summary

A USFWS species list of federally-listed species that, according to USFWS records, could occur within the BSA was acquired from the USFWS' IPaC website on March 28, 2018 and is provided in Appendix A. Table 5-1 provides the Effect Determination for all species listed on the USFWS' IPaC species list for the Project (Appendix A).

Species	Federal Status	Effect Determination
San Bernardino kangaroo rat Dipodomys merriami parvus	Endangered	No Effect
California condor Gymnogyps californianus	Endangered	No Effect
Coastal California gnatcatcher Polioptila californica californica	Threatened	No Effect
Least Bell's vireo Vireo bellii pusillus	Endangered	No Effect
Southwestern willow flycatcher Empidonax traillii extimus	Endangered	No Effect
Santa Ana River woolly-star Eriastrum densifolium ssp. sanctorum	Endangered	No Effect
Thread-leaved brodiaea Brodiaea filifolia	Threatened	No Effect

 Table 5-1. Project Effect Determination for Federally-Listed Species

Based on the analysis presented in this report, the Project would result in 0.04 acres of permanent impacts to low-quality CBS adjacent to the University Parkway on-ramp to SB I-215 that is marginally suitable for CAGN. With implementation of Measures BIO-1 through BIO-5, the Project will have *No Effect* to CAGN.

5.2 Federal Fisheries and Essential Fish Habitat Consultation Summary

The Magnuson-Stevens Fishery and Conservation Management Act requires any federal agencies to consult with the National Marine Fisheries Service on all actions that could adversely impact EFH. The BSA does not support any areas designated as EFH; therefore, the project will have *No Effect* on EFH.

5.3 California Endangered Species Act Consultation Summary

The CDFW authorizes take of endangered, threatened, or candidate species through Sections 2081 and 2080.1 of the CFG Code. With implementation of Measures BIO-1 through BIO-5, the Project will not result in direct impacts to CAGN or contribute towards the overall decline of the CAGN population. No plant or wildlife species that are solely state listed endangered,

threatened or candidate species will be impacted by the Project; therefore, no Incidental Take Permit under Section 2081 is required.

5.4 Wetland and Other Waters Coordination Summary

A delineation of Waters of the U.S. and Waters of the State was completed for the BSA. As previously discussed, the BSA is located on an alluvial fan at the base of the San Bernardino Mountains, located northeast of the BSA. As a result of flood control modifications to support urban development, the majority of natural flows that occur upstream of the BSA are channeled into Devil Creek, which is located approximately 4,500 feet north of the BSA. Based on a review of historic aerials [(1938, 1959); Appendix E], there are no naturally-occurring drainages within the BSA (NETR 2017), and flows that crossed the BSA prior to development of the surrounding area occurred as overland sheetflows that eventually reached Cajon Creek to the southwest.

Three ephemeral ditches were identified within the BSA, all adjacent to the roadway shoulders or within the I-215 gore areas (Figure 3-1). As-built drawings from 1955 (provided in Appendix B), show that all drainage features within the BSA were constructed as part of the original interchange project and were constructed solely in uplands to convey surface flow off of the roadway and shoulders into Macy basin, located approximately one-quarter mile west of the project limits. Macy Basin serves as a detention basin and only outlets to downstream channels when unusually high amounts of rainfall occur.

Since the U.S. Army Corps of Engineers (USACE) generally does not assert jurisdiction over drainages excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water¹, drainages within the BSA would not be subject to USACE jurisdiction under Section 404 of the Federal Clean Water Act (CWA)² and would not require a 401 certification through RWQCB.

CDFW regulates substantial modification of bed and bank or diversion or obstruction of flows of a stream pursuant to Section 1600 of the California Fish and Game Code and requires a Streambed Alteration Agreement when it determines that the activity may substantially adversely affect existing fish or wildlife resources. Since drainage features within the BSA are ephemeral concrete-lined or earthen ditches located wholly within freeway gore areas, they likely do not provide habitat for aquatic or other wildlife species. Additionally, since flows are conveyed from these drainages into a mostly-isolated detention basin, downstream habitat would also not be affected. Therefore, drainage features within the BSA are likely not subject to CDFW jurisdiction under Section 1600 of the California Fish and Game Code.

5.4.1 Avoidance and Minimization Efforts/Compensatory Mitigation

The BSA likely does not support federal, state or locally jurisdictional wetlands or waters. The BSA supports concrete and unvegetated earthen ephemeral ditches constructed in uplands for the purpose of draining freeway and adjacent infrastructure. Therefore, no avoidance and minimization measures or compensatory mitigation are proposed for potential Project impacts to these resources.

¹ US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook. May 30, 2007.

² Only the regulatory agencies can make a final determination of the regulatory status of an aquatic feature. Should the project proponent wish to request concurrence from the agencies, a CDFW Streambed Alteration Notification and application fee (\$561) would be required and a request for an approved jurisdictional determination would be required for USACE. Note that certain Right-of-Entry or Temporary Construction Easements may require that such written concurrence be provided prior to final execution.

Should the agencies determine that the concrete and unvegetated earthen ephemeral ditches are jurisdictional then the following permits and authorizations for any proposed impacts to these features would be required.

- USACE Section 404 Nationwide Permit
 - Nationwide Permit 14 for Linear Transportation Projects will likely be appropriate for implementation of the project because it is expected to permanently impact less than 0.5 acre of waters of the U.S.
- CDFW Section 1600 Streambed Alteration Agreement
 - A Streambed Alteration Notification would need to be prepared and submitted to CDFW in order to acquire a Streambed Alteration Agreement prior to construction.
- RWQCB Section 401 Water Quality Certification
 - A Section 401 Water Quality Certification from the RWQCB would be required for any proposed impacts to features determined subject to USACE jurisdiction.

5.5 Invasive Species

A total of nine non-native plants were identified within the BSA. Of these, 8 are listed on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory; two with a moderate rating, one with a limited to moderate rating, four with a limited rating and one on the watch list. Invasive species with a high rating can have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically. Species with a high rating identified within the BSA are: red brome (*Bromus madritensis* ssp. *rubens*), and purple pampas grass (*Cortadera jubata*).

In compliance with Executive Order (EO) 13112, weed control will be performed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an invasion occur. Measures addressing invasive species abatement and eradication will be included in the project design and contract specifications. These measures may include, but not be limited to:

- 1) All construction site Best Management Practices from the Storm Water Pollution Prevention Plan (SWPPP) will be followed.
- 2) After construction, affected areas adjacent to native vegetation will be revegetated with plant species approved by the Caltrans District Biologist that are native to the vicinity.
- 3) After construction, all revegetated areas will avoid the use of species listed in the Cal-IPC California Invasive Plant Inventory that have a high or moderate rating.
- 4) A plant establishment period will be developed for revegetated areas during final design. A plant establishment period is a duration of time that allows newly installed plant material to reach a state of maturity, requiring minimal ongoing maintenance for survival. A plant establishment period typically includes the removal of litter and trash, weeding, water application, irrigation repair, replacement of plant material that dies, and other activities required to ensure the long-term survival of plant material.

5.6 Migratory Bird Treaty Act

Habitat to support nesting for birds protected under the MBTA occurs throughout the BSA. Implementation of Measures BIO-1 and BIO-5 will be implemented to avoid impacts to birds nesting in vegetation within and adjacent to Project work areas. In addition, the following measure will be implemented.

BIO-9 In order to avoid impacts to bridge- and crevice-nesting birds (i.e., swifts and swallows), all work on existing bridges with potential habitat that is conducted between February 15 and August 31 will include the removal of all bird nests prior to February 1 of that year to construction under the guidance and observation of a qualified biologist. Removal of swallow nests that are under construction will be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or the completion of construction. All nest exclusion techniques will be coordinated between the Caltrans District Biologist and California Department Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS), if applicable.

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Appendix A. Literature Review

Natural Environment Study (Minimal Impact)

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Appendix B. List of Plant and Wildlife Species Observed

Natural Environment Study (Minimal Impact)

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List of Plant Species Observed

Scientific Name	Common Name
ΡΙΝΟΡΗΥΤΑ	GYMNOSPERMS
Pinaceae	Pine family
Pinus sp.	Pines
MAGNOLIOPHYTA: MAGNOLIOPSIDA	DICOT FLOWERING PLANTS
Aceraceae	Maple family
Acer sp.	maple
Anacardiaceae	Sumac family
Schinus molle*	Peruvian peppertree
Heterotheca grandiflora	Telegraph weed
Taraxacum officinale*	Common dandelion
Convolvulaceae	Morning-glory family
<i>Ipomoea</i> sp.*	Morning glory
Fabaceae	Pea family
Acacia sp.*	Acacia
Geraniaceae	Geranium family
Erodium cicutarium*	Redstem stork's bill
<i>Geranium</i> sp.	Geranium
Myrtaceae	Myrtle family
<i>Eucalyptus</i> sp.*	Eucalyptus
Oleaceae	Olive family
Olea europaea*	European olive
Platanaceae	Sycamore family
Platanus racemosa	Western sycamore
Ulmaceae	Elm family
<i>Ulmus</i> sp.	Elm
Arecaceae	Palm family
Washingtonia robusta*	Mexican fan palm
Poaceae	Grass family
Cynodon dactylon*	Bermuda grass

* = Non-native plant

List of Wildlife Species Observed

AVES	BIRDS
Falconidae	Falcons
Falco sparverius	American kestrel
Columbidae	Pigeons and Doves
Columba livia*	Rock pigeon
Zenaida macroura	Mourning dove
Tyrannidae	Tyrant Flycatchers
Sayornis nigricans	Black phoebe
Corvidae	Crows and Ravens
Corvus brachyrhynchos	American crow
Mimidae	Mockingbirds and Thrashers
Mimus polyglottos	Northern mockingbird
Sturnidae	Starlings
Sturnus vulgaris*	European starling
Fringillidae	Finches
Carpodacus mexicanus	House finch
Spinus psaltria	Lesser goldfinch
Passeridae	Old World Sparrows
Passer domesticus*	House sparrow

* = Non-native species

Appendix C. Site Photographs

Natural Environment Study (Minimal Impact)

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Photo 1. View of representative culvert in I-215 median, designed to drain runoff from freeway into the storm drain system



Photo 2. View of Buckwheat Scrub and Disturbed Buckwheat Scrub habitat in southeastern area of the BSA.


Photo 3. View of Developed/Disturbed habitat in southeastern area of BSA, representative of this community throughout the BSA.



Photo 4. View towards University Parkway at the on-ramp to SB I-215, showing developed/disturbed characteristics representative of the BSA.

Appendix D. 1955 As-Built Drawings

Natural Environment Study (Minimal Impact)

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Appendix E. 1938 and 1959 Historic Aerials

Natural Environment Study (Minimal Impact)

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1938 Historic Aerial [(USDA (1938-05-27 - 1938-10-17)]

Acquired from <u>https://www.historicaerials.com</u>



1955 Historic Aerial [(USDA (1959-09-05 - 1959-11-24)]

Acquired from <u>https://www.historicaerials.com</u>

