

# **Natural Environment Study**

Including Focused Studies for Special-status Species, and a Delineation of  
Jurisdictional Waters and Wetlands

State Route 210 at Pepper Avenue

08-SBD-210 (PM 19.3/20.1)

Project Identification Number: 08-0002-0180

EA 08-443940

*January 2014*



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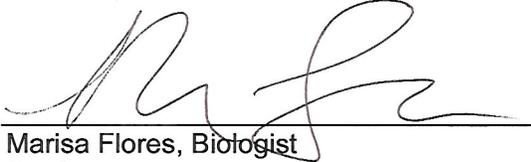
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STATE OF CALIFORNIA  
Department of Transportation  
and  
San Bernardino Associated Governments

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## Summary

The San Bernardino Associated Governments (SANBAG), in cooperation with the California Department of Transportation (Caltrans) and the City of Rialto, is proposing to construct the new tight diamond interchange along State Route (SR-) 210 at Pepper Avenue. The project would provide freeway access ramps at each of the four quadrants of the diamond configuration interchange. The eastbound and westbound off-ramps would widen from one lane where the ramps diverge from SR-210 to two lanes at the intersection with Pepper Avenue where a dedicated left turn lane and a dedicated right turn lane would be provided. The eastbound and westbound on-ramps would each include two lanes at the intersection with Pepper Avenue and would taper to one lane prior to merging onto SR-210. At the ramp intersections with Pepper Avenue traffic signals would be installed. A traffic signal would also be installed at the Pepper Avenue/Highland Avenue intersection. Pepper Avenue would be widened from two (constructed as the City's gap closure project) to four lanes from Highland Avenue to south of the intersection of Pepper Avenue and the eastbound ramps; a distance of approximately 1,300 feet.

Habitat evaluations were conducted for over 100 special-status plants and wildlife species and seven depleted natural communities. Focused surveys were necessary for rare plants, Burrowing Owl (*Athene cunicularia*), and San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) (SBKR). A jurisdictional delineation of waters and wetlands was also conducted.

There are approximately 3.71 acres of Riversidean Alluvial Fan Sage Scrub (RAFSS) and 5.45 acres of Disturbed RAFSS within the 85.87-acre Biological Study Area (BSA). The proposed project would not remove any of the RAFSS during construction, however there is a potential for indirect impacts to RAFSS.

Only one special-status plant species, the federally endangered Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*) was found to occur within the BSA; however none of the individuals found would be directly impacted by the proposed project.

There were seven special-status wildlife species observed/detected within the BSA: Northern Harrier (*Circus cyaneus*), Loggerhead Shrike (*Lanius ludovicianus*), San Diego Pocket Mouse (*Chaetodipus fallax pallidus*), Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*), San Diego Desert Woodrat (*Neotoma lepida intermedia*), San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*), and SBKR. The only federally listed species present was SBKR. Although SBKR is known to occur within RAFSS within the BSA, no direct impacts would occur since there is no suitable habitat within the project limits. However, approximately

26.0 acres of Designated Critical Habitat for SBKR (excluding developed lands) would be directly removed. As part of its review of the proposed project, USFWS requested confirmation that mitigation for impacts to SBKR suitable habitat within the proposed project footprint but related to the construction of SR-210 had occurred. It was determined that approximately 29.2 acres of the total 41.2 acres of designated SBKR Critical Habitat associated with the proposed project footprint were included in the area affected by the construction of SR-210. Therefore, 29.2 acres of the 41.2 acres of designated SBKR Critical Habitat within the proposed project footprint have already been fully mitigated. In addition, 1.5 acre impacted during construction of the City of Rialto Pepper Avenue Extension project has already been fully mitigated. However, this 1.5 acre is considered developed for the proposed project and was not considered as an impact to suitable SBKR Critical Habitat by the proposed project.

Impacts to the remaining undeveloped 8.70 acres of designated SBKR Critical Habitat are proposed to be mitigated in the Vulcan Bank or other approved SBKR bank at a 2:1 ratio (17.4 acres). Additionally, in order to protect SBKR from potential impacts associated with construction and operation of the eastbound off-ramp facility, Measure **M-12** will be implemented. Final mitigation for this species will be determined through Section 7 consultation with USFWS.

There are six water features within the BSA. The proposed project would directly impact 0.003 acre of non-wetland waters of the U.S. and waters of the State, and 0.005 acre of California Department of Fish and Wildlife (CDFW) unvegetated streambeds. The proposed project would not impact jurisdictional wetlands or CDFW riparian habitat.

The measures provided in Appendix F would ensure the indirect impacts to special-status species occurring adjacent to the project limits would not occur.

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## List of Abbreviated Terms

amsl	above mean sea level
BA	Biological Assessment
BCI	Bat Conservation International
BMP	Best Management Practice
BSA	biological study area
CAGN	Coastal California Gnatcatcher
Caltrans	California Department of Transportation
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of Rialto
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CDFW	California Department of Fish and Wildlife
FE	Federally Endangered/federally endangered
FESA	Federal Endangered Species Act
ft	foot/feet
FTIP	Federal Transportation Improvement Program
HA	Hydrologic Area
HU	Hydrologic Unit
I-10	Interstate 10
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHD	National Hydrography Dataset
NN	National Network
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
proposed project	SR-210/Pepper Avenue New Interchange Project
PM	post mile

RAFSS	Riversidean Alluvial Fan Sage Scrub
ROW	right of way
RSS	Riversidean Sage Scrub
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Boards
SANBAG	San Bernardino Associated Governments
SBKR	San Bernardino Kangaroo Rat
SCAG	Southern California Association of Governments
SE	State Endangered
SR-210	State Route 210
SSC	Species of Special Concern
SSURGO	Soil Survey Geographic
STAA	Surface Transportation Assistance Act
TA	Terminal Access
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WoS	waters of the State
WoUS	waters of the United States

# Chapter 1. Introduction

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This Natural Environment Study (NES) describes the existing biological environment and how the proposed State Route 210 (SR-210)/Pepper Avenue New Interchange Project (proposed project) may affect the biological environment. This report provides the technical analyses that support environmental documentation concerning plants, animals, and natural communities that may be affected by the proposed project.

## 1.1. Project Description

The San Bernardino Associated Governments (SANBAG), in cooperation with the California Department of Transportation (Caltrans) and the City of Rialto, is proposing to construct a new tight diamond interchange along State Route (SR) 210 at Pepper Avenue, between post mile (PM) 19.3 and PM 20.1.

This proposed project is included in the 2013 Federal Transportation Improvement Program (FTIP) as project number 20110110. It is also included in the Southern California Association of Governments' (SCAG) 2012-2035 Regional Transportation Plan (RTP) as project number 4M1007 (project identification number 08-0002-0180).

## 1.2. Project Background

The SR-210/Pepper Avenue New Interchange project is located along SR-210 within portions of the jurisdictional limits of the cities of Rialto and San Bernardino, and unincorporated San Bernardino County. The interchange immediately to the west is Riverside Avenue and to the east is State Street/University Parkway.

Riverside Avenue is a four-lane divided roadway that runs north and south through the study area. The corridor provides access to the first interchange west of Pepper Avenue and also travels across the freeway. State Street is a two-lane undivided roadway that travels north and south. The street provides access to SR-210 east of Pepper Avenue as well as north and south access across the freeway.

Preliminary engineering was previously completed, and final design was initiated, for the proposed interchange under the SR-210 freeway extension project. In mid-2003, this interchange was removed from the SR-210 freeway extension project since the construction of Pepper Avenue to Highland Avenue, which is a separate local project by the City of Rialto, was not completed. As part of the SR-210 freeway extension project, some grading occurred and

partial right of way (ROW) was preserved for a future diamond configuration interchange at SR-210/Pepper Avenue.

In 2000, as part of the SR-210 freeway extension project, Caltrans purchased 130 credits from the Vulcan Materials Cajon Creek Habitat conservation Management Area to offset impacts on suitable San Bernardino Kangaroo Rat (SBKR) habitat (including designated Critical Habitat) associated with the construction of SR-210. Approximately 29.2 acres of the total 41.2 acres of designated SBKR Critical Habitat associated with the proposed project footprint were included in the area affected by the construction of SR-210. Therefore, 29.2 acres of the 41.2 acres of designated SBKR Critical Habitat within the proposed project footprint have been fully mitigated. In addition, 1.5 acre impacted during construction of the City of Rialto Pepper Avenue Extension project has already been fully mitigated. However, this 1.5 acre is considered developed for the proposed project and was not considered as an impact to suitable SBKR Critical Habitat by the proposed project.

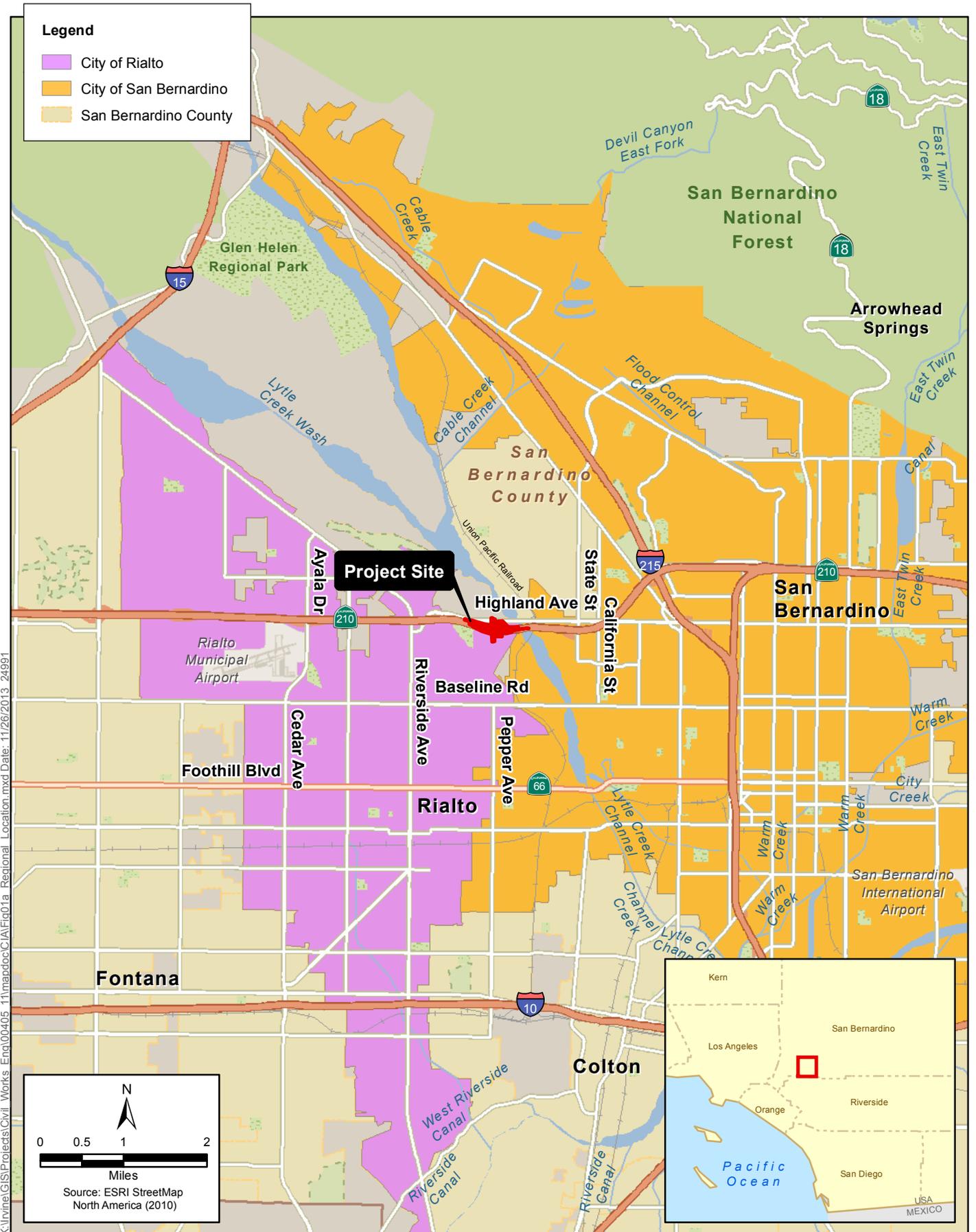
Existing Pepper Avenue extends approximately 2,000 feet north of Baseline Road to Shirley Bright Road. The City of Rialto is currently constructing the Pepper Avenue Extension as a four-lane roadway from this point up to approximately 1,300 feet south of Highland Avenue. The Caltrans right of way extends south along Pepper Avenue approximately 500 feet south of the proposed eastbound ramps intersection. The 1,300-foot portion of Pepper Avenue within the Caltrans right of way from the City's terminus to Highland Avenue is planned to be constructed by the City as a two-lane roadway (one lane in each direction) until the interchange project is constructed. The City initiated construction of the four-lane extension of Pepper Avenue in July 2012 and expects to complete construction by April 2014. The City is also scheduled to initiate and complete construction of the two-lane gap closure portion of Pepper Avenue by April 2014. Both projects are scheduled to be completed well in advance of the proposed SR-210/Pepper Avenue Interchange project.

### **1.3. Purpose and Need**

The purpose of the proposed SR-210/Pepper Avenue New Interchange project is to:

- Provide improved regional connectivity to the regional transportation system from the local transportation network; and
- Help achieve the goals of the existing local planning documents regarding access to the regional transportation system.

As previously noted, Pepper Avenue was planned as an interchange when the SR-210 freeway was originally built, and partial ROW was reserved for the interchange at that time. The Pepper



**Figure 1-1  
Regional Vicinity Map  
State Route 210/Pepper Avenue New Interchange Project**





**Figure 1-2**  
**Project Location Map**  
**State Route 210/Pepper Avenue New Interchange Project**



Avenue Interchange is shown as a future interchange in the City of Rialto's General Plan, and Pepper Avenue is also shown in the General Plan as a north/south truck route.

Access between SR-210 and Interstate (I)-10 is restricted at the east end of the City of Rialto due to the orientation of Lytle Creek, a tributary of the Santa Ana River. Lytle Creek runs diagonally across the east end of the City of Rialto, which results in a limited number of north/south roadways to the east of Acacia Avenue and to the north of Baseline Road. This limits access for both local traffic attempting to access the regional transportation network, and in particular in trying to access SR-210, and for regional connectivity to the local transportation network, particularly in the eastern portion of Rialto.

In addition, truck routes have been designated in the City of Rialto to accommodate the large volumes of truck traffic associated with goods movement. Caltrans has designated two truck route classes based on California legislation: National Network (NN) and Terminal Access (TA) routes. The truck routes in Rialto are defined as TA routes. These routes are portions of state routes or local roads that can accommodate Surface Transportation Assistance Act (STAA) standard trucks. TA routes allow STAA trucks to: 1) travel between NN routes; 2) reach a truck's operating facility, or 3) reach a facility where freight originates, terminates, or is handled in the transportation process. Within Rialto, Pepper Avenue is designated as a truck route. This route currently does not connect to SR-210, which hinders the ability of the route to accommodate the truck traffic and to meet the defined requirements of TA routes. Within the City of Rialto, the next closest north/south designated truck route is Cedar Avenue/Ayala Drive, which is located approximately 2.5 miles to the west. This results in a less direct access route between SR-210 and I-10 for travelers in Rialto as trucks and other traffic have to follow a more circuitous route to travel between these facilities, increasing the miles travelled for traffic heading east on SR-210.

## **1.4. Alternatives**

This section describes the proposed action and the design alternatives that were developed to meet the identified need through accomplishing the defined purpose while avoiding or minimizing environmental impacts. For the proposed project, a Build Alternative and a No-Build Alternative are being considered.

### **1.4.1. Build Alternative**

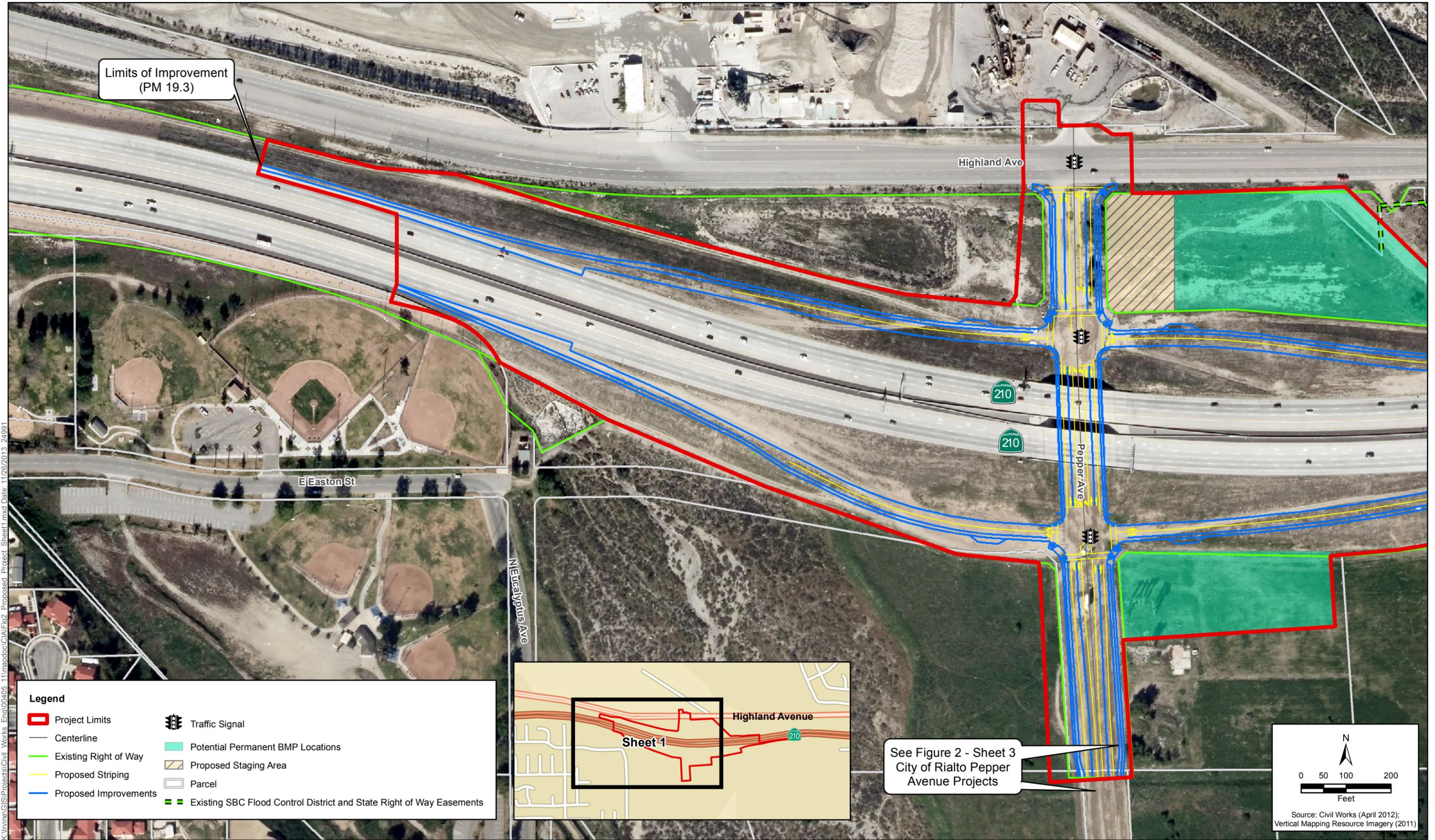
The proposed Build Alternative would construct a new tight diamond interchange along SR-210 at Pepper Avenue. The project would provide freeway access ramps at each of the four quadrants of the diamond configuration interchange. The eastbound and westbound off-ramps would widen

from one lane where the ramps diverge from SR-210 to two lanes at the intersection with Pepper Avenue where a dedicated left turn lane and a dedicated right turn lane would be provided. The eastbound and westbound on-ramps would each include two lanes at the intersection with Pepper Avenue and would taper to one lane prior to merging onto SR-210. At the ramp intersections with Pepper Avenue, traffic signals would be installed. A traffic signal would also be installed at the Pepper Avenue/Highland Avenue intersection.

Pepper Avenue would be widened from two (constructed as the City's gap closure project) to four through lanes from Highland Avenue to south of the intersection of Pepper Avenue and the eastbound ramps; a distance of approximately 1,300 feet. This portion of Pepper Avenue would ultimately consist of two 12-foot through lanes in each direction with an 8-foot shoulder, curb and gutter, a 6.5-foot planted buffer, and a 5-foot sidewalk on both sides of the roadway (i.e., next to the 6.5-foot parkway northbound and southbound from the freeway), except within the undercrossing where the sidewalk would be 6.5 feet wide. A dedicated 12-foot left turn lane from northbound Pepper Avenue to the westbound on-ramp and from southbound Pepper Avenue to the eastbound on-ramp would also be constructed. The south end of the interchange project would match the four-lane Pepper Avenue Extension project that is currently under construction by the City of Rialto.

Two retaining walls would be constructed along Pepper Avenue beneath the undercrossing structures at the abutment slopes of the structure. They are anticipated to each be approximately 400 feet long with a 10-foot design height. The retaining walls would include aesthetic design treatments and features consistent with the State Route 210 Corridor Master Plan. Utilities would be adjusted or relocated, as needed, to accommodate the new interchange. Best Management Practice (BMP) features, including modifications to the existing, or the installation of new, water quality control features, would also be part of the project. This is anticipated to include two additional detention/infiltration basins, which would be adjacent to the southeast corner of the interchange adjacent to the proposed eastbound on-ramp, and the northeast corner of the interchange adjacent to the proposed westbound off-ramp. The detention/infiltration basins would be designed and planted so they would blend into the existing sage scrub landscape. Limited additional landscaping appropriate to the setting, and any necessary irrigation, will be installed to preserve and enhance existing landscape character. At a minimum, installation of native hydroseed planting would be done where the project requires the removal of the existing native scrub vegetation. Also, to the fullest extent practicable, BMPs would be designed to convey both stormwater quantity flows and peak flows.

Some permanent ROW acquisition is anticipated for the proposed Build Alternative.



Limits of Improvement  
(PM 19.3)

Highland Ave

E Easton St

N Eucalyptus Ave

210

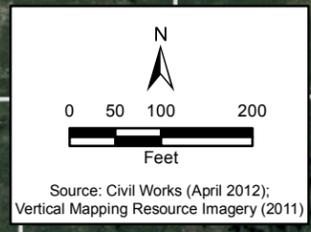
210

Pepper Ave

- Legend**
- Project Limits
  - Centerline
  - Existing Right of Way
  - Proposed Striping
  - Proposed Improvements
  - Traffic Signal
  - Potential Permanent BMP Locations
  - Proposed Staging Area
  - Parcel
  - Existing SBC Flood Control District and State Right of Way Easements



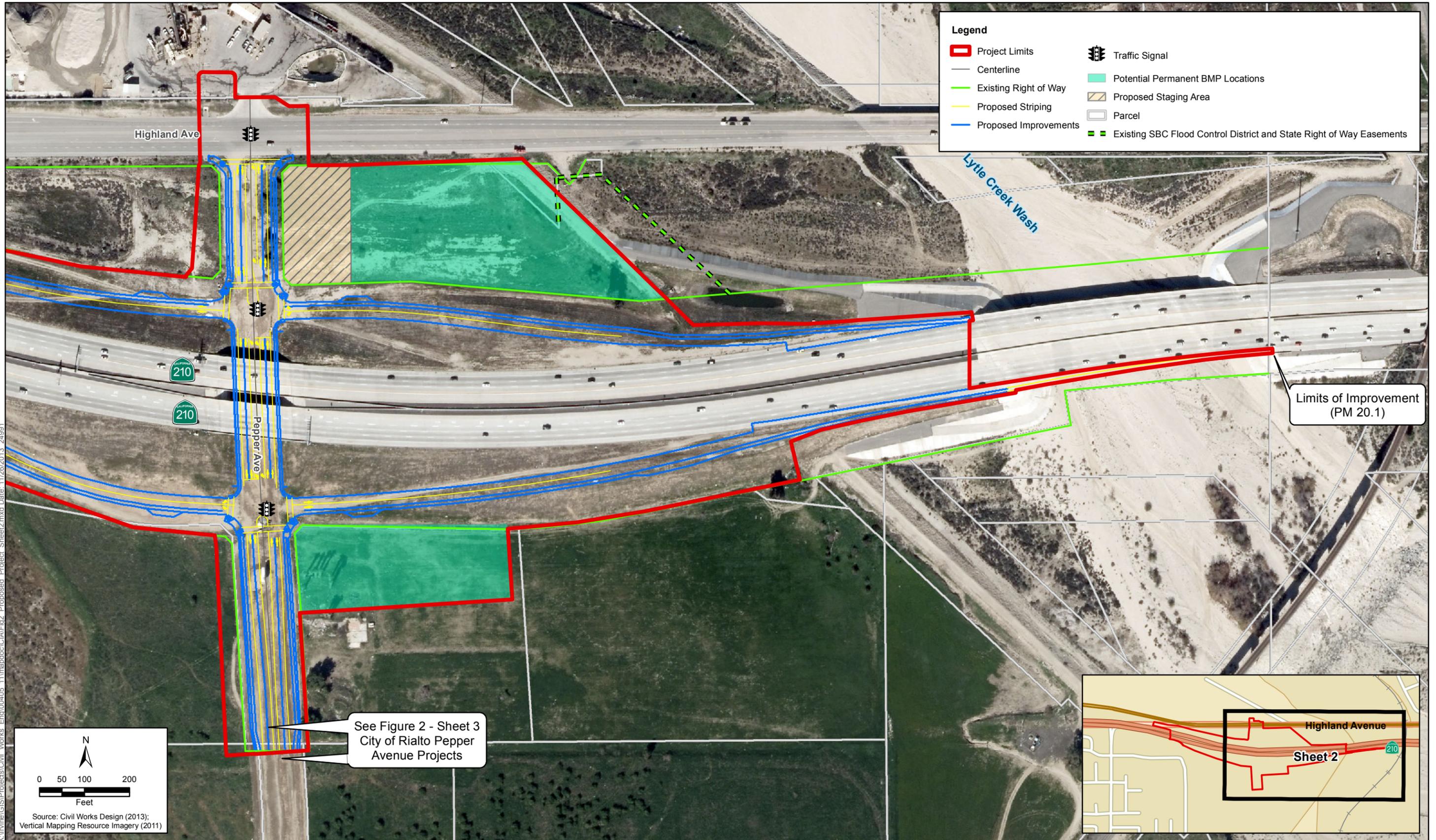
See Figure 2 - Sheet 3  
City of Rialto Pepper  
Avenue Projects



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**Figure 1-3 - Sheet 1**  
**Proposed Project**  
**State Route 210/Pepper Avenue New Interchange Project**

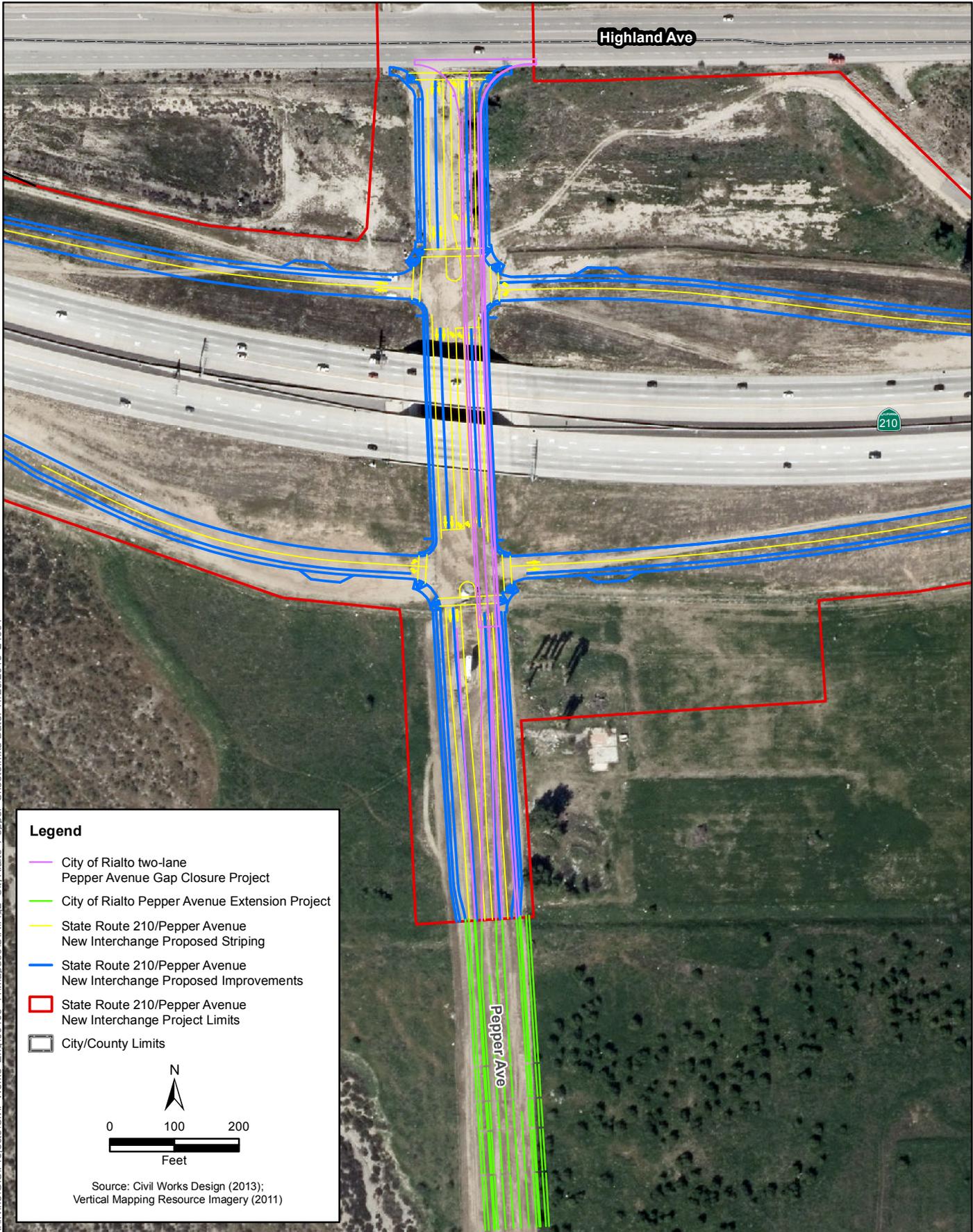




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**Figure 1-3 - Sheet 2**  
**Proposed Project**  
**State Route 210/Pepper Avenue New Interchange Project**





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**Figure 1-3 - Sheet 3**  
**City of Rialto Pepper Avenue Projects**  
**State Route 210/Pepper Avenue New Interchange Project**



### **1.4.2. No-Build Alternative**

Under the No-Build Alternative, no interchange would be constructed along SR-210 at Pepper Avenue. The No-Build Alternative does not meet the project purpose and need; however, it would not preclude the construction of future improvements, nor prevent completion of the Pepper Avenue Extension project currently under construction. Under this alternative, the Pepper Avenue Extension project would be completed; however, the 1,300-foot, two-lane gap closure portion of Pepper Avenue beneath SR-210, connecting Pepper Avenue with Highland Avenue, would operate as a two-lane facility and not be widened to four lanes to connect to the Pepper Avenue Extension project.

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# Chapter 2. Study Methods

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This section provides the regulatory framework by which biological resources were reviewed for the proposed project and the methods used to determine the presence or absence of a given biological resource.

## **2.1. Regulatory Requirements**

This section provides a summary of background information regarding the applicable regulations for protecting biological resources that are pertinent to the proposed project.

### **2.1.1. Federal Requirements**

#### **2.1.1.1. NATIONAL ENVIRONMENTAL POLICY ACT**

The National Environmental Policy Act (NEPA) declares a continuing federal policy “to use all practicable means and measures...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations.” NEPA directs “a systematic, interdisciplinary approach” to planning and decision-making, and requires environmental statements for “major Federal actions significantly affecting the quality of the human environment.” Implementation regulations by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508) require federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should therefore be seen as an overall framework for the environmental evaluation of federal actions.

#### **2.1.1.2. CLEAN WATER ACT-SECTIONS 401 AND 404**

The Clean Water Act (CWA) provides a structure for regulating discharges of pollutants into the waters of the United States (WoUS).

Section 404 establishes a permit program administered by the United States Army Corps of Engineers (USACE) regulating the discharge (permanent or temporary) of dredged or fill material into WoUS (including wetlands). A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge of fill material (if performed specifically in a manner to avoid discharges of fill material) include

driving pilings, performing covered drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

Under Section 401 of the CWA, any project activities that involve a discharge of fill material to WoUS shall obtain a state certification that the discharge complies with other provisions of the CWA. The nine Regional Water Quality Control Boards (RWQCB) administer the certification program in California. The RWQCB regulates at the state level all activities that are regulated at the federal level by USACE. Therefore, RWQCB jurisdiction usually coincides with the jurisdictional boundaries for WoUS. However, if waters are determined not to be WoUS, they may still be subject to RWQCB jurisdiction based on the Porter-Cologne Water Quality Control Act (Porter-Cologne Act; refer to Section 2.1.2.5).

### ***Waters of the United States***

WoUS, as defined in Code of Federal Regulations (CFR) title 33, section 328.3, includes the following:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;
- (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;
- (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
- (5) Tributaries of waters identified in paragraphs (1) through (4) of this section;
- (6) The territorial seas;

- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section; and
- (8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m), which also meet the criteria of this definition) are not waters of the United States.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), defined in CFR 328.3(e) as:

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

### **Wetlands**

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life adapted to living in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987, USACE 2008a).

#### **2.1.1.3. FEDERAL ENDANGERED SPECIES ACT**

Species listed as endangered and/or threatened by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA) are protected under Section 9 of FESA, which forbids any person to “take” an endangered or threatened species. “Take” is defined in Section 3 of the FESA as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The United States (U.S.) Supreme Court ruled in 1995 that the term “harm” includes destruction or modification of habitat. Sections 7 and 10 of FESA may authorize “incidental take” for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize the species’ survival or recovery. Section 7 applies to federalized projects where a federally listed species is present and there is a federal nexus such as a federal Clean Water Act Section 404 permit (e.g., presence of waters of the U.S.) that is required. Section 7 requires federal agencies in consultation with, and

with the assistance of, the Secretary of the Interior to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat for these species. Section 10 applies when a federally listed species is present but no federal nexus is present.

#### **2.1.1.4. MIGRATORY BIRD TREATY ACT**

This treaty makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests as well as the abandonment of nests occupied by migratory birds during the breeding season.

#### **2.1.1.5. FISH AND WILDLIFE COORDINATION ACT**

This act applies to any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with USFWS and the appropriate state wildlife agency. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term wildlife includes both animals and plants. Provisions of the act are implemented through the NEPA process and Section 404 permit process.

#### **2.1.1.6. EXECUTIVE ORDER 11990- PROTECTION OF WETLANDS**

This order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative.

#### **2.1.1.7. EXECUTIVE ORDER 13112- INVASIVE SPECIES**

On February 3, 1999, President Clinton signed Executive Order 13112, requiring federal agencies to combat the introduction or spread of *invasive species* in the United States. Federal Highway Administration guidance issued August 10, 1999, directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

### **2.1.2. State Requirements**

#### **2.1.2.1. CALIFORNIA ENVIRONMENTAL QUALITY ACT**

CEQA establishes state policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the state CEQA guidelines published by the state resources agency (Office of the Secretary).

**2.1.2.2. CALIFORNIA FISH AND GAME CODE SECTION 1600-1616**

Under current California Fish and Game Code Sections 1600–1616, the California Department of Fish and Wildlife (CDFW) has authority to regulate work that would substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also has authority to regulate work that would deposit or dispose of debris, water, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects involving state or local government discretionary approvals.

**2.1.2.3. PORTER-COLOGNE WATER QUALITY CONTROL ACT**

The RWQCB regulates activities that would involve “discharging waste, or proposing to discharge waste, within any region that could affect waters of the state” (California Water Code 13260[a]), pursuant to provisions of the state Porter-Cologne Act. Waters of the State (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050 [e]). Such waters may include waters not subject to regulation under CWA Section 404 due to a lack of connectivity with a navigable water body or lack of an OHWM (i.e., isolated features).

**2.1.2.4. CALIFORNIA ENDANGERED SPECIES ACT**

The California Endangered Species Act (CESA) is regulated by CDFW. This act establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under CESA. For projects that affect both a state and federally listed species, compliance with FESA would satisfy CESA if the CDFW determines that the federal incidental take authorization is consistent with CESA under Fish & Game Code Section 2080.1. For projects that would result in a “take” of a state-only listed species, the Department must apply for a take permit under Section 2081(b).

**2.1.2.5. CALIFORNIA FISH AND GAME CODE (3503, 3503.5, 3505, 3800, 3801.6)**

These Fish and Game Code sections protect all native birds, birds of prey, and all nongame birds, including eggs and nests, that are not already listed as fully protected and which occur naturally within the state.

## 2.2. Studies Required

The studies required for the proposed project included an initial field reconnaissance and habitat evaluation for special-status species; a delineation of jurisdictional waters, wetlands, and streambeds; and focused surveys for those special-status species with a reasonable potential to occur in the study area, including special-status plants, Burrowing Owl (*Athene cunicularia*), Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*), and San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*).

The following subsections provide the basis for these studies and the methods used.

### 2.2.1. Report Terminology

The *biological study area* (BSA) evaluated for the proposed project consists of the project footprint and an overall 200-foot buffer. The exception to this is that the study areas for each focused survey varied. The definition for the study area for focused surveys is provided in Section 2.3 below.

The term *project limits* or *project footprint* is defined as the area proposed for direct impact, including permanent and temporary impacts. The total area of the project limits coincides with the Build Alternative.

## 2.3. Personnel and Survey Dates

The following section describes the general biological resources as well as focused studies for rare plants, small mammals, Burrowing Owl, and a delineation of potentially jurisdictional water resources.

### 2.3.1. Initial Review and Reconnaissance Survey

Prior to the initial site visit, potentially relevant reference literature and natural resource databases were reviewed to determine the potential value of the BSA to biological and habitat resources with special status or resource value. Specific information for the BSA was developed in part through a careful, general field evaluation. Biologists performed field reconnaissance of the BSA in June of 2011. This field evaluation determined if any and what type of focused evaluations and/or surveys were necessary within the BSA. Representative photographs were taken of the BSA and are provided in Appendix A. Table 2-1 lists survey dates and personnel.

**Table 2-1. Dates and Personnel for the Reconnaissance and Focused Habitat Evaluations**

Date	Time	Personnel	Weather Conditions
June 16, 2011	0815-1145	Kurt Campbell and Marisa Flores	63°-80°F, 0-1 mph wind, good visibility, 0-100% cloud cover

Natural vegetation communities were mapped during the field reconnaissance and were categorized into nine categories following the California Manual of Vegetation. For the vegetation mapping presented in this report, the minimum mapping unit was 0.05 acre.

Prior to the first site visit, the California Natural Diversity Database (CNDDDB) (CDFW 2012a) and the California Native Plant Society's (CNPS) Electronic Inventory (CNPS 2012) were queried for plants, animals, and natural communities in California that have special regulatory or management status and could potentially occur in the BSA. Specifically, the database searches were conducted for lands occurring on the United States Geological Survey (USGS) 7.5-minute quadrangle maps on which the study area appears (San Bernardino North, 1996) and the immediately surrounding quadrangles (Cajon, Silverwood Lake, Harrison Mountain, Lake Arrowhead, Redlands, Devore, Fontana, San Bernardino South). A complete list of the plant and animal species (including scientific nomenclature, regulatory status, and habitat requirements) and natural communities reviewed for the proposed project are provided in Appendix B. Finally, species were added, as appropriate, based on professional knowledge and experience with prior projects in the vicinity. To ensure the most up-to-date data was obtained, the query was rerun in August 2012 (CDFW 2012b).

Latin names conform to The Jepson eFlora (Jepson Flora Project, accessed January 2012), which currently parallels The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). Common names are drawn from two sources. All common names from the Jepson eFlora (Jepson Flora Project 2012) have been retained but in many cases, the Jepson eFlora does not provide common names. In those instances, the USDA PLANTS website (NRCS 2012a) from the U.S. Department of Agriculture (USDA) is used. For special-status plants, all nomenclature, including both common and scientific, and California Rare Plant Rank (CRPR) conforms to the CNPS online inventory (CNPS 2012).

Most of the habitat evaluations for special-status species and resources were conducted during the reconnaissance survey by biologists familiar with species' habitat requirements.

Biological reports from the City of Rialto's Pepper Avenue Extension Project located south of the BSA were also available for review prior to survey work.

Furthermore, a preliminary USFWS species list was obtained on July 18, 2012, from the USFWS Environmental Online Conservation System (USFWS 2012a). No new species were identified in this species list from those already identified during the database searches (Refer to Section 3.2).

### **2.3.2. Jurisdictional Delineation**

A jurisdictional delineation of waters and wetlands was performed for the proposed project by ICF International. The jurisdictional delineation report, including a full description of the methodology and results, is located in Appendix C of the NES.

The delineation was conducted by Zackry West and Daniel Cardoza on May 4, 2012. Prior to the fieldwork, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the site was obtained and compared with USGS 7.5-minute topographic quadrangles to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns. The National Hydrography Dataset (NHD) data for the study area (U.S. Geological Survey 2010) and the National Wetlands Inventory (NWI) (USFWS 2012b) were referenced to identify any mapped features such as streams and wetlands. Finally, the study area was carefully reviewed in Google Earth (Google Inc. 2012) in various scales, and potentially jurisdictional features were marked onto field maps.

In addition, the USDA Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database (NRCS 2013) was reviewed to identify the soil series that occur in the study area.

The study area was defined as the project limits and an associated 100-foot buffer, including two basins, approximately 200 linear feet of Lytle Creek Wash, and one associated tributary. The study area was surveyed on foot and jurisdictional limits were recorded using a Trimble Yuma GPS unit with Geneq SX Blue II and Trimble ProXT receivers, providing sub-meter accuracy. Potential WoUS and wetlands were delineated using methods established in the Wetland Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b), 2007 and 2008 Rapanos Guidance (USACE and EPA 2007 and 2008), and Draft Guidance on Identifying Waters Protected by the Clean Water Act (USACE and EPA 2011). Non-wetland waters were delineated based on the presence of OHWM indicators, and an OHWM datasheet was recorded for Lytle Creek Wash. OHWM datasheets can be found in Appendix C.

At each evaluation area, several parameters were considered to determine whether the sample point is within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology.

Where possible, a soil pit was dug to examine soil color and texture. If access prohibited a soil pit, hydric soils were assumed based on the vegetation community and hydrology present, or a soil pit may not have been necessary because of the duration of inundation (in-channel wetlands) or strong sulfur odor. Wetland Determination Data Forms can be found in Appendix C.

The criteria used to determine CDFW jurisdiction are 1) the presence of a defined bed and bank and 2) either potential habitat value for wildlife (including fish) or riparian and/or wetland vegetation. Note that the latter can be adjacent to areas with defined bed and bank. CDFW jurisdiction was delineated by measuring the outer width and length of the boundaries of potentially jurisdictional areas, consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.

### **2.3.3. Special-Status Plants Focused Studies**

Over fifty special-status plants species were determined to potentially occur within the study area based on regional geography (USGS quads San Bernardino North 1996, Cajon, Silverwood Lake, Harrison Mountain, Lake Arrowhead, Redlands, Devore, Fontana, San Bernardino South). Refer to Section 3.2 below.

#### **2.3.3.1. HABITAT ASSESSMENT**

A habitat assessment was conducted on July 20, 2011, for special-status plants by Zackry West, a biologist experienced with the habitat requirements for the plant species listed in Section 3.2 of this NES. Soil maps were checked for soils that might support one or more of the special-status plant species, to identify areas that required special attention during the focused survey work. Soils found within the study area are shown on Figure 3-3 in Chapter 3.

The study area reviewed for plants consisted of the project limits and a 200-foot (ft) buffer. Determinations for whether suitable habitat is present for special-status plants was based on the species biological requirements, which can include one or more of the following: suitable habitat present, soils, hydrology, elevation, range, current land uses, and disturbances. Refer to Section 3.2 for potential for occurrence information and conclusions regarding special-status plants within the study area.

### 2.3.3.2. FOCUSED SURVEY

The focused surveys for special-status plants were performed by Paul Schwartz and Zackry West in 2012, with a follow-up survey in 2013, within areas that had been determined to provide suitable habitat for special-status plants. The survey followed CDFW guidelines (2000) in that they (a) were conducted during the flowering season for special-status plants known from the area, (b) were floristic in nature, (c) were consistent with conservation ethics, (d) systematically covered all habitat types along the project alignment, and (e) were well documented (including by visiting reference populations to determine if target species would be in bloom during focused studies).

**Table 2-2. Rare Plant Focused Survey Data**

Date	Personnel
5/3/2012	Paul Schwartz and Zackry West
7/2/2012	Paul Schwartz and Zackry West
8/8/2012	Zackry West
5/3/2013	Paul Schwartz and Zackry West

A known reference population for Slender-horned Spine Flower (*Dodecahema leptoceras*) was visited on May 3, 2012, and on April 30 and May 3, 2013, prior to examination of the project study area. The species was observed in bloom at the reference population during each of these visits.

### 2.3.4. Burrowing Owl Focused Studies

A habitat assessment and focused survey were conducted for Burrowing Owl (*Athene cunicularia*). The study area for Burrowing Owl consisted of the project limits and a 200-ft buffer (with an additional 300-ft buffer that was evaluated visually). The following sections present the methods for the habitat assessment and focused survey for burrowing owl. The habitat evaluation and focused survey followed CDFW protocol (CBOC 1993, CDFW 1995).

#### 2.3.4.1. HABITAT EVALUATION

An evaluation of the entire BSA was performed for potential presence of habitat for burrowing owl. The habitat evaluation was performed at a cursory level to identify potential habitat at a broad landscape-level with the work performed during the initial survey. Open lands that were sparsely vegetated with native or nonnative vegetation were considered potentially suitable. Agricultural lands (including fallow lands) were also considered potential habitat. All potentially suitable habitat was mapped on an aerial photograph.

### 2.3.4.2. FOCUSED SURVEY

A focused survey was conducted by Zackry West, a biologist experienced with the species' biology and identification of direct and indirect sign. Per CDFW protocol, focused surveys were conducted during the nesting season (March 1 through August 31) and consisted of four visits made to all potential habitat on four separate days. Per CDFW protocol, the visits needed to occur during one hour before sunrise to two hours after and/or two hours before sunset to one hour after. Table 2-4 provides the site conditions and survey dates for the Burrowing Owl focused survey.

**Table 2-3. Burrowing Owl Focused Survey Conditions**

Date	Time	Personnel	Weather
7/20/2011	0530-0828	Zackry West and Lisa Franklin	64°-74°Fahrenheit (F), 0-1 mile per hour (mph) winds, clear skies
7/28/2011	0535-0830	Zackry West	72°-73°F, 0-2 mph wind, mostly clear skies
8/24/2011	0605-0845	Zackry West	74°-89°F, 0-1 mph wind, clear skies
8/26/2011	0615-0905	Zackry West	79°-93°F, 0-3 mph wind, partly cloudy

## 2.4. Coastal California Gnatcatcher

A habitat evaluation for Coastal California Gnatcatcher (CAGN; *Polioptila californica*) was conducted during the reconnaissance survey for the proposed project. The study area for this task was the project site and a 200-ft buffer. A focused survey was determined unnecessary due to a lack of suitable habitat in the BSA. Refer to Section 2.6 for agency coordination determinations.

## 2.5. San Bernardino Kangaroo Rat Focused Studies

A portion of the BSA occurs within Critical Habitat for San Bernardino Kangaroo Rat (SBKR; *Dipodomys merriami parvus*). The study area for this task uses the project site and a 200-foot buffer.

### 2.5.1. Habitat Evaluation

A habitat assessment was conducted on June 14, 2011, by ICF biologists Mikael Romich and Lisa Franklin. The biologists reviewed the site to determine if suitable habitat, consisting of Riversidean Alluvial Fan Sage Scrub (RAFSS), is present within the BSA.

### 2.5.2. Focused Survey

A field meeting with USFWS (described in detail in Section 2.6) on September 19, 2011, concluded that although suitable habitat is present within RAFSS located within the buffer associated with the BSA, trapping efforts would be limited to occur within suitable habitat within the project limits.

A presence/absence survey for SBKR was conducted over five consecutive evenings in 2012 and repeated in 2013, using 165 sequentially numbered 12-inch Sherman live traps within suitable habitat within the project limits. Traps were set approximately 30 to 45 feet apart in a meandering transect within the habitat to be most suitable for SBKR. All traps used in the survey had doors that were modified to minimize potential risk of injury (e.g., tail lacerations or excisions) to kangaroo rats and other small mammals. A mixture of mixed birdseed and rolled oats was used as bait. In regards to the 2012 survey, traps were initially set and baited during the early evening of July 1, 2012. Traps were systematically checked near midnight and again at dawn for five consecutive nights. Temperatures were recorded every evening to ensure that overnight temperatures did not drop below 50 degrees Fahrenheit for the duration of trapping. All traps were removed from the study area on July 21, 2012. The 2013 survey repeated the methodology employed in 2012, and traps were initially set and baited during the early evening of August 12, 2013. All traps were then removed from the study area on August 17, 2013.

Each captured animal was identified to species level. Since Agile Kangaroo Rats (*Dipodomys agilis*) and SBKR are known to co-occur in this area, identification of the 5<sup>th</sup> toe on the hind foot for Agile Kangaroo Rat was noted to differentiate between the two species. For non-target animals such as deer mice, animals were identified to species and released without regularly documenting sex or other information. No individuals identified during the trapping were marked.

The handling of SBKR requires a federal 10(A)1(a) permit. All traps were checked by SBKR biologists Phil Richards (#TE-095896-1) and Mikael Romich (#TE-068799-2), with ICF. Biologists also participating and assisting the lead SBKR biologists were ICF biologists Lisa Franklin, James Hickman, Paul Schwartz, and Kolby Olson, along with Caltrans biologists Kyle Myrick and Adam Compton. Table 2-4 summarizes dates, times, and conditions during the survey.

**Table 2-4. San Bernardino Kangaroo Rat Trapping Survey Dates, Times and Conditions**

Date	Time of Day	Time	Personnel	Weather Conditions
7/17/2012	Midnight	2315-0135	Mikael Romich and James Hickman	63°F, clear skies 0-3 mph wind
	Dawn	0541-0745	Phil Richards and James Hickman	65°F, clear skies, 10-3 mph wind
7/18/2012	Midnight	2300-0155	Mikael Romich, James Hickman, Kyle Myrick, and Adam Compton	70°F, clear skies, 0 mph wind
	Dawn	0552-0800	Phil Richards and Lisa Franklin	65°F, partly cloudy, 0-2 mph winds
7/19/2012	Midnight	2312-0100	Mikael Romich and James Hickman	77° F, clear skies, 0 mph wind
	Dawn	0525-0750	Phil Richards, Lisa Franklin, Kyle Myrick, and Adam Compton	69° F, clear skies, 1-3 mph wind
7/20/2012	Midnight	2255-0045	Mikael Romich and James Hickman	81° F, clear skies, 0 mph wind
	Dawn	0515-0740	Phil Richards, Lisa Franklin, Kyle Myrick	71° F, clear skies, 0-3 mph wind
7/21/2012	Midnight	2310-0110	Mikael Romich and James Hickman	79° F, clear skies, 0 mph wind
	Dawn	0514-0815	Phil Richards and James Hickman	69° F, clear skies, 0-0 mph wind
8/13/2013	Midnight	2300-2400	Mikael Romich and James Hickman	72°F, clear skies, wind 0-1 mph
	Dawn	0516-0747	Phil Richards and James Hickman	60°-75°F, clear skies, wind 0-2 mph
8/14/2013	Midnight	2300-0035	Mikael Romich	73°F, clear skies, wind 0-1 mph
	Dawn	0515-0745	Phil Richards	59°-77°F, clear skies, wind 0-1 mph
8/15/2013	Midnight	2300-0015	Mikael Romich and Lisa Franklin	74°F, clear skies, wind 0-1 mph
	Dawn	0515-0800	Phil Richards and Kolby Olson	60°-77°F, clear skies, wind 0-2 mph
8/16/2013	Midnight	2250-0015	Mikael Romich and Kolby Olson	78° F, clear skies, wind 0-1 mph
	Dawn	0520-0748	Phil Richards and Paul Schwartz	64°-75°F, clear skies, wind 0-3 mph
8/17/2013	Midnight	2250-0005	Mikael Romich and Kolby Olson	76° F, clear skies, wind 0-1 mph
	Dawn	0520-0800	Phil Richards and Kolby Olson	66°-78°F, clear skies, wind 0-1 mph

## 2.6. Agency Coordination and Professional Contacts

On September 19, 2011, ICF met with USFWS at the project site to discuss the study area buffer and trapping strategies for SBKR. USFWS agreed that trapping would not need to occur within RAFSS southwest of the project limits since this area is known to be occupied by SBKR. This would avoid undue stress on a known SBKR population. USFWS concurred that the trapping effort would be focused within suitable habitat within the project limits.

During the field meeting, USFWS also concurred that revegetated Riversidean Sage Scrub (RSS) within the study area was not suitable for Coastal California Gnatcatcher; therefore, focused surveys for this species would not be required.

On July 12, 2012, and August 6, 2013, ICF provided 10-day notification to USFWS for each of the respective focused surveys for SBKR. Each notification outlined the work plan for the focused survey effort for SBKR, including trapping locations, methodology, and qualifications of the USFWS permitted biologists.

## 2.7. Limitations That May Influence Results

During the June 16, 2011, initial reconnaissance survey and subsequent fieldwork in 2011, a ponding feature was observed adjacent to the southwestern Caltrans ROW limits, associated with a large culvert outlet located beneath SR-210. However, during the jurisdictional delineation field work conducted in 2012, it was noted that this feature was no longer present, and had been replaced with a grouted rip rap outfall structure, which was constructed by an unknown entity prior to the delineation field work. Therefore, ground conditions depicted in figures containing an aerial photograph base may have changed during the course of the project timeline in this location. The existing conditions presented in Chapter 3 and results presented in Chapter 4 refer to the existing conditions as they occurred during the initial surveys, with the exclusion of the ponding feature.

Conditions within the Caltrans ROW as observed on July 16, 2012, had changed dramatically since the SBKR habitat assessment on June 14, 2011, the initial reconnaissance survey on June 16, 2011, and the USFWS field meeting (September 19, 2011). The changed condition was due to the installation of a new Caltrans ROW fence that extended along the southern boundary of the project footprint. It was noted that the footprint for the fence had extended to the south beyond the Caltrans ROW, as well as to the north within the Caltrans ROW overlapping the disturbance limits for the proposed project. The result of fence construction was a denuded area of varying widths to the south and north of the southern ROW limit where previously existing vegetation was now absent. During the June 16, 2011, and September 19, 2011, site visits it was noted that RAFSS habitat extended to the southwestern ROW limit, and extended into the ROW

in a couple of limited areas. In addition, it was observed on July 16, 2012 that the revegetated slopes associated with SR-210 had been completely denuded of the revegetated RSS vegetation that was observed on June 14, 2011, and September 19, 2011. The permitted biologists conducting the 2012 SBKR trapping session agreed that these changed conditions reduced the suitability of habitat for SBKR habitat when compared to the conditions observed on June 14, 2011, and September 19, 2011. The factors for this conclusion included the observation that deconstruction of the previously existing ROW fence and construction of the new ROW fence had disturbed the soil conditions, the denuded swath of habitat that included the fence construction and plant removal on the slopes reduced the amount of cover available, and minimal SBKR foraging habitat remained within this area (except any seed bank that may have remained on or close to the soil surface).

In addition, 2012 and 2013 marked drought years; therefore, plants that may grow in a normal year may not have been detectable during these drought years. To ensure the rare plant focused surveys are valid, a reference population was checked prior to each focused survey to ensure that the target species could be observed blooming in the study area, if present.

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# Chapter 3. Results: Environmental Setting

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Regionally, the project occurs southwest of the San Bernardino Mountains. The project is found adjacent to Lytle Creek Wash. The proposed project occurs within the historical floodplain and adjacent terraces associated with Lytle Creek Wash. There is an active quarry operation north of Highland Avenue.

## **3.1. Description of the Existing Biological and Physical Conditions**

This section describes the existing biological and physical conditions of the project site and the surrounding area.

### **3.1.1. Biological Study Area**

The BSA consists of the project footprint and a 200-foot buffer (Figure 3-1). Historically, the BSA consisted of primarily open space in the form of alluvial fans and flood terraces associated with Lytle Creek Wash. The BSA is bordered by Highland Avenue to the north, a residential area and recreational park to the west, open space to the south, and Lytle Creek Wash to the east. Refer to Appendix A for representative photographs of the BSA. More recently, the BSA has been used for agriculture (i.e., orchards), roadway operation and maintenance, and remains open space in the southern half, with the exception of construction activities related to the City of Rialto's Pepper Avenue Road Extension Project, which commenced in July of 2012. Currently, agricultural fields lie fallow and are weeded and disced for fire and/or weed abatement.

### **3.1.2. Physical Conditions**

The topography of the BSA has a variable grade between developed lands and undeveloped lands. The existing SR-210 occurs at the greatest onsite elevation, with the alluvial fan sections of the BSA and Lytle Creek Wash occurring at a lower grade. Overall, the topography of the BSA ranges from 1,267 to 1,320 above mean sea level (amsl) (Figure 3-2).

#### **3.1.2.1. SOILS**

Six soil series occur on or in the immediate vicinity of the project site: Grangeville fine sandy loam, 2 to 9 percent slopes; Soboba stony loamy sand, 2 to 9 percent slopes; Tujunga loamy sand, 0 to 5 percent slopes; and Tujunga gravelly loamy sand, 0 to 9 percent slopes (Figure 3-3). A soil series is a group of soils with similar profiles. These soils are consistent with field observations. None of the mapped soils are identified on national or local hydric soil lists (NRCS 2012c).

A description of all of the series included within the SSURGO mapping units is provided below based on the official soil descriptions provided by USDA (NRCS 2012b).

**3.1.2.2. GRANGEVILLE FINE SANDY LOAM**

The Grangeville series consists of very deep, somewhat poorly drained soils that formed from granitic-sourced alluvium. The Grangeville series is found on alluvial fans and floodplains at elevations of 0 to 1,800 feet amsl, with slopes ranging from 0 to 2 percent. The typical soil texture is characterized by fine sandy loam. Grangeville soils are considered extensive and are found within intermountain valleys in southern California.

**3.1.2.3. SOBOBA STONY LOAMY SAND, 2 TO 9 PERCENT SLOPES**

The Soboba series consists of deep, excessively drained soils that formed in alluvium from granitic rock sources. Sediment texture ranges from coarse sand to sandy loam. This series is found primarily on alluvial fans and flood plains at 25 to 3,700 feet in elevation. This soil series is restricted to the interior valleys of southern California and considered to be of moderate extent.

**3.1.2.4. TUJUNGA LOAMY SAND, 0 TO 5 PERCENT SLOPES**

The Tujunga series consists of very deep, somewhat excessively drained soils formed in alluvium. This soil series is found on alluvial fans and flood plains at elevations of 5 to 4,300 feet, at slopes of 0 to 5 percent. The typical soil texture ranges from coarse to very coarse sand. Tujunga soils are found on floodplains in central and southern California and are considered to be of moderate extent.

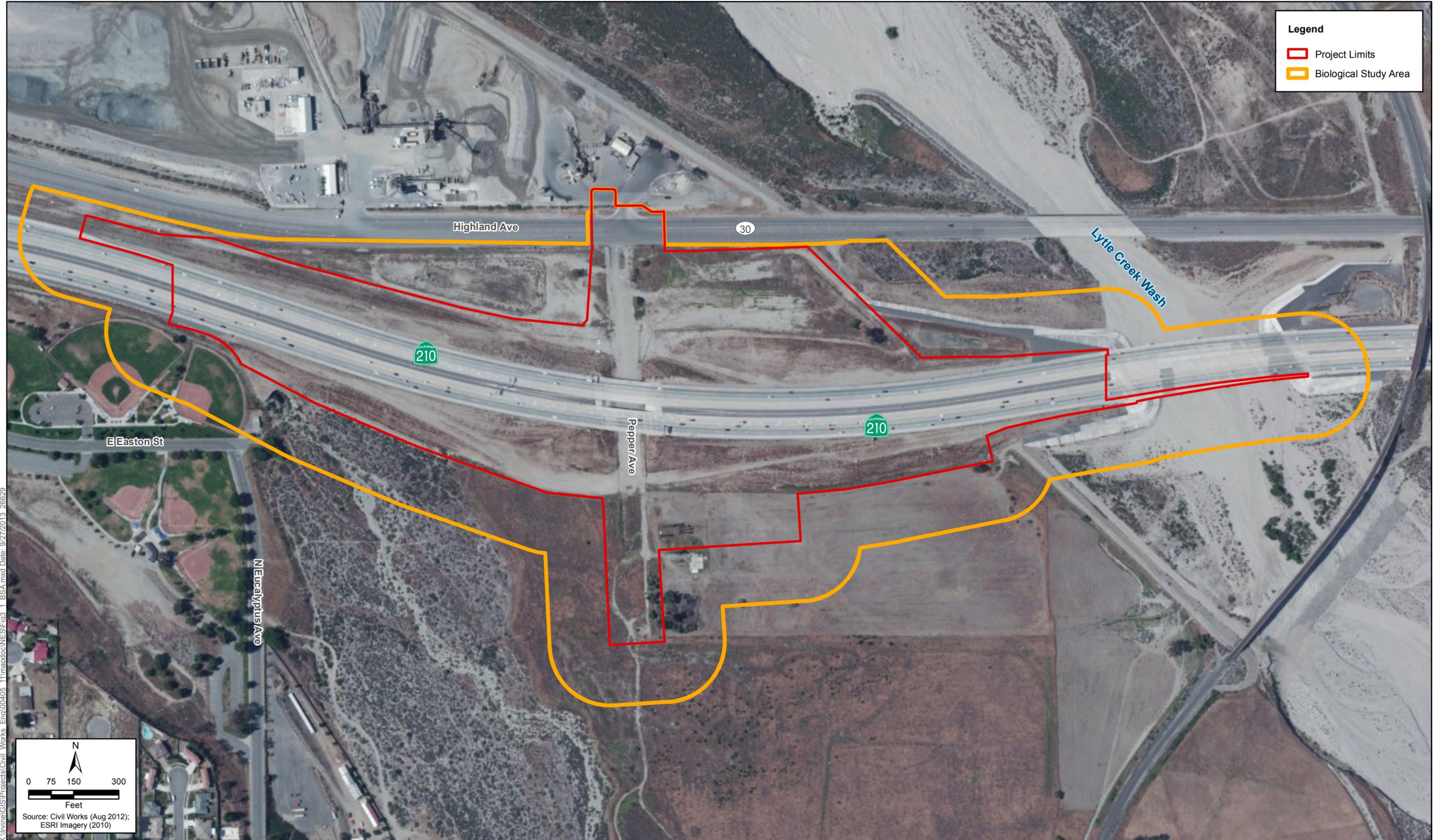
**3.1.2.5. TUJUNGA GRAVELLY LOAMY SAND, 0 TO 9 PERCENT SLOPES**

The Tujunga series consists of very deep, somewhat excessively drained soils formed in alluvium. This soil series is found on alluvial fans and flood plains at elevations of 5 to 4,300 feet, at slopes of 0 to 9 percent. The typical soil texture ranges from coarse to very coarse sand. Tujunga soils are found on floodplains in central and southern California and are considered to be of moderate extent.

In addition, according to the NRCS, there are also mapping units for Psamments and Fluvents, (frequently flooded) and Quarries and Pits, within the BSA.

**3.1.3. Hydrology**

The BSA is located within the Lytle Creek Hydrologic Unit (HU), within the San Gabriel Mountain Streams Hydrologic Area (HA). This HA contains Lytle Creek Wash and its tributaries, and eventually drains into the Pacific Ocean. Figure 3-4 shows the hydrological units in the BSA.



**Legend**

- Project Limits
- Biological Study Area

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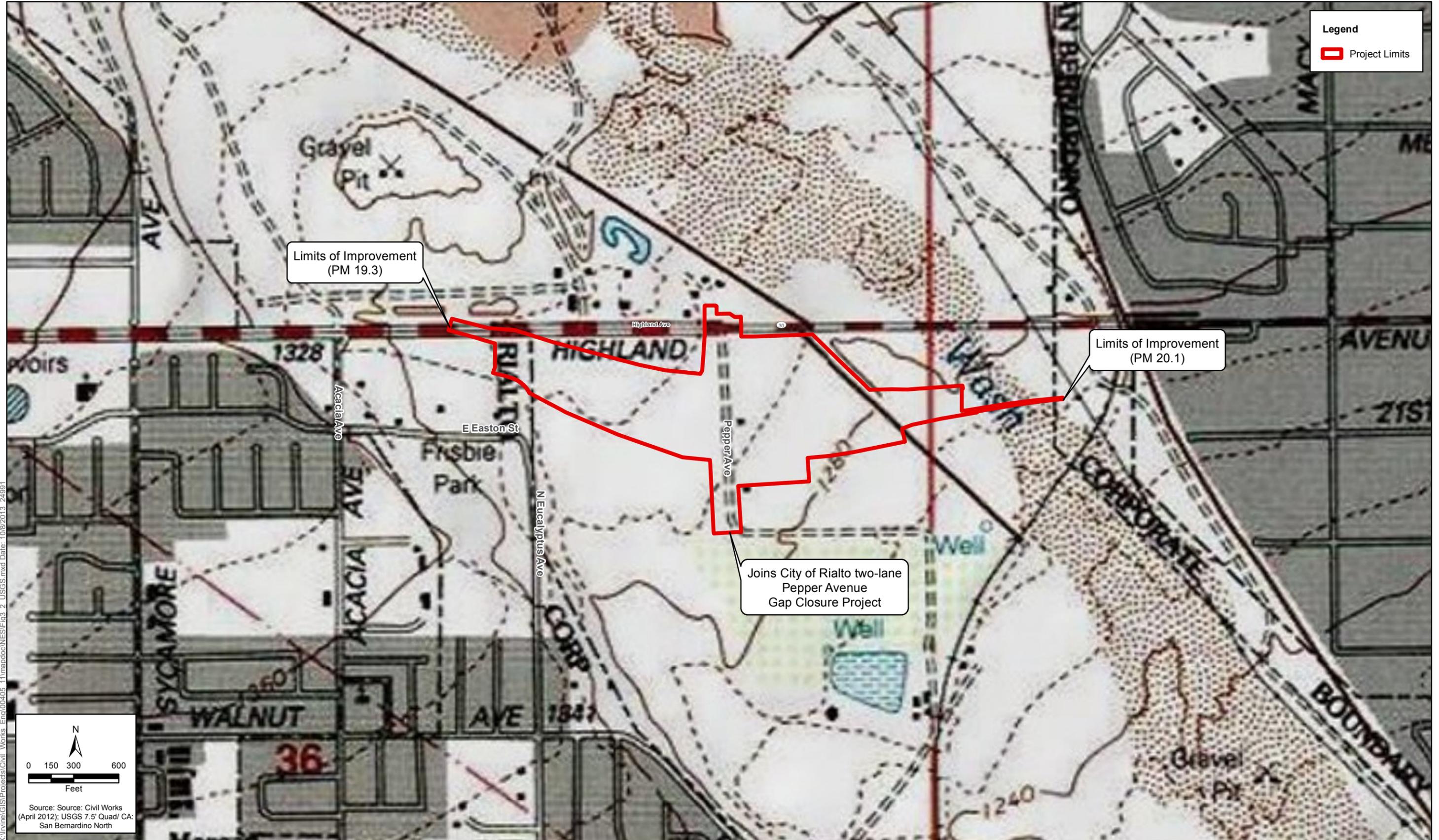
Feet

Source: Civil Works (Aug 2012);  
ESRI Imagery (2010)

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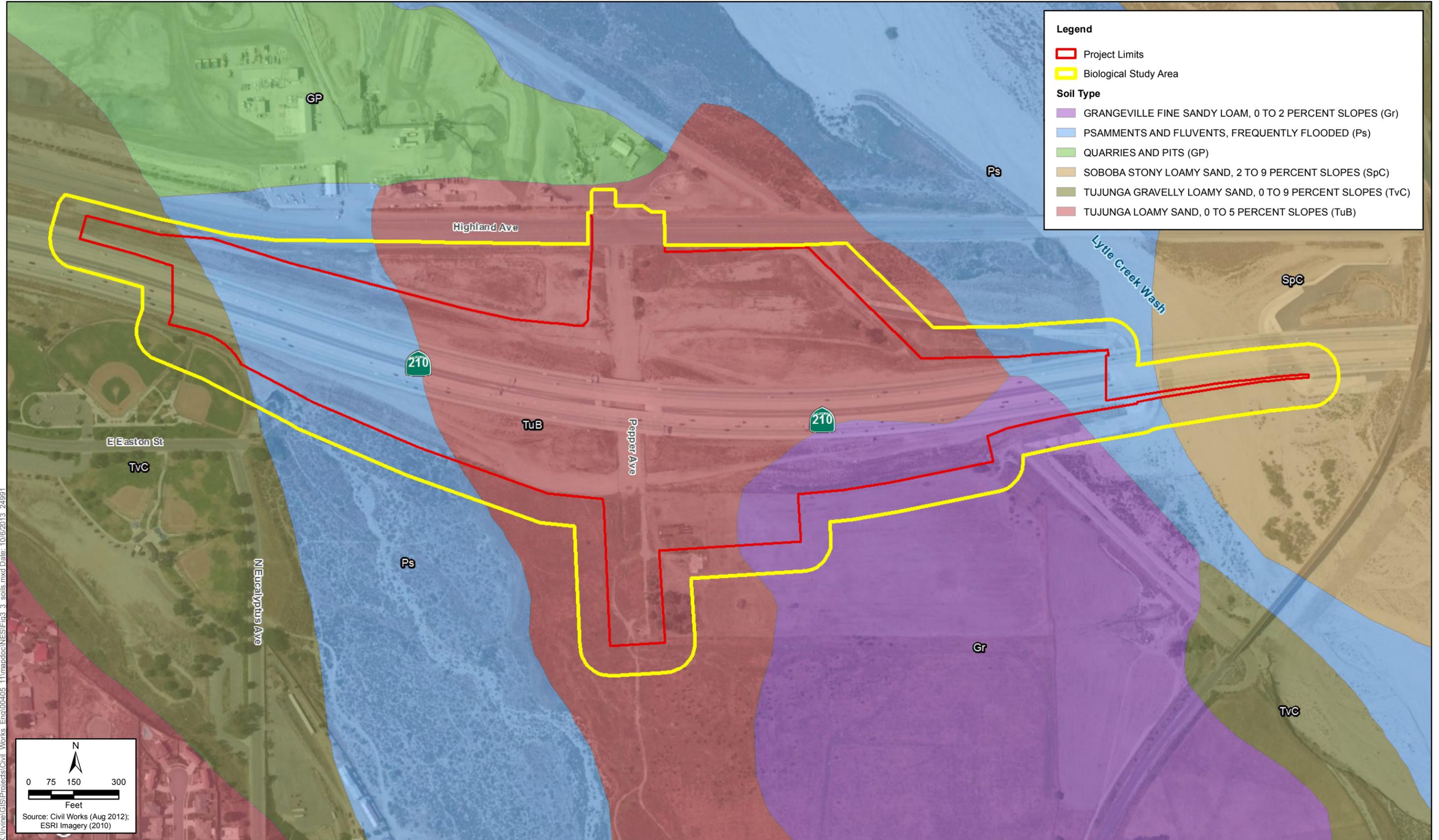
**Figure 3-1**  
**Biological Study Area**  
**State Route 210/Pepper Avenue New Interchange Project**





**Figure 3-2**  
**USGS Topographical Map San Bernardino North**  
**State Route 210/Pepper Avenue New Interchange Project**





**Figure 3-3**  
**Soils Associations**  
**State Route 210/Pepper Avenue New Interchange Project**





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**Figure 3-4**  
**Hydrological Units**  
**State Route 210/Pepper Avenue New Interchange Project**



### 3.1.4. Biological Conditions in the Biological Study Area

The natural vegetation communities on or occurring within the BSA include RAFSS, Disturbed RAFSS, RSS (revegetated), Nonnative Grassland, Nonnative Grassland/Sambucus Woodland, Mulefat Scrub, ruderal vegetation, and ornamental vegetation. Several developed areas also occur within the BSA.

#### 3.1.4.1. NATURAL COMMUNITIES AND VEGETATION

Over 180 plant species were identified within the BSA during all fieldwork for the proposed project (Appendix D). Of the species detected, a single species holds special status: Santa Ana River Woollystar (FE<sup>1</sup>, SE<sup>2</sup>, CRPR<sup>3</sup> 1B.1 [*Eriastrum densifolium* ssp. *sanctorum*]). This species was found during the 2011 initial reconnaissance, 2011 focused Burrowing Owl surveys, and 2012 rare plant focused surveys. Chapter 4 provides additional review of this and other special-status plant resources.

The BSA can be classified into the nine vegetation communities listed in Table 3-1, which provides the extent of each vegetation community within the BSA and the portion that is within the project footprint. Figure 3-5 illustrates the vegetation communities within the BSA.

**Table 3-1. Biological Study Area Acreages by Vegetation Community**

Vegetation Community	Biological Study Area (acre)	Project Footprint (acre)
Riversidean Alluvial Fan Sage Scrub	3.71	0.00
Disturbed Riversidean Alluvial Fan Sage Scrub	5.45	0.00 <sup>a</sup>
Riversidean Sage Scrub (revegetated)	28.06	18.98
Mulefat Scrub	0.36	0.00
Nonnative Grassland	3.79	0.59
Nonnative Grassland/Sambucus Woodland	2.38	0.08
Ruderal/Disturbed	12.78	6.55
Ornamental <sup>b</sup>	0.94	0.35
Developed	28.41	16.48
<b>Total</b>	<b>85.88</b>	<b>43.03</b>
<sup>a</sup> No impacts to Disturbed Riversidean Alluvial Fan Sage Scrub would occur. All impacts would occur within the Developed portion of the SR-210 bridge over Lytle Creek Wash. <sup>b</sup> Includes <i>Platanus racemosa</i> and <i>Sambucus nigra</i> .		

<sup>1</sup> Federally Endangered

<sup>2</sup> State Endangered

<sup>3</sup> California Rare Plant Rank

### **Riversidean Alluvial Fan Sage Scrub (RAFSS)**

RAFSS occurs within approximately 3.71 acres of the BSA on the terraces of Lytle Creek Wash, and within a tributary of Lytle Creek in the southwest quadrant of the BSA. This community occurs within floodplains that experience infrequent but severe flood events. Plants occurring within this community are often drought-deciduous soft-leaved shrubs, with upland plants growing in the herb layer during non-flooding years. Within the BSA, the diversity of the RAFSS was high and included California Buckwheat (*Eriogonum fasciculatum*), California Broomsage (*Lepidospartum squamatum*), Hairy Yerba Santa (*Eriodictyon trichocalyx*), Lance-leaved Dudleya (*Dudleya lanceolata*), Deerweed (*Acmispon glaber*), Sapphire Woollystar (*Eriastrum sapphirinum*), California Sun Cup (*Cammsoniopsis bistorta*), Threadleaf Ragwort (*Senecio flaccidus*), California croton (*Croton californicus*), Black Sage (*Salvia mellifera*), White Sage (*S. apiana*), Chia (*S. columbariae*), Chaparral Yucca (*Hesperoyucca whipplei*), and California sagebrush (*Artemisia californica*).

Santa Ana River Woollystar, a federal and state listed species, was found within this community within the 200-foot buffer associated with the BSA. Additional details are provided in Chapter 4.

### **Disturbed Riversidean Alluvial Fan Sage Scrub**

The Disturbed RAFSS occurs within Lytle Creek Wash and comprises approximately 5.45 acres. Portions of Lytle Creek Wash are frequently disturbed by severe flash floods and by recreational users (i.e., off-road vehicles and equestrians); therefore, vegetation within Lytle Creek Wash is sparse and very patchy. Vegetation primarily consisted of California Buckwheat and Deerweed, with a few sparse herbs growing throughout.

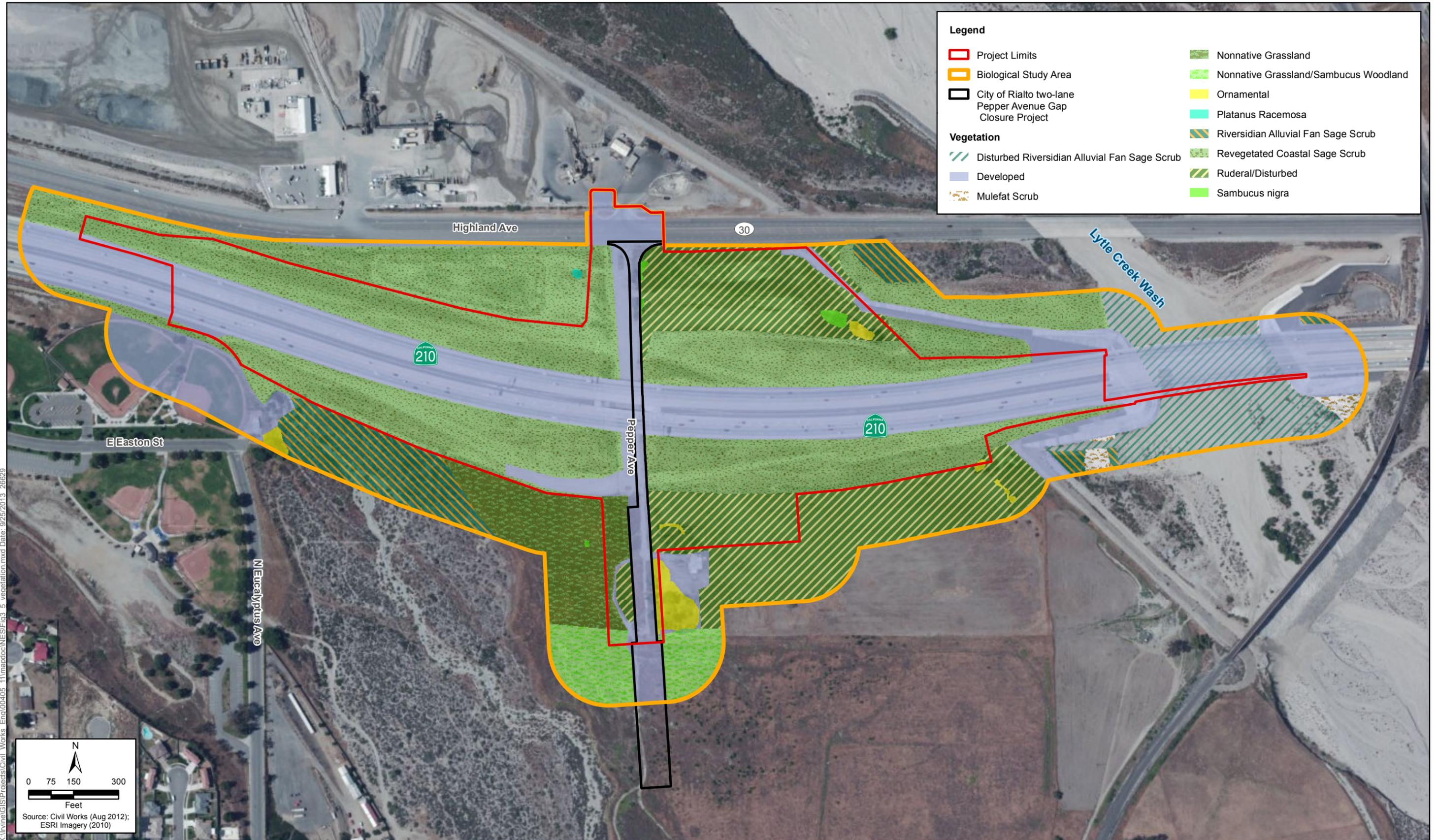
Santa Ana River Woollystar was also observed within the 200-foot buffer in Lytle Creek Wash.

### **Riversidean Sage Scrub (revegetated)**

This community is located entirely within previously graded and compacted areas associated with the rough-graded SR-210/Pepper Avenue interchange, manufactured slopes associated with SR-210, and two existing flood control basins located in the northeast and northwest quadrants of the BSA (Basins 1 and 2) (approximately 28.06 acres). These areas were subject to disturbance associated with the construction of SR-210, and have been revegetated with RSS species. Dominant species are California Buckwheat, Deerweed, Brittlebush (*Encelia californica*), and Telegraph Weed (*Heterotheca grandiflora*).

### **Mulefat Scrub**

There is a small patch of Mulefat Scrub (approximately 0.36 acre) within the floodplain of Lytle Creek Wash, located in the southeastern quadrant of the BSA. This community is fairly disturbed due to disturbances associated with Lytle Creek (i.e., flooding and recreational activities);



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**Figure 3-5**  
**Vegetation Communities**  
**State Route 210/Pepper Avenue New Interchange Project**



therefore, this community is relatively monotypic and primarily consists of Mule Fat (*Baccharis salificifolia*).

### **Nonnative Grassland**

The Nonnative Grassland is located within 3.79 acres west of Pepper Avenue and south of SR-210. The dominant species within this community are Rattail Sixweeks Grass (*Festuca myuros*), Ripgut Brome (*Bromus diandrus*), Compact Brome (*B. madritensis*), Downy Chess (*B. tectorum*), Common Fiddleneck (*Amsinckia menziesii*), Oat (*Avena* sp.), Hairy Vetch (*Vicia villosa*), and Wall Barley (*Hordeum murinum*).

### **Nonnative Grassland/Sambucus Woodland**

This community comprises approximately 2.38 acres on both sides of the existing Pepper Avenue ROW, south of SR-210. The majority of the species dominant within the Nonnative Grassland (described above) are the dominant herbs within this community, including Ripgut Brome, Compact Brome, Common Fiddleneck, Oat, Hairy Vetch, and Wall Barley. In addition, there are several scattered individual Mexican Elderberry (*Sambucus nigra*), which comprise the woodland overstory within this community.

### **Ruderal/Disturbed**

Roughly 12.78 acres of the BSA consists of ruderal/disturbed vegetation. Ruderal areas typically lack natural topography because they are often in disturbed areas that have been manipulated by activities such as discing or grading, such that the disturbances discourage growth of native vegetation. The dominant species in ruderal areas are often tolerant of frequent disturbances or soil compaction, and are typically nonnative or weedy in nature. Within the BSA, the common ruderal vegetation consisted of Ripgut Brome, Compact Brome, Tocolote (*Centaurea melitensis*), Russian Thistle (*Salsola tragus*), Common Sunflower (*Helianthus annuus*), Telegraph Weed, Tumbleweed (*Amaranthus albus*), Shortpod Mustard (*Hirschfeldia incana*), London Rocket (*Sisymbrium irio*), Lamb's Quarters (*Chenopodium album*), Nettleleaf Goosefoot (*C. murale*), Turkey Mullein (*Croton setigerus*), Sourclover (*Melilotus indicus*), Jimsonweed (*Datura stramonium*), and Puncturevine (*Tribulus terrestris*).

### **Ornamental**

There are a number of trees within the BSA that have been planted as ornamentals such as Gum trees (*Eucalyptus* sp.) and Mexican Fan Palms (*Washingtonia robusta*). In addition, there are Mexican Elderberry shrubs and a Western Sycamore (*Platanus racemosa*) in the BSA that are disassociated with any other particular community. This community occurs on approximately 0.94 acre of the BSA.

## **Developed**

The remainder of the BSA (approximately 28.41 acres) consists of developed lands in the form of the active roadway associated with SR-210 and bare ground (unvegetated) areas underneath the existing SR-210 undercrossing of Pepper Avenue, and Frisbee Park in the southwest quadrant of the BSA. Additional developed areas are comprised by compacted dirt roadways associated with the Pepper Avenue ROW. These dirt roadways have highly compacted soils that would not support vegetation growth. In addition, these areas are frequently used by vehicles that further compact soils, preventing future vegetation growth.

### **3.1.4.2. WILDLIFE**

There are over 60 species of wildlife that were detected within the BSA during the fieldwork for the proposed project. Appendix E provides a complete list of wildlife species detected within the BSA during field surveys.

Birds were the most commonly detected group within the BSA, including species such as Mourning Dove (*Zenaida macroura*), California Towhee (*Melospiza crissalis*), House Finch (*Haemorrhous mexicanus*), American Crow (*Corvus brachyrhynchos*), Lesser Goldfinch (*Carduelis psaltria*), Northern Mockingbird (*Mimus polyglottos*), Spotted Towhee (*Pipilo maculatus*), European Starling (*Sturnus vulgaris*), Brewer's Blackbird (*Euphagus cyanocephalus*), Bewick's Wren (*Thryomanes bewickii*), Cliff Swallow (*Petrochelidon pyrrhonota*), Common Raven (*Corvus corax*), Anna's Hummingbird (*Calypte anna*), Red-tailed Hawk (*Buteo jamaicensis*), American Kestrel (*Falco sparverius*), Killdeer (*Charadrius vociferus*), Western Kingbird (*Tyrannus verticalis*), Cassin's Kingbird (*T. vociferans*), Rock Pigeon (*Columba livia*), and House Sparrow (*Passer domesticus*). Many of these species are common to the region and have adapted to environments that have been disturbed by humans.

The most commonly detected mammals were Desert Cottontail (*Sylvilagus audubonii*), California Ground Squirrel (*Spermophilus beecheyi*), Botta's Pocket Gopher (*Thomomys bottae*), Domestic Horse (*Equus caballus*), Domestic Dog (*Canis familiaris*), San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*), and Coyote (*Canis latrans*). These species commonly occur within the region and are tolerant of disturbed environments.

Reptiles that were observed within the BSA were Western Fence Lizard (*Sceloporus occidentalis*), Side-blotched Lizard (*Uta stansburiana*), and Western Whiptail (*Aspidoscelis tigris*). These species commonly occur in areas that have human disturbances.

There were seven special-status animals that were observed within the BSA during fieldwork. These are Yellow Warbler (*Dendroica petechia*), Loggerhead Shrike (*Lanius ludovicianus*), Northern Harrier (*Circus cyaneus*), San Diego Black-tailed Jackrabbit, San Diego Desert

Woodrat (*Neotoma lepida intermedia*), Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*), and Los Angeles Pocket Mouse. All of these species are listed as California Species of Special Concern (SSC).

No federal or state listed wildlife species were observed or detected within the BSA during general and focused surveys.

#### 3.1.4.3. AQUATIC RESOURCES

Six features were observed and documented within the jurisdictional delineation (JD) study area (Figure 4-1). Lytle Creek Wash and its study area tributaries connect to, or are direct tributaries of, the Santa Ana River. All features within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted for the project. As such, all features are considered WoUS under the jurisdiction of USACE, and subject to state jurisdiction, as regulated by the RWQCB. In addition, all features identified were determined to be subject to CDFW jurisdiction.

#### 3.1.4.4. MIGRATION CORRIDORS

Within the BSA, Lytle Creek could be used by wildlife as a migration corridor between the San Gabriel Mountains and the Santa Ana River. Although the southern portion of Lytle Creek has been channelized and adjacent areas developed, the topography of the creek is sufficient to accommodate animal movement.

#### 3.1.4.5. INVASIVE SPECIES

There were over 25 plant species classified as Cal-IPC (2006) invasive plants species observed within the BSA. These plants are listed in Table 3-2 along with the Cal-IPC ranking.

**Table 3-2. Cal-IPC Invasive Plant Species**

Common Name	Scientific Name	Cal-IPC Ranking
Oat	<i>Avena</i> sp.	Limited to Moderate
Fivehorn Smotherweed	<i>Bassia hyssopifolia</i>	Limited
Ripgut grass	<i>Bromus diandrus</i>	Moderate
Downy Chess	<i>Bromus tectorum</i>	High
Tocalote	<i>Centaurea melitensis</i>	Moderate
Bermuda Grass	<i>Cynodon dactylon</i>	Moderate
Redstem Filaree	<i>Erodium cicutarium</i>	Limited
Rattail Sixweeks Grass	<i>Festuca myuros</i>	Moderate
Rye Grass	<i>Festuca perennis</i>	Moderate
Shortpod Mustard	<i>Hirschfeldia incana</i>	Moderate

Common Name	Scientific Name	Cal-IPC Ranking
Wall Barley	<i>Hordium murinum</i>	Moderate
Smooth Cat's-ear	<i>Hypochaeris glabra</i>	Limited
Sweet Alyssum	<i>Lobularia maritima</i>	Limited
Horehound	<i>Marrubium vulgare</i>	Limited
California Burclover	<i>Medicago polymorpha</i>	Limited
Tree Tobacco	<i>Nicotiana glauca</i>	Moderate
Crimson Fountain Grass	<i>Pennisetum setaceum</i>	Moderate
English Plantain	<i>Plantago lanceolata</i>	Limited
Annual beard Grass	<i>Polypogon monspeliensis</i>	Limited
Castorbean	<i>Ricinus communis</i>	Limited
Russian Thistle	<i>Salsola tragus</i>	Limited
Common Mediterranean Grass	<i>Schismus barbatus</i>	Limited
London Rocket	<i>Sisymbrium irio</i>	Moderate
Smilo Grass	<i>Stipa millacea var. millacea</i>	Limited
Saltcedar	<i>Tamarix ramosissima</i>	High
Woolly Mullein	<i>Verbascum thapsus</i>	Limited
Mexican Fan Palm	<i>Washingtonia robusta</i>	Moderate

### 3.2. Regional Species and Habitats of Concern

There are over 100 special-status plant and animal species and seven depleted natural vegetation communities that are known to occur within the region based on database searches. A list of these species and vegetation communities, as well as habitat requirements, regulatory status and potential for occurrence within the BSA, is provided in Appendix B. Determinations for likelihood of occurrence are based on presence of suitable habitat, quality of habitat, geographic range, elevation range, and tolerance to disturbances.

# Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

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As presented in Appendix B, there are over 100 special-status plants and animals and seven depleted natural vegetation communities that were found to have potential to occur within the BSA based on a review of database searches, described in Section 2.3.1. A majority of the species presented in Appendix B would not occur on the project site based on lack of suitable habitat, geographic and elevation distribution, and results of focused surveys. Therefore, in this chapter, only those depleted natural communities or species with potential to occur will be discussed. Any species that do not have a potential to occur based on the above criteria, are shaded gray in Appendix B with the rationale as to why no further discussion is warranted.

As described in Chapter 1, the proposed project consists of a No-Build and a Build Alternative. Since the No-Build Alternative makes no changes to the existing roadway, there would be no impact beyond existing conditions. Thus, no further discussion of the No-Build Alternative is presented.

For the analysis of impact, no differentiation has been made for permanent and temporary removal of vegetation and/or ground disturbance, except in the case of federal and state jurisdictional water resources.

Direct impacts are those effects that can be expected from direct removal and disturbances to the land. Examples of direct impacts include mortality to individuals and permanent loss of habitat. Indirect impacts are those effects that give rise to delayed, secondary effects. Examples of indirect impacts include habitat fragmentation, increased environmental toxins, interruption of pollination, interruption of plant and wildlife dispersion, increase risk of fire, and an increase of invasion of nonnative plants and animals that out-compete natives. Indirect impacts would likely increase mortality, reduce productivity, and/or reduce the functions and value of natural open space for native species that inhabit it. Cumulative effects are the direct and indirect effects that the proposed project would contribute to in conjunction with other projects in the area.

## **4.1. Natural Communities of Special Concern**

There is only one depleted natural vegetation community present within the BSA: RAFSS. The following section discusses the occurrence of this vegetation community within the BSA and provides an analysis of direct and indirect effects that could occur from the proposed project.

#### **4.1.1. Riversidean Alluvial Fan Sage Scrub**

The RAFSS plant community is primarily found on alluvial fans and floodplains. This plant community consists of drought tolerant shrubs and evergreen woody shrubs characteristic of both Riversidean Sage Scrub and Chaparral communities. Due to the infrequent but severe hydrological influences within this community, vegetation can occur in a number of successional stages.

RAFSS is a plant community of concern because of the extent that the community has been drastically reduced during recent decades primarily due to flood control activities and human development in the region. RAFSS provides potential habitat for a number of special-status species, including SBKR, Los Angeles Pocket Mouse, Santa Ana River Woollystar, and Slender-horned Spineflower.

##### **4.1.1.1. SURVEY RESULTS**

An estimated 3.71 acres of RAFSS and 5.45 acres of Disturbed RAFSS are present outside of the project area but are within the BSA. The RAFSS community is located within Lytle Creek Wash at the east end of the BSA, and within a relict tributary to Lytle Creek in the southwestern quadrant of the BSA. The majority of the RAFSS vegetation in Lytle Creek occurs on the terraces of the creek. Vegetation coverage within the creek is low due to flooding events within the main channel of the creek. The RAFSS located in the southwest quadrant of the BSA occurs in a relict alluvial fan of Lytle Creek. A quarry was built north of the project site in the 1940s to early 1950s (NETR 2011), and the upstream connection between this tributary and Lytle Creek was modified. There is a small amount of hydrologic activity within this tributary that sustains a late seral stage RAFSS on the terraces. This hydrological activity is likely caused by runoff from roadways and quarry operations.

In addition, the RAFSS community outside of the project limits but within the BSA is occupied habitat for the federally listed Santa Ana River Woollystar and SBKR, and the state species of special concern Los Angeles Pocket Mouse. Thus, removal of RAFSS would have a potential to affect sensitive plants and wildlife. Details of project impacts to these species are discussed in Section 4.1.1.3.

##### **4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS**

A full list of the avoidance and minimization measures with details for each measure is provided in Appendix F. The measures related to avoidance and minimization of impacts to RAFSS are identified below.

Although no direct impacts are anticipated, Measures **M-1** through **M-11** in Appendix F would reduce the level of indirect effects and eliminate the potential for direct impact to RAFSS that is located adjacent to, but outside of, the project limits.

#### **4.1.1.3. PROJECT IMPACTS**

The proposed project would not directly impact RAFSS or Disturbed RAFSS. In the area of existing RAFSS, construction work will be limited to the defined project footprint and will not encroach into RAFSS. The construction work proposed in the area of the Disturbed RAFSS will occur on the existing bridge (approximately 30 feet above the elevation of Lytle Creek Wash), and no disturbances are proposed within Lytle Creek Wash. There is a potential for indirect impacts to RAFSS caused by construction activities, such as dust, spread of invasive weeds, and temporary dewatering of the site. Implementation of **M-1** through **M-11** in Appendix F will ensure that no impacts would occur to any RAFSS occurring adjacent to the project footprint.

In addition, the sensitive RAFSS is occupied habitat for three special-status species: SBKR, Los Angeles Pocket Mouse, and Santa Ana River Woollystar (refer to Section 4.3.2 and 4.4.6). Although no direct removal of vegetation would occur, potential indirect impacts to RAFSS may also affect these species.

Over the long-term, there is a potential for indirect impacts to RAFSS from motor vehicles and pedestrians traversing the community. There is a potential for a spread of invasive weeds and degradation of the community. These impacts would be the same as existing conditions.

#### **4.1.1.4. COMPENSATORY MITIGATION**

Since no RAFSS habitat will be removed, no compensation would be required.

#### **4.1.1.5. CUMULATIVE IMPACTS**

Since the proposed project would not remove any RAFSS and measures **M-1** through **M-11** in Appendix F would ensure no indirect impacts would occur to the community, the proposed project would not contribute to cumulative impacts to the RAFSS community. There is a potential for the proposed project to contribute to cumulative impacts over the long-term, but these indirect effects would not differ from the existing conditions at the project site.

### **4.1.2. Waters of the U.S. and State Streambeds**

The following section summarizes the results of the delineation of federal jurisdictional waters and wetlands and state streambeds. The study area for the delineation was the project limits and up to a 100-foot buffer. There were several areas where additional study extended beyond the buffer to provide context. The jurisdictional delineation report is attached as Appendix C.

#### **4.1.2.1. SURVEY RESULTS**

Both WoUS and state streambeds are present within the delineation study area. Refer to Figure 4-1 for locations of jurisdictional water resources. The following summarizes the results for jurisdictional waters.

A single named feature, Lytle Creek Wash, is depicted on USGS quadrangle maps. Lytle Creek Wash and its tributaries connect to, or are direct tributaries of, the Santa Ana River. All features within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted for the project. As such, all features are considered USACE jurisdictional WoUS and subject to state jurisdiction as WoS. In addition, all features identified were determined to be subject to CDFW jurisdiction. Four drainages and two basins (total of six features) were observed and documented within the delineation study area (Figure 4-1). Table 4-1 presents a summary of WoUS, WoS, and CDFW jurisdictional areas existing within the BSA. A description of each feature and its potential federal and state jurisdiction is as follows.

##### ***Drainage 1***

Drainage 1 is an east-flowing ephemeral unnamed tributary of Lytle Creek Wash. The drainage consists of short, gradual banks and a sandy bed containing pockets of nonnative herbs and shrubs. The primary purpose of the drainage is to convey runoff from SR-210. The dominant plant species associated with this feature include Shortpod Mustard, Deerweed, Telegraph Weed, and Ripgut Brome.

The drainage was dry at the time of this study, though several areas throughout the feature contained indicators of seasonal flow events (i.e., sediment sorting). USACE jurisdiction, as indicated by the OHWM, averaged 2 feet throughout the drainage. No wetlands were observed in association with Drainage 1.

USACE/RWQCB jurisdictional areas associated with Drainage 1 within the study area totaled approximately 0.024 acre (527 linear feet) of non-wetland WoUS and WoS. CDFW jurisdiction totaled approximately 0.048 acre of unvegetated streambed (527 linear feet). No riparian vegetation was observed in association with Drainage 1. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the drainage is shown in Figure 4-1.

##### ***Drainage 2 (Frisbee Creek)***

Drainage 2 (Frisbee Creek) is a southeast-flowing tributary of Lytle Creek Wash. Within the BSA, Drainage 2 ranges from short, gradual banks, to incised banks, and exhibits a sandy bed containing cobbles. The dominant plant species associated with this feature include Tall Flatsedge (*Cyperus eragrostis*) and Rye Grass (*Festuca perrennis*).



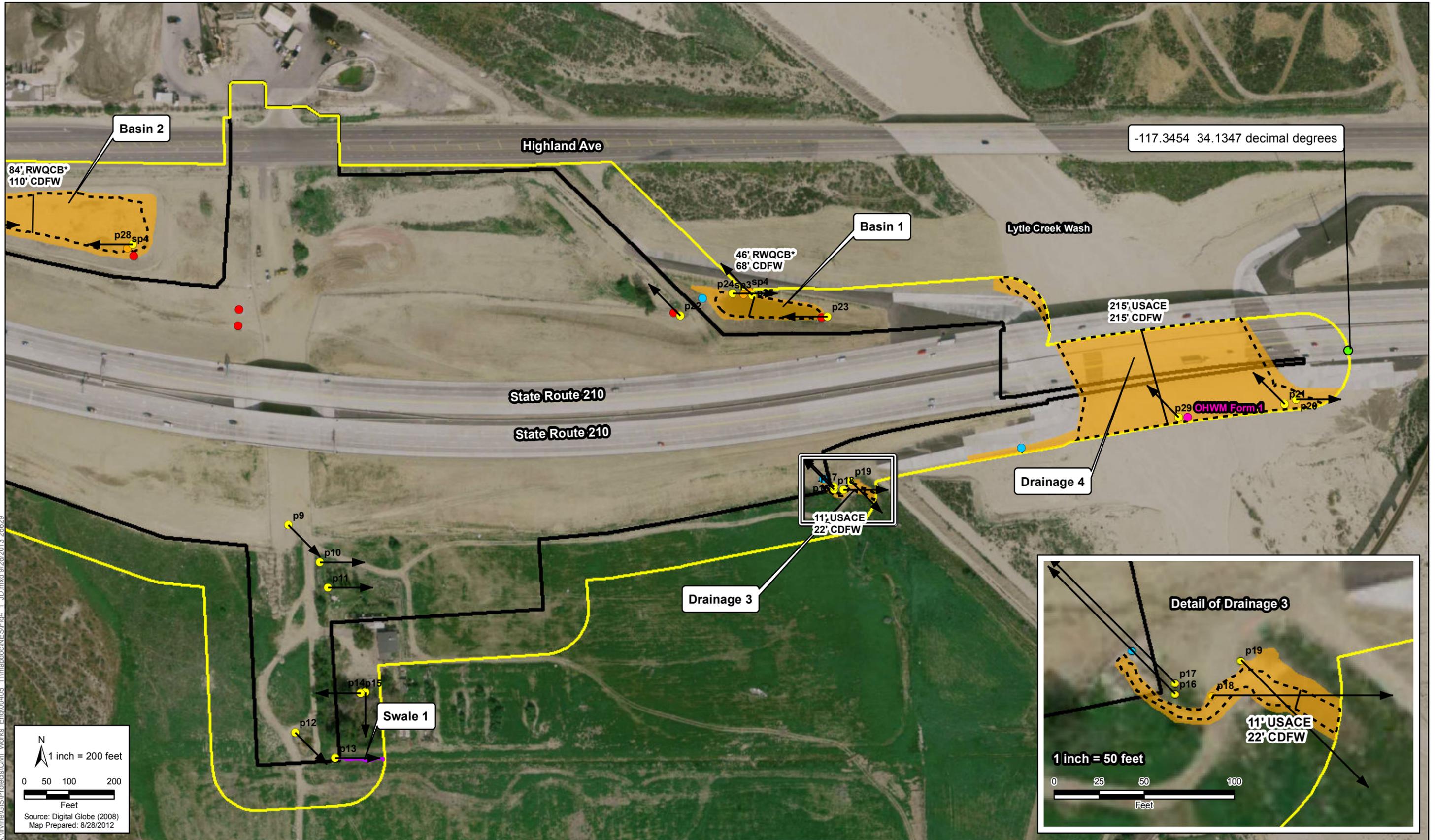
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\*Basins 1 and 2, by definition, are not regulated as WoS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

- Photo Point
- Sample Point
- Culvert Inlet
- Culvert Outlet
- Latitude/Longitude Point
- OHWL Form
- Swale
- ▭ Limits of Disturbance
- ▭ Study Area Buffer
- ▭ USACE\*/ RWQCB Non-Wetland Waters of the US (3.3 AC)
- ▭ USACE/ RWQCB Wetland Waters of the US (.01 AC)
- ▭ CDFW Riparian (.01 AC)
- ▭ CDFW Unvegetated Streambed (4.2 AC)

**Figure 4-1 Sheet 01**  
**Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**





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\*Basins 1 and 2, by definition, are not regulated as WoS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

- |                            |                         |   |
|----------------------------|-------------------------|---|
| ● Photo Point              | ● OHWM Form             | ▨ USACE*/ RWQCB Non-Wetland Waters of the US (3.3 AC) |
| ● Sample Point             | — Swale                 | ▨ USACE/ RWQCB Wetland Waters of the US (.01 AC)      |
| ● Culvert Inlet            | ▭ Limits of Disturbance | ▨ CDFW Riparian (.01 AC)                              |
| ● Culvert Outlet           | ▭ Study Area Buffer     | ▨ CDFW Unvegetated Streambed (4.2 AC)                 |
| ● Latitude/Longitude Point |                         |   |

**Figure 4-1 Sheet 02**  
**Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**



The drainage contained water at the time of this study, and several areas throughout the feature contained indicators of strong flow events. USACE jurisdiction, as indicated by the OHWM, averaged 17 feet throughout the drainage.

Jurisdictional areas associated with Drainage 2 within the study area totaled approximately 0.057 acre (204 linear feet) of USACE and RWQCB jurisdiction, including 0.007 acre (37 linear feet) of USACE/RWQCB wetlands, and 0.050 acre (167 linear feet) of non-wetland WoUS/WoS. CDFW jurisdiction totaled approximately 0.094 acre (204 linear feet), including 0.007 acre (37 linear feet) of CDFW riparian vegetation and 0.087 acre (167 linear feet) of unvegetated streambed. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the drainage is shown in Figure 4-1.

### **Drainage 3**

Drainage 3 is a short, southeast-flowing ephemeral unnamed tributary of Lytle Creek Wash. The drainage consists of very gradual banks and a sandy unvegetated bed. The dominant plant species associated with this feature include Shortpod Mustard, Tree Tobacco, Russian Thistle, Castor Bean (*Ricinus communis*), and Common Sunflower.

The drainage follows outside of the western bank of adjacent Lytle Creek Wash for approximately 700 feet. The drainage terminates outside of Lytle Creek Wash, approximately 20 feet from the western bank, but is apparently hydrologically connected to Lytle Creek Wash through groundwater due to its proximity to Lytle Creek Wash and earthen nature of the drainage, which allows for percolation and sub-surface connectivity.

The drainage was dry at the time of this study, though several areas throughout the feature contained indicators of seasonal flow events. USACE jurisdiction, as indicated by the OHWM, averaged 11 feet throughout the drainage.

USACE/RWQCB jurisdictional areas associated with Drainage 3 within the study area totaled approximately 0.028 acre (147 linear feet) of non-wetland WoUS/WoS. CDFW jurisdiction totaled approximately 0.053 acre (147 linear feet) of unvegetated streambed. No riparian vegetation was observed in association with Drainage 3. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the wash is shown in Figure 4-1.

### **Drainage 4 (Lytle Creek Wash)**

Lytle Creek Wash is a south-flowing blue-line tributary of the Santa Ana River. The wash consists of steep rip-rap banks and a sandy bed composed of deposited alluvium. The wash originates in the San Gabriel Mountains to the immediate north. The wash was sparsely

vegetated and the dominant plant species associated with this feature included California Broomsage, California Buckwheat, and Deerweed.

The wash was dry at the time of the delineation, though several areas throughout the feature contained indicators of seasonal flow events. USACE jurisdiction, as indicated by the OHWM, averaged 215 feet throughout the drainage.

USACE/RWQCB jurisdictional areas associated with Drainage 4 (Lytle Creek Wash) within the study area totaled approximately 2.206 acres (263 linear feet) of non-wetland WoUS/WoS. No USACE/RWQCB jurisdictional wetlands were observed within Drainage 4 (Lytle Creek Wash) within the study area. CDFW jurisdiction totaled approximately 2.514 acres (257 linear feet) of unvegetated streambed. No riparian vegetation was observed in association with Drainage 4 (Lytle Creek Wash). The extent of USACE, RWQCB, and CDFW jurisdiction associated with the wash is shown in Figure 4-1.

### **Basin 1**

Basin 1 is an artificially constructed basin, which was constructed in uplands concurrently with the main-line SR-210, and is situated on the northern side of SR-210, south of Highland Avenue. This basin was apparently designed to capture, store, and treat excess stormwater runoff from SR-210. The basin consists of moderately sloped banks covered in upland vegetation. Vegetation within the basin margin includes Common Sunflower, Rancher's Fiddleneck, Oat, and Common Fiddleneck. Basin 1 contained standing water at the time of the delineation.

As previously stated in 2.1.1.2 Clean Water Act-Sections 401 and 404, "Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States." Therefore, as this basin was constructed in uplands for the purpose of treating stormwater runoff, Basin 1 is not regulated as WoUS, by definition. However, Basin 1 is potentially subject to regulation by the RWQCB as WoS, pursuant to the Porter-Cologne Act.

RWQCB jurisdictional areas associated with Basin 1 totaled approximately 0.206 acre of non-wetland WoS. CDFW jurisdiction totaled approximately 0.305 acre of unvegetated basin. No riparian vegetation was observed in association with Basin 1. The extent of RWQCB and CDFW jurisdiction associated with the wash is shown on Figure 4-1.

### **Basin 2**

Basin 2 is an artificially constructed basin, which was constructed in uplands concurrently with the main-line SR-210, and is situated on the northern side of SR-210, south of Highland Avenue.

This basin was apparently designed to capture, store, and treat excess stormwater runoff from SR-210. The basin consists of moderately sloped banks covered in upland vegetation. Vegetation within the basin margin includes Shortpod Mustard, Ripgut Brome, Compact Brome, and Common Sunflower. Basin 2 was dry at the time of the delineation, but contained evidence of seasonal flow.

As previously stated in 2.1.1.2 Clean Water Act-Sections 401 and 404, “Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.” Therefore, as this basin was constructed in uplands for the purpose of treating stormwater runoff, Basin 2 is not regulated as WoUS, by definition. However, Basin 2 is potentially subject to regulation by the RWQCB as WoS, pursuant to the Porter-Cologne Act.

RWQCB jurisdictional areas associated with Basin 2 totaled approximately 0.823 acre of non-wetland WoS. CDFW jurisdiction totaled approximately 1.172 acre of unvegetated basin. No riparian vegetation was observed in association with Basin 2. The extent of RWQCB and CDFW jurisdiction associated with the wash is shown on Figure 4-1.

**Table 4-1. Summary of WoUS, WoS, and CDFW Jurisdictional Areas Existing Within the Biological Study Area**

<b>Feature</b>	<b>USACE/ RWQCB Non-Wetland WoUS*/WoS (acres)</b>	<b>USACE/ RWQCB Wetland WoUS/WoS (acres)</b>	<b>USACE/ RWQCB WoUS/WoS Linear Feet</b>	<b>CDFW Streambed (acres)</b>	<b>CDFW Riparian (acres)</b>	<b>CDFW Linear Feet</b>
Drainage 1	0.024	0.00	527	0.048	0.00	527
Drainage 2 (Frisbee Creek)	0.050	0.007	204	0.087	0.007	204
Drainage 3	0.028	0.00	147	0.053	0.00	147
Drainage 4 (Lytle Creek Wash)	2.206	0.00	257	2.514	0.00	257
Basin 1	0.206*	0.00	--	0.305	0.00	--
Basin 2	0.823*	0.00	--	1.172	0.00	--
<b>Total</b>	<b>3.337*</b>	<b>0.007</b>	<b>1,135</b>	<b>4.179</b>	<b>0.007</b>	<b>1,135</b>

\*Basins 1 and 2, by definition, are not regulated as WoUS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

**4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Standard BMPs will be employed where jurisdictional waters are present adjacent to the project limits (Measure **M-11** in Appendix F). Measures **M-5** through **M-10** in Appendix F would also be implemented to ensure that water resources outside of the direct impact area are not affected during or after construction.

**4.1.2.3. PROJECT IMPACTS**

Currently, there is no distinction between temporary and permanent impacts to water resources, as only the outer extent of the project limits are available for this impact analysis. As depicted on Figure 4-1, Drainage 3 is the only potentially jurisdictional feature within the study area that would be directly impacted by the proposed project during construction. Although Drainage 4 appears to be depicted within the project limits on Figure 4-1, construction associated with the proposed project will be limited to the existing bridge over Drainage 4, and no work is expected to encroach into Lytle Creek Wash. Table 4-2 summarizes the proposed impacts (permanent and temporary, combined) to WoUS, WoS, and CDFW streambeds.

**Table 4-2. Summary of WoUS, WoS, and CDFW Jurisdictional Impacts**

<b>Feature</b>	<b>USACE/ RWQCB Non-Wetland WoUS/WoS (acres)</b>	<b>USACE/ RWQCB Wetland WoUS/WoS (acres)</b>	<b>USACE/ RWQCB WoUS/WoS Linear Feet</b>	<b>CDFW Streambed (acres)</b>	<b>CDFW Riparian (acres)</b>	<b>CDFW Linear Feet</b>
Drainage 3	0.003	0.00	25	0.005	0.00	25
<b>Total</b>	<b>0.003</b>	<b>0.00</b>	<b>25</b>	<b>0.005</b>	<b>0.00</b>	<b>25</b>

The proposed project would impact a total of 0.003 acre of non-wetland WoUS and WoS. The total impact to CDFW unvegetated streambed would be 0.005 acre. No project-related impacts to jurisdictional wetlands or CDFW riparian habitat would occur, as all of these areas are located within the BSA outside of the project limits.

There is a potential for long-term indirect effects to jurisdictional waters, but this would not change from existing conditions. During construction, there is a potential for increased risk of indirect impacts to adjacent jurisdictional waters, but the avoidance and minimization measures identified in Section 4.1.2.2 and in Appendix F are expected to address these potential indirect effects.

**4.1.2.4. COMPENSATORY MITIGATION**

Impacts to 0.003 acre of non-wetland WoUS/WoS and 0.005 acre of CDFW unvegetated streambed are unavoidable and may require compensatory mitigation under Section 401 and 404

of the CWA and Section 1602 of the CDFW Code. Final compensatory mitigation will be determined during the aquatic permit process.

#### **4.1.2.5. CUMULATIVE IMPACTS**

The proposed project would directly contribute to the regional loss of WoUS, WoS, and CDFW unvegetated streambed. The amount of jurisdictional water resources that have been removed by past projects and future projects is currently unknown, but it is expected that the amount that would be removed by these projects (including the proposed project) would potentially contribute to the rapid decline of these resources over several decades. The loss of 0.003 acre of non-wetland WoUS and 0.005 acre of CDFW unvegetated streambed could contribute to a cumulative impact; however, compensatory mitigation, as would be negotiated during the aquatic permitting process, would offset these potentially cumulative impacts. Additionally, measures **M-5** through **M-11** identified in Appendix F would be implemented to ensure protection of federal and/or state jurisdictional features adjacent to the project footprint. Thus, the proposed project has been determined to not considerably contribute to cumulative impacts within the region.

#### **4.1.3. Raptor Foraging and Nesting**

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

##### **4.1.3.1. SURVEY RESULTS**

During the fieldwork for the proposed project, five species of raptor were detected within the study area: Cooper's Hawk (*Accipiter cooperii*), Red-tailed Hawk, Northern Harrier, American Kestrel, and Barn Owl (*Tyto alba*). During the June 2011 initial reconnaissance survey, it was noted that a Barn Owl was occupying a space inside of the SR-210/Pepper Avenue undercrossing structures where a broken light fixture was present. There is a potential for the Barn Owl to nest inside of the undercrossing structures. This site was noted as active based on observation of fresh sign (i.e., scat and pellets) underneath the undercrossing structure and just below the opening of the broken light fixture.

No other raptors were observed breeding within the study area during subsequent surveys.

#### **4.1.3.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Measure **M-16** in Appendix F would ensure that direct mortality of raptors and/or abandonment of nests with eggs and/or young would not occur and would comply with MBTA and Fish and Game Code.

#### **4.1.3.3. PROJECT IMPACTS**

There are 26.12 acres of potential raptor foraging habitat that would be directly and permanently removed by the proposed project. Foraging habitat that would be removed consists of Nonnative Grassland, Ruderal/Disturbed habitat, and revegetated RSS. In addition, there is approximately 0.35 acres of potential raptor nesting habitat that would be removed (within ornamental trees), as well as a potential direct impact to a Barn Owl that may be nesting within the SR-210/Pepper Avenue undercrossing structures.

#### **4.1.3.4. COMPENSATORY MITIGATION**

With the implementation Measure **M-16**, no direct take of nesting raptors is expected to occur. No compensation would be necessary.

#### **4.1.3.5. CUMULATIVE EFFECTS**

The proposed project would permanently remove 26.12 acres of potential raptor foraging and 0.35 acres of potential raptor nesting habitat. Both of these habitats are located adjacent to or near SR-210; therefore, raptors may also forage and nest adjacent to the project limits. Projects proposed within the region would also be expected to reduce potential foraging habitat as well as some nesting habitat. Raptor foraging habitat is rapidly declining within the region, however the loss of 26.12 acres of potential foraging habitat for raptors would not be considered substantial due to the availability of other widespread foraging habitat in the region. The removal of 0.35 acre of potential nesting habitat would not be a cumulative impact. This is based on the types of raptors potentially affected and the reasonable expectation that future development would plant trees that would mature and become potential nesting habitat.

## **4.2. Special-Status Plant Species**

There are a number of federally listed, state listed, and nonlisted special-status plants that are known to occur within the region. The following sections provide the results of the habitat evaluations, focused survey work, and relevant regulatory analysis.

### **4.2.1. Discussion of Threatened and Endangered Plant Species**

There were 11 federal and/or state threatened and endangered plant species that were initially reviewed for the proposed project. Of these, only four species were judged to have the potential to occur within the study area based on species requirements and study area conditions. These

***[Wildlife location information not included for the protection of sensitive species.]***



contribute to the regional decline of Santa Ana River Woollystar, as no effects to this species would occur as a result of the construction of the proposed project.

**4.2.2. Discussion of Nonlisted Special-status Plants**

There were 81 plant species ranked as special status by CNPS that were initially reviewed for the proposed project. Of these, 11 were considered to have a potential of occurring within the BSA: Plummer’s Mariposa Lily (*Calochortus plummerae*; CRPR 1B.2), Smooth Tarplant (*Centromadia pungens* ssp. *laevis*; CRPR 1B.1), Parry’s Spineflower (*Chorizanthe parryi* var. *parryi*; 1B.1), White-bracted Spineflower (*Chorizanthe xanti* var. *leucotheca*; CRPR 1B.2), Mesa Horkelia (*Horkelia cuneata* ssp. *puberula*; CRPR 1B.1), California Satintail (*Imperata brevifolia*; CRPR 2.1), Southern California Black Walnut (*Juglans californica*; CRPR 4.2), Robinson’s Pepper-grass (*Lepidium virginicum* var. *robinsonii*; CRPR 1B.2), Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*; CRPR 4.2), Salt Spring Checkerbloom (*Sidalcea neomexicana*; CRPR 2.2), and San Bernardino Aster (*Symphyotrichum defoliatum*; CRPR 1B.2). The other 70 species were determined not to have a potential to occur based on one or more of the following: geographic and elevation distribution, lack of suitable habitat, lack of suitable soils, and tolerance to disturbances.

**4.2.2.1. SURVEY RESULTS**

During the habitat assessment, up to 56.53 acres of suitable habitat for special-status plants were present within RSS, RAFSS, Disturbed RAFSS, Nonnative Grassland, Nonnative Grassland/Sambucus Woodland, Mulefat Scrub, and Ruderal/Disturbed areas. Table 4-4, below, summarizes the suitable habitat within the BSA for each species.

**Table 4-4. Suitable Habitat for Special-Status Nonlisted Plants**

Species	Habitat Evaluation Results	Focused Survey Results
Plummer’s Mariposa Lily ( <i>Calochortus plummerae</i> )	Low potential to occur within 3.71 acres RAFSS and 5.45 acres of Disturbed RAFSS in BSA.	Species absent during focused surveys performed in 2012.
Smooth Tarplant ( <i>Centromadia pungens</i> ssp. <i>laevis</i> )	Moderate potential to occur within 3.82 acres of Nonnative Grassland and 12.78 Ruderal/Disturbed areas of BSA.	Species absent during focused surveys performed in 2012.
Parry’s Spineflower ( <i>Chorizanthe parryi</i> var. <i>parryi</i> )	Moderate potential within 3.71 acres RAFSS, and low potential to occur in 5.45 acres of Disturbed RAFSS of BSA.	Species absent during focused surveys performed in 2012.

Species	Habitat Evaluation Results	Focused Survey Results
White-bracted Spineflower ( <i>Chorizanthe xanti</i> var. <i>leucotheca</i> )	Low potential to occur in 28.06 acres of RSS, moderate potential within 3.71 acres of RAFSS, and low potential to occur in 5.45 acres of Disturbed RAFSS within the BSA.	Species absent during focused surveys performed in 2012.
Mesa Horkelia ( <i>Horkelia cuneata</i> ssp. <i>puberula</i> )	Low potential to occur within 28.06 acres RSS and 3.71 acres of Disturbed RAFSS within the BSA.	Species absent during focused surveys performed in 2012.
California Satintail ( <i>Imperata brevifolia</i> )	Low potential to occur in 28.06 acres of RSS, and moderate potential to occur within 3.71 acres of RAFSS within the BSA.	Species absent during focused surveys performed in 2012.
Southern California Black Walnut ( <i>Juglans californica</i> )	Low potential to occur in undeveloped portions of BSA (approximately 56.53 acres).	Species absent during focused surveys performed in 2012.
Robinson's Pepper-grass ( <i>Lepidium virginicum</i> var. <i>robinsonii</i> )	Moderate potential to occur in 28.06 acres of RSS within the BSA.	Species absent during focused surveys performed in 2012.
Ocellated Humboldt Lily ( <i>Lilium humboldtii</i> ssp. <i>ocellatum</i> )	Low potential to occur within 28.06 acres of RSS within the BSA.	Species absent during focused surveys performed in 2012.
Salt Spring Checkerbloom ( <i>Sidalcea neomexicana</i> )	Moderate potential to occur in 3.71 acres of RAFSS and 5.45 acres Disturbed RAFSS within the BSA.	Species absent during focused surveys performed in 2012.
San Bernardino Aster ( <i>Symphotrichum defoliatum</i> )	Low potential to occur within 28.06 acres of RSS within the BSA.	Species absent during focused surveys performed in 2012.

None of the species with potential to occur were found during the three site visits conducted during the 2012 rare plant focused surveys.

### 4.2.3. Avoidance and Minimization Efforts

Measures **M-1** through **M-11** in Appendix F would ensure that no impacts would occur on lands adjacent to the project footprint.

#### 4.2.3.1. PROJECT IMPACTS

The proposed project would remove approximately 18.98 acres of revegetated RSS, 0.59 acres of Nonnative Grassland, 0.08 acres of Nonnative Grassland/Sambucus Woodland and, and 6.55 acres of Ruderal/Disturbed areas (total 26.20 acres), suitable for several nonlisted special-status plant species. None of these species were found within the BSA or project limits; therefore, no direct impacts to the 11 species would be expected. There is a potential for indirect impacts to

adjacent lands to occur during construction, such as increased risk of fire, dust, and introduction of invasive species, which would reduce the quality of habitat suitable for these species. The avoidance and minimization measures described above would reduce any effects from construction activities on adjacent lands. In addition, there is a potential for long-term effects to occur to lands adjacent to the proposed project; however, these effects would not differ from existing conditions.

#### **4.2.3.2. COMPENSATORY MITIGATION**

No compensation would be necessary, as project related impacts are not expected.

#### **4.2.3.3. CUMULATIVE EFFECTS**

Up to 26.20 acres of suitable habitat for a number of nonlisted special-status plants would be removed by the proposed project. The loss of 26.20 acres associated with the construction of the proposed project may contribute to cumulative effects on these species; however, given the overall quantity of habitat suitable for these species within the regional vicinity, and that 25.53 of the 26.20 acres (18.98 acres of revegetated RSS and 6.55 acres of Ruderal/Disturbed) of suitable habitat is relatively low quality (as the revegetated RSS and Ruderal/Disturbed habitat proposed to be removed occur on heavily compacted soils resulting from the construction of SR-210), cumulative effects associated with the proposed project are not considered substantial, and are not expected to impact the long-term survival of these species.

### **4.3. Threatened and Endangered Animals**

There are 12 federally and/or state threatened and endangered animal species known to occur within the region (Appendix B). Of these, only one animal species, SBKR, was judged to have potential to occur within the BSA based on species requirements and conditions within the BSA. The following section provides the results and regulatory analysis for this species.

Of the 12 listed species initially reviewed, eight are federally listed (Santa Ana Sucker, Arroyo Toad, California Red-legged Frog, Sierra Madre Yellow-legged Frog, Coastal California Gnatcatcher, Southwestern Willow Flycatcher, Least Bell's Vireo, and Stephen's Kangaroo Rat), and it has been determined that no effects to these species would occur as a result of the construction of the proposed project.

#### **4.3.1. San Bernardino Kangaroo Rat (SBKR)**

SBKR is a federally endangered and state species of special concern. This species occupies intermediate seral stage RAFSS habitat and prefers soils that are sandy loam to sandy gravel. The BSA also occurs within Designated Critical Habitat (Unit 2) for SBKR (Figure 4-3a, 4-3b, 4-4 and 4-5).

#### **4.3.1.1. SURVEY RESULTS**

There is approximately 53.79 acres of suitable habitat for SBKR within the BSA (in RAFSS, Disturbed RAFSS, Nonnative Grassland, RSS, and Ruderal/Disturbed areas). SBKR is known to occupy the RAFSS west of Pepper Avenue and south of SR-210. Focused surveys in 2006 found 12 individuals within the RAFSS (MBA 2006) south of SR-210. Therefore, the RAFSS is considered occupied habitat and was not surveyed in 2012 and 2013.

To ascertain if SBKR is present within the disturbance limits for the proposed project, the 2012 and 2013 SBKR focused surveys were limited to the area within the project footprint (Figure 4-3a and 4-3b). Within the BSA, approximately 12.78 acres of Ruderal/Disturbed habitat and 28.06 acres of revegetated RSS was considered low quality habitat for SBKR based on the area's adjacency to occupied RAFSS. No SBKR were present within the revegetated RSS or in Ruderal/Disturbed areas during the 2012 and 2013 surveys; therefore, these areas are considered unoccupied by SBKR. The occupied habitat for SBKR is limited to the RAFSS community outside of the project footprint.

Approximately 55.4 acres of the BSA occurs within Designated Critical Habitat for SBKR.

#### **4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Implementation of measures **M-1** through **M-12** in Appendix F would ensure no impacts would occur to SBKR, which are known to inhabit the RAFSS habitat just south of the project area.

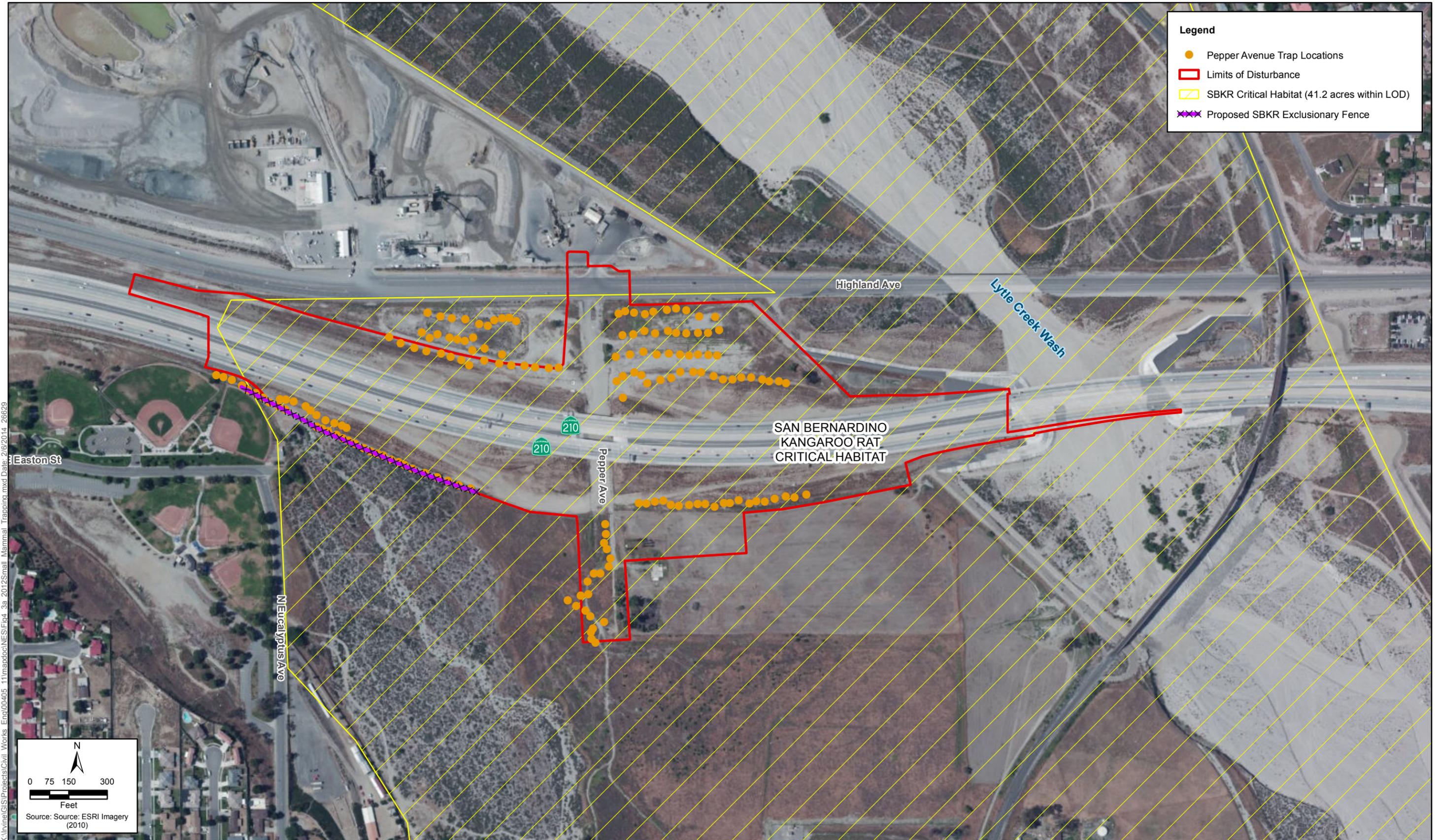
#### **4.3.1.3. PROJECT IMPACTS**

Since no RAFSS would be removed by the proposed project, no direct impacts from construction-related activities are expected to occur to SBKR. Potential indirect effects during construction include increased risk of fire, ground shaking, and invasion of nonnative plants reducing habitat quality of RAFSS adjacent to the project limits. These indirect impacts would be avoided and/or minimized by implementing measures **M-1** through **M-11** in Appendix F.

Approximately 26.0 acres of Designated Critical Habitat (excluding developed lands) for SBKR would be removed by the project. However, the Critical Habitat area that will be directly impacted lacks the physical and biological requirements for SBKR (i.e., alluvial sage scrub plants, current alluvial processes, and dynamic geomorphic processes).

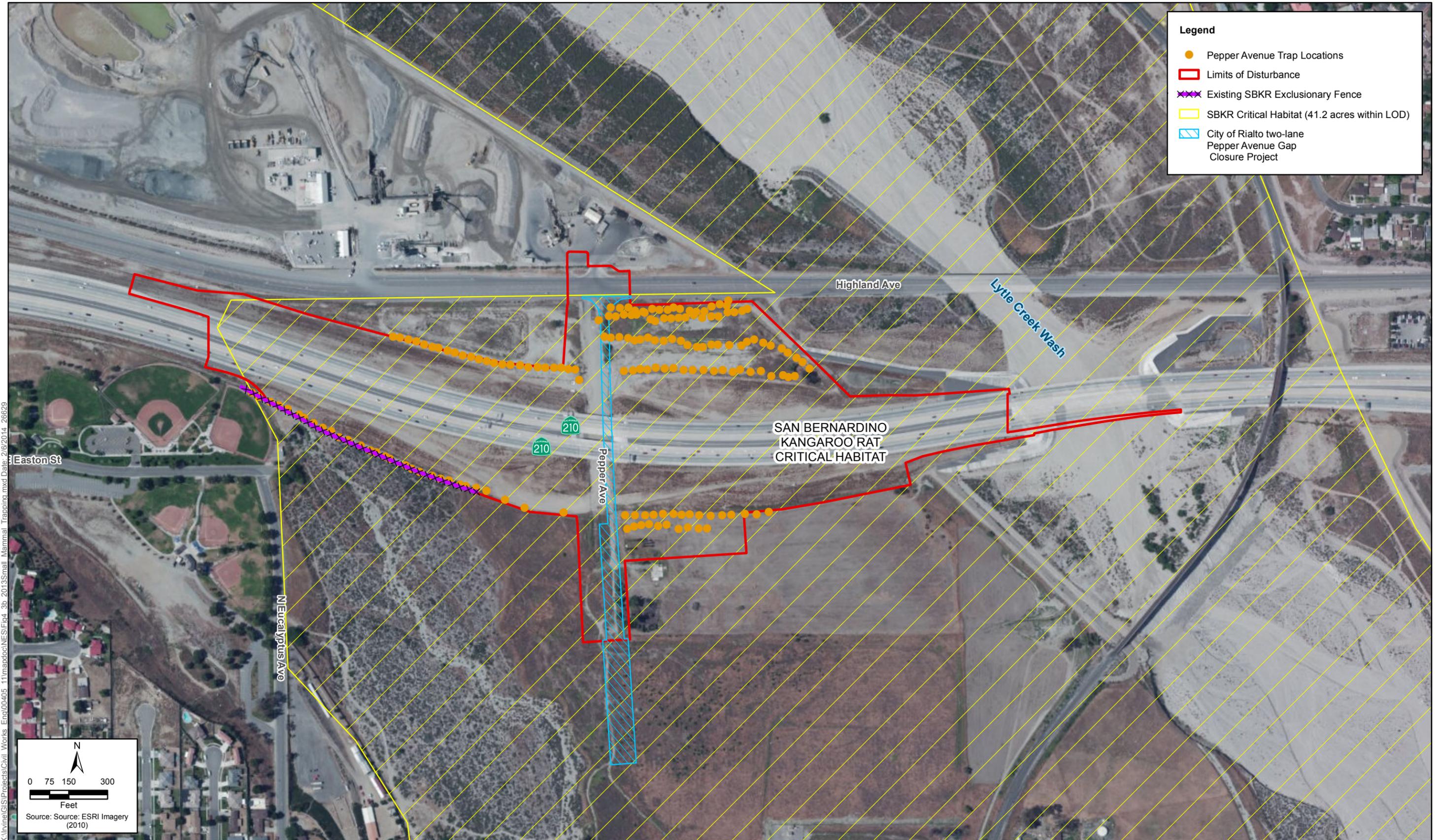
#### **4.3.1.4. COMPENSATORY MITIGATION**

SBKR would not be directly impacted by the proposed project. However, since federally Designated Critical Habitat would be removed, the creation and/or preservation of lands suitable for SBKR may be required. SBKR would not be directly impacted by the proposed project.



**Figure 4-3a**  
**2012 San Bernardino Kangaroo Rat Trap Lines**  
**State Route 210/Pepper Avenue New Interchange Project**





**Figure 4-3b**  
**2013 San Bernardino Kangaroo Rat Trap Lines**  
**State Route 210/Pepper Avenue New Interchange Project**



***[Wildlife location information not included for the protection of sensitive species.]***



However, since federally Designated Critical Habitat would be removed, the creation and/or preservation of lands suitable for SBKR will be required.

As part of its review of the proposed project, USFWS requested confirmation that mitigation for impacts to SBKR suitable habitat within the proposed project footprint but related to the construction of SR-210 had occurred. Therefore, on-going coordination between SANBAG, Caltrans, and USFWS took place throughout September and October 2012 to determine whether impacts to SBKR suitable habitat related to the previous SR-210 construction activities had been included in previous mitigation. On October 11, 2012, SANBAG provided a receipt for the purchase of 130 credits by Caltrans on February 9, 2000 from the Vulcan Materials Company Cajon Creek Habitat Conservation Management Area, to offset impacts to suitable SBKR habitat (including designated Critical Habitat) associated with the construction of SR-210 (Linton, Michael of Vulcan Materials Company, Personal Communication via e-mail, October 10, 2012, included as Appendix G). These credits included the offset of 29.2 acres of impact to the proposed project area.

Of the total 41.2 acres of SBKR Critical Habitat within proposed project footprint, approximately 29.2 acres occur in the area that was impacted by the construction of SR-210 (Figures 4-4 and 4-5; LSA 2005). Therefore, 29.2 acres of the 41.2 acres of designated SBKR Critical Habitat within the proposed project footprint have already been fully mitigated.

In addition, the Biological Opinion dated February 24, 2012 for the City of Rialto Pepper Avenue Extension project states that eight (8) credits (8 acres of habitat credits) were purchased on April 13, 2010 from the Vulcan Bank, to offset impacts to suitable SBKR habitat (including designated Critical Habitat). Of this, 1.5 acre occurs within the proposed project footprint and have already been fully mitigated through this purchase of credits. Therefore; for the purpose of the project, this 1.5 acre has been considered developed and was not considered as an impact to suitable SBKR Critical Habitat.

Impacts to the remaining undeveloped 8.70 acres of designated SBKR Critical Habitat are proposed to be mitigated in the Vulcan Bank or other approved SBKR bank at a 2:1 ratio (17.4 acres). Additionally, in order to protect SBKR from potential impacts associated with construction and operation of the eastbound off-ramp facility, Measure **M-12** will be implemented. Final mitigation for this species will be determined through Section 7 consultation with USFWS.

#### **4.3.1.5. CUMULATIVE IMPACTS**

Projects proposed for and occurring within the regional vicinity would cause habitat fragmentation of existing RAFSS, thereby reducing the amount of suitable habitat available for

and occupied by SBKR. Road projects in the vicinity would increase the amount of vehicles traversing the region, potentially increasing mortality of individuals of SBKR, fragmenting suitable occupied habitat, and decreasing habitat quality. In addition, planned projects would contribute to the loss of live-in Designated Critical Habitat. The proposed project would potentially contribute to the cumulative loss of federally Designated SBKR Critical Habitat, however due to the negative trapping results and poor quality of habitat within Critical Habitat in the BSA, the proposed project would not contribute to cumulative impacts.

#### **4.4. Nonlisted Special-Status Animals**

There are 39 nonlisted special-status animals known to occur within the regional vicinity that were evaluated for the proposed project. Nonlisted special-status animals are those that are state species of special concern or are tracked by the CNDDDB. Only those species that are a state species of special concern are discussed in this section.

The BSA provides suitable habitat for 15 animal species that are species of special concern. These are Orangethroat Whiptail (*Aspidocelis hyperythra*), Coast Horned Lizard (*Phrynosoma blainvillii*), Burrowing Owl, Loggerhead Shrike, Pallid Bat (*Antrozous pallidus*), Western Mastiff Bat (*Eumops perotis*), Western Yellow Bat (*Lasiurus xanthinus*), Pocketed Free-tailed Bat (*Nyctinomops femorosaccus*), Northwestern San Diego Pocket Mouse, Pallid San Diego Pocket Mouse (*Chaetodipus fallax pallidus*), Los Angeles Pocket Mouse, Southern Grasshopper Mouse (*Oncychomys torridus ramona*), San Diego Desert Woodrat, San Diego Black-tailed Jackrabbit, and American Badger (*Taxidea taxus*). The following sections provide the results of the habitat evaluations, focused survey work, and relevant regulatory analysis.

##### **4.4.1. Orangethroat Whiptail**

This species is a state species of special concern. It can be found adjacent to floodplains or stream terraces with open sage scrub or chaparral communities.

###### **4.4.1.1. SURVEY RESULTS**

Suitable habitat for the Orangethroat Whiptail is present within the approximately 37.22 acres of revegetated RSS, RAFSS, and Disturbed RAFSS in the BSA. This species was observed during the initial reconnaissance survey.

###### **4.4.1.2. AVOIDANCE AND MINIMIZATION**

Measures **M-1** through **M-11** in Appendix F would provide protection to potential Orangethroat Whiptail habitat adjacent to the project limits.

#### **4.4.1.3. PROJECT IMPACTS**

Approximately 18.98 acres of suitable habitat RSS for Orangethroat Whiptail would be removed during construction activities. The RSS that would be removed is low quality habitat. There is a potential for indirect impacts to suitable RAFSS habitat adjacent to the project footprint during construction; however, the implementation of measures **M-1** through **M-10** in Appendix F would ensure no indirect impacts would occur.

#### **4.4.1.4. COMPENSATORY MITIGATION**

No compensation is necessary.

#### **4.4.1.5. CUMULATIVE IMPACTS**

The proposed project is expected to remove 18.98 acres of low quality suitable RSS habitat and has the potential to impact a limited number of Orangethroat Whiptail. This species is common regionally where suitable habitat is present. Because only low quality habitat is proposed for removal, the project is not expected to contribute to cumulative impacts.

### **4.4.2. Coast Horned Lizard**

The Coast Horned Lizard is a state species of special concern. This species inhabits RSS and chaparral habitats with loose, sandy soils and an abundance of native ants.

#### **4.4.2.1. SURVEY RESULTS**

Suitable habitat for the Coast Horned Lizard is present within an estimated 37.22 acres of revegetated RSS, RAFSS, and Disturbed RAFSS in the BSA.

#### **4.4.2.2. AVOIDANCE AND MINIMIZATION**

Measures **M-1** through **M-11** in Appendix F would provide protection to potential Coast Horned Lizard habitat adjacent to the project limits.

#### **4.4.2.3. PROJECT IMPACTS**

Approximately 18.98 acres of low quality suitable habitat for Coast Horned Lizard would be removed during construction activities. The RSS in the study area is revegetated and soils are highly compacted; thus, habitat is low quality. There is a potential for indirect impacts in the form of fire and introduction of invasive plants to RAFSS habitat adjacent to the project limits during construction; however, the implementation of measures **M-1** through **M-10** in Appendix F would minimize these effects.

#### **4.4.2.4. COMPENSATORY MITIGATION**

No compensation is necessary.

#### **4.4.2.5. CUMULATIVE IMPACTS**

The proposed project is expected to remove 18.98 acres of low quality suitable habitat and has the potential to impact a limited number of Coast Horned Lizards. This species is common regionally where suitable habitat and food resources are present. Because only low quality habitat is proposed for removal, the project is not expected to contribute to cumulative impacts.

#### **4.4.3. Northern Harrier**

The Northern Harrier is a state species of special concern that breeds in freshwater marshes and wet meadows. This species forages over open lands with low grasses and shrubs.

##### **4.4.3.1. SURVEY RESULTS**

A Northern Harrier was incidentally observed flying over the BSA. Within the BSA, there is approximately 44.63 acres of suitable foraging habitat as Nonnative Grasslands, Ruderal/Disturbed lands, and revegetated RSS. The BSA does not provide suitable nesting sites; therefore, there is no potential for the species to breed within the BSA.

##### **4.4.3.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Since Northern Harrier is only expected to occur as a forager/migrant, measures **M-2** through **M-10** in Appendix F would reduce the loss of potential foraging habitat adjacent to the project limits.

##### **4.4.3.3. PROJECT IMPACTS**

The proposed project would remove approximately 26.12 acres of suitable foraging habitat for Northern Harrier. There is no potential for this species to use the BSA for nesting; therefore, no impacts to a nesting raptor would occur. Potential indirect effects to foraging habitat adjacent to the project limits include noise and dust that could deter the raptor from foraging near the project limits. Construction activities could also introduce nonnative invasive species and increase the risk of fire to adjacent lands, further reducing quality of suitable foraging habitat. The measures identified above would ensure no indirect impacts would affect suitable foraging habitat for Northern Harrier adjacent to the project limits.

##### **4.4.3.4. COMPENSATORY MITIGATION**

No compensation would be required.

##### **4.4.3.5. CUMULATIVE EFFECTS**

The proposed project would remove approximately 26.12 acres of suitable foraging habitat. Developments in the regional vicinity are affecting the amount of foraging habitat available to raptors in the region. While some raptors, such as Red-tailed Hawks (*Buteo jamaicensis*), are tolerant of disturbances from humans and development, the loss of foraging habitat regionally is

a notable loss for these species. As described in Section 4.1.3.5, raptor foraging habitat is rapidly declining from development, however the loss of 26.12 acres of raptor foraging habitat would not be considered substantial due to the existing availability of foraging habitat in the region. Therefore, the proposed project would not make a cumulatively considerable contribution to the loss of raptor foraging habitat.

#### **4.4.4. Burrowing Owl**

Burrowing Owl is a state species of special concern that inhabits open grasslands and shrublands where shrub cover is less than 30% (CBOC 1993). This owl occupies burrows created by burrowing mammals (i.e., California Ground Squirrel [*Spermophilus beechyi*]), but it can also be found within man-made features (i.e., debris piles, banks of basins, open pipes).

##### **4.4.4.1. SURVEY RESULTS**

A habitat assessment was conducted for Burrowing Owl within the study area, and 44.63 acres of suitable habitat exist within Nonnative Grassland, RSS, and Ruderal/Disturbed habitat within the BSA. A sparse concentration of California Ground Squirrel burrows was located throughout the Nonnative Grassland and Ruderal/Disturbed habitat along the eastern and southern edges of the BSA. There is also a potential for Burrowing Owl to forage within open lands within the project footprint and surrounding area. Quality of the habitat is low to moderate based on percent cover of vegetation, disturbances in the study area, and presence of suitable prey.

The focused survey was performed in July and August of 2011. Figure 4-6 depicts the Burrowing Owl focused survey area and suitable habitat areas for Burrowing Owl. No Burrowing Owls were detected during the focused survey effort or incidentally during other survey efforts. In addition, no sign (i.e., white wash, pellets, and scat) was found within the survey area. Although Burrowing Owl was not present within the study area in 2011, this species is highly mobile and could migrate to the project site during any time of the year.

##### **4.4.4.2. AVOIDANCE/MINIMIZATION EFFORTS**

Implementation of measures **M-2** through **M-10** in Appendix F would minimize potential impacts to Burrowing Owl occurring adjacent to the project limits. Measures **M-13** through **M-15** in Appendix F would ensure there is no direct mortality to any owls that may migrate to the project site or study area prior to construction.

##### **4.4.4.3. PROJECT IMPACTS**

The proposed project would remove approximately 26.12 acres of suitable habitat that could be used for nesting or foraging by Burrowing Owl. Removal of low quality habitat within Ruderal/Disturbed lands in the project limits would have minimal impact on Burrowing Owl

because this area is already heavily disturbed, and the BSA was not determined to be occupied during the 2011 focused surveys.

No direct impacts to Burrowing Owl are anticipated based on their absence during the 2011 focused surveys; however, Burrowing Owl are highly mobile and can occur within suitable habitat any time of the year. Measures **M-13** through **M-15** in Appendix F would ensure no direct mortality of Burrowing Owl would occur if the species occupies the BSA prior to construction activities.

There is a potential for indirect impacts to suitable foraging habitat for Burrowing Owl adjacent to the project limits. These include spread of invasive plant species, increased fire risk during construction, and noise deterring Burrowing Owls from foraging adjacent to the project footprint. With the implementation of measures **M-2** through **M-10** in Appendix F, these potential impacts would be greatly reduced.

#### **4.4.4.4. COMPENSATORY MITIGATION**

No compensation is necessary.

#### **4.4.4.5. CUMULATIVE EFFECTS**

The proposed project would remove 26.12 acres of potential Burrowing Owl habitat that could be used as nesting or foraging habitat. As this species has been in sharp decline over the past decade regionally, a loss of suitable habitat in the region could potentially contribute to the regional decline of the species. However, because specific measures have been incorporated to ensure that direct mortality does not occur, it is anticipated that the proposed project would not substantially contribute to cumulative effects to Burrowing Owl.

#### **4.4.5. Loggerhead Shrike**

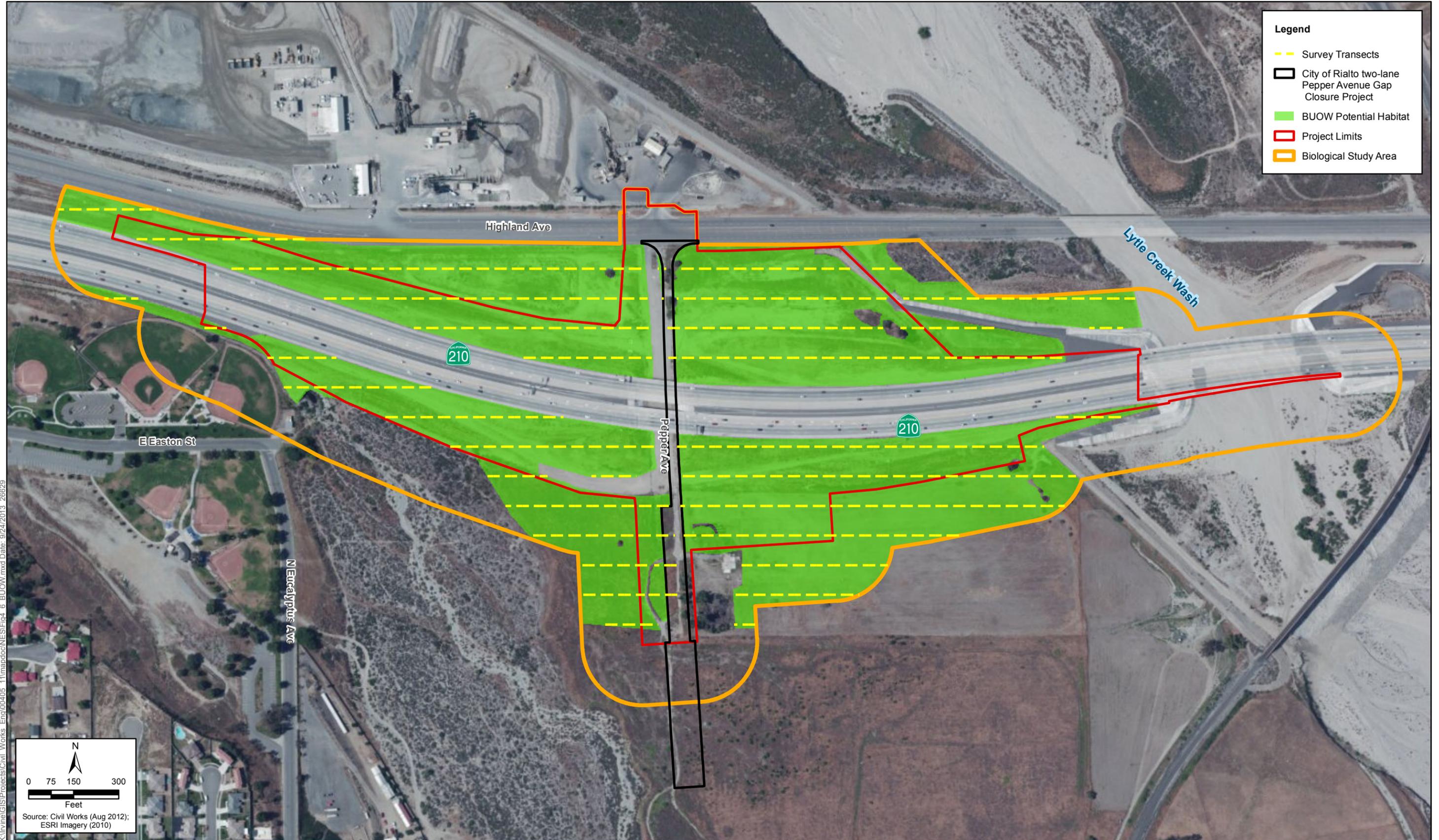
The Loggerhead Shrike is a state species of special concern. This species occurs within lowland and foothill areas of California and is often seen in open areas with sparse trees or shrubs.

##### **4.4.5.1. SURVEY RESULTS**

There is no suitable nesting habitat within the BSA for Loggerhead Shrike; however, this species was observed foraging within the BSA. Suitable foraging habitat is present within 31.85 acres of revegetated RSS and Nonnative Grassland.

##### **4.4.5.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Measures **M-2** through **M-10** in Appendix F would reduce potential impacts to foraging areas for this species.



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**Figure 4-6**  
**Burrowing Owl Focused Survey**  
**State Route 210/Pepper Avenue New Interchange Project**



#### **4.4.5.3. PROJECT IMPACTS**

The proposed project would remove approximately 19.57 acres of suitable foraging habitat. This habitat is of low quality based on its location adjacent to the SR-210 and previous disturbances within the ROW. No individuals would be impacted by the proposed project based on absence of suitable nesting habitat and the ability of the species to flee to avoid construction equipment. Any potential indirect effects from the long-term operation of the new interchange are not expected to increase substantially from existing conditions. There is also a potential for indirect effects to occur to potential foraging habitat adjacent to the disturbance limits during construction; however, these impacts would be temporary and would be greatly minimized and/or avoided with the implementation of the measures **M-2** through **M-10** in Appendix F.

#### **4.4.5.4. COMPENSATORY MITIGATION**

No compensation would be necessary.

#### **4.4.5.5. CUMULATIVE EFFECTS**

As stated above, the proposed project would remove 19.57 acres of low quality foraging habitat. Because this species is common regionally and habitat suitability is low, no cumulatively considerable contribution is present. These findings acknowledge that past and future projects will remove potential habitat for the Loggerhead Shrike.

#### **4.4.6. Special-Status Bats**

This section addresses potential impacts to Pallid Bat, Western Mastiff Bat, Western Yellow Bat, and Pocketed Free-tailed Bat, all of which are state species of special concern.

##### **4.4.6.1. SURVEY RESULTS**

There is a potential for the proposed project to provide suitable roosting and foraging habitat for four special-status bat species (Pallid Bat, Western Mastiff Bat, Western Yellow Bat, and Pocketed Free-tailed Bat). There is approximately 53.39 acres of potential habitat (Ruderal/Disturbed, Ornamental, Nonnative Grassland, Nonnative Grassland/Sambucus Woodland, revegetated RSS, and Disturbed RAFSS) that could be used for foraging. No roost sites were noted during any of the survey work; however, there is potential for bats to roost within ornamental mature trees and fan palms (approximately 0.94 acres), and under/within the existing SR-210 undercrossing structures (including the existing Pepper Avenue ROW and Lytle Creek Wash). The areas underneath the SR-210 undercrossing structures were specifically checked for roosting bat sign during the June 16, 2011, initial reconnaissance survey, and none was found. No bats or sign were observed during any of the biological studies.

**4.4.6.2. AVOIDANCE AND MINIMIZATION EFFORTS**

Measure **M-17** in Appendix F would ensure that no direct take to special-status bat species would occur. Additionally measures **M-2** through **M-10** in Appendix F would also provide protection to potential bat habitat adjacent to the project footprint during construction.

**4.4.6.3. PROJECT IMPACTS**

Up to 26.55 acres of potentially suitable foraging habitat for special-status bats would be removed by the proposed project. Potential foraging habitat within the project limits is judged low quality. During construction, there is a potential for temporary indirect effects to occur from construction, noise, dust, etc., that could cause degradation of potential habitat. These effects are expected to potentially affect only a few individuals given the existing disturbance levels from SR-210. Additionally, the four species of special-status bats with potential to occur within the BSA are relatively common within the region, and the number of individuals that could potentially forage in the BSA is expected to be low. Potential temporary indirect effects to special-status bats would be avoided through the implementation of Measures **M-2** through **M-10** and **M-17**.

The proposed project would remove up to 0.35 acre of trees that could potentially be used for roosting. In addition, improvements to the undercrossing structures would discourage bats from roosting within the SR-210 undercrossing structures.

**4.4.6.4. COMPENSATORY MITIGATION**

No compensation is necessary.

**4.4.6.5. CUMULATIVE EFFECTS**

As previously stated, the proposed project would remove up to 26.55 acres of suitable foraging habitat for four special-status species of bats. Only a small amount (0.35 acre) provides potential roosting habitat for special-status bat species. Based on the presence of low quality foraging habitat, limited roosting possibilities, the project's adjacency to a highly traveled highway, and current land uses, the number of individuals potentially affected by the project is expected to be low. Overall, the proposed project would not make a cumulatively considerable contribution to the regional decline of special-status bats given the degraded condition of existing potential foraging habitat, the limited number of individuals expected to be affected, and the relatively common status of each species in the region. These findings considered that potential foraging habitat has been removed by past projects and that the proposed cumulative projects would remove additional potential habitat.

**4.4.7. Terrestrial Mammals**

This section addresses potential effects on Los Angeles Pocket Mouse, Northwestern San Diego Pocket Mouse, Southern Grasshopper Mouse, San Diego Desert Woodrat, San Diego Black-tailed Jackrabbit, and American Badger. These species are state species of special concern.

**4.4.7.1. SURVEY RESULTS**

Suitable habitat for six special-status terrestrial mammals is present within the BSA. Approximately 53.79 acres within revegetated RSS, RAFSS, Disturbed RAFSS, Nonnative Grassland, and Ruderal/Disturbed areas are suitable for terrestrial mammals. Soils within portions of the project footprint are highly compacted and have limited ability to support a few individuals of small burrowing mammal species. San Diego Pocket Mouse, Los Angeles Pocket Mouse, and San Diego Desert Woodrat were nonlisted special-status species caught during the July 2012 small mammal trapping effort. The San Diego Black-tailed Jackrabbit was incidentally observed within the BSA during survey work.

San Diego Pocket Mouse, Los Angeles Pocket Mouse, and San Diego Desert Woodrat were caught during the SBKR focused survey. Table 4-5 below summarizes the number of individuals caught per species.

**Table 4-5. Summary of Mammals Caught during Small Mammal Trapping Efforts**

Species	Minimum Number Known to be Alive	Date Observed
Deer mouse	45	2012
	28	2013
Desert Cottontail	1	2012
	0	2013
Harvest Mouse	2	2012
	0	2013
Agile Kangaroo Rat	6	2012
	5	2013
San Diego Pocket Mouse*	13	2012
	12	2013
California Vole	1	2012
	0	2013
San Diego Desert Woodrat*	1	2012
	1	2013

***[Wildlife location information not included for the protection of sensitive species.]***

still widespread throughout the region and habitat proposed for removal is low quality, the proposed project is not expected to substantially contribute to cumulative impacts.

## **4.5. Invasive Species**

Seeds of invasive species can be transported to new areas through a variety of mechanisms including vehicles and animals. Recurring fires can encourage the establishment of invasive species; so can some forms of routine land maintenance (e.g., discing). The impact invasive species have on southern California native vegetation communities and the plants and animals that reside within these areas are in some circumstances catastrophic. Because of this, there is a need to identify and recommend measures for ground disturbing projects that would reduce and/or avoid further transport of invasive species into natural open space areas.

### **4.5.1. Survey Results**

Over 25 invasive plant species were identified within the study area. These are Oat, Fivehorn Smotherweed, Ripgut Grass, Downy Chess, Tocalote, Bermuda Grass, Redstem Filaree, Rattail Sixweeks Grass, Rye Grass, Shortpod Mustard, Wall Barley, Smooth Cat's-ear, Sweet Alyssum, Horehound, California Burclover, Tree Tobacco, Crimson Fountain Grass, English Plantain, Annual Beard Grass, Castorbean, Russian Thistle, Common Mediterranean Grass, London Rocket, Smilo Grass, Saltcedar, Woolly Mullein, and Mexican Fan Palm. These species are classified as exotic pest plants by the California Invasive Plant Council (Cal-IPC 2006) and thus are known to invade natural open space areas and degrade native ecosystems.

### **4.5.2. Avoidance and Minimization**

The proposed project is expected to disturb the ground and remove both nonnative vegetation and native vegetation. To ensure the proposed project does not promote the introduction of invasive species to the remaining open space within the BSA, the following minimization measures included in Appendix F would apply: **M-1**, **M-3**, and **M-6** through **M-11** in Appendix F.

### **4.5.3. Project Impacts**

The proposed project would remove approximately 26.55 acres of undeveloped lands, of which a portion would remain undeveloped to serve as a shoulder and/or maintenance buffer. During construction activities, construction vehicles may transport invasive plant species from past work sites to the study area, or between work areas within the study area. Post-construction bare ground can serve as a breeding ground for invasive plant species. The potential for adverse effects to natural open spaces from the introduction of invasive species is a possibility, and potential impacts could be severe. With the implementation of the minimization and avoidance

measures provided above and included in Appendix F, any potential indirect impacts from the introduction of invasive species during construction is expected to have minimal effects on biological resources.

#### **4.5.4. Compensatory Measures**

No compensation is necessary.

#### **4.5.5. Cumulative Impacts**

With the implementation of the avoidance and minimization measures in Section 4.5.2 and included in Appendix F, the proposed project is found not to make a cumulatively considerable contribution to the introduction and/or establishment of invasive species to natural open space within the BSA and vicinity.

# Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

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## 5.1. Federal Endangered Species Act Consultation Summary

There is one federally listed animal present within the BSA: SBKR. No suitable habitat would be removed by the proposed project; however, approximately 26.0 acres of Designated Critical Habitat (Unit 2) would be impacted. While no direct impacts to SBKR would occur, there is a potential for indirect impacts to individuals within RAFSS habitat adjacent to the project limits; however, with the implementation of measures **M-1** through **M-10 and M-12**, listed in Appendix F, these impacts would be avoided and/or minimized. There is a potential for mortality of a few individuals during construction due to ground shaking potentially collapsing a few burrows. Since there is a potential for mortality and the BSA occurs within Designated Critical Habitat, consultation with USFWS under Section 7 of the ESA would be necessary for the construction of the proposed project. However, since federally Designated Critical Habitat would be removed, the creation and/or preservation of lands suitable for SBKR will be required. As part of its review of the proposed project, USFWS requested confirmation that mitigation for impacts to SBKR suitable habitat within the proposed project footprint but related to the construction of SR-210 had occurred. Therefore, on-going coordination between SANBAG, Caltrans, and USFWS took place throughout September and October 2012 to determine whether impacts to SBKR suitable habitat related to the previous SR-210 construction activities had been included in previous mitigation. On October 11, 2012, SANBAG provided a receipt for the purchase of 130 credits by Caltrans on February 9, 2000 from the Vulcan Materials Company Cajon Creek Habitat Conservation Management Area, to offset impacts to suitable SBKR habitat (including designated Critical Habitat) associated with the construction of SR-210 (Linton, Michael of Vulcan Materials Company, Personal Communication via e-mail, October 10, 2012, included as Appendix G). These credits included the offset of 29.2 acres of impact to the proposed project area.

Of the total 41.2 acres of designated SBKR Critical Habitat within the proposed project footprint, approximately 29.2 acres occur within the area affected by the construction of SR-210 (Figures 4-4 and 4-5; LSA 2005). Therefore, 29.2 acres of the 41.2 acres of designated SBKR Critical Habitat within the proposed project footprint have been fully mitigated. Impacts to the remaining undeveloped 8.70 acres of Designated SBKR Critical Habitat are proposed to be mitigated in the Vulcan Bank or other approved SBKR bank at a 2:1 ratio (17.4 acres). Additionally, in order to

protect SBKR from potential impacts associated with construction and operation of the eastbound off-ramp facility, Measure **M-12** will be implemented. Final mitigation for this species will be determined through Section 7 consultation with USFWS.

In addition, one federally listed plant was found present within the BSA: Santa Ana River Woollystar. All of the Santa Ana River Woollystar individuals found within the BSA occurred outside of the project limits; thus, the Build Alternative would not directly remove this species. A potential for indirect impacts remains to a population of Santa Ana River Woollystar within Lytle Creek Wash and the tributary to the wash located within the southwestern quadrant of the BSA; however, these impacts would be avoided and/or minimized with the implementation of measures **M-1** through **M-11** listed in Appendix F.

## **5.2. Migratory Bird Treaty Act**

There are many species of native birds and raptors that are expected to occur within the BSA. Most of these species lack special status, but all are protected under the MBTA. Measures **M-13** through **M-16** (Appendix F) ensure compliance with MBTA. No further action is necessary.

## **5.3. California Endangered Species Act Consultation Summary**

The proposed project would directly remove up to 26.12 acres of habitat that is currently occupied by San Diego Pocket Mouse, Los Angeles Pocket Mouse, San Diego Desert Woodrat, and San Diego Black-tailed Jackrabbit. The Northern Harrier and Loggerhead Shrike were also noted foraging over the BSA. However, these species all hold the status of California species of special concern, and no state listed species were identified within the proposed project footprint. The state Endangered Santa Ana River Woollystar was noted within the BSA during 2011 and 2012 survey efforts; however, through the implementation of measures **M-1** through **M-12** in Appendix F, indirect impacts to this species are not expected to occur as a result of the construction of the proposed project. Therefore, the need for a 2080.1 or 2081 Incidental Take Permit is not expected.

## **5.4. California Fish & Game Code [3503, 3503.5, 3505. 3800, and 3801.6]**

There are many species of native birds and raptors that are expected to occur within the BSA. Most of these species lack special status, but all are protected under the MBTA. Measures **M-13** through **M-16** (Appendix F) ensure compliance with MBTA. No further action is necessary.

## **5.5. Wetlands and Other Waters Coordination Summary**

Project-related impacts on WoUS would require permitting under Section 404 of the CWA, likely in the form of a non-notifying Nationwide Permit, since impacts to WoUS are less than 0.10 acre. No wetlands are proposed to be impacted. The fill of WoUS would also trigger the need for a Section 401 Certification, issued by the RWQCB. Acquisition of these permits would ensure compliance with CWA (Section 401 and 404) and Executive Order 11990. A streambed Alteration Agreement, as regulated by Section 1602 of the California Fish and Game Code, would be required for proposed project impacts of 0.005 acre to CDFW unvegetated streambed. Coordination with USACE, the RWQCB, or CDFW has not occurred to date.

## **5.6. Invasive Species (Executive Order 13112)**

Measures **M-2**, **M-3**, and **M-6** through **M-11** provided in Appendix F ensure compliance with federal Executive Order 13112. No further action is necessary.

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## Appendix A Project Photographs

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Photo #1  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: North  
Note: View of culvert at east end of Drainage 1.



Photo #2  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: East  
Note: View of Drainage 1.



Photo #3  
Photo Date: June 17, 2011  
Location: East edge of BSA  
Direction: East  
Note: View of RAFSS community.



Photo #4  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: Southeast  
Note: View of riprap in outfall structure of Drainage 2.



Photo #5  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: East  
Note: View of riprap in outfall structure of Drainage 2 and Sample Point 1.



Photo #6  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: Northwest  
Note: View of concrete outfall structure of Drainage 2.



Photo #7  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: Northwest  
Note: View of wetland in Drainage 2 and Sample Point 2.



Photo #8  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: Southeast  
Note: View of wetland area of Drainage 2.



Photo #9  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: n/a  
Note: View of concrete structure in ROW.



Photo #10

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: South

Note: Ruderal/Disturbed habitat.



Photo #11

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: Ruderal/Disturbed habitat.



Photo #12

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: South

Note: View of depression within upland area.



Photo #13

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: View of a swale near southern edge of Pepper Avenue.



Photo #14

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: View of Ornaments in disturbed area.



Photo #15

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: West

Note: View of Ornaments in disturbed area.



Photo #16

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction:

Note: View of Drainage 3.



Photo #17

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: Northwest

Note: View of culvert at Drainage 3.



Photo #18

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: View of Drainage 3.



Photo #19

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: Southeast

Note: View of Drainage 3.



Photo #20

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: Southeast

Note: View of Mulefat Scrub (just outside of BSA) within Lytle Creek Wash



Photo #21

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: Northwest

Note: Lytle Creek Wash.



Photo #22

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: Northwest

Note: View of intake structure west of Basin 1.



Photo #23

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: West

Note: Overview of Basin 1.



Photo #24

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: West

Note: View of Basin 1 and Sample Point 3.



Photo #25

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: View of Sample Point 2 in Basin 1.



Photo #26

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: South

Note: View of culvert on the southwestern edge of Basin 2.



Photo #27

Photo Date: May 4, 2012

Location: Refer to Figure 4-1

Direction: East

Note: View of Basin 2.



Photo #28  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: Southeast  
Note: View of Sample Point 5 in Basin 2.



Photo #29  
Photo Date: May 4, 2012  
Location: Refer to Figure 4-1  
Direction: North  
Note: View of Lytle Creek Wash and the Disturbed RAFSS community. Note anthropogenic disturbances in wash (i.e., tire tracks from OHV's).



Photo #30  
Photo Date: June 17, 2011  
Location: SW of interchange.  
Direction: East  
Note: View of Ruderal/Disturbed area of existing ROW.



Photo #31

Photo Date: June 17, 2011

Location: West of Pepper/South of SR-210

Direction: Northwest

Note: Nonnative grassland within BSA.



Photo #32

Photo Date: June 17, 2011

Location: Southern edge of Pepper Avenue.

Direction: North

Note: View of existing dirt road on Pepper Avenue.



Photo #33

Photo Date: June 17, 2011

Location: East of Pepper Avenue/South of SR-210.

Direction: Northwest

Note: Ruderal/Disturbed field.



Photo #34

Photo Date: June 17, 2011

Location: West of Lytle Creek Wash.

Direction: East

Note: Disturbed RAFSS within Lytle Creek Wash.



Photo #35

Photo Date: June 17, 2011

Location: South of Highland Avenue/East of Pepper Avenue.

Direction: Northwest

Note: Ruderal/Disturbed habitat south of Highland Avenue.



Photo #36

Photo Date: June 17, 2011

Location: Pepper Avenue/Highland Avenue

Direction: South

Note: View of existing Pepper Avenue.



Photo #37

Photo Date: June 17, 2011

Location: North of SR-210/West of Pepper Avenue

Direction: West

Note: View of revegetated RSS along ROW.



Appendix B Likelihood of Occurrence for  
Special-Status Plants, Special-  
Status Animals, and Depleting  
Natural Communities

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COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
<b>PLANTS</b>				
Parish's Oxytheca ( <i>Acanthoscyphus parishii</i> var. <i>parishii</i> )	-/-/4.2	An annual herb found in sandy and gravelly soils within Chaparral and Lower Montane Coniferous Forests. The blooming period occurs from June to September. This species is found from 3675 to 8530 feet.	HA	The project occurs well outside of the species known elevation range. In addition, no suitable habitat is present within the 200-ft buffer. The project footprint along with the 200-ft buffer has been identified as the Biological Study Area (BSA). This species does not have a potential to occur, thus no further action is necessary.
Parish's Onion ( <i>Allium parishii</i> )	-/-/4.3	A perennial herb found within Joshua Tree Woodland, Mojavean Desert Scrub, and Pinyon-Juniper Woodland. The species occurs from 2953 to 4806 feet and blooms in April and May.	HA	The project occurs well outside of the species known elevation range. In addition, no suitable habitat is present within the BSA. This species does not have a potential to occur, thus no further action is necessary.
<b>Singlewhorl Burrobrush</b> ( <i>Ambrosia monogyra</i> )	-/-/2.2	This perennial shrub is found in sandy substrate within Chaparral and Sonoran Desert Scrub habitats between 33 and 1,640 feet (ft). The blooming period is August to November.	HA	This species is known to occur within sandy substrate and the project areas falls within the appropriate elevation range, however no Chaparral or other suitable vegetation community is present to support this species. No focused survey effort is required and no further action is necessary.
California Androsace ( <i>Androsace elongata</i> ssp. <i>acuta</i> )	-/-/4,2	Species found within a variety of habitats including Chaparral, Cismontane Woodland, Coastal Sage Scrub, Meadows and Seeps, Pinyon-juniper Woodland, and Valley and Foothill Grasslands at elevations from 492 to 3,937 ft. Species blooming period is from March to June.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
Marsh Sandwort ( <i>Arenaria paludicola</i> )	E/E/1B.1	This perennial stoloniferous herb can be found in Freshwater or Brackish Marsh habitat in sandy substrate between 9 and 510 ft. The blooming period is May to August.	HA	There are no marsh habitats present in the study area. This species has no potential to occur. No focused survey effort is required and no further action is necessary.
Mojave Milkweed ( <i>Asclepias nyctaginifolia</i> )	-/- 2.1	This perennial herb can be found in Pinyon-Juniper Woodland and Mojavean Desert Scrub between 3,281 and 5,577 ft. The blooming period is May to June.	HA	No suitable habitat is present to support this species and the project area is outside of the species geographic and elevation range. This species has no potential to occur. No focused survey effort is required and no further action is necessary.
Western Spleenwort ( <i>Asplenium vespertinum</i> )	-/-4.2	This perennial rhizomatous herb can be found in Chaparral, Cismontane Woodland, and Coastal Scrub with rocky soils. The species occurs at elevations from 590 to 3280 feet. The blooming period is from February to June.	HA	No suitable habitat is present within the BSA. Thus, this species is not expected to occur.
Horn's Milk-vetch ( <i>Astragalus hornii</i> var. <i>hornii</i> )	-/-1B.1	This annual herb can be found in Alkali Sink, Wetland-Riparian, Meadows, Lake Margins and Seeps between 196 and 492 ft. The blooming period is May to October.	HA	There is no suitable wetland or riparian habitat within the study area and the project occurs outside of the species known elevation range. This species has no potential to occur. No focused survey effort is required and no further action is necessary.
Mexican Mosquito Fern ( <i>Azolla microphylla</i> )	-/-4.2	This species is an herb that occurs within ponded areas such as Marshes and Swamps at elevations from 98-328. This species blooms in August.	HA	No suitable habitat is present within the BSA and the project site occurs outside of the species known elevation range. This species does not have the potential to occur.
Nevin's Barberry	E/E/1B.1	This evergreen shrub is found on steep north facing slopes or in low-	HPB	Riversidean alluvial fan sage scrub associated with wash

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
<i>(Berberis nevini)</i>		grade sandy washes in Chaparral, Coastal Sage Scrub, Riparian Scrub, and Cismontane Woodland from 968 to 2,700 ft. The blooming period is March to June.		habitat is located within the 200-ft. buffer and this species is known to occur within the elevation range found at the project site; however, there is low potential for this species to occur within the BSA. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
<b>Thread-leaved Brodiaea</b> <b>(<i>Brodiaea filifolia</i>)</b>	T/E/1B.1	This perennial bulbiferous herb is found in heavy clay soils in Coastal Sage Scrub, Chaparral, Cismontane Sodland, and Vernal Pools from 1,575 to 4,000 ft. The blooming period is March to June.	HA	Although the study area has coastal sage scrub habitat, this species requires heavy clay soils or vernal pool conditions to persist. Since these conditions are absent from the study area, this species is not expected to occur. No focused survey effort is required and no further action is necessary.
Palmer's Mariposa lily <i>(Calochortus palmeri</i> var. <i>palmeri)</i>	-/-1B.2	This perennial bulbiferous herb can be found in Chaparral, Lower montane coniferous forest, Meadows, and Seep habitats between 3,000 and 7,170 ft. The blooming period is April to July.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
<b>Plummer's Mariposa Lily</b> <b>(<i>Calochortus plummerae</i>)</b>	-/-1B.2	This perennial bulbiferous herb can be found on rocky and sandy areas with granitic or alluvial material in Coastal Sage Scrub, Chaparral, and Valley and Foothill Grasslands from 295 to 5,280 ft. The blooming period is May to July. Species is tolerant of some disturbances, especially fire.	HPB	This species is known to occur within the elevation range found at the project site, and Riversidean alluvial fan sage scrub is located within the 200-ft buffer, yet is subject to frequent hydrologic disturbance. This species has low potential to occur. This species was not observed during focused rare plant

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
				surveys that were conducted during the 2012 rare plant blooming season.
Booth's Evening-primrose ( <i>Camissonia boothii</i> ssp. <i>boothii</i> )	-/-/2.3	This annual herb can be found in Joshua Tree Woodland and Pinyon – Juniper Woodland habitats between 2,700 and 7,200 ft. The blooming period is April to September.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
White Pygmy-poppy ( <i>Canbya candida</i> )	-/-/4.2	This annual herb can be found in Creosote Bush Scrub and Joshua Tree Woodland between 1,800 and 4,380 ft. The blooming period is March to June.	HA	No suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
Bristly Sedge ( <i>Carex comosa</i> )	-/-/2.1	This perennial rhizomatous herb can be found on lake margins and edges, Coastal Prairie, Marsh and Swamps, and Valley and Foothill Grassland habitats between 0 and 1,400 ft. The blooming period is May to September.	HA	No suitable riparian habitat is present on the project site. This species would not occur within the study area.
<b>San Bernardino Mountains Owl's-clover</b> ( <i>Castilleja lasiorhyncha</i> )	-/-/1B.2	This annual hemi-parasitic herb can be found in Chaparral and Yellow-pine Forest habitats between 3,900 and 7,170 ft. The blooming period is May to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
Mojave Paintbrush ( <i>Castilleja plagiotoma</i> )	-/-/4.3	Found within Great Basin Scrub (alluvial), Joshua Tree Woodland, Lower Montane Coniferous Forest, and Pinyon-juniper Woodlands. Occurs from 984 to 8,202 ft and blooms from April to June.	HA	Although alluvial scrub habitat is present within the study area, the project site occurs outside of the species geographical range. There is no potential for this species to occur.
<b>Smooth Tarplant</b> ( <i>Centromadia pungens</i> ssp. <i>laevis</i> )	-/-/1B.1	This annual herb is found in fine or alkaline soils of seasonally wet Chenopod Scrub, Meadows and Seeps, Playas, Riparian Woodland, Fallow Fields, drainage ditches, and	HP	Suitable habitat is present within Nonnative Grassland and in Ruderal/Disturbed areas. This species has moderate potential to occur

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		moist situations within Valley and Foothill grasslands below 1,575 ft. Tolerant of rural and agricultural land use. The blooming period is from April to September.		within the study area based on species' disturbance tolerance. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Salt Marsh Bird's-beak ( <i>Chloropyron maritimum</i> ssp. <i>maritimum</i> )	E/E/1B.2	This annual hemi-parasitic herb occurs within Coastal Dunes, Salt Marshes and Coastal Swamps, but has been documented inland in the San Bernardino Valley within alkaline meadows between 0 and 99 ft. The blooming period is from May to October.	HA	No suitable habitat is present to support this species and the project area occurs outside of its elevation range. No focused survey effort is required and no further action is necessary.
Parry's Spineflower ( <i>Chorizanthe parryi</i> var. <i>parryi</i> )	-/-1B.1	This annual herb is found on dry sandy soils on slopes and flats, within Coastal Sage Scrub and Chaparral habitats between 825 and 3,660 ft. The blooming period is April to June.	HPB	Within the BSA, suitable habitat occurs within Riversidean alluvial fan sage scrub and project occurs within the elevation range for the species. This species has moderate potential to occur. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
White-bracted Spineflower ( <i>Chorizanthe xanti</i> var. <i>leucotheca</i> )	-/-1B.2	This annual herb occurs in Pinyon-juniper Woodland, Mojavean Desert Scrub, and Coastal Sage Scrub (on alluvial fans) between 984 and 3,937 ft. The blooming period is April to June.	HP/HPB	Suitable habitat is present within the BSA in the Riversidean alluvial fan sage scrub and within Coastal Sage Scrub in the project area. This species was documented approximately 10 miles upstream in Lytle Creek (CNDDDB 2012), therefore there is a moderate potential for the species to occur in the study area. No suitable habitat

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
				is present within the limits of disturbance. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Peruvian Dodder ( <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> )	-/-/2.2	This species is a parasitic vine that occurs within Freshwater Marshes and Swamps from 49 to 919 ft. The blooming period occurs from July to October	HA	No suitable habitat is present for this species. This species would not occur within the study area and no further action is necessary.
Mojave Tarplant ( <i>Deinandra mohavensis</i> )	-/E/1B.3	Previously believed to be extinct in California, this annual herb was rediscovered in 1994 and is now known from fewer than ten occurrences in Riverside and San Diego counties. It blooms from July to October in Riparian Scrub (incl. Oak Woodland) and mesic Chaparral typically from about 2,785 to 5,250 ft. Microclimate includes sandy washes, seeps, and grassy swales in eroded granitic landscapes.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
Paniculate Tarplant ( <i>Deinandra paniculata</i> )	-./-4,2	This is a species adapted to vernal mesic conditions within Coastal Sage Scrub, Valley and Foothill Grasslands, and Vernal Pools. Occurs at elevations from 82 to 3084. Blooming period is from April to November.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
<b>Slender-horned Spineflower</b> ( <i>Dodecahema leptoceras</i> )	E/E/1B.1	This annual herb is found on flood deposited fine sand terraces and washes in Riversidean Alluvial Fan Sage Scrub from 656 to 2,493 ft. Also associated with Cismontane Woodland and Chaparral having suitable hydrology and fine sands, as well as areas of high disturbance. The blooming period is April to June.	HPB	Suitable Riversidean Alluvial Fan Sage Scrub habitat and elevation requirements are present within the BSA. This species has moderate potential to occur within the BSA. This species was not observed during focused rare plant surveys that were conducted during the 2012

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
				rare plant blooming season.
San Bernardino Mountains Dudleya ( <i>Dudleya abramsii</i> ssp. <i>affinis</i> )	-/-/1B.2	This perennial herb is found in Lodgepole Forest, Red Fir Forest, and Pinyon-Juniper Woodland habitats between 5,905 and 8,530 ft. The blooming period is April to June	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
<b>Santa Ana River Woollystar</b> ( <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> )	E/E/1B.1	A perennial herb known from a single extended but heavily fragmented population in Riverside and San Bernardino counties; it formerly extended into Orange County. An inhabitant of alluvial fan sage scrub in sandy to gravelly soils and typically blooms during the period of May to September. Can be found at the elevation from 450 to 2,000 ft.	P	Suitable Riversidean Alluvial Fan Sage Scrub habitat and elevation requirements are present within the 200-ft buffer. This species has high potential to occur within the 200-ft buffer and a low potential to occur within the project area. The species was detected within the 200-ft buffer. This species was observed within the 200-ft buffer during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Vanishing Wild Buckwheat ( <i>Eriogonum evanidum</i> )	-/-/1B.1	An annual herb found in sandy substrate within in Chaparral, Cismontane Woodland, Lower Montane Coniferous Forest, and Pinyon and Juniper Woodland habitat from 3,609 to 7,300 ft. The blooming period is July to October.	HA	This species is known to occur within sandy substrate, however the project areas falls outside of the appropriate elevation range and no suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
Southern Alpine Buckwheat ( <i>Eriogonum kennedyi</i> var. <i>alpigenum</i> )	-/-/1B.3	This perennial herb can be found in Subalpine Coniferous Forest, Alpine Fell-Fields, in gravelly, granitic substrate from 7,800 to 10,500 ft. The blooming period is from July to	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		September.		required and no further action is necessary.
Southern Sierra Woolly Sunflower ( <i>Eriophyllum lanatum</i> var. <i>obovatum</i> )	-/-/4.3	Occurs within Upper and Lower Montane Coniferous Forests, within sandy loam soils. The blooming period is from June to July. Found from 3,654 to 8,202 ft.	HA	No suitable habitat is present and project site occurs well outside of species elevation range. This species would not occur.
<b>Hot Springs Fimbristylis</b> ( <i>Fimbristylis thermalis</i> )	-/-/2.2	This perennial rhizomatous herb occurs in Freshwater Wetlands, Springs, and Meadows from 330 to 4,020 ft. The blooming period is from July to September.	HA	No suitable habitat is present within the study area. This species is not expected to occur.
<b>Pine Green-gentian</b> ( <i>Frasera neglecta</i> )	-/-/4.3	Found within Upper/Lower Montane Coniferous Forests and Pinyon - Juniper Woodlands. Elevation ranges from 4,593 to 8,202 feet. The blooming period is from May to July.	HA	No suitable habitat is present and the project site occurs well outside species geographical and elevation range. This species is not expected to occur.
Alvin Meadow Bedstraw ( <i>Galium californicum</i> ssp. <i>primum</i> )	-/-/1B.2	This perennial herb can be found in Chaparral and Yellow Pine Forest habitats in sandy substrate from 4,429 to 5,577 ft. The blooming period is May to June.	HA	This species is known to occur within sandy substrate, however the project area falls outside of the appropriate elevation range and no suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
Johnston's Bedstraw ( <i>Galium johnstonii</i> )	-/-/4.3	A perennial herb found in Chaparral, Pinyon-Juniper Woodland, Lower Montane Coniferous Forests, and Riparian Woodland habitats. Species occurs from 4,002 to 7,546 ft and blooms in June and July.	HA	No suitable habitat is present within the BSA, which occurs outside of species elevation range. This species would not occur.
Fremont's Gentian ( <i>Gentiana fremontii</i> )	-/-/2.3	This annual herb occurs in Red Fir Forest, Lodgepole Forest, and Wetland-riparian habitats from 7,200 to 8,100 ft. The blooming period is June	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No

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		to August.		focused survey effort is required and no further action is necessary.
Los Angeles sunflower ( <i>Helianthus nuttallii</i> ssp. <i>parishii</i> )	-/-1A	This perennial rhizomatous herb is thought to be extinct in California; the last sighting was in 1937 and is thought to have been extirpated due to urbanization. It was known to occur in Coastal Salt Marsh, Wetland-riparian, and Freshwater Marsh habitats from 30 to 5,025 ft. The blooming period was August to October.	HA	There is no suitable marsh or riparian habitat present. In addition, this species is presumed extinct in California. This species is not expected to occur within the BSA.
Urn-flowered Alumroot ( <i>Heuchera caespitosa</i> )	-/-4.3	This species occurs primarily in montane habitats, primarily Cismontane Woodland, Lower and Upper Montane Coniferous forest, and Riparian forest at elevations from 3,789 to 8,694 ft. Species blooms from May to August.	HA	Project site occurs well outside of species elevation range and no suitable habitat is present. Species is not expected to occur.
Parish's Alumroot ( <i>Heuchera parishii</i> )	-/-1B.3	Species can be found within rocky areas within Lower Montane Coniferous Forests, Subalpine Coniferous Forests, Upper Montane Coniferous Forests and Alpine Boulder and Rock Fields. The blooming period occurs from June to August and occurs from 4,921 to 12,467 ft in elevation.	HA	No suitable habitat is present within the study area and the site occurs well outside of species known elevation range. This species is not expected to occur and no further action is required.
Mesa Horkelia ( <i>Horkelia cuneata</i> ssp. <i>puberula</i> )	-/-1B.1	This perennial herb blooms from February until September. It grows in sandy and gravelly soils in Chaparral, Cismontane Woodland, or Coastal Scrub at elevations from 230 to 2,657 ft.	HPB	Coastal Sage Scrub habitat and elevation range are present within the BSA. This species has low potential to occur within the BSA. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.

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Parry's Sunflower ( <i>Hulsea vestita</i> ssp. <i>parryi</i> )	-/-/4.3	Found in granitic or carbonate, rocky, openings in Upper and Lower Montane Coniferous Forest and Pinyon-juniper Woodland. Occurs from 4,495 to 9,948 ft and blooms from April to August.	HA	No suitable habitat is present within the study area and the site occurs well outside of species known elevation range. This species is not expected to occur and no further action is required.
<b>California satintail</b> ( <i>Imperata brevifolia</i> )	-/-/2.1	This perennial herb occurs in Chaparral, Coastal Sage Scrub, Creosote Bush Scrub, Mojavean Desert Scrub, and Riparian habitats between 0 and 1,640 ft. Typically associated with mesic sites or alkali seeps. The blooming period is September to May.	HP/HPB	Suitable habitat occurs within Riversidean alluvial fan sage and Coastal Sage Scrub in the study area. This species has moderate potential to occur within the BSA.
Silver-haired Ivesia ( <i>Ivesia argyrocoma</i> var. <i>argyrocoma</i> )	-/-/1B.2	This perennial herb occurs in Upper Montane Coniferous Forest, Pebble Pavement/Plain, and Meadow habitats from 4,800 to 9,711 ft. The blooming period is June to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
Southern California Black Walnut ( <i>Juglans californica</i> )	-/-/4.2	Tree is found in Chaparral, Coastal Sage Scrub, and Cismontane Woodland at elevations from 164 to 2,953 ft. The blooming period is from March to August.	HP	There is a low potential for this species to occur in the BSA. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
<b>Duran's Rush</b> ( <i>Juncus duranii</i> )	-/-/4.3	Found within Upper and Lower Montane Coniferous Forests, and Meadows and Seeps. Occurs at elevations ranging from 5,800 to 9,199 ft with a blooming period from July to August.	HA	There is no suitable habitat within the study area and the project site does not occur within the species elevation range. This species does not have a potential to occur.
Robinson's Pepper-grass ( <i>Lepidium virginicum</i> var. <i>robinsonii</i> )	-/-/1B.2	This annual herb occurs in Chaparral and Coastal Sage Scrub habitats from 0 to 2,655 ft. The blooming period is January to July.	HP	Suitable habitat occurs within Coastal Sage Scrub in the project footprint. This species has moderate potential to occur within the study area.

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				This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Short-sepaled Lewisia ( <i>Lewisia brachycalyx</i> )	-/-/2.2	This perennial herb occurs in Yellow Pine Forest and Meadows and Seeps from 4,110 to 6,900 ft. The blooming period is February to June.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
<b>Ocellated Humboldt Lily</b> ( <i>Lilium humboldtii</i> ssp. <b>ocellatum</b> )	-/-/4.2	Found within openings of Chaparral, Cismontane Woodland, Coastal Scrub, Lower Montane Coniferous Forest, and Riparian Woodland. Species blooms from March to August and at elevations from 98 to 5,905 feet.	HP	Low quality suitable habitat is present within Riversidean Coastal Sage Scrub. There is a low potential for this species to occur based on habitat quality. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Lemon Lily ( <i>Lilium parryi</i> )	-/-/1B.2	This perennial bulbiferous herb occurs in Upper and Lower Montane Coniferous Forest, Riparian Forest, and Meadows and Seeps from 3,660 to 8,235 ft. The blooming period is July to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
<b>Parish's Desert-thorn</b> ( <i>Lycium parishii</i> )	-/-/2.3	In bloom from June to October, this perennial shrub occurs in Chenopod Scrub and Sonoran Desert Scrub, from 1,000 to 3,280 feet in elevation. It was presumed extinct until recent rediscovery in San Jacinto Valley.	HA	This species is known to occur within the elevation range found at the project site; however no suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
Parish's Bush-mallow ( <i>Malacothamnus parishii</i> )	-/-/1A	This perennial deciduous shrub is considered to be extinct in the state of California due to urbanization. It was	HPB	This species was known to occur within the elevation range found at the project site

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		known to occur in Chaparral and Coastal Sage Scrub habitats from 1,000 to 1,492 ft and the blooming period was from June to July.		and suitable Coastal Sage Scrub habitat is present in the study area; however, this species is presumed extinct in California, and was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Johnston's Monkeyflower ( <i>Mimulus johnstonii</i> )	-/-/4.3	Occurs within Lower Montane Coniferous Forests from 3,199 to 9,580 ft. The blooming period is from May to August.	HA	No suitable habitat is present and the project occurs outside of the species elevation range. This species would not occur.
Hall's Monardella ( <i>Monardella macrantha</i> ssp. <i>hallii</i> )	-/-/1B.3	This perennial herb blooms from June through August and is found in Chaparral, Cismontane Woodland, Lower Montane Conifer Forest, Broadleaved Upland Forest, and Valley/Foothill Grassland, from 2,394 to 7,200 ft.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation range. No focused survey effort is required and no further action is necessary.
Pringle's Monardella ( <i>Monardella pringlei</i> )	-/-/1A	This species has been found within sandy soils (Delhi sands) in the Jurupa Hills and has been associated with Coastal Sage Scrub habitat. The blooming period is between May and June at elevations from 984 to 1,312 feet. This species has not been observed since 1941 in the Colton area (CNPS 2008) and is believed to be extinct.	HA	This species was known to occur within the elevation range found at the project site and suitable habitat occurs within Coastal Sage Scrub. There are no Delhi sands within the study area. Since this species is presumed extinct in California it is not expected to occur within the study area.
Rock Monardella ( <i>Monardella saxicola</i> )	-/-/4.2	Found from 1,640 to 5,906 ft within Closed-cone Coniferous Forests, Chaparral, and Lower Montane Coniferous Forests. Blooming period is from June to September.	HA	Project site occurs outside specie elevation range and no suitable habitat is present. This species would not occur.
California muhly ( <i>Muhlenbergia californica</i> )	-/-/4.3	Occurs within mesic or streambank areas within Chaparral, Coastal Scrub, Lower Montane Coniferous Forests	HA	Coastal Sage Scrub habitat within the project footprint would not support this species

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		and Meadows and Seeps. The blooming period is from June to September. Occurs from 328 to 6,652 ft. Threatened by recreational activities and water diversion.		as soil moisture is not appropriate for species to persist. In addition, the sage scrub is low quality due to revegetation in the area.
Gambel's zWater Cress ( <i>Nasturtium gambelii</i> )	E/T/1B.1	This perennial herb is found in Marsh and Swamp habitat from 0 to 1,000 ft. The blooming period is April to October.	HA	There is not suitable habitat present within the project area. In addition, this species last known local occurrence was from 1935. This species is not expected to occur within the proposed project area.
Short-joint Beavertail ( <i>Opuntia basilaris</i> var. <i>brachyclada</i> )	-/1B.2	This stem succulent shrub can be found in Creosote Bush Scrub, Chaparral, Joshua Tree Woodland, and Pinyon-Juniper Woodland habitats from 1,275 to 5,400 ft. The blooming period is April to June.	HA	This species is known to occur within the elevation range found at the project site; however no suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
Beaver Dam Beadroot ( <i>Pediomelum castoreum</i> )	-/1B.2	Found within desert washes and sandy soils in Joshua Tree Woodland, and Mojavean Desert Scrub habitats. Occurs from 2,001 to 5,003 ft and blooms in April and May.	HA	Project area occurs outside of species known range within high desert area north of the San Bernardino Mountains and no suitable habitat is present. This species would not occur.
Parish's Yampah ( <i>Perideridia parishii</i> ssp. <i>parishii</i> )	-/2.2	This perennial herb occurs in Lodgepole Forest, Red Fir Forest, Yellow Pine Forest, and Wetland-riparian habitats from 4,395 to 9,000 ft. The blooming period is June to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
Mojave Phacelia ( <i>Phacelia mohavensis</i> )	-/4.3	This annual herb occurs in sandy or gravelly soils in Cismontane Woodland, Lower Montane Coniferous Forests, Meadows and Seeps, and Pinyon – Juniper Woodlands. The	HA	No suitable habitat is present within the study area and the project occurs outside of the species elevation range. This species would not occur.

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		blooming period occurs from April to August. The species occurs at high elevations from 4,593 to 8,202 ft.		
<b>Woolly Chaparral-pea</b> ( <i>Pickeringia montana</i> var. <i>tomentosa</i> )	-/-4.3	An evergreen shrub found within gabbroic, granitic or clay soils in Chaparral from sea level to 5,577 ft. The blooming period is from May to August.	HA	No Chaparral or suitable soils occur in the study area. This species would not occur.
Narrow-petaled Rein Orchid ( <i>Piperia leptopetala</i> )	-/-4.3	Occurs within Cismontane Woodland, Lower Montane Coniferous Forest, and Upper Montane Coniferous Forest from 1,247 to 7,300 ft. This perennial herb blooms from May to July.	HA	No suitable habitat is present within the study area. This species would not occur.
Parish's Gooseberry ( <i>Ribes divaricatum</i> var. <i>parishii</i> )	-/-1A	This perennial deciduous shrub is considered to be extinct in the State of California due to a combination of dry years, altered stream flows, urbanization, and invasive species. It occurred in Riparian Woodland habitats from 213 to 984 ft. The blooming period was February to April.	HA	This species was known to occur within the elevation range found at the project site; however no suitable habitat is present. This species is presumed extinct in California. No focused survey is required and no further action is necessary.
<b>Black Bog-Rush</b> ( <i>Schoenus nigricans</i> )	-/-2.2	This perennial herb occurs in alkaline Marshes and Swamps from 492 to 6,562 ft. The blooming period is August to September.	HA	There is no suitable habitat present within the BSA for this species. No focused surveys I required and no further action is necessary.
Southern Skullcap ( <i>Scutellaria bolanderi</i> ssp. <i>austromontana</i> )	-/-1B.2	This perennial rhizomatous herb is found in mesic conditions within Cismontane Woodland, Lower Montane Coniferous Forest, and Chaparral habitats from 1,394 to 6,562 ft. The blooming period is June to August. Species is believed to be extirpated from San Bernardino County,	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
Rayless Ragwort ( <i>Senecio aphanactis</i> )	-/-2.2	This annual herb is found in Chaparral, Cismontane Woodland, and Coastal	HA	This species is known to occur within the elevation range

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		Scrub (sometimes alkaline) habitats from 49 to 2,625 ft in elevation. Also associated with alkaline soils. The blooming period is January to April.		found at the project site; however no suitable habitat is present to support this species. No focused survey effort is required and no further action is necessary.
San Gabriel Ragwort ( <i>Senecio astephanus</i> )	-/-4.3	Found within rocky slopes in Coastal Bluff Scrub and Chaparral from 1,312 to 4,921 feet. This perennial herb blooms from May to July.	HA	No suitable habitat is present on the project site and this species is not expected to occur.
Bear Valley Checkerbloom ( <i>Sidalcea malviflora</i> ssp. <i>dolosa</i> )	-/-1B.2	Occurs within Meadows and Seeps in the Upper and Lower Montane Coniferous Forest and Riparian Woodlands. The blooming period for this perennial herb occurs from May to August. Can be found from 4,905 to 8,809 ft.	HA	Species is only known to occur within San Bernardino Mountains. There is not suitable habitat and the project occurs outside of species elevation range. This species would not occur.
Salt Spring Checkerbloom ( <i>Sidalcea neomexicana</i> )	-/-2.2	This perennial herb is found in Creosote Bush Scrub, Chaparral, Yellow Pine Forest, Coastal Sage Scrub, Alkali Playa, Mojavean Desert Scrub, and Marshes and Swamps from 49 to 5,018 ft. The blooming period is March to June.	HP/HPB	Suitable Riversidean alluvial fan sage scrub habitat and elevation requirements are present within the BSA. This species has moderate potential to occur within the project area and the BSA. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Chickweed Oxytheca ( <i>Sidotheca caryophylloides</i> )	-/-4.3	Found in Lower Montane Coniferous Forests within sandy areas. This annual herb blooms from July to September and occurs from 3,655 to 8,530 feet.	HA	No suitable habitat is present and the project occurs outside of the species elevation range. This species would not occur.
Prairie Wedge Grass ( <i>Sphenopholis obtusata</i> )	-/-2.2	This perennial herb is found in Foothill Woodland and Meadows and Seeps from 1,181 to 7,628 ft. The blooming period is April to July.	HA	No suitable habitat is present within the BSA. No further action is necessary.

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Laguna Mountains Jewel-flower ( <i>Streptanthus bernardinus</i> )	-/-/4.3	This perennial herb occurs in Chaparral and Lower Montane Coniferous Forest from 2,098 to 8,202 ft. Soils consist of clay or decomposed granite. The blooming period is May to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
Southern Jewel-flower ( <i>Streptanthus campestris</i> )	-/-/1B.3	This perennial herb is found in Chaparral, Lower Montane Coniferous Forest, and Pinyon Juniper Woodland habitats from 2,953 to 7,546 ft. The blooming period is April to July.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements. No focused survey effort is required and no further action is necessary.
San Bernardino Aster ( <i>Symphotrichum defoliatum</i> )	-/-/1B.2	This perennial rhizomatous herb is found in Cismontane Woodland, Coastal Sage Scrub, Lower Montane Coniferous Forest, Meadow and Seep, Marsh and Swamp, and Valley and Foothill Grassland habitats from 6 to 6,692 ft. Also near ditches and stream springs. High tolerance to disturbed areas. The blooming period is July to November.	HP	There is suitable Coastal Sage Scrub within the project footprint. This species has moderate potential to occur based on its tolerance to disturbances in the soil. This species was not observed during focused rare plant surveys that were conducted during the 2012 rare plant blooming season.
Lemmon's Syntrichopappus ( <i>Syntrichopappus lemonii</i> )	-/-/4.3	Occurs within sandy or gravelly soils in Chaparral, Joshua Tree Woodland, and Pinyon-juniper Woodland communities. Occurs from 1,640 to 6,004 ft and the blooming period is from April to June.	HA	Although sandy soils are present, there is no suitable vegetation community present on the project site. In addition, the project occurs outside of the species known geographic range. Thus, this species is not expected to occur.
California Dandelion ( <i>Taraxacum californicum</i> )	E/-/1B.1	This perennial herb occurs in Meadows and Seeps within the San Bernardino Mountains from 5,315 to 9,186 ft. The blooming period is May to August.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements and geographic range. No focused survey effort is required and

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				no further action is necessary.
Sonoran Maiden Fern ( <i>Thelypteris puberula</i> var. <i>sonorensis</i> )	-/-2.2	This rhizomatous fern occurs in Meadows and Seeps along streams from 164 to 2,001 ft. The blooming period is January to September.	HA	There is no suitable habitat within the study area for this species. No focused survey effort is required and no further action is necessary.
Golden Violet ( <i>Viola purpurea</i> ssp. <i>aurea</i> )	-/-2.2	This perennial herb occurs in Great Basin Scrub and Pinyon Juniper Woodland habitat from 3,280 to 6,693 ft. The blooming period is April to June.	HA	No suitable habitat is present to support this species and the project area is outside of its elevation requirements and known geographic range. No focused survey effort is required and no further action is necessary.
<b>WILDLIFE</b>				
<b>Invertebrates</b>				
Busck's gallmoth ( <i>Carolella busckana</i> )	-/-	Habitat requirements are unknown. CNDDDB records for this species in California are from the early half of the 20 <sup>th</sup> century.	N/A	This species is expected to be extirpated from the region. It has not been documented since 1939 (CNDDDB, 2012) and little is known regarding habitat requirements. This species has a very low potential to occur based on the time since the species has been recorded.
Greenest Tiger Beetle ( <i>Cicindela tranquebarica viridissima</i> )	-/-	Found within Riparian Woodlands adjacent to the Santa Ana River Basin in Riverside County. Found within open sandy areas between trees.	HA	No riparian habitat is present within the BSA. This species is not expected to occur in the BSA.
<b>Andrew's Marble Butterfly</b> ( <i>Euchloe hyantis andrewsi</i> )	-/-	Endemic to the Baldwin Lake area in the San Bernardino Mountains. Occurs within Yellow Pine Forest. Associated with host plants Laguna Mountain jewelflower ( <i>Streptanthus bernardinus</i> ), Holboell's rock cress ( <i>Arabis holboellii</i> ), and slender petaled thelypodium	HA	No suitable habitat is present. This study area also occurs outside this species elevation range. This species is not expected to occur.

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		( <i>Thelypodium stenopetalum</i> ). Larval stage requires foodplant, mountain tansy mustard ( <i>Descurainia incana</i> ).		
Westfork Shoulderband ( <i>Helminthoglypta taylori</i> )	-/-	A terrestrial snail that occurs in San Bernardino County. Localities include along the banks of the Mojave River, Cedar Springs, and Summit Valley Highway.	HA	The BSA occurs outside of the species known range and no suitable habitat is present. This species is not expected to occur.
Delhi Sands Flower-loving Fly ( <i>Raphiomidas terminatus abdominalis</i> )	E/-	Found within southwestern San Bernardino and northwestern Riverside counties, primarily at 12 disjunct locations within the Cities of Colton, Rialto, and Fontana. Found only in areas of Delhi sands soils within the area formerly known as the Colton Dunes. Plant associations with DSFLF habitat include California Buckwheat ( <i>Eriogonum fasciculatum</i> ), Telegraph Plant ( <i>Heterotheca grandiflora</i> ), and California Croton ( <i>Croton californicus</i> ).	HA	Delhi sands soils are not present within the study area, thus this species is not expected to occur.
<b>Fish</b>				
Santa Ana Sucker ( <i>Catostoma santaanae</i> )	T/CSC	Native populations are found only in the Los Angeles (extirpated?), San Gabriel, and Santa Ana river systems of southern California; most streams in which Santa Ana Suckers live are fairly small and shallow, with currents ranging from swift to sluggish. Occurs in waters that are subject to periodic severe flooding; most abundant where the water is cool and unpolluted, though they can survive in fairly turbid water; boulders, rubble, and sand are the main bottom materials with which they are associated, together with growths of filamentous algae and Chara.	HA	Intermittent water flows in Lytle Creek Wash would not sustain this species. This species is not expected to occur in the study area.

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Arroyo Chub ( <i>Gila orcuttii</i> )	-/CSC	Native to the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita rivers and to Malibu and San Juan creeks. Occurs within warm, fluctuating streams and found within slow moving sections of stream containing sandy or muddy bottoms. In San Bernardino County, occurs within the Santa Ana and Mohave Rivers.	HA	Intermittent water flows in Lytle Creek Wash would not sustain this species. This species is not expected to occur in the study area.
Santa Ana Speckled Dace ( <i>Rhinichthys osculus</i> ssp. 3)	-/CSC	Limited distribution in the headwaters of the Santa Ana and San Gabriel Rivers, although has been introduced into other California riverine systems; requires permanent flowing streams with summer water temperatures of 62.6-71.6°F. Inhabits shallow runs and riffles with gravel and cobble substrate with cover from overhanging riparian plants.	HA	Intermittent water flows in Lytle Creek Wash would not support this species, thus it is not expected to occur.
<b>Amphibians</b>				
Arroyo Toad ( <i>Anaxyrus californicus</i> )	E/CSC	Found in rivers with willows, cottonwoods, and sycamores. This species prefers sandy/gravelly areas in drier parts of its range near washes or intermittent streams with clear standing water that is required for egg deposition.	HA	Intermittent water flows in Lytle Creek Wash would not support this species, thus it is not expected to occur.
California Red-legged Frog ( <i>Rana draytonii</i> )	T/CSC	This large frog inhabits the quiet pools of streams, marshes, and ponds up to about 4920 ft elevation. Adults feed on aquatic and terrestrial insects, snails, and a wide variety of other aquatic prey, and will also move up to a mile through riparian communities under wet conditions, such as rainfall. It prefers shorelines with extensive vegetation, and is probably very vulnerable to the introduction of exotic competitors such as Bullfrogs ( <i>Rana</i>	HA	Intermittent water flows in Lytle Creek Wash would not support this species, thus it is not expected to occur.

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		<i>catesbeiana</i> ), crayfishes, and a variety of nonnative fishes.		
<b>Sierra Madre Yellow-legged Frog</b> <i>(Rana muscosa)</i>	E/CSC	Disjunct southern California population persists as remnants in small streams in the San Gabriel, San Bernardino, and San Jacinto mountains. Species historical elevation range was about 1200-7500 ft, with remaining populations only toward the upper end of that range. Inhabits varied lakes and streams, but avoids the smallest streams. Shows a tendency toward open stream and lakeshores that slope gently for the first 2 to 3 inches of depth. Rarely found far from water, though data on movements and ability to recolonize sites are lacking.	HA	Intermittent water flows in Lytle Creek Wash would not support this species. In addition, the study area does not occur within the species known elevation range. This species is not expected to occur.
San Gabriel Salamander <i>(Batrachoseps gabrieli)</i>	-/-	Only known to occur in the San Gabriel Mountains. Can be found hiding in moist places under rocks, wood, fern fronds, and soils at the base of talus slopes.	HA	Suitable habitat is not present and the study area does not occur within the species known elevation range. This species is not expected to occur.
<b>Reptiles</b>				
Western Pond Turtle <i>(Emys marmorata)</i>	-/CSC	Found in association with permanent or nearly permanent water in a fairly wide variety of habitat types. It is omnivorous, taking a wide variety of plant and animal food. The pond turtle requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks	HA	There are no permanent or semi-permanent waters in the study area, thus this species is not expected to occur.
<b>Silvery California Legless Lizard</b> <i>(Anniella pulchra pulchra)</i>	-/CSC	Habitat consist primarily of areas with sandy or loose loamy soils under the sparse vegetation of beaches, Chaparral, or Pine-Oak Woodland, and open, well-shaded terraces in mature riparian natural communities. Leaf litter is commonly present. Soil	HP	Low potential for species to occur. Suitable sandy soils are present, and a very small amount of riparian habitat is present within the study area. This species was not observed during biological

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		disturbances such as agriculture and mining, as well as requirements for soil moisture and relatively cool microclimates limit distribution, and account in part for local declines and extirpations (Jennings and Hayes 1994).		survey efforts conducted in 2011 and 2012. No further action is necessary.
<b>Orangethroat Whiptail</b> <i>(Aspidoscelis hyperythra)</i>	-/CSC	Most California populations occur on or adjacent to floodplains or the terraces of streams, in or by open Sage Scrub and Chaparral communities. The presence of perennial shrubs appears to be important, with the most strongly associated species being California buckwheat, chamise ( <i>Adenostoma fasciculatum</i> ), white sage ( <i>Salvia apiana</i> ), and black sage ( <i>S. mellifera</i> ). Termites are reported to constitute 57 - 95% of the diet, and foraging microsites are primarily under shrubs in leaf litter (Brattstrom 2000).	HP	Suitable habitat is present within Lytle Creek Wash and adjacent areas. This species has a potential to occur in the BSA. This species was not observed during biological survey efforts conducted in 2011 and 2012. No further action is necessary.
Coastal Whiptail <i>(Aspidocelis tigris stegnegeri)</i>	-/-	Primarily occurs in coastal southern California, in sparsely vegetated arid areas such as Chaparral, Woodland, and Riparian habitats.	HP	Suitable habitat present within study area in sparsely vegetated areas. This species was observed during biological survey efforts conducted in 2011 and 2012; however, impacts to this species would not constrain the project.
<b>Coast Horned Lizard</b> <i>(Phrynosoma blainvillii)</i>	-/CSC	Found in arid and semi-arid climate conditions in Chaparral, Coastal sage Scrub, primarily at elevations below 2,000 ft. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants ( <i>Pogonomyrmex</i> spp.), and the availability of both sunny	HP	Sandy loose soils are present through a large majority of study area. This species has a potential to occur. This species was not observed during biological survey efforts conducted in 2011 and 2012. No further action is necessary.

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		basking spots and dense cover for refuge.		
<b>Rosy Boa</b> <i>(Charina trivirgata)</i>	-/-	Found within desert and Chaparral habitats from the coast to the Mojave and Colorado deserts. Prefers moderate to dense vegetation and rocky cover. Can be found within a mix of brushy cover and rocky soil such as in coastal canyons and hillsides, desert canyons, washes and mountains.	HA	There is no suitable habitat within the BSA. This species is not expected to occur.
<b>Southern Rubber Boa</b> <i>(Charina umbratica)</i>	-/T	Limited to San Bernardino and San Jacinto Mountains. Occurs in a variety of Montane Forest habitats and Montane Chaparral & wet meadow habitat. Typically found near streams or wet meadows. Species requires moist loose soil for burrowing. Has also been known to find cover in rotting logs.	HA	The study area does not occur within suitable montane areas and soil moisture is not sufficient for the species to occur. Thus, the species is not expected to be present.
Red-diamond Rattlesnake <i>(Crotalus ruber)</i>	-/CSC	Occurs as far north as Puente Hills in Yorba Linda and as far south as Loreto Baja California, Mexico. Occurs within chaparral, woodland, grassland, and desert areas. Prefers areas with boulders and rock outcrops in areas of heavy brush, such as chamise chaparral.	HA	There is not suitable habitat within the study area for this species. Sagebrush habitat is too sparsely vegetated for species and there are no rock outcrops for shelter.
<b>San Bernardino Ringneck snake</b> <i>(Diadophis punctatus modestus)</i>	-/-	Common within open, rocky areas near intermittent streams. Prefers moist habitats, including wet meadows, gardens, grassland, chaparral, woodlands, and mixed coniferous forests.	HA	No suitable habitat is present within the study area and it is too dry for species to be present. This species is not expected to occur.
<b>Two-striped Garter Snake</b> <i>(Thamnophis hammondi)</i>	-/CSC	Often found in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. Species will	HA	There are no streams within the study area that would support this species. There is no potential for this species to occur in the study area.

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		also inhabit large riverbeds if riparian vegetation is available, and even occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994).		
<b>Birds</b>				
Cooper's Hawk ( <i>Accipiter cooperii</i> )	-/-	Winters widely and fairly commonly in California. Breeds primarily in woodland habitats, especially riparian zones, but also Oak Woodland, Walnut Woodland, gumtrees ( <i>Eucalyptus</i> spp.), and occasionally in dense, abandoned or otherwise undisturbed orchards. Forages in wide variety of open to semi-open vegetation including residential developments.	Breeding: A Foraging: HP	This species has potential to forage within the study area. No suitable nesting habitat is present. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-15 will ensure that nesting raptor species, including Cooper's Hawk are not impacted during construction.
Northern Harrier ( <i>Circus cyaneus</i> )	-/CSC	Breeds within marsh meadows and freshwater marshes dominated by tall grasses, reeds, and	Breeding: A Foraging: P	This species was observed flying over the BSA during fieldwork. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-15 will ensure that nesting raptor species, including Northern Harrier are not impacted during construction.
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	D, EPA/E, CFP	Primarily occurs in or near seacoasts, rivers, swamps, and large lakes. Eats mainly fish and carrion, and formerly nested locally along the coast of southern California. This species is a localized winter resident and rare migrant, with only very rare breeding efforts in coastal southern California (e.g., Lake Skinner, Riverside County).	HA	No suitable habitat for breeding or foraging is present in the study area. This species is not expected to occur.
Long-eared Owl	-/CSC	In southern California, species breeds and roosts in riparian and oak forests,	HA	The study area lacks riparian or forest areas that would be

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( <i>Asio otus</i> )		and hunts small mammals at night in adjacent open habitats. Known to breed at several dozen locales in San Diego and Orange counties (brat), and probably do so in smaller numbers in other coastal southern California counties as well.		suitable for the species to breed. Although lands in the BSA provide the openness needed for foraging, since the BSA does not occur near a riparian or forested area, this species is unlikely to forage within the BSA.
Burrowing Owl ( <i>Athene cunicularia</i> )	-/CSC	Inhabits open, dry, nearly or quite level, grassland, prairie, desert floor, and shrubland [if shrub cover is below 30% (CBOC 1993)]. In coastal southern California, a substantial fraction birds are found in microhabitats highly altered by man, including flood control and irrigation basins, dikes, and banks, abandoned fields surrounded by agriculture, and road cuts and margins. Strong association between Burrowing Owls and burrowing mammals, especially ground squirrels ( <i>Spermophilus</i> spp.); however will also occupy man-made niches such as banks and ditches, piles of broken concrete, and even abandoned structures (Haug et al. 1993).	HP	Suitable foraging and breeding habitat is present for burrowing owl within a majority of the study area. Although the species was not present during the focused survey, there is still a moderate potential for the species to occur based on habitat suitability and mobility of the species prior to construction. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measures M-12 through M-14 will ensure that burrowing owls are not impacted during construction.
Coastal California Gnatcatcher ( <i>Polioptila californica californica</i> )	T/CSC	Year-round resident of sage scrub habitats in coastal southern California.	HA	There is disturbed RSS present within the study area. This habitat is sparsely vegetated with sage scrub species and would not be suitable. This species was not observed during biological survey efforts conducted in 2011 and 2012.
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	-/CSC	Found as a common resident and winter visitor throughout California in lowland and foothill habitats. It frequents open areas with sparse	HP	Suitable habitat is present throughout the study area. This species was observed foraging in the BSA during

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		shrubs and trees.		biological studies.
Western Yellow-billed Cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FC/E	Only a handful of small populations remaining in all of California today. Losses are tied to obvious loss of nearly all suitable habitat, but other factors may also be involved. Relatively broad, well-shaded riparian forests are utilized, although it tolerates some disturbance. A specialist to some degree on tent caterpillars.	HA	No extensive riparian habitat is present within the study area. This species has no potential to occur.
Southwestern Willow Flycatcher ( <i>Empidonax traillii extimus</i> )	E/E	Highly restricted distribution in southern California as a breeder. It occupies extensive riparian forests, west meadows, and lower mountain riparian habitats primarily below 4,000 feet. Occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows ( <i>Salix</i> spp.), <i>Baccharis</i> spp., Arrowweed ( <i>Pluchea</i> spp.), buttonbush ( <i>Cephalanthus</i> spp.), tamarisk ( <i>Tamarix</i> spp.) Russian olive ( <i>Elaeagnus</i> spp.) or other plants are present, often with a scattered overstory of cottonwood ( <i>Populus</i> spp.).	HA	No extensive riparian habitat is present within the study area. This species has no potential to occur.
Least Bell's Vireo ( <i>Vireo bellii pusillus</i> )	E/E	Occurs as a summer resident in southern California where it inhabits low riparian growth in the vicinity of water or in dry river bottoms below 2,000 feet. Species selects dense vegetation low in riparian zones for nesting, most frequently within riparian stands between 5 and 10 years old. When a mature riparian woodland is selected, the species nests in areas with a substantial robust understory of willows as well as other plant species	HA	There is a small patch of Mulefat Scrub present within the study area. This small patch would not support the species as a forager or breeder because it is far from any other riparian area that could support the species and it is sparsely vegetated.

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		(Goldwasser 1981).		
Bell's Sage Sparrow ( <i>Amphispiza belli belli</i> )	-/-	Uncommon resident of Chaparral and Sage Scrub from northern California south into Baja California. Typical habitat includes shaded, sandy to gravelly soils at the bases of shrubs with sage scrub.	HP	Suitable habitat is present within sage scrub. This species is not special status, thus potential impacts would not constrain the project. This species was not observed during biological survey efforts conducted in 2011 and 2012.
Yellow Warbler ( <i>Dendroica petechi brewesteri</i> )	-/CSC	Nests in the upper story of riparian habitats in southern California, especially Alder Woodland and Forest. It is also a common, widespread migrant in spring and fall, occupying a wide variety of habitats at that time.	Breeder: HA Migrant: HP	No suitable breeding habitat is present within the study area. There is a potential for the species to traverse the BSA as a migrant only. This species was detected just south of the BSA in Lytle Creek Wash.
Yellow-breasted Chat ( <i>Icteria virens</i> )	-/CSC	Nests in low thickets in riparian habitats. It eats a variety of insects. It is a local and uncommon breeder and rare migrant across southern California. Known elevation range extends from 180 feet below sea level to at least 4700 feet.	A	No suitable riparian habitat present for this species. It is not expected to occur in the study area.
<b>California Horned Lark</b> ( <i>Eremophila alpestris actia</i> )	-/-	Occurs within grasslands, fallow fields, open coastal plains, and alkali flats.	HP	Suitable habitat is present within fallow agricultural fields. This species has a moderate potential to occur within the BSA. This species was not observed during biological survey efforts conducted in 2011 and 2012.
<b>Mammals</b>				
Pallid Bat ( <i>Antrozous pallidus</i> )	-/CSC	Throughout southern California from coast to Mixed Conifer forest; grasslands, shrublands, woodlands, & forest. Most common in open, dry habitats w/ rocky areas for roosting;	HP	Low potential for roosting in buildings and tree hollows within the study area. Low potential to forage in BSA. This species was not

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		yearlong resident in most of range. Roosts in caves, crevices, mines, hollow trees, and buildings.		observed during biological survey efforts conducted in 2011 and 2012. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-16 will ensure that special-status bat species are not impacted during construction.
Western Mastiff Bat ( <i>Eumops perotis</i> )	-/CSC	Found throughout the coastal lowlands up to drier mid-elevation mountains, but avoids the Mohave and Colorado deserts. Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. This big bat forages in flight, primarily taking insects in the order Hymenoptera (bees, wasps, and ants). Most prey species are relatively small, low to the ground, and weak-flying. For roosting, appears to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts. There appears to be little use of night roosts. Roost sites may be in natural rock or in tall buildings, large trees, or elsewhere, but must be at least 2 inches wide and 12 inches deep, and narrow to at most 1 inch at the upper end. Nursery roosts must be deeper yet. All roosts open well up on a cliff or other steep face, at least 6.5 ft vertically above the substrate, to allow flight from the roost. Roosts may be communal (up to 100 individuals) or solitary, and commonly include other species of bats.	HP	Suitable habitat occurs under bridges and on buildings within the study area. This species has potential to forage and roost in mature trees within the BSA. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-16 will ensure that special-status bat species are not impacted during construction.
<b>Western Yellow Bat</b>	-/CSC	Found within Valley Foothill Riparian, Desert Riparian, desert Washes, and	HP	Very limited foraging opportunities in the BSA.

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<i>(Lasiurus xanthinus)</i>		Palm Oases Habitats. Roosts in trees, particularly palms. Forages over water and among trees.		Ornamental mature trees and fan palms could provide a potential roost site. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-16 will ensure that special-status bat species are not impacted during construction.
<b>Pocketed Free-tailed Bat</b> <i>(Nyctinomops femorosaccus)</i>	-/CSC	Rare and limited to southern California. Occurs mostly in arid southeastern deserts with portions of western Riverside County apparently on the periphery of their range. Found in Pinyon-Juniper Woodlands, Desert Scrubs, desert Succulent Scrub, desert Riparian, Desert Wash, Alkali Desert Scrub, Joshua Tree, and Palm Oases. Prefers to roost in high rock crevices in cliffs; must drop from roost to gain flight speed. Forages primarily on moths, especially over water.	HP	Very limited foraging opportunities in the BSA. Fan palms could provide a potential roost site for a few individuals. This species was not observed during biological survey efforts conducted in 2011 and 2012. Measure M-16 will ensure that special-status bat species are not impacted during construction.
<b>Northwestern San Diego Pocket Mouse</b> <i>(Chaetodipus fallax fallax)</i>	-/CSC	Inhabits sandy herbaceous areas, usually in association with rocks & coarse gravel. Occurs at elevation ranges from sea level to 6000 ft. Vegetation community preferences include Sage Scrub, Chamise-Redshank Chaparral, Mixed Chaparral, Sage Brush, Desert Wash, Desert Scrub, Desert Succulent Scrub, Pinyon-Juniper, and Annual Grassland.	P	Suitable habitat present is present within revegetated RSS and a few individuals were observed during the small mammal trapping effort in July 2012.
Pallid San Diego Pocket Mouse <i>(Chaetodipus fallax pallidus)</i>	-/CSC	Found on the margins of the Mojave Desert and on the slopes of the San Bernardino Mountains and the edge of the Colorado Desert, ranging south to the Mexican boundary. Species prefers Chaparral but will occur in	HA	Although some suitable habitat is present (e.g. sandy areas), regionally, this species has only been documented in the high desert areas east and north of the San Bernardino

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		open sandy areas.		Mountains. Therefore, the project occurs outside of the species known geographic range and would have no potential to occur.
White-eared Pocket Mouse ( <i>Perognathus alticolus alticolus</i> )	-/CSC	Known only to occur in the western portion of the San Bernardino Mountains, at high altitudes from approximately 3,400 – 6,000 ft. It is found in sage brush and other shrubs in open Yellow-Pine Forest where bracken fern grows and Pinyon-Juniper Woodland Habitat; also Chaparral and Sage Scrub areas. Most common on northern slopes of San Bernardino and San Gabriel Mountains. Habitat consists of north facing slopes within chaparral and sage scrub, or habitats.	HA	No suitable habitat for species is present and the project site occurs well outside of species elevation range. This species is not expected to occur.
<b>Los Angeles Pocket Mouse</b> ( <i>Perognathus longimembris brevinasus</i> )	-/CSC	Little is known of the habitat requirements for this subspecies, an early reference indicates it inhabits areas of open ground, prefers fine sandy soils (for burrowing) but is also found commonly on gravel washes and on stony soils, within brush and woodland habitats. It is rarely found on sites with a high cover of rocks.	P	Known to occur in RAFSS within a tributary to Lytle Creek in BSA. Species was also present (a single individual) within revegetated RSS within project limits during the small mammal trapping in July 2012.
Southern Grasshopper Mouse ( <i>Oncychomys torridus ramona</i> )	-/CSC	Wide variety of dry to moderately dry scrub, grassland, and woodland habitats across southern California, exclusive of the more mesic coastal areas from Ventura County north.	HP	Suitable habitat is present within non-native grassland and disturbed RSS. There is a low potential for this species to occur based on site suitability and it was not found during small mammal focused studies.
<b>San Bernardino Kangaroo Rat</b> ( <i>Dipodomys meriami</i> )	E/CSC	Prefers soils of sandy loam, occasionally to sandy gravel, in open to moderately shrubby habitats,	P	Known to occur in RAFSS in the tributary to Lytle Creek. This species was not found

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
<i>parvis</i> )		especially intermediate seral stages of alluvial fan sage scrub up to approximately 2,000 feet from active channels.		within disturbed RSS during the small mammal trapping effort in July 2012, thus occupied habitat is limited to RAFSS within the BSA.
Stephens' Kangaroo Rat ( <i>Dipodomys stephensi</i> )	E/T	Distributed within Riverside and San Diego counties, often found in ecotones, or boundaries between habitat types (especially grasslands and sage scrub). Species prefers areas with <50% perennial cover. Soil requirements include ability to support required vegetation types and densities, and compaction characteristics suitable to burrowing (i.e., stable, but not too difficult to dig).	HA	Suitable habitat is present within the BSA (in non-native grasslands); however soils in the disturbed RSS are too compact for the species to burrow. In addition, the species has not been documented in San Bernardino County (CNDDDB 2012), thus the project is outside the species geographic range. This species would not occur based on geographic distribution.
San Diego Desert Woodrat ( <i>Neotoma lepida intermedia</i> )	-/CSC	Distributed from central California southward well into Baja California, Mexico. Locally common in a variety of sunny shrub habitats, frequently in rocky and/or steep terrain and upper drainages; often builds its dens low in cactus or rock crevices, but will use other sites as needed.	P	Suitable habitat for species is present within RAFSS and disturbed RSS. This species was found during the small mammal trapping effort in July 2012.
Lodgepole Chipmunk ( <i>Neotamias speciosus speciosus</i> )	-/-	Found at summits of the Piute, San Bernardino, and San Jacinto Mountains. Occurs in lodgepole pine and open-canopy forests.	HA	No suitable habitat for species is present and the project site occurs well outside of species elevation range. This species is not expected to occur.
San Bernardino Flying Squirrel ( <i>Glaucomys sabrinus californicus</i> )	-/CSC	Wide variety of woodland habitats primarily consisting of conifers, Mixed Coniferous-Deciduous Forest and occasionally Broad-Leaf-Deciduous Forest. Primarily inhabits old growth forests, but also found in second	HA	No suitable habitat for species is present and the project site occurs well outside of species elevation range. This species is not expected to occur.

COMMON/SCIENTIFIC NAME	Status <sup>a</sup> FED/STATE/ CNPS	SPECIES REQUIREMENTS	SPECIFIC HABITAT <sup>b</sup> PRESENT/ ABSENT	RATIONALE
		growth stands.		
<b>San Diego Black-tailed Jackrabbit</b> <i>(Lepus californicus bennetii)</i>	-/CSC	Common throughout state except at high elevations in herbaceous and desert shrub areas, Sage Scrub, Grasslands, open Chaparral and Woodland/Forest areas. It is relatively disturbance tolerant.	P	This species was observed during biological studies.
American Badger <i>(Taxidea taxus)</i>	-/CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	HP	No burrows large enough to support this species were found within the study area. This species is not expected to occur within the study area.
<b>NATURAL COMMUNITIES</b>				
<b>Riversidean Alluvial Fan Sage Scrub</b>	CNDDDB	Found from Los Angeles to San Bernardino and Riverside counties. Occurs within washes and on gently sloping alluvial fans. Composed of drought-deciduous shrubs, evergreen shrubs, riparian species, and upland annual plants. Dominated by scalebroom ( <i>Lepidium squamatum</i> ), California sagebrush ( <i>Artemisia californica</i> ), white sage ( <i>Salvia apiana</i> ), and California buckwheat ( <i>Eriogonum fasciculata</i> ).	P	A portion of the study area occurs within Lytle Creek Wash which is an alluvial fan wash. In addition, there is a tributary to Lytle Creek Wash with RAFSS in the southwest portion of the BSA.
Southern Coast Live Oak Riparian Forest	CNDDDB	Open to dense evergreen sclerophyllous Riparian Woodland dominated by coast live oak ( <i>Quercus agrifolia</i> ).	HA	This community is not present within the study area.
Southern Cottonwood Willow Riparian Forest	CNDDDB	Tall, open, broadleaved winter-deciduous Riparian Forest dominated by Fremont's cottonwood ( <i>Populus fremontii</i> ), and several willow trees. Understory typically consists of shrubby willows.	HA	This community is not present within the study area.
Southern Mixed Riparian Forest	CNDDDB	A Riparian Forest habitat dominated by a mix of riparian associated trees	HA	This community is not present within the study area.

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		such as willow, cottonwood, elderberry, and sycamore.		
Southern Riparian Forest	CNDDDB	Forest community dominated by sycamore, cottonwood, and willows.	HA	This community is not present within the study area.
Southern Riparian Scrub	CNDDDB	A young secessional stage of southern Riparian Forest. Includes dominant species in southern riparian forest and mule fat ( <i>Baccharis salicifolia</i> ).	HA	This community is not present within the study area.
<b>Southern Sycamore Alder Riparian Woodland</b>	CNDDDB	A tall, broadleafed, winter deciduous streamside woodland. It is dominated by western sycamore and alder ( <i>Alnus rhombifolia</i> ).	HA	This community is not present within the study area.
<b><sup>a</sup> Status Codes</b> <b>Federal</b> E = Federally listed; Endangered PE = Proposed Endangered T = Federally listed; Threatened FC = Federal Candidate for Listing FSC = Federal Species of Concern D = Delisted  <b>State</b> E = State listed; Endangered T = State listed; Threatened R = Rare (Native Plant Protection Act) CSC = California Species of Special Concern CFP = California Fully Protected Species		<b>CNPS</b> 1A = Plants presumed extinct in California 1B = Plants rare, threatened, or endangered in California and elsewhere 2 = Plants rare, threatened, or endangered in California, but more common elsewhere 3 = Plants about which we need more information 4 = Limited distribution (Watch List) 0.1 = Seriously endangered in California 0.2 = Fairly endangered in California 0.3 = Not very endangered in California	<b><sup>b</sup>Habitat Presence/Absence Codes</b> P= The species is present and was observed survey efforts. HP=Habitat is or may be present within Project footprint. The species may potentially be present. Focused survey is warranted. HPB=Habitat is or may be present within 200 ft study area (BSA). The species may potentially be present. Focused survey is warranted. HA= No habitat present and no further work needed.  Gray Highlight= No potential to occur in the BSA. Bold= Documented within USGS 7.5-minute San Bernardino North quadrangle	

# Appendix C Jurisdictional Delineation Report

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# **JURISDICTIONAL DELINEATION REPORT**

## **STATE ROUTE 210/PEPPER AVENUE**

### **NEW INTERCHANGE**

## **CITY OF RIALTO, SAN BERNARDINO COUNTY, CALIFORNIA**

08-SBD-210 (PM 19.3/20.1)

Project Identification Number: 0800020180

EA 08-443940

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**January 2014**

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# Acronyms and Abbreviations

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AMSL	above mean sea level
APNs	Assessor's Parcel Numbers
BSA	Biological Study Area
Caltrans	California Department of Transportation
City	City of Rialto
CFR	Code of Federal Regulations
CWA	Clean Water Act
CDFW	California Department of Fish and Wildlife
EPA	U.S. Environmental Protection Agency
FAC	facultative
FACW	facultative wetland
HA	Hydrologic Area
HU	Hydrologic Unit
ICF	ICF International
JD	Jurisdictional Determination
NHD	National Hydrography Dataset
NI	no indicator
NO	no occurrence
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	status of obligate
OHWM	Ordinary High Water Mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
RAFSS	Riversidean Alluvial Fan Sage Scrub
RGL	Regulatory Guidance Letter
ROW	right of way
RPWs	relatively permanent waters
RSS	Riversidean Sage Scrub
RWQCB	Regional Water Quality Control Board
SANBAG	San Bernardino Associated Governments
SR-	State Route
SSURGO	Soil Survey Geographic
SWANCC	Solid Waste Agency of Northern Cook County
SWRCB	State Water Resources Control Board
TAS	Treatment as a State
TNWs	Traditional navigable waters
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

USGS  
WoS  
WoUS

U.S. Geologic Survey  
waters of the state  
waters of the United States

# Chapter 1

## Introduction

---

The San Bernardino Associated Governments (SANBAG), in cooperation with the California Department of Transportation (Caltrans) and the City of Rialto, is proposing to construct a new interchange along State Route 210 (SR-210) at Pepper Avenue, in the Cities of Rialto and San Bernardino, California (see Figures 1 and 2). The proposed project would construct a tight diamond interchange at SR-210/Pepper Avenue, between post mile (PM) 19.3 and PM 20.1. A routine-level delineation of jurisdictional waters and wetlands was conducted on May 4, 2012, as part of the federal and state regulatory permitting process for construction activities to be conducted for the proposed project.<sup>1</sup>

The purpose of this delineation was to identify the extent of federal and state jurisdiction within and adjacent to the project site to support the resource-agency permitting process under Sections 401 and 404 of the Clean Water Act (CWA), as well as Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 1602 of the California Fish and Game Code.

Section 404 of the CWA covers waters of the United States (WoUS) as well as federal wetlands and is regulated by the U.S. Army Corps of Engineers (USACE). Under Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB) and the U.S. Environmental Protection Agency (EPA) regulate at the state level all activities that are regulated at the federal level by the USACE. The RWQCB/SWRCB may also regulate activities affecting non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 of the California Fish and Game Code is regulated by the California Department of Fish and Wildlife (CDFW) and covers aquatic features, which may include lakes or streambeds with a defined bed and bank, plus any adjacent riparian vegetation. If a proposed project may affect waters or wetlands, the project site must be evaluated to determine the presence of jurisdictional waters. Permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies, their regulatory authority, jurisdiction, permits, and regulatory processes are provided in Chapter 2, "Regulatory Background."

The information and results presented in this report document the investigation, best professional judgment, and conclusions of the preparer. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

## 1.1 Project Description

The proposed Build Alternative would construct a new tight diamond interchange along SR-210 at Pepper Avenue (see Figure 3). The project would provide freeway access ramps at each of the four quadrants of the diamond configuration interchange. The eastbound and westbound off-ramps would widen from one lane where the ramps diverge from SR-210 to two lanes at the intersection with Pepper Avenue where a dedicated left turn lane and a dedicated right turn lane would be

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<sup>1</sup> Refer to Section 2.1.2 of this report for jurisdictional waters and wetlands criteria.

provided. The eastbound and westbound on-ramps would each include two lanes at the intersection with Pepper Avenue and would taper to one lane prior to merging onto SR-210. At the ramp intersections with Pepper Avenue traffic signals would be installed. A traffic signal would also be installed at the Pepper Avenue/Highland Avenue intersection.

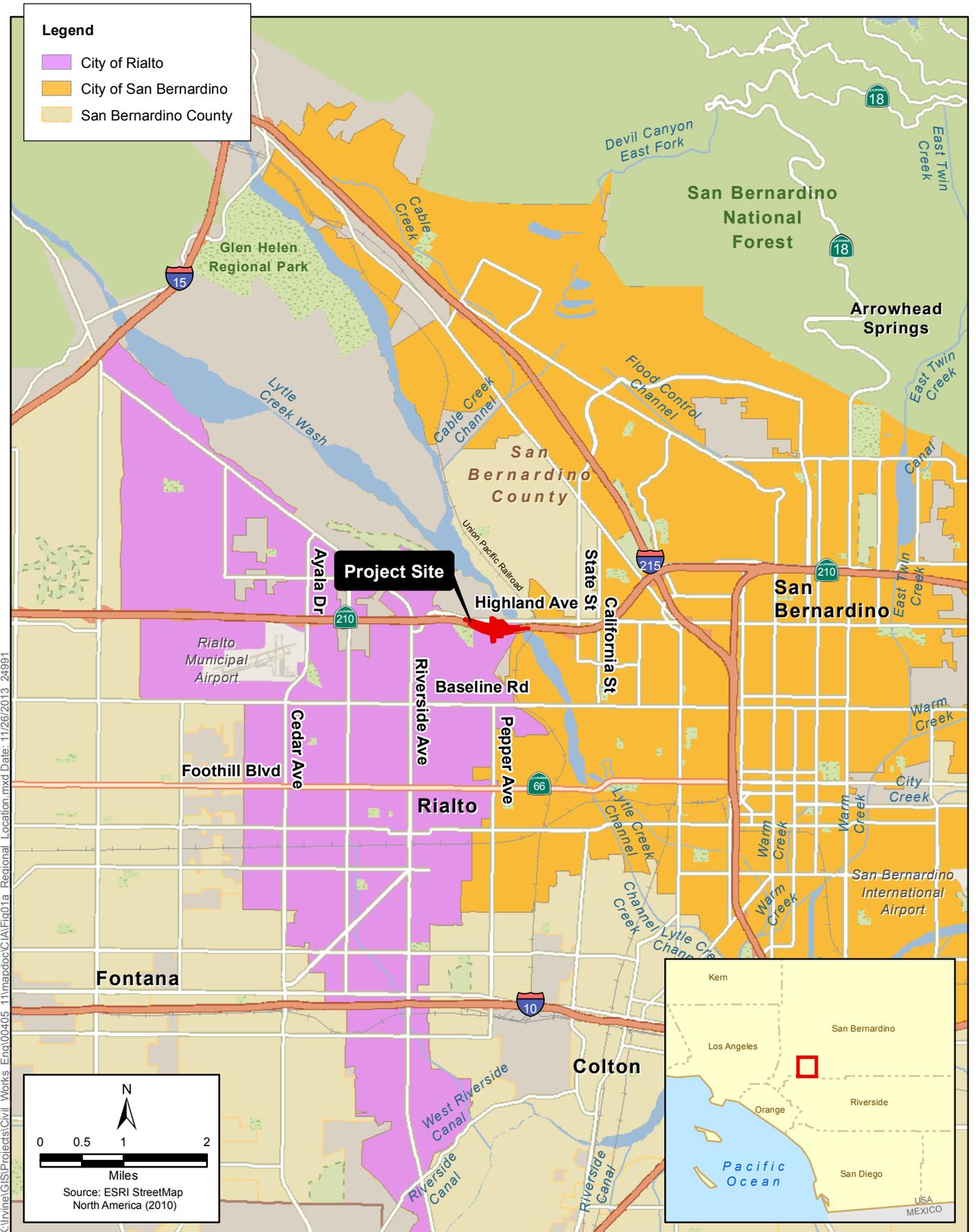
Pepper Avenue would be widened from two (constructed as the City's gap closure project) to four through lanes from Highland Avenue to south of the intersection of Pepper Avenue and the eastbound ramps; a distance of approximately 1,300 feet. This portion of Pepper Avenue would ultimately consist of two 12-foot through lanes in each direction with an 8-foot shoulder, curb and gutter, a 6.5-foot planted buffer, and a 5-foot sidewalk on both sides of the roadway (i.e., next to the 6.5-foot parkway northbound and southbound from the freeway), except within the undercrossing where the sidewalk would be 6.5 feet wide. A dedicated 12-foot left turn lane from northbound Pepper Avenue to the westbound on-ramp and from southbound Pepper Avenue to the eastbound on-ramp would also be constructed. The south end of the interchange project would match the four-lane Pepper Avenue Extension project that is currently under construction by the City of Rialto.

Two retaining walls would be constructed along Pepper Avenue beneath the undercrossing structures at the abutment slopes of the structure. They are anticipated to each be approximately 400 feet long with a 10-foot design height. The retaining walls would include aesthetic design treatments and features consistent with the State Route 210 Corridor Master Plan. Utilities would be adjusted or relocated, as needed, to accommodate the new interchange. Best Management Practice (BMP) features, including modifications to the existing, or the installation of new, water quality control features, would also be part of the project. This is anticipated to include two additional detention/infiltration basins, which would be adjacent to the southeast corner of the interchange adjacent to the proposed eastbound on-ramp, and the northeast corner of the interchange adjacent to the proposed westbound off-ramp. The detention/infiltration basins would be designed and planted so they would blend into the existing sage scrub landscape. Limited additional landscaping appropriate to the setting, and any necessary irrigation, will be installed to preserve and enhance existing landscape character. At a minimum, installation of native hydroseed planting would be done where the project requires the removal of the existing native scrub vegetation. Also, to the fullest extent practicable, BMPs would be designed to convey both stormwater quantity flows and peak flows.

Some permanent right of way acquisition is anticipated for the proposed Build Alternative.

## 1.2 Project Location

The SR-210/Pepper Avenue New Interchange Project is located along SR-210 from PM 19.3 to PM 20.1 and is within portions of the jurisdictional limits of the City of Rialto (City), City of San Bernardino, and unincorporated San Bernardino County. The interchange immediately to the west is Riverside Avenue and to the east is State Street/University Parkway. The project site is mapped in Township 1 North, Range 5 West, and Section 36 as mapped on the San Bernardino North (1988) U.S. Geologic Survey (USGS) 7.5-minute topographic map quadrangle (see Figure 4). The project site is identified as Assessor's Parcel Numbers (APNs) 0133-381-03, 0264-191-02, 0264-191-05, 0264-191-11, 0264-201-25, 0264-201-26, and 0264-431-13.



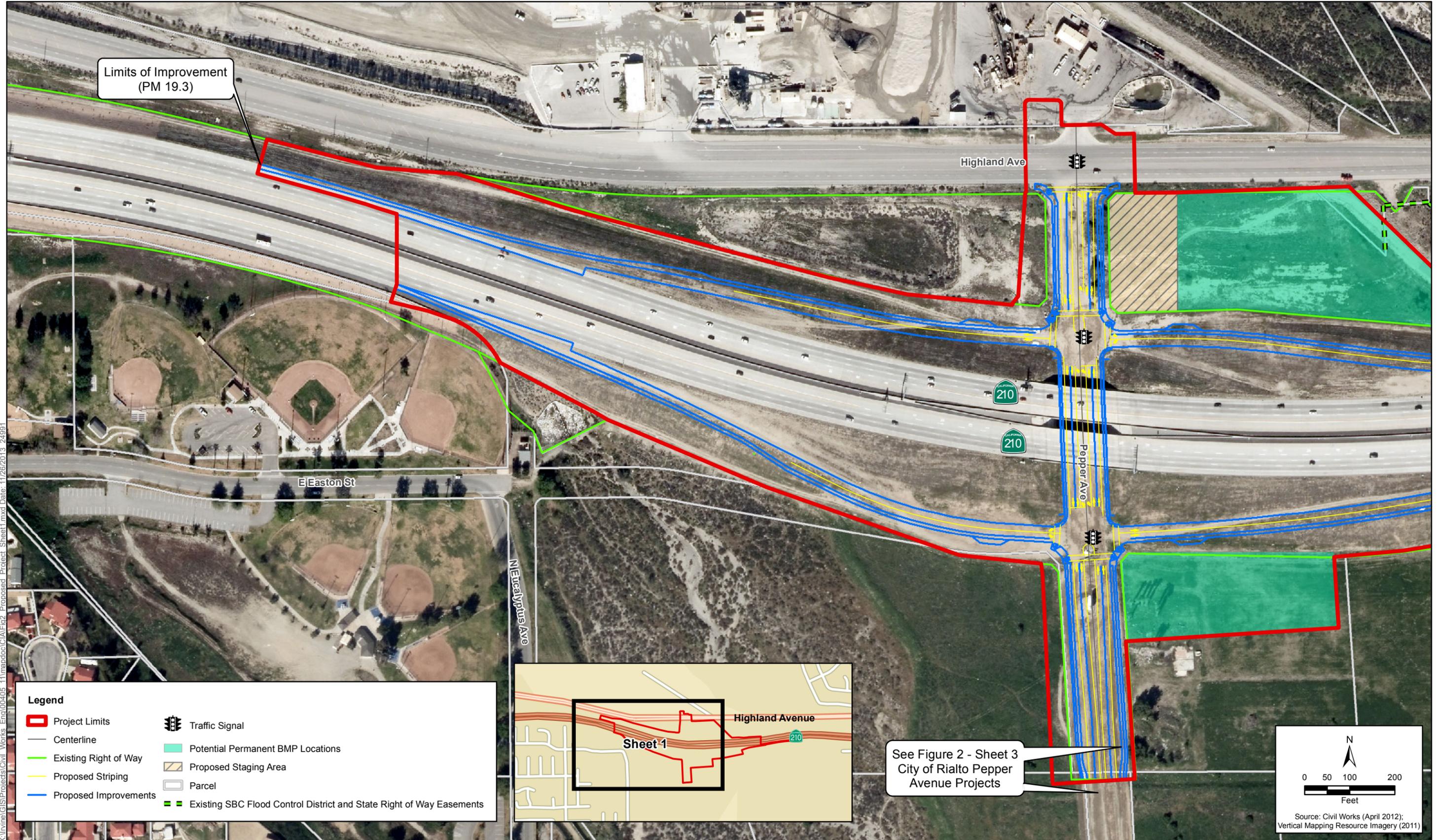
**Figure 1**  
**Regional Vicinity Map**  
**State Route 210/Pepper Avenue New Interchange Project**





**Figure 2**  
**Project Location Map**  
**State Route 210/Pepper Avenue New Interchange Project**

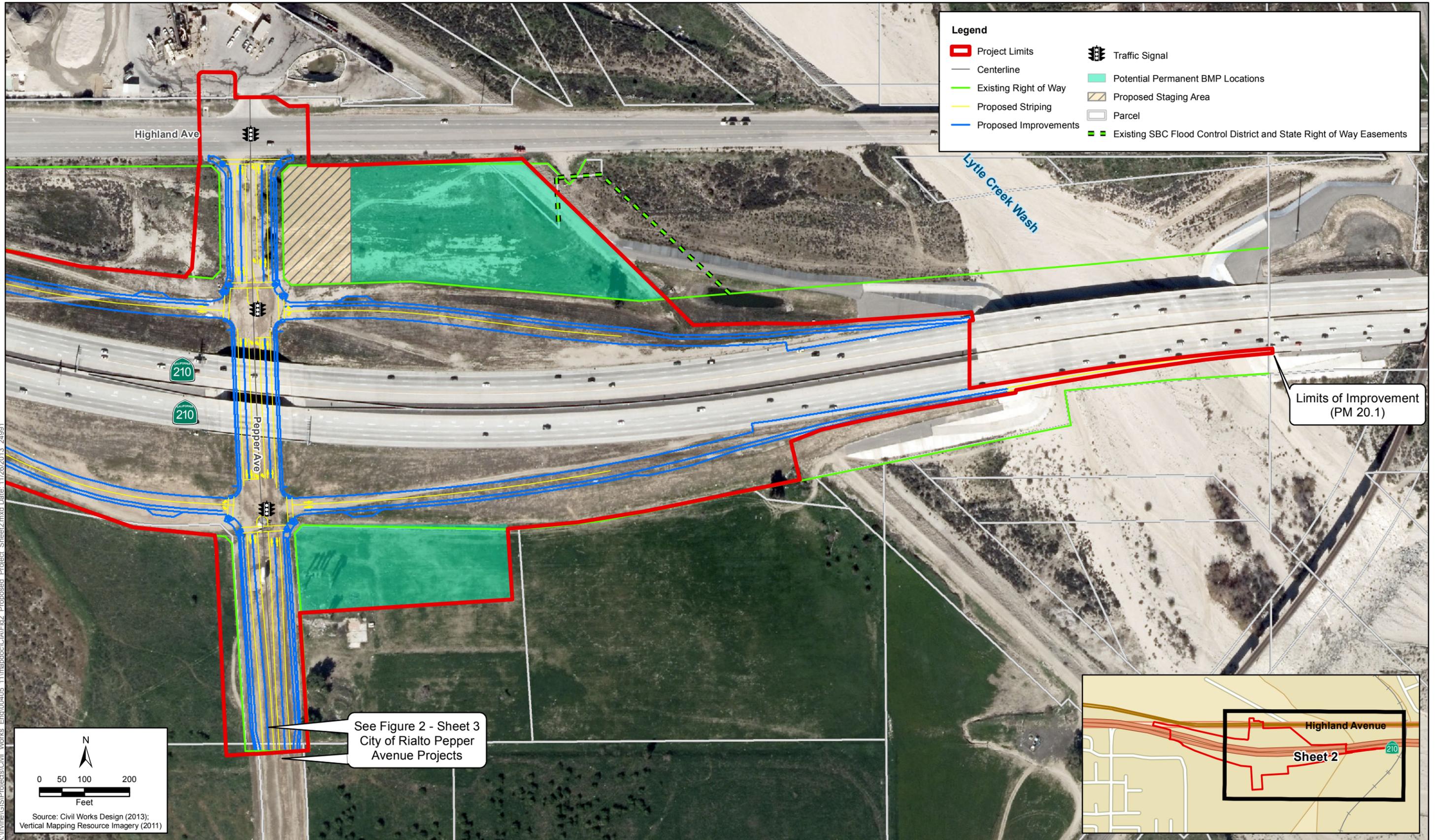




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**Figure 3 - Sheet 1**  
**Proposed Project**  
**State Route 210/Pepper Avenue New Interchange Project**

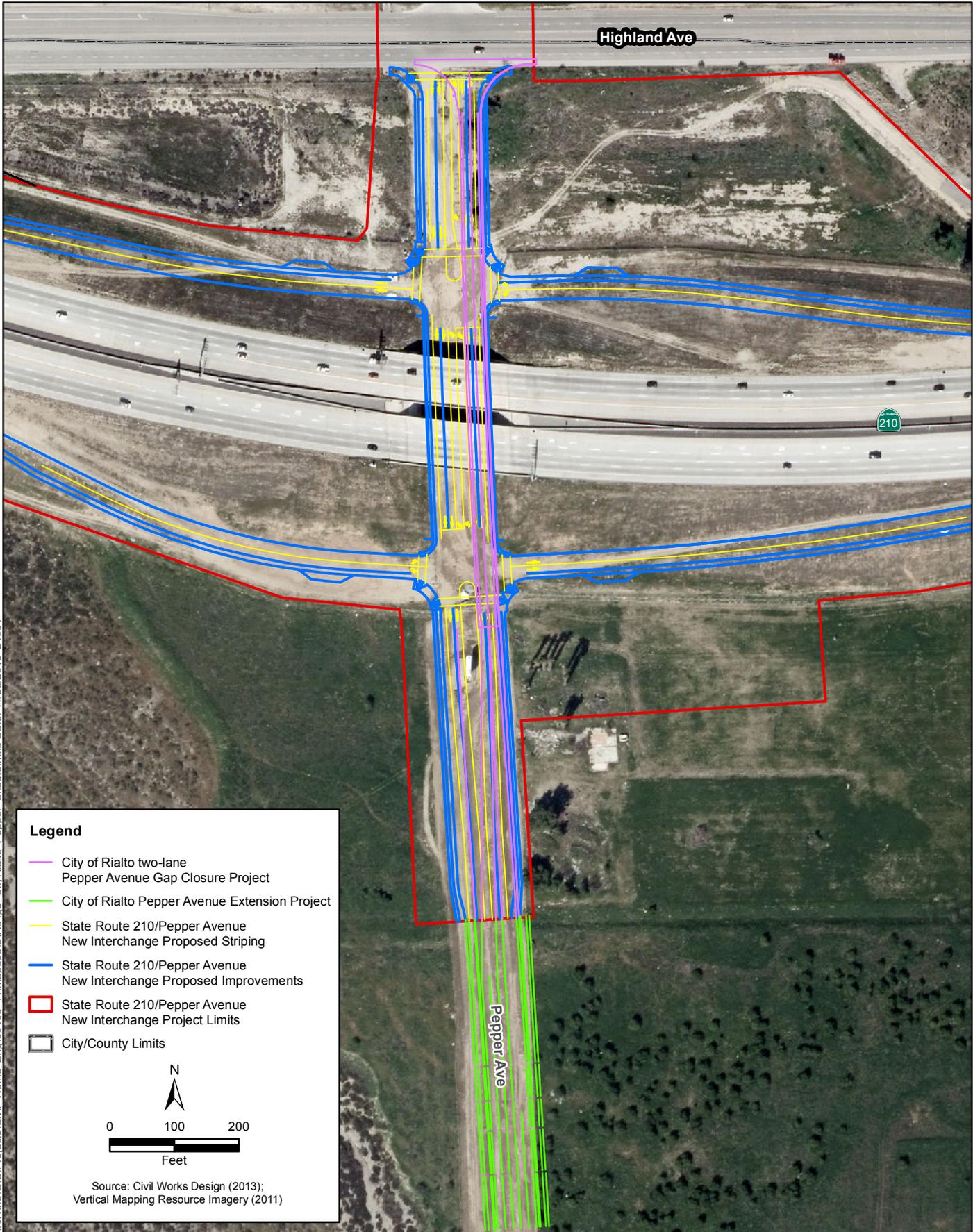




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**Figure 3 - Sheet 2**  
**Proposed Project**  
**State Route 210/Pepper Avenue New Interchange Project**

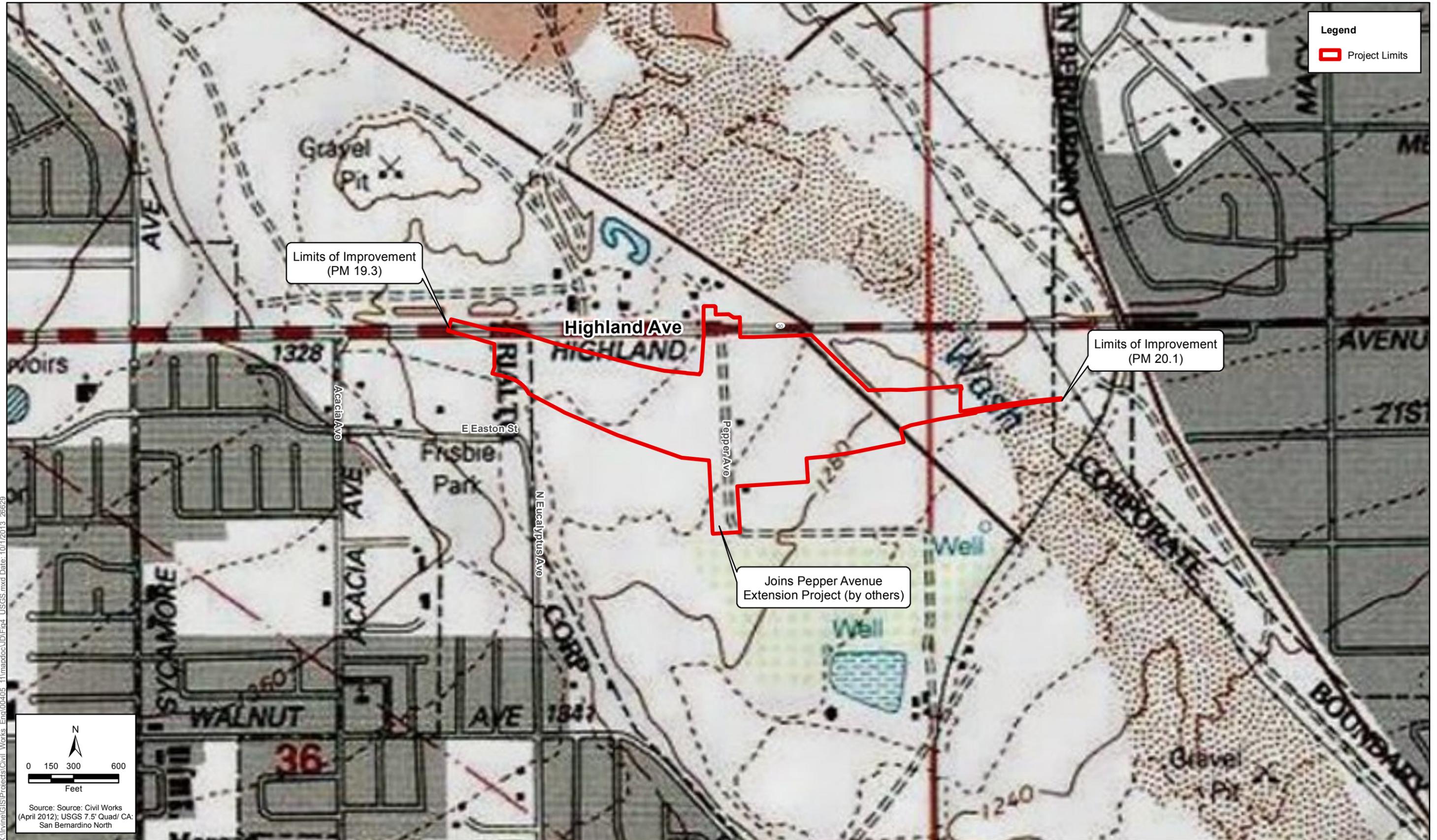




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**Figure 3 - Sheet 3**  
**City of Rialto Pepper Avenue Projects**  
**State Route 210/Pepper Avenue New Interchange Project**





**Figure 4**  
**USGS Quadrangle (San Bernardino North)**  
**State Route 210/Pepper Avenue New Interchange Project**



The following sections summarize the regulations imposed on each type of jurisdictional feature potentially present within the project area.

## **2.1 U.S. Army Corps of Engineers Regulated Activities**

Pursuant to Section 404 of the CWA, the USACE regulates the discharge (temporary or permanent) of dredged or fill material into WoUS, including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge of fill material (if performed specifically in a manner to avoid discharges of fill material) include driving pilings, performing covered drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

### **2.1.1 Waters of the United States**

WoUS, as defined in Code of Federal Regulations (CFR) title 33, section 328.3, include the following.

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

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), defined in CFR 328.3(e) as:

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

## 2.1.2 Wetlands

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

## 2.1.3 *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that:

...(a) are or would be used as habitat by birds protected by migratory bird treaties, or (b) are or would be used as habitat by other migratory birds which cross state lines, or (c) are or would be used as habitat for endangered species, or (d) used to irrigate crops sold in interstate commerce.” (51 Federal Register 41217).

As a result of the 2001 *Solid Waste Agency of Northern Cook County (SWANCC)* case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional wetlands, must show connectivity with (be tributary to) a navigable WoUS to be subject to USACE under Section 404 of the CWA.

## 2.1.4 *Rapanos v. United States and Carabell v. United States Army Corps of Engineers*

In 2006, the U.S. Supreme Court issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS, as well as wetlands adjacent to those tributaries.

On June 5, 2007, the USACE and the U.S. Environmental Protection Agency (EPA) issued guidance related to the *Rapanos* decision. The guidance identifies those waters over which the agencies

(USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis. To summarize, USACE will continue to assert jurisdiction over the following features.

- Traditional navigable waters (TNWs) and their adjacent wetlands; and
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally [i.e., typically 3 months]) and wetlands that directly abut such tributaries (i.e., not separated by uplands, berm, dike, or similar feature).

For non-RPWs, the agencies will determine whether a “significant nexus” exists with a TNW using the data found in an Approved Jurisdictional Determination Form (Approved JD form). The purpose of the significant nexus evaluation is to determine whether the existing functions of a tributary affect the chemical, physical, and/or biological integrity of a downstream TNW. Tributary characteristics that are considered when evaluating whether a significant nexus exists include volume, duration, and frequency of flow; proximity to a TNW; and hydrologic and ecologic functions performed by the tributary and all of its adjacent wetlands. Based on that information, the agencies may assert jurisdiction over the following features.

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- Wetlands adjacent to such tributaries; and
- Wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary.

The agencies will typically not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies and small washes characterized by low volume and infrequent or short-duration flow); and
- Ditches (including roadside ditches) excavated wholly in uplands and draining only uplands that do not carry a relatively permanent flow of water.

#### **2.1.4.1 Approved Jurisdictional Determinations**

An Approved Jurisdictional Determination (JD) is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen’s lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331).

Approved JDs are documented in accordance with Regulatory Guidance Letter (RGL) No. 07-01 and require the use of the Approved JD form. Approved JDs are evaluated by the USACE and EPA.

Under the *Rapanos* guidance, an Approved JD is required for determinations for all “isolated” waters or wetlands, and is subject to review by the USACE and EPA.

#### **2.1.4.2 Preliminary Jurisdictional Determinations**

The USACE issued RGL No. 08-02 on June 26, 2008, allowing the USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the

party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered “preliminary” because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary Jurisdictional Determination Form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they are jurisdictional. Although a Preliminary JD may be chosen by the applicant, the USACE district engineer reserves the right to use an Approved JD where warranted.

### 2.1.4.3 2011 Draft Clean Water Act Guidance

On April 27, 2011, the USACE and EPA issued draft guidance for determining jurisdiction under the CWA. The guidance supersedes the previous guidance from 2003 regarding *SWANCC* (68 Federal Register 1991–1995) and 2007 *Rapanos* guidance. This document reiterated the guidance issued under the *Rapanos* decision, asserting that the following waters are protected by the CWA.

- Traditional navigable waters;
- Interstate waters;
- Wetlands adjacent to either traditional navigable waters or interstate waters;
- Non-navigable tributaries to traditional navigable waters that are relatively permanent (meaning they contain water at least seasonally); and
- Wetlands that directly abut relatively permanent waters.

The guidance further clarifies the criteria for defining TNWs, primarily consistent with previous guidance. In addition, a significant nexus evaluation is required for the “other waters” category of the regulations (see item 3 in Section 2.1.1 above). The guidance divides these waters into two categories—those that are physically proximate to other jurisdictional waters and those that are not, and discusses how each category should be evaluated.

Finally, the guidance reiterated that certain aquatic areas are generally not considered WoUS.

- Wet areas that are not tributaries or open waters and do not meet the agencies’ regulatory definition of “wetlands;”
- Waters excluded from coverage under the CWA by existing regulations;
- Waters that lack a “significant nexus” where one is required for a water to be protected by the CWA;
- Artificially irrigated areas that would revert to upland should irrigation cease;
- Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
- Artificial reflecting pools or swimming pools created by excavating and/or diking dry land;
- Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons;

- Water-filled depressions created incidental to construction activity;
- Groundwater drained through subsurface drainage systems; and
- Erosional features (gullies and rills), and swales and ditches that are not tributaries or wetlands.

## 2.2 Activities Regulated by the State

### 2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to waters of the U.S. unless certification under Section 401 of the CWA is granted or waived by the state where the discharge would originate, or the EPA. Within the proposed project area, the ability to grant, grant with conditions, deny or waive certification falls to the Santa Ana RWQCB.

Pursuant to Section 401 of the CWA:

...any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, are typically delineated at the OHWM.

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

### 2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve “discharging waste, or proposing to discharge waste, within any region that could affect waters of the state” (California Water Code 13260[a]), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. Waters of the State (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050 [e]). Such waters may include waters not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats not normally subject to federal regulation under Section 404 of the CWA.

### 2.2.3 Regulating Agencies

#### 2.2.3.1 State Water Resources Control Board/Regional Water Quality Control Board Regulated Activities

In California, the SWRCB and nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the state Porter-Cologne Act. The SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest

RWQCB actions. Each semi-autonomous RWQCB sets water quality standards, issues Section 401 certifications and waste discharge requirements, and takes enforcement action for projects occurring within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, the SWRCB becomes the regulating agency for both of these acts and issues project permits.

## 2.3 California Department of Fish and Game Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, the CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

### 2.3.1 California Department of Fish and Game Jurisdiction

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of: (1) definable bed and banks, and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that support hydrologic functions within the riparian system. CDFW jurisdiction typically does not include features without a discernible bed and bank, such as swales, vernal pools, or wet meadows.

### 2.3.2 Section 1602 of the California Fish and Game Code

The California Fish and Game Code mandates that:

...it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

## 3.1 Project Research

Prior to the field visit, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the site was obtained and compared with USGS 7.5-minute topographic quadrangles to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns. The National Wetlands Inventory (NWI) (USFWS 2010) was referenced to identify any mapped features such as streams and wetlands. Finally, the study area was carefully reviewed in Google Earth (Google Earth 2012) in various scales, and potentially jurisdictional features were marked onto field maps.

In addition, the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) database (USDA/NRCS 2013) was reviewed to identify the soil series that occur in the study area.

## 3.2 Field Investigation

ICF regulatory specialists Zackry West and Daniel Cardoza conducted the jurisdictional waters and wetland delineation on May 4, 2012. The jurisdictional delineation study area is shown in Figure 5. The study area was surveyed on foot and jurisdictional limits were recorded using a Trimble Yuma GPS unit with Geneq SX Blue II and Trimble ProXT receivers, providing sub-meter accuracy.

Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Higher Plants of California*, Second edition (Baldwin et al. 2012).

### 3.2.1 USACE Jurisdiction

- Potential WoUS and wetlands were delineated using methods established in the Wetland Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b), and Draft Guidance on Identifying Waters Protected by the Clean Water Act (USACE/EPA 2011). Non-wetland waters were delineated based on the presence of OHWM indicators, and OHWM data sheets were recorded and are attached as Appendix A. At each evaluation area, several parameters were considered to determine whether the sample point is within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details of the application of these techniques are described below.
- **Hydrophytic Vegetation:** The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC)

(Environmental Laboratory 1987). An OBL indicator status refers to plants that have a 99% probability of occurring in wetlands under natural conditions. A FACW indicator status refers to plants that usually occur in wetlands (67–99% probability) but are occasionally found elsewhere. A FAC indicator status refers to plants that are equally likely to occur in wetlands or elsewhere (estimated probability 34–66% for each). An NI (no indicator) status designates that insufficient information was available to determine an indicator status. An NO (no occurrence) status indicates that the species does not occur in the region; when a plant with an NO status is found within a region, it usually indicates that the plant is ornamental. The wetland indicator status used for this report follows the *National List of Plant Species that Occur in Wetlands: California (Region 0)* (USFWS 1988).

- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA/NRCS 2010).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* and the *Arid West Supplement*.

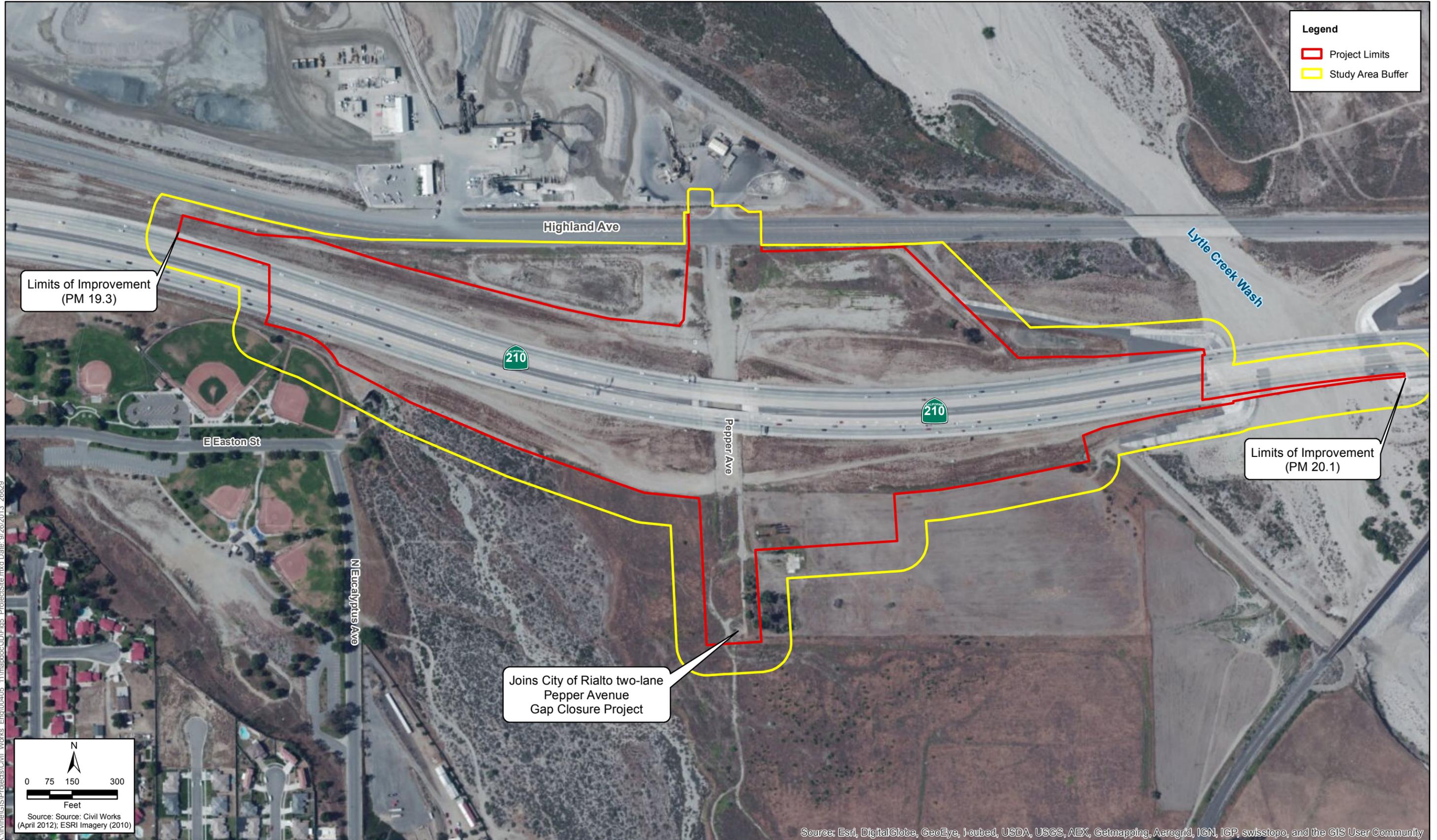
Where possible, a soil pit was dug to examine soil color and texture. If access prohibited a soil pit, hydric soils were assumed based on the vegetation community and hydrology present, or a soil pit may not have been necessary because of the duration of inundation (in-channel wetlands) or strong sulfur odor. Wetland Determination Data Forms are attached as Appendix B.

### 3.2.2 State Jurisdiction

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE.

### 3.2.3 CDFW Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of relevant CDFW materials and standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring outer width and length boundaries of potentially jurisdictional areas, consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.



**Legend**

- Project Limits
- Study Area Buffer

Limits of Improvement  
(PM 19.3)

Limits of Improvement  
(PM 20.1)

Joins City of Rialto two-lane  
Pepper Avenue  
Gap Closure Project

N

0 75 150 300

Feet

Source: Source: Civil Works  
(April 2012); ESRI Imagery (2010)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Figure 5**  
**Project Site**  
**State Route 210/Pepper Avenue New Interchange Project**



The following section describes the topography, land use, hydrology, vegetation characteristics, and soils associated with the project area.

## 4.1 Topography

The study area is within the Santa Ana River watershed and consists of two unnamed basins, three unnamed drainage features, and a portion of Lytle Creek Wash, a named blue-line stream as depicted on the San Bernardino North USGS topographic quadrangle (USGS 1988) (see Figure 5 for study area boundary).<sup>2</sup> Lytle Creek Wash is located immediately east of the proposed project site and conveys ephemeral flows in a north to south direction. Flows within Lytle Creek Wash eventually reach the Santa Ana River approximately six miles downstream in the city of Colton. Elevations within the study area range from 1,267 to 1,320 feet.

## 4.2 Land Use

The proposed project site contains SR-210 and undeveloped parcels of open space; with Lytle Creek being located to the east of the identified limits of disturbance. SR-210 conveys four lanes of traffic in each direction and runs east and west with an average width of 170 feet within the project site. The northern portion of the project site is paralleled by Highland Avenue and contains two unnamed basins, located within Caltrans ROW between SR-210 and Highland Avenue. The southern portion of the project site contains undeveloped Riversidian alluvial sage scrub and ruderal vegetation, with portions of this section being used as an illegal dumping site by the public. The project is bordered by open space and a community park with several baseball fields to the west, an industrial mining business to the north, and open space to the south and east (Figure 5). The study area covers approximately 66 acres.

## 4.3 Hydrology

### 4.3.1 Precipitation

The regional climate is characterized by hot, dry summer months with moderately cold winters. Seasonal rainfall occurs predominantly in the winter months (December-March). The precipitation data for San Bernardino, California presented in Table 4-1 were utilized for this analysis (WRCC 2012).

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<sup>2</sup> Blue-line streams typically are perennial or intermittent streams depicted on 7.5-minute USGS topographic maps. These streams are likely subject to federal Clean Water Act regulation; within the State of California, these features are also typically subject to regulation pursuant to the Porter-Cologne Act and the Fish and Game Code.

**Table 4-1. Rainfall Data Summary for San Bernardino, CA (in inches)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total Annual Precipitation
Average	0.71	1.32	2.38	3.22	3.25	2.86	1.29	0.47	0.09	0.04	0.15	0.33	16.12

## 4.4 Hydrologic Units

The entire study area is located within the Lytle Creek Hydrologic Unit (HU), within the San Gabriel Mountain Streams Hydrologic Area (HA). This HA contains Lytle Creek Wash and its tributaries, and eventually drains into the Pacific Ocean.

## 4.5 Vegetation Summary

Eight vegetation communities have been identified within the study area and the 100-foot buffer during studies as presented within the *Natural Environment Study for State Route 210/Pepper Avenue New Interchange* (ICF). These communities include Riversidian Alluvial Fan Sage Scrub (RAFSS), Disturbed RAFSS, Riversidian Sage Scrub (revegetated), Nonnative Grassland, Nonnative Grassland/Sambucus Woodland, Ruderal/Disturbed, Ornamental, and Developed.

### 4.5.1 Riversidian Alluvial Fan Sage Scrub

RAFSS occurs within the terraces of Lytle Creek Wash, and within a tributary of Lytle Creek in the southwest quadrant of the study area. This community occurs within floodplains that experience infrequent but severe flood events. Plants occurring within this community are often drought-deciduous soft-leaved shrubs, with upland plants growing in the herb layer during non-flooding years. Within the study area, the diversity of the RAFSS was high and included California Buckwheat (*Eriogonum fasciculatum*), California Broomsage (*Lepidospartum squamatum*), Hairy Yerba Santa (*Eriodictyon trichocalyx*), Lance-leaved Dudleya (*Dudleya lanceolata*), Deerweed (*Acmispon glaber*), Sapphire Woollystar (*Eriastrum sapphirinum*), California Sun Cup (*Camissoniopsis bistorta*), Threadleaf Ragwort (*Senecio flaccidus*), California croton (*Croton californicus*), Black Sage (*Salvia mellifera*), White Sage (*S. apiana*), Chia (*S. columbariae*), Chaparral Yucca (*Hesperoyucca whipplei*), and California sagebrush (*Artemisia californica*).

### 4.5.2 Disturbed Riversidian Alluvial Fan Sage Scrub

The Disturbed RAFSS occurs within Lytle Creek Wash. Portions of Lytle Creek Wash are frequently disturbed by severe flash floods and by recreational users (i.e., off-road vehicles and equestrians) thus vegetation within Lytle Creek Wash is sparse and very patchy. Vegetation primarily consisted of California Buckwheat and Deerweed, with a few sparse herbs growing throughout.

### 4.5.3 Riversidian Sage Scrub (revegetated)

This community is located entirely within previously graded and compacted areas associated with the rough-graded SR-210/Pepper Avenue interchange, manufactured slopes associated with SR-210, and two existing flood control basins located in the northeast and northwest quadrants of the study area. These areas were subject to disturbance associated with the construction of SR-210, and have been revegetated with Riversidian Sage Scrub (RSS) species. Dominant species are California Buckwheat, Deerweed, Brittlebush (*Encelia californica*), and Telegraph Weed (*Heterotheca grandiflora*).

### 4.5.4 Nonnative Grassland

The Nonnative Grassland is located west of Pepper Avenue and south of the SR-210. The dominant species within this community are Rattail Sixweeks Grass (*Festuca myuros*), Ripgut Brome (*Bromus diandrus*), Compact Brome (*B. madritensis*), Downy Chess (*B. tectorum*), Common Fiddleneck (*Amsinckia menziesii*), Oat (*Avena* sp.), Hairy Vetch (*Vicia villosa*), and Wall Barley (*Hordeum murinum*).

### 4.5.5 Nonnative Grassland/Sambucus Woodland

This community occurs on both sides of the existing Pepper Avenue right of way (ROW), south of SR-210. The majority of the species dominant within the Nonnative Grassland (described above) are the dominant herbs within this community. In addition, there are several scattered individual Mexican Elderberry (*Sambucus nigra*), which comprise the woodland overstory within this community.

### 4.5.6 Ruderal/Disturbed

Ruderal vegetation is located within the central-eastern portion of the study area and typically lacks natural topography because it is often in disturbed areas that have been manipulated by activities such as discing or grading, such that the disturbances discourage growth of native vegetation. The dominant species in ruderal areas are often tolerant of frequent disturbances or soil compaction, and are typically nonnative or weedy in nature. Within the study area, the common ruderal vegetation consisted of Ripgut Brome, Compact Brome, Tocolote (*Centaurea melitensis*), Russian Thistle (*Salsola tragus*), Common Sunflower (*Helianthus annuus*), Telegraph Weed, Tumbleweed (*Amaranthus albus*), Shortpod Mustard (*Hirschfeldia incana*), London Rocket (*Sisymbrium irio*), Lamb's Quarters (*Chenopodium album*), Nettle-leaved Goosefoot (*C. murale*), Turkey Mullein (*Croton setigerus*), Sourclover (*Melilotus indicus*), Jimsonweed (*Datura stramonium*), and Puncturevine (*Tribulus terrestris*).

## 4.5.7 Ornamental

There are a number of trees within the study area that have been planted as Ornaments such as Gum trees (*Eucalyptus* sp.) and Mexican Fan Palms (*Washingtonia robusta*). In addition, there are Mexican Elderberry shrubs and a Western Sycamore (*Platanus racemosa*) in the study area that are disassociated with any other particular community or aquatic feature.

## 4.5.8 Developed

Portions of the study area consist of developed lands in the form of the active roadway associated with SR-210 and bare ground (unvegetated) areas underneath the existing SR-210 undercrossings of Pepper Avenue, and Frisbee Park in the southwest quadrant of the study area. Additional developed areas are comprised by compacted dirt roadways associated with the Pepper Avenue ROW. These dirt roadways have highly compacted soils that would not support vegetation growth. In addition, these areas are occasionally used by vehicles that further compact soils, preventing future vegetation growth.

# 4.6 Soils

## 4.6.1 Soil Series

Four soil series occur on or in the immediate vicinity of the project site: Grangeville fine sandy loam; Soboba stony loamy sand, 2 to 9 percent slopes; Tujunga loamy sand, 0 to 5 percent slopes; and Tujunga gravelly loamy sand, 0 to 9 percent slopes (Figure 6). A soil series is a group of soils with similar profiles. These soils are consistent with field observations. None of the mapped soils are identified on national or local hydric soil lists (USDA 1987, 1992). In addition, three map units were located on or in the immediate vicinity of the project site: Fluvents, Psamments, and Quarries and Pits.

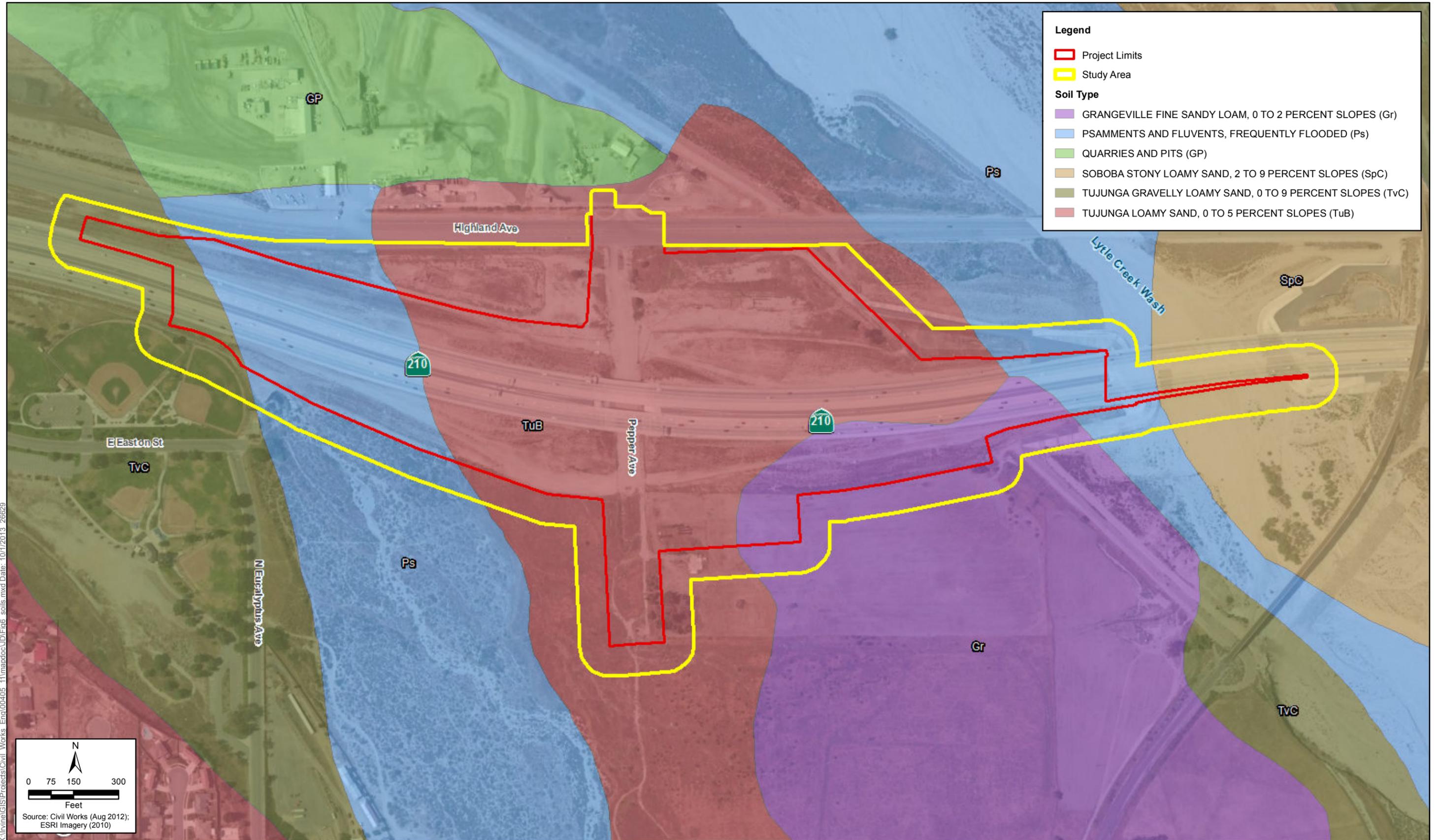
A description of all of the series included within the SSURGO mapping units is provided below based on the official soil descriptions provided by USDA (USDA/NRCS 2011a).

### 4.6.1.1 Grangeville

The Grangeville series consists of very deep, somewhat poorly drained soils that formed from granitic-sourced alluvium. The Grangeville series is found on alluvial fans and floodplains at elevations of 0 to 1800 feet above mean sea level (AMSL), with slopes ranging from 0 to 2 percent. The typical soil texture is characterized by fine sandy loam. Grangeville soils are considered extensive and are found within intermountain valleys in southern California.

### 4.6.1.2 Soboba Stony Loamy Sand, 2 to 9 percent slopes

The Soboba series consists of deep, excessively drained soils that formed in alluvium from granitic rock sources. Sediment texture ranges from coarse sand to sandy loam. This series is found



**Figure 6**  
**Soils Associations**  
**State Route 210/Pepper Avenue New Interchange Project**



primarily on alluvial fans and flood plains at 25 to 3,700 feet in elevation. This soil series is restricted to the interior valleys of southern California and considered to be of moderate extent.

#### **4.6.1.3 Tujunga Loamy Sand, 0 to 5 percent slopes**

The Tujunga series consists of very deep, somewhat excessively drained soils formed in alluvium. This soil series is found on alluvial fans and flood plains at elevations of 5 to 4,300 feet, at slopes of 0 to 9 percent. The typical soil texture ranges from coarse to very coarse sand. Tujunga soils are found on floodplains in Central and southern California and are considered to be of moderate extent.

#### **4.6.1.4 Tujunga Gravelly Loamy Sand, 0 to 9 percent slopes**

The Tujunga series consists of very deep, somewhat excessively drained soils formed in alluvium. This soil series is found on alluvial fans and flood plains at elevations of 5 to 4,300 feet, at slopes of 0 to 9 percent. The typical soil texture ranges from coarse to very coarse sand. Tujunga soils are found on floodplains in Central and southern California and are considered to be of moderate extent.

### **4.6.2 Map Units**

The following map units occur within the study area according to the NRCS.

- Fluvents- are freely drained entisols formed in recent alluvial sediments on floodplains, fans, and deltas along rivers and small streams. Most fluvents are frequently flooded unless protected by dams or levees, and stratification of sediment materials is normal. They are used mostly as rangeland, pasture, and wildlife habitat; however, are sometimes used as cropland.
- Psamments- consist primarily of sandy soils in all layers, and are amongst the most productive rangeland soils in arid and semiarid climates. They are used mostly as rangeland, pasture, and wildlife habitat.
- Quarries and Pits- are often associated with mining operations and may be within active use or dormant. These are often associated with alluvial materials or bedrock formations.

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# Chapter 5

## Jurisdictional Delineation Results

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The following chapter describes the delineated features and expected jurisdictional status within the study area. This report documents existing conditions within the study area. An impacts analysis is not included as a part of this report.

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

Figures 7 and 8 depict the results of the jurisdictional delineation. Ordinary High Water Mark Data Sheets, Wetland Determination Forms, and photographs are provided in Appendices A through C.

### 5.1 Delineated Feature Descriptions

Five features were observed and documented within the JD study area (Figures 7 and 8). Lytle Creek Wash and its study area tributaries connect to, or are direct tributaries of, the Santa Ana River. All features within the study area were delineated with the understanding that a request for a Preliminary JD would be submitted for the project. As such, all features are considered USACE jurisdictional WoUS and subject to state jurisdiction. In addition, all features identified were determined to be subject to CDFW jurisdiction.

#### 5.1.1 Drainage 1

Drainage 1 is an east-flowing ephemeral unnamed tributary of Lytle Creek Wash. The drainage consists of short, gradual banks and a sandy bed containing pockets of non-native herbs and shrubs. The primary purpose of the drainage is to convey runoff from SR-210. The dominant plant species associated with this feature include Shortpod Mustard, Deerweed, Telegraph Weed, and Riggut Brome.

The drainage was dry at the time of this study, though several areas throughout the feature contained indicators of seasonal flow events (i.e., sediment sorting). USACE jurisdiction, as indicated by the OHWM, averaged two feet throughout the drainage. No wetlands were observed in association with Drainage 1.

USACE/RWQCB jurisdictional areas associated with Drainage 1 within the study area totaled approximately 0.024 acre (527 linear feet) of non-wetland WoUS and WoS. CDFW jurisdiction totaled approximately 0.048 acre of unvegetated streambed (527 linear feet). No riparian vegetation was observed in association with Drainage 1. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the drainage is shown on Figures 7 and 8.

### 5.1.2 Drainage 2 (Frisbee Creek)

Drainage 2 (Frisbee Creek) is a southeast-flowing tributary of Lytle Creek Wash. Within the Biological Study Area (BSA), Drainage 2 ranges from short, gradual banks, to incised banks, and exhibits a sandy bed containing cobbles. The dominant plant species associated with this feature include Tall Flatsedge (*Cyperus eragrostis*) and Rye Grass (*Festuca perrennis*).

The drainage contained water at the time of this study, and several areas throughout the feature contained indicators of strong flow events. USACE jurisdiction, as indicated by the OHWM, averaged 17 feet throughout the drainage.

Jurisdictional areas associated with Drainage 2 within the study area totaled approximately 0.057 acre (204 linear feet) of USACE and RWQCB jurisdiction, including 0.007 acre (37 linear feet) of USACE/RWQCB wetlands, and 0.050 acre (167 linear feet) of non-wetland WoUS/WoS. CDFW jurisdiction totaled approximately 0.094 acre (204 linear feet), including 0.007 acre (37 linear feet) of CDFW riparian vegetation and 0.087 acre (167 linear feet) of unvegetated streambed. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the drainage is shown on Figures 7 and 8.

### 5.1.3 Drainage 3

Drainage 3 is a short, southeast-flowing ephemeral unnamed tributary of Lytle Creek Wash. The drainage consists of very gradual banks and a sandy unvegetated bed. The dominant plant species associated with this feature include Shortpod Mustard, Tree Tobacco, Russian Thistle, Castor Bean (*Ricinus communis*), and Common Sunflower.

The drainage follows outside of the western bank of adjacent Lytle Creek Wash for approximately 700 feet. The drainage terminates outside of Lytle Creek Wash, approximately 20 feet from the western bank, but is apparently hydrologically connected to Lytle Creek Wash through groundwater due to its proximity to Lytle Creek Wash and earthen nature of the drainage, which allows for percolation and sub-surface connectivity.

The drainage was dry at the time of this study, though several areas throughout the feature contained indicators of seasonal flow events. USACE jurisdiction, as indicated by the OHWM, averaged 11 feet throughout the drainage.

USACE/RWQCB jurisdictional areas associated with Drainage 3 within the study area totaled approximately 0.028 acre (147 linear feet) of non-wetland WoUS/WoS. CDFW jurisdiction totaled approximately 0.053 acre (147 linear feet) of unvegetated streambed. No riparian vegetation was observed in association with Drainage 3. The extent of USACE, RWQCB, and CDFW jurisdiction associated with the wash is shown on Figures 7 and 8.

### 5.1.4 Drainage 4 (Lytle Creek Wash)

Lytle Creek Wash is a south-flowing blue-line tributary of the Santa Ana River. The wash consists of steep rip-rap banks and a sandy bed composed of deposited alluvium. The wash originates in the San Gabriel Mountains to the immediate north. The wash was sparsely vegetated and the dominant plant species associated with this feature included California Broomsage, California Buckwheat, and Deerweed.



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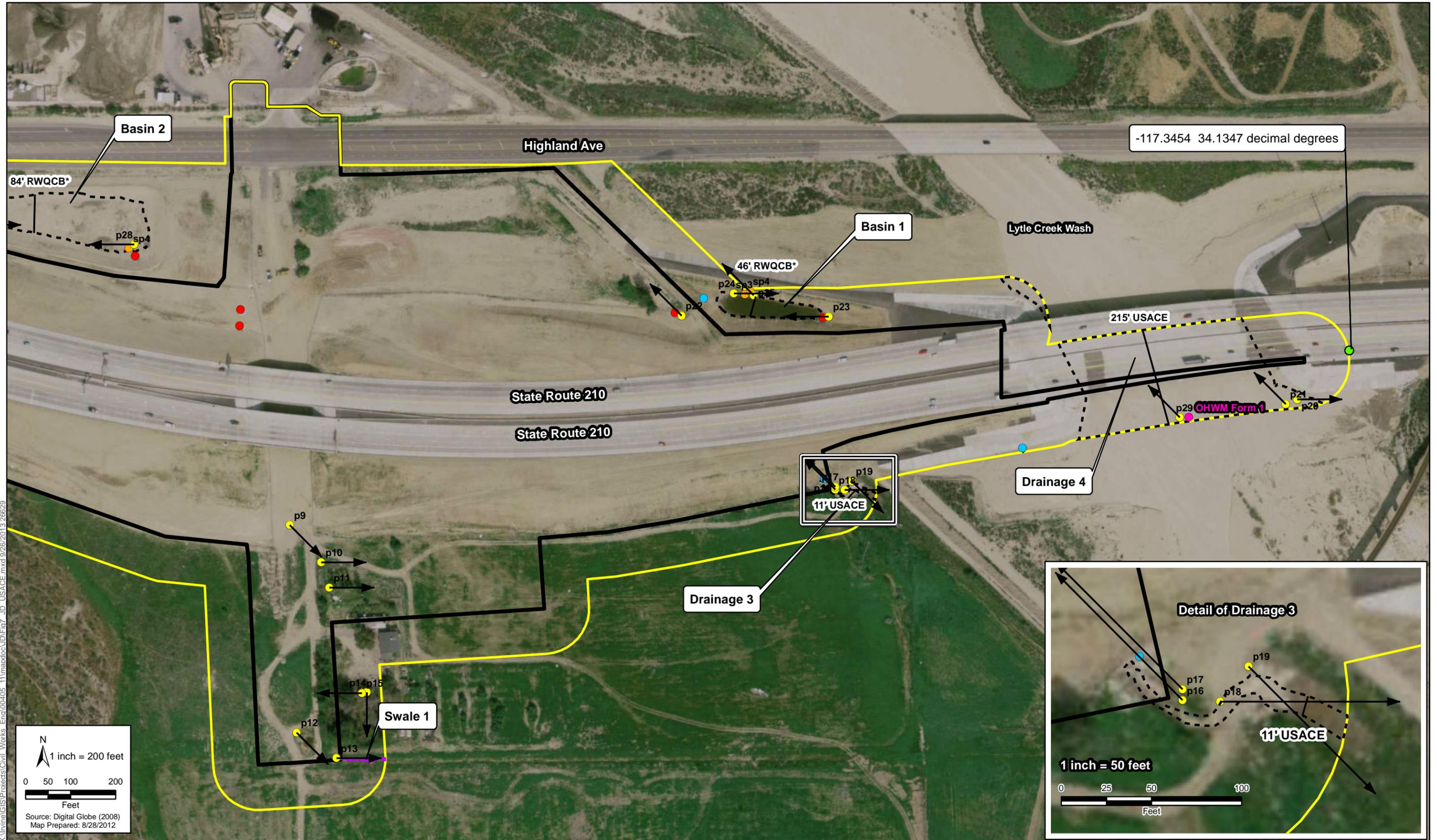
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0 50 100 200  
Feet  
Source: Digital Globe (2008)  
Map Prepared: 8/28/2012

\*Basins 1 and 2, by definition, are not regulated as WoS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

- Photo Point
- Latitude/Longitude Point
- Study Area Buffer
- Sample Point
- OHWM Form
- USACE/ RWQCB Non-Wetland Waters of the US (3.3 AC)
- Culvert Inlet
- Swale
- USACE/ RWQCB Wetland Waters of the US (.01 AC)
- Culvert Outlet
- Limits of Disturbance

**Figure 7 Sheet 01**  
**USACE/ RWQCB Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**





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\*Basins 1 and 2, by definition, are not regulated as WoS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

- Photo Point
- Sample Point
- Culvert Inlet
- Culvert Outlet
- Latitude/Longitude Point
- OHWM Form
- Swale
- Limits of Disturbance
- Study Area Buffer
- USACE\*/ RWQCB Non-Wetland Waters of the US (3.3 AC)
- USACE/ RWQCB Wetland Waters of the US (.01 AC)

**Figure 7 Sheet 02**  
**USACE/ RWQCB Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**

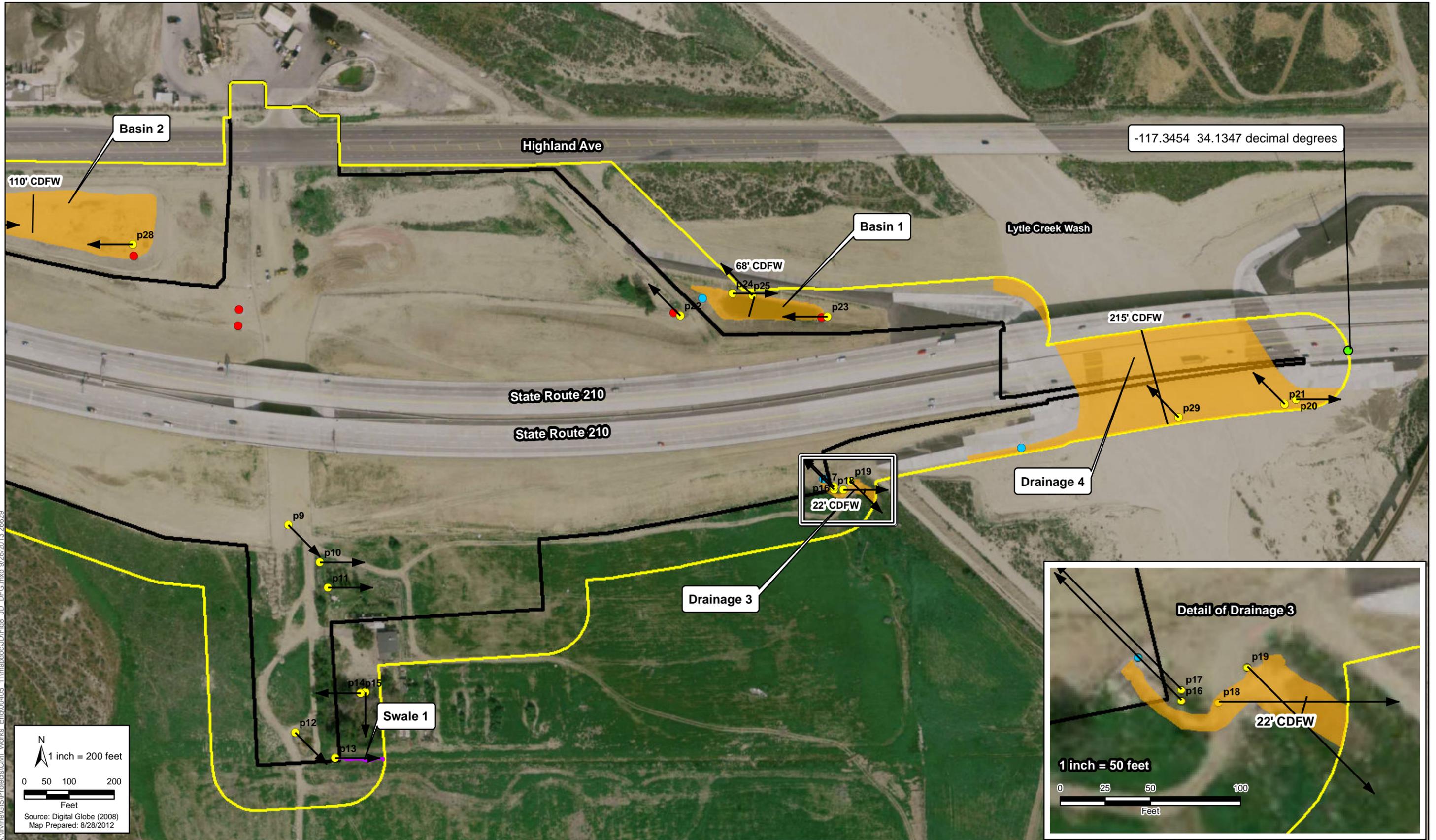




- Photo Point
- Culvert Inlet
- Culvert Outlet
- Latitude/Longitude Point
- Swale
- Limits of Disturbance
- Study Area Buffer
- CDFW Riparian (.01 AC)
- CDFW Unvegetated Streambed (4.2 AC)

**Figure 8 Sheet 01**  
**CDFW Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**





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 Source: Digital Globe (2008)  
 Map Prepared: 8/28/2012

- Photo Point
- Culvert Inlet
- Culvert Outlet
- Latitude/Longitude Point
- Swale
- Limits of Disturbance
- Study Area Buffer
- CDFW Riparian (.01 AC)
- CDFW Unvegetated Streambed (4.2 AC)

**Figure 8 Sheet 02**  
**CDFW Jurisdictional Delineation**  
**State Route 210/Pepper Avenue New Interchange Project**



The wash was dry at the time of the delineation, though several areas throughout the feature contained indicators of seasonal flow events. USACE jurisdiction, as indicated by the OHWM, averaged 215 feet throughout the drainage.

USACE/RWQCB jurisdictional areas associated with Drainage 4 (Lytle Creek Wash) within the study area totaled approximately 2.206 acres (257 linear feet) of non-wetland WoUS/WoS. No USACE/RWQCB jurisdictional wetlands were observed within Drainage 4 (Lytle Creek Wash) within the study area. CDFW jurisdiction totaled approximately 2.514 acres (257 linear feet) of unvegetated streambed. No riparian vegetation was observed in association with Drainage 4 (Lytle Creek Wash). The extent of USACE, RWQCB, and CDFW jurisdiction associated with the wash is shown on Figures 7 and 8.

### 5.1.5 Basin 1

Basin 1 is an artificially constructed basin, which was constructed in uplands concurrently with the main-line SR-210, and is situated on the northern side of SR-210, south of Highland Avenue. This basin was apparently designed to capture, store, and treat excess stormwater runoff from SR-210. The basin consists of moderately sloped banks covered in upland vegetation. Vegetation within the basin margin includes Common Sunflower, Rancher's Fiddleneck, Oat, and Common Fiddleneck. Basin 1 contained standing water at the time of the delineation.

As previously stated in 2.1.1 Waters of the United States, "Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States." Therefore, as this basin was constructed in uplands for the purpose of treating stormwater runoff, Basin 1 is not regulated as WoUS, by definition. However, Basin 1 is potentially subject to regulation by the RWQCB as WoS, pursuant to the Porter-Cologne Act.

RWQCB jurisdictional areas associated with Basin 1 totaled approximately 0.206 acre of non-wetland WoS. CDFW jurisdiction totaled approximately 0.305 acre of unvegetated basin. No riparian vegetation was observed in association with Basin 1. The extent of RWQCB and CDFW jurisdiction associated with the wash is shown on Figures 7 and 8.

### 5.1.6 Basin 2

Basin 2 is an artificially constructed basin, which was constructed in uplands concurrently with the main-line SR-210, and is situated on the northern side of SR-210, south of Highland Avenue. This basin was apparently designed to capture, store, and treat excess stormwater runoff from SR-210. The basin consists of moderately sloped banks covered in upland vegetation. Vegetation within the basin margin includes Shortpod Mustard, Ripgut Brome, Compact Brome, and Common Sunflower. Basin 2 was dry at the time of the delineation, but contained evidence of seasonal flow.

As previously stated in 2.1.1 Waters of the United States, "Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States." Therefore, as this basin was constructed in uplands for the purpose of treating stormwater runoff, Basin 2 is not regulated as WoUS, by definition. However, Basin 2 is potentially subject to regulation by the RWQCB as WoS, pursuant to the Porter-Cologne Act.

RWQCB jurisdictional areas associated with Basin 2 totaled approximately 0.823 acre of non-wetland WoS. CDFW jurisdiction totaled approximately 1.172 acre of unvegetated basin. No riparian vegetation was observed in association with Basin 2. The extent of RWQCB and CDFW jurisdiction associated with the wash is shown on Figures 7 and 8.

## 5.2 Delineation Results Summary

Within the entire project study area, six features subject to the jurisdiction of the USACE, RWQCB, and CDFW were delineated. One feature evaluated in this delineation had areas that met the wetland criteria for USACE jurisdictional wetlands. All USACE jurisdictional features are subject to state jurisdiction.

Within the entire project study area, a total of six features subject to CDFW jurisdiction were delineated.

**Table 5-1. Jurisdictional Delineation Summary**

<b>Feature</b>	<b>USACE/RWQCB Non-Wetland WoUS*/WoS (acres)</b>	<b>USACE/RWQCB Wetland WoUS/WoS (acres)</b>	<b>USACE/RWQCB WoUS/WoS Linear Feet</b>	<b>CDFW Streambed (acres)</b>	<b>CDFW Riparian (acres)</b>	<b>CDFW Linear Feet</b>
Drainage 1	0.024	0.00	527	0.048	0.00	527
Drainage 2 (Frisbee Creek)	0.050	0.007	204	0.087	0.007	204
Drainage 3	0.028	0.00	147	0.053	0.00	147
Drainage 4 (Lytle Creek Wash)	2.206	0.00	257	2.514	0.00	257
Basin 1	0.206*	0.00	--	0.305	0.00	--
Basin 2	0.823*	0.00	--	1.172	0.00	--
<b>Total</b>	<b>3.337*</b>	<b>0.007</b>	<b>1,135</b>	<b>4.179</b>	<b>0.007</b>	<b>1,135</b>

\*Basins 1 and 2, by definition, are not regulated as WoUS. However, Basins 1 and 2 are potentially subject to regulation by the RWQCB, pursuant to the Porter-Cologne Act, and are included as WoS.

## 5.3 List of Delineators and Report Preparers/Reviewer

Zackry West, Senior Regulatory Specialist/Biologist—Report Preparer/Reviewer

Daniel Cardoza, Regulatory Specialist—Delineator/Report Preparer

## Chapter 6 References

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Appendix A

# Ordinary High Water Mark Data Sheets

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## Arid West Ephemeral and Intermittent Streams OHWM Datasheet

<b>Project:</b> SR-210/Pepper Ave <b>Project Number:</b> <b>Stream:</b> Drainage 4 (Lytle Creek Wash) OTHWM <b>Investigator(s):</b> Z West, D Cardozo	<b>Date:</b> 5/14/12 <b>Town:</b> Rialto <b>Photo begin file#:</b>	<b>Time:</b> 15:10 <b>State:</b> CA <b>Photo end file#:</b>				
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?  Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?	<b>Location Details:</b> Immediately downstream of existing SR-210/Lytle Creek bridge <b>Projection:</b> _____ <b>Datum:</b> _____ <b>Coordinates:</b> _____					
<b>Potential anthropogenic influences on the channel system:</b> Lytle creek wash is constrained at this location by the abutments of the Highland Ave. and SR-210 bridge crossings.						
<b>Brief site description:</b> Ephemeral sandy-bottomed reach of Lytle Creek Wash						
<b>Checklist of resources (if available):</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography            Dates: 2008  <input checked="" type="checkbox"/> Topographic maps  <input type="checkbox"/> Geologic maps  <input checked="" type="checkbox"/> Vegetation maps  <input checked="" type="checkbox"/> Soils maps  <input type="checkbox"/> Rainfall/precipitation maps  <input type="checkbox"/> Existing delineation(s) for site  <input type="checkbox"/> Global positioning system (GPS)  <input type="checkbox"/> Other studies         </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data            Gage number: _____            Period of record: _____  <input type="checkbox"/> History of recent effective discharges  <input type="checkbox"/> Results of flood frequency analysis  <input type="checkbox"/> Most recent shift-adjusted rating  <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event         </td> </tr> </table>			<input checked="" type="checkbox"/> Aerial photography Dates: 2008 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: _____ Period of record: _____ <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
<input checked="" type="checkbox"/> Aerial photography Dates: 2008 <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: _____ Period of record: _____ <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event					
<b>Hydrogeomorphic Floodplain Units</b> 						
<b>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</b> <ol style="list-style-type: none"> <li>1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.           <ol style="list-style-type: none"> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ol> </li> <li>4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.</li> <li>5. Identify the OHWM and record the indicators. Record the OHWM position via:           <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Mapping on aerial photograph</td> <td style="width: 50%;"><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other: _____</td> </tr> </table> </li> </ol>			<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS					
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other: _____					

Project ID: SR-210/Pepper Cross section ID: OHWM-1 Date: 5/4/12 Time: 15:10

**Cross section drawing:**



**OHWM**

GPS point: \_\_\_\_\_

**Indicators:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Change in average sediment texture | <input checked="" type="checkbox"/> Break in bank slope |
| <input checked="" type="checkbox"/> Change in vegetation species       | <input type="checkbox"/> Other: _____                   |
| <input checked="" type="checkbox"/> Change in vegetation cover         | <input type="checkbox"/> Other: _____                   |

Comments:

**Floodplain unit:**     Low-Flow Channel     Active Floodplain     Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: Medium silt - very fine sand  
Total veg cover: 0 %    Tree: \_\_\_\_\_ %    Shrub: \_\_\_\_\_ %    Herb: \_\_\_\_\_ %

Community successional stage:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> NA                  | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings)      |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

**Indicators:**

- |  |  |
|--|--|
| <input type="checkbox"/> Mudcracks                           | <input type="checkbox"/> Soil development                          |
| <input type="checkbox"/> Ripples                             | <input type="checkbox"/> Surface relief                            |
| <input type="checkbox"/> Drift and/or debris                 | <input checked="" type="checkbox"/> Other: <u>Sediment sorting</u> |
| <input checked="" type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____                              |
| <input checked="" type="checkbox"/> Benches                  | <input type="checkbox"/> Other: _____                              |

Comments:

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: Medium silt - medium pebbles

Total veg cover: 30 % Tree: \_\_\_\_\_ % Shrub: 10 % Herb: 20 %

Community successional stage:

- NA  Mid (herbaceous, shrubs, saplings)  
 Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks  Soil development  
 Ripples  Surface relief  
 Drift and/or debris  Other: \_\_\_\_\_  
 Presence of bed and bank  Other: \_\_\_\_\_  
 Benches  Other: \_\_\_\_\_

Comments:

**Floodplain unit:**  Low-Flow Channel  Active Floodplain  Low Terrace

GPS point: \_\_\_\_\_

**Characteristics of the floodplain unit:**

Average sediment texture: fine silt - very fine sand

Total veg cover: 60 % Tree: \_\_\_\_\_ % Shrub: 20 % Herb: 40 %

Community successional stage:

- NA  Mid (herbaceous, shrubs, saplings)  
 Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)

**Indicators:**

- Mudcracks  Soil development  
 Ripples  Surface relief  
 Drift and/or debris  Other: water staining  
 Presence of bed and bank  Other: \_\_\_\_\_  
 Benches  Other: \_\_\_\_\_

Comments:



Appendix B

**Wetland Determination Data Forms**

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**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: SR-210/Pepper Ave City/County: Rialto/Sbd Co. Sampling Date: 5/4/12  
 Applicant/Owner: SANBAG State: CA Sampling Point: SP1  
 Investigator(s): Z. WEST P. CARTER Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): GRAVEL TERRACE Local relief (concave, convex, none): CONCAVE Slope (%): <1  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil , or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: <u>N/A</u> )				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
1. <u>N/A</u>				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
3. _____				
4. _____				
_____ = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>N/A</u> )				<b>Prevalence Index worksheet:</b>
1. <u>N/A</u>				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species <u>3</u> x 3 = <u>9</u>
5. _____				FACU species <u>2</u> x 4 = <u>8</u>
_____ = Total Cover				UPL species _____ x 5 = _____
<b>Herb Stratum</b> (Plot size: _____)				Column Totals: <u>5</u> (A) <u>17</u> (B)
1. <u>Veronica anagalis aquatica</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	Prevalence Index = B/A = <u>3.4</u>
2. <u>Bromus maritimensis</u>	<u>1</u>	<u>N</u>	<u>MI</u>	
3. <u>Poa annua</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
4. <u>Cyperus plectostis</u>	<u>1</u>	<u>N</u>	<u>FACW</u>	
5. <u>Lolium perenne</u>	<u>3</u>	<u>Y</u>	<u>FAC</u>	
6. <u>Hirschiella incana</u>	<u>1</u>	<u>N</u>	<u>MI</u>	
7. <u>Coryza canadensis</u>	<u>2</u>	<u>Y</u>	<u>FACU</u>	
8. _____				
<u>10</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>N/A</u> )				<b>Hydrophytic Vegetation Indicators:</b>
1. _____				___ Dominance Test is >50%
2. _____				___ Prevalence Index is ≤3.0 <sup>1</sup>
_____ = Total Cover				___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
_____ = Total Cover				___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: SR-210/Pepper Ave. City/County: Rialto/Sbto Co. Sampling Date: 5/4/12

Applicant/Owner: SABAG State: CA Sampling Point: SP2

Investigator(s): Z-west, D-carbon Section, Township, Range: \_\_\_\_\_

Landform (hillslope, terrace, etc.): Stream channel Local relief (concave, convex, none): Concave Slope (%): <1

Subregion (LRR): C1 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_

Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_

Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>N/A</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>N/A</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u> )				
1. <u>Lolium perenne</u>	<u>95</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Agrostis viridis</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
3. <u>Poa annua</u>	<u>1</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>99</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>N/A</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>1</u>	% Cover of Biotic Crust _____			
Remarks:				

**Dominance Test worksheet:**

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

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

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

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = 3

**Hydrophytic Vegetation Indicators:**

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR-210/Pepper Ave City/County: Rialto/San Bdo Co. Sampling Date: 5/4/12  
 Applicant/Owner: SANBAG State: CA Sampling Point: SP-3  
 Investigator(s): Z West, D Cardoza Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): concave Slope (%): 3  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

### VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (Plot size: _____)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
1. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
2. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
3. _____				
4. _____				
_____ = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				<b>Prevalence Index worksheet:</b>
1. <u>Helianthus annuus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species <u>70</u> x 4 = <u>360</u>
_____ = Total Cover				UPL species _____ x 5 = _____
<b>Herb Stratum</b> (Plot size: _____)				Column Totals: <u>90</u> (A) <u>360</u> (B)
1. <u>Coryza canadensis</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index = B/A = <u>4.0</u>
2. <u>Cyperus dactyloides</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Lolium peruvianum</u>	<u>5</u>	<u>N</u>	<u>NI</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>5</u>				
Remarks:				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>

**SOIL**

Sampling Point: SP-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR C)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR D)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Vernal Pools (F9)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR C)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR B)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
---	--	---

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks: *Unable to dig soil pit due to access restrictions. Hydric soils inferred due to inundation for a long or very long period during the growing season*

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input checked="" type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): 3ft

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes  No  Depth (inches): Surface

(includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: SR-210/Pepper Ave. City/County: Rialto/San Bdo Co. Sampling Date: 5/4/12  
 Applicant/Owner: SANBAG State: CA Sampling Point: SP-4  
 Investigator(s): Z West, D Cardozo Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): <1  
 Subregion (LRR): C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>70</u> (A)</td> <td><u>330</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.71</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>70</u> (A)	<u>330</u> (B)	Prevalence Index = B/A = <u>4.71</u>	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>50</u>	x 5 = <u>250</u>																			
Column Totals: <u>70</u> (A)	<u>330</u> (B)																			
Prevalence Index = B/A = <u>4.71</u>																				
<b>Sapling/Shrub Stratum</b>																				
1. <u>Lotus scoparius</u>	<u>20</u>	<u>Y</u>	<u>NI</u>																	
2. <u>Eriogonum fasciculatum</u>	<u>3</u>	<u>N</u>	<u>NI</u>																	
3. <u>Croton californicus</u>	<u>2</u>	<u>N</u>	<u>NI</u>																	
_____ = Total Cover																				
<b>Herb Stratum</b>																				
1. <u>Heterotheca grandiflora</u>	<u>30</u>	<u>Y</u>	<u>NI</u>																	
2. <u>Coryza canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>																	
3. <u>Erodium cicutarium</u>	<u>10</u>	<u>N</u>	<u>NI</u>																	
4. <u>Lotus scoparius</u>	<u>10</u>	<u>N</u>	<u>NI</u>																	
5. <u>Bromus maritimensis</u>	<u>10</u>	<u>N</u>	<u>NI</u>																	
_____ = Total Cover																				
<b>Woody Vine Stratum</b>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
_____ = Total Cover																				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____																				
Remarks:																				



Appendix C  
**Site Photographs**

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	<p>Photo #1</p> <p>Photo Date: May 4, 2012</p> <p>Location: Refer to Figures 7 and 8</p> <p>Direction: North</p> <p>Note: View of culvert at east end of Drainage 1.</p>
	<p>Photo #2</p> <p>Photo Date: May 4, 2012</p> <p>Location: Refer to Figures 7 and 8</p> <p>Direction: West</p> <p>Note: View of Drainage 1.</p>
	<p>Photo #3</p> <p>Photo Date: June 17, 2011</p> <p>Location: East edge of Biological Study Area</p> <p>Direction: East</p> <p>Note: View of RAFSS community.</p>



Photo #4  
 Photo Date: May 4, 2012  
 Location: Refer to Figures 7 and 8  
 Direction: Southeast  
 Note: View of riprap in outfall structure of Drainage 2.



Photo #5  
 Photo Date: May 4, 2012  
 Location: Refer to Figures 7 and 8  
 Direction: East  
 Note: View of riprap in outfall structure of Drainage 2 and Sample Point 1.



Photo #6  
 Photo Date: May 4, 2012  
 Location: Refer to Figures 7 and 8  
 Direction: Northwest  
 Note: View of concrete outfall structure of Drainage 2.



Photo #7  
Photo Date: May 4, 2012  
Location: Refer to Figures 7 and 8  
Direction: Northwest  
Note: View of wetland in Drainage 2 and Sample Point 2.



Photo #8  
Photo Date: May 4, 2012  
Location: Refer to Figures 7 and 8  
Direction: Southeast  
Note: View of wetland area of Drainage 2.



Photo #9  
Photo Date: May 4, 2012  
Location: Refer to Figures 7 and 8  
Direction: n/a  
Note: View of concrete structure in ROW.



Photo #10

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: South

Note: Ruderal/Disturbed habitat.



Photo #11

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: East

Note: Ruderal/Disturbed habitat.



Photo #12

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: South

Note: View of excavated depression within upland area.



Photo #13

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: East

Note: View of a swale near southern edge of Pepper Avenue.



Photo #14

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: East

Note: View of Ornamentals in disturbed area.



Photo #15

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: West

Note: View of Ornamentals in disturbed area.



Photo #16

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction:

Note: View of Drainage 3.



Photo #17

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Northwest

Note: View of culvert at Drainage 3.



Photo #18

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: East

Note: View of Drainage 3.



Photo #19

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Southeast

Note: View of Drainage 3.



Photo #20

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Southeast

Note: View of Mulefat Scrub (just outside of BSA) within Lytle Creek Wash



Photo #21

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Northwest

Note: Lytle Creek Wash.



Photo #22

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Northwest

Note: View of intake structure west of Basin 1.



Photo #23

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: West

Note: Overview of Basin 1.



Photo #24

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: West

Note: View of Basin 1 and Sample Point 3.



Photo #25

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: North

Note: View of Sample Point 3 in Basin 1.



Photo #26

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: South

Note: View of culvert on the southwestern edge of Basin 2.



Photo #27

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: East

Note: View of Basin 2.



Photo #28

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: Southeast

Note: View of Sample Point 4 in Basin 2.



Photo #29

Photo Date: May 4, 2012

Location: Refer to Figures 7 and 8

Direction: North

Note: View of Lytle Creek Wash and the Disturbed RAFSS community. Note anthropogenic disturbances in wash (i.e., tire tracks from OHV's).

## Appendix D Plant Species

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## Appendix D. Plant Species Detected

Scientific Name	Common Name	Special Status
<b>GYMNOSPERMS</b>		
<b>Cupressaceae - Cypress family</b>		
<i>Cupressus sempervirens</i>	Italian cypress	
<b>Pinaceae - Pine family</b>		
<i>Pinus halepensis</i>	Aleppo pine	
<b>EUDICOTS</b>		
<b>Adoxaceae - Muskroot family</b>		
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry	
<b>Amaranthaceae - Amaranth family</b>		
* <i>Amaranthus albus</i>	Tumbleweed	
<i>Amaranthus blitoides</i>	Procumbent pigweed	
<b>Anacardiaceae - Sumac Or Cashew family</b>		
<i>Rhus aromatica</i>	Skunk bush	
<i>Toxicodendron diversilobum</i>	Western poison oak	
<b>Apiaceae - Carrot family</b>		
* <i>Cyclospermum leptophyllum</i>	Marsh parsley	
<b>Apocynaceae - Dogbane family</b>		
* <i>Nerium oleander</i>	Common oleander	
<b>Asteraceae - Sunflower family</b>		
<i>Ambrosia acanthicarpa</i>	Annual bur-sage	
<i>Artemisia californica</i>	California sagebrush	
<i>Artemisia douglasiana</i>	Mugwort	
<i>Artemisia dracunculus</i>	Tarragon	
<i>Baccharis salicifolia</i>	Mule fat	
<i>Bebbia juncea</i>	Sweetbush	
* <i>Centaurea benedicta</i>	Blessed thistle	
* <i>Centaurea melitensis</i>	Tocalote	
<i>Chaenactis glabriuscula</i>	Yellow pincushion	
<i>Encelia farinosa</i>	Brittlebush	
<i>Erigeron canadensis</i>	Horseweed	
<i>Eriophyllum sp.</i>	Woolly sunflower	
<i>Gutierrezia californica</i>	California matchweed	
* <i>Hedypnois cretica</i>	Crete weed	
<i>Helianthus annuus</i>	Common sunflower	
<i>Heterotheca grandiflora</i>	Telegraph weed	
<i>Heterotheca villosa</i>	Hairy goldenaster	

Scientific Name	Common Name	Special Status
* <i>Hypochaeris glabra</i>	Smooth cat's-ear	
<i>Isocoma menziesii</i>	Coastal goldenbush	
* <i>Lactuca serriola</i>	Prickly lettuce	
<i>Lepidospartum squamatum</i>	California broomsage	
<i>Lessingia glandulifera</i>	Valley lessingia	
<i>Logfia filaginoides</i>	California cottonrose	
* <i>Logfia gallica</i>	Daggerleaf cottonrose	
* <i>Matricaria discoidea</i>	Pineapple weed	
* <i>Oncosiphon piluliferum</i>	Stinknet	
<i>Pseudognaphalium californicum</i>	Ladies' tobacco	
* <i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	
<i>Pseudognaphalium stramineum</i>	Cottonbatting plant	
<i>Senecio flaccidus</i>	Threadleaf ragwort	
* <i>Senecio vulgaris</i>	Common groundsel	
* <i>Sonchus asper ssp. asper</i>	Prickly sow thistle	
* <i>Sonchus oleraceus</i>	Common sow thistle	
<i>Stephanomeria exigua</i>	Small wire-lettuce	
<i>Stylocline gnaphaloides</i>	Everlasting neststraw	
<i>Uropappus lindleyi</i>	Silverpuffs	
* <i>Verbesina encelioides ssp. exauriculata</i>	Golden crownbeard	
<i>Xanthium strumarium</i>	Cocklebur	
<b>Boraginaceae - Borage family</b>		
<i>Amsinckia menziesii</i>	Common fiddleneck	
<i>Cryptantha sp.</i>	Cryptantha	
<i>Emmenanthe penduliflora</i>	Whispering bells	
<i>Eriodictyon trichocalyx</i>	Hairy yerba santa	
<i>Pectocarya linearis ssp. ferocula</i>	Narrow-toothed pectocarya	
<i>Phacelia cicutaria</i>	Caterpillar phacelia	
<i>Phacelia distans</i>	Distant phacelia	
<i>Phacelia minor</i>	Wild canterbury bells	
<i>Plagiobothrys canescens</i>	Valley popcornflower	
<b>Brassicaceae - Mustard family</b>		
* <i>Hirschfeldia incana</i>	Shortpod mustard	
* <i>Lepidium didymum</i>	Lesser swine cress	
* <i>Lobularia maritima</i>	Sweet alyssum	
<i>Nasturtium officinale</i>	Water cress	
* <i>Sisymbrium irio</i>	London rocket	
<b>Cactaceae - Cactus family</b>		
<i>Cylindropuntia californica var. californica</i>	Snake cholla	

Scientific Name	Common Name	Special Status
<i>Opuntia littoralis</i>	Coastal prickly-pear	
<b>Caryophyllaceae - Pink family</b>		
* <i>Polycarpon tetraphyllum</i> var. <i>tetraphyllum</i>	Four-leaved allseed	
<b>Chenopodiaceae - Goosefoot family</b>		
* <i>Bassia hyssopifolia</i>	Fivehorn smotherweed	
* <i>Chenopodium album</i>	Lamb's quarters	
* <i>Chenopodium murale</i>	Nettleleaf goosefoot	
* <i>Salsola tragus</i>	Russian thistle	
<b>Cistaceae - Rock-rose family</b>		
<i>Cistus</i> sp.	Rockrose	
<b>Crassulaceae - Stonecrop family</b>		
<i>Crassula connata</i>	Pygmy-weed	
<i>Dudleya lanceolata</i>	Lance-leaved dudleya	
<b>Cucurbitaceae - Gourd family</b>		
<i>Cucurbita foetidissima</i>	calabazilla	
<b>Euphorbiaceae - Spurge family</b>		
<i>Chamaesyce polycarpa</i>	Smallseed sandmat	
<i>Croton californicus</i>	California croton	
<i>Croton setigerus</i>	Turkey-Mullein	
* <i>Euphorbia peplus</i>	Petty spurge	
* <i>Ricinus communis</i>	Castorbean	
<b>Fabaceae - Legume family</b>		
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus	
<i>Acmispon argophyllum</i>	Silver bird's-foot trefoil	
<i>Acmispon glaber</i>	Deerweed	
<i>Acmispon micranthus</i>	San Diego bird's-foot trefoil	
<i>Acmispon strigosus</i>	Strigose bird's-foot trefoil	
* <i>Albizia julibrissin</i>	Silk tree	
* <i>Caesalpinia gilliesii</i>	Bird-of-paradisie	
<i>Lupinus bicolor</i>	Miniature lupine	
<i>Lupinus succulentus</i>	Arroyo lupine	
* <i>Medicago polymorpha</i>	California burclover	
* <i>Melilotus indicus</i>	Sourclover	
* <i>Parkinsonia aculeata</i>	Mexican palo verde	
* <i>Trifolium repens</i>	White clover	
* <i>Vicia villosa</i>	Hairy vetch	
<b>Fagaceae - Oak family</b>		
<i>Quercus berberidifolia</i>	Scrub oak	
<b>Geraniaceae - Geranium family</b>		

Scientific Name	Common Name	Special Status
* <i>Erodium botrys</i>	Longbeak stork's bill	
* <i>Erodium cicutarium</i>	Redstem filaree	
* <i>Erodium moschatum</i>	Greenstem filaree	
<b>Koeberliniaceae - Junco family</b>		
<i>Koeberlinia sp.</i>	All thorn	
<b>Lamiaceae - Mint family</b>		
* <i>Marrubium vulgare</i>	Horehound	
<i>Salvia apiana</i>	White sage	
<i>Salvia columbariae</i>	Chia	
<i>Salvia mellifera</i>	Black sage	
<b>Loasaceae - Loasa family</b>		
<i>Mentzelia laevicaulis</i>	Smoothstem blazing star	
<b>Malvaceae - Mallow family</b>		
<i>Malacothamnus fasciculatus</i>	Chaparral mallow	
* <i>Malva parviflora</i>	Cheeseweed	
<b>Myrsinaceae - Myrsine family</b>		
* <i>Anagallis arvensis</i>	Scarlet pimpernel	
<b>Myrtaceae - Myrtle family</b>		
* <i>Eucalyptus sp.</i>	Gum	
<b>Oleaceae - Olive family</b>		
* <i>Fraxinus uhdei</i>	Ash	
<i>Fraxinus velutina</i>	Velvet ash	
<b>Onagraceae - Evening Primrose family</b>		
<i>Camissoniopsis bistorta</i>	California sun cup	
<i>Camissoniopsis intermedia</i>	Intermediate suncup	
<i>Camissoniopsis luciae</i>	Santa lucia suncup	
<i>Camissoniopsis micrantha</i>	Miniature suncup	
<i>Epilobium ciliatum</i>	Fringed willowherb	
<i>Eulobus californicus</i>	California suncup	
* <i>Oenothera laciniata</i>	Cutleaf evening primrose	
<b>Papaveraceae - Poppy family</b>		
<i>Eschscholzia californica</i>	California poppy	
<b>Phrymaceae - Lopseed family</b>		
<i>Mimulus floribundus</i>	Manyflowered monkeyflower	
<i>Mimulus guttatus</i>	Seep monkeyflower	
<i>Mimulus sp.</i>	Monkeyflower	
<b>Plantaginaceae - Plantain family</b>		
<i>Penstemon spectabilis</i>	Showy penstemon	
* <i>Plantago arenaria</i>	Sand plantain	

Scientific Name	Common Name	Special Status
* <i>Plantago lanceolata</i>	English plantain	
* <i>Plantago major</i>	Common plantain	
* <i>Veronica anagallis-aquatica</i>	Water speedwell	
* <i>Veronica persica</i>	Persian speedwell	
<b>Platanaceae - Plane Tree, Sycamore family</b>		
<i>Platanus racemosa</i>	Western sycamore	
<b>Polemoniaceae - Phlox family</b>		
<i>Eriastrum densifolium ssp. sanctorum</i>	Santa Ana River woollystar	FE, SE, CRPR 1B.1
<i>Eriastrum saphirinum</i>	Sapphire woollystar	
<i>Gilia angelensis</i>	Chaparral gilia	
<i>Navarretia hamata</i>	Hooked pincushionplant	
<b>Polygonaceae - Buckwheat family</b>		
<i>Eriogonum fasciculatum</i>	California buckwheat	
<i>Eriogonum gracile</i>	Slender woolly buckwheat	
<i>Lastarriaea coriacea</i>	Leather-spineflower	
<b>Portulacaceae - Purslane family</b>		
* <i>Portulaca oleracea</i>	Purslane	
<b>Rhamnaceae - Buckthorn family</b>		
<i>Frangula sp.</i>	Buckthorn	
<i>Rhamnus crocea</i>	Spiny redberry	
<b>Rosaceae - Rose family</b>		
<i>Adenostoma fasciculatum</i>	Chamise, greasewood	
<i>Cercocarpus betuloides</i>	California mountain mahogany	
<b>Salicaceae - Willow family</b>		
<i>Populus trichocarpa</i>	Black cottonwood	
<i>Salix gooddingii</i>	Goodding's black willow	
<b>Scrophulariaceae - Figwort family</b>		
* <i>Verbascum thapsus</i>	Woolly mullein	
<b>Solanaceae - Nightshade family</b>		
* <i>Datura stramonium</i>	Jimsonweed	
<i>Datura wrightii</i>	Sacred thorn-apple	
* <i>Nicotiana glauca</i>	Tree tobacco	
<i>Nicotiana obtusifolia</i>	Desert tobacco	
<i>Petunia sp.</i>	Petunia	
<i>Solanum americanum</i>	American black nightshade	
<i>Solanum douglasii</i>	Greenspot nightshade	
<b>Tamaricaceae - Tamarisk family</b>		
* <i>Tamarix ramosissima</i>	Saltcedar	
<b>Urticaceae - Nettle family</b>		

Scientific Name	Common Name	Special Status
* <i>Urtica urens</i>	Dwarf nettle	
<b>Zygophyllaceae - Caltrop family</b>		
* <i>Tribulus terrestris</i>	Puncturevine	
<b>MONOCOTS</b>		
<b>Agavaceae - Century Plant family</b>		
<i>Hesperoyucca whipplei</i>	Chaparral yucca	
<b>Arecaceae - Palm family</b>		
* <i>Washingtonia robusta</i>	Mexican fan palm	
<b>Cyperaceae - Sedge family</b>		
* <i>Cyperus difformis</i>	Variable flatsedge	
<i>Cyperus eragrostis</i>	Tall flatsedge	
<i>Cyperus esculentus</i>	Yellow nutsedge	
<b>Poaceae - Grass family</b>		
<i>Agrostis sp.</i>	Bentgrass	
* <i>Avena sp.</i>	Oat	
* <i>Bromus catharticus</i>	Rescuegrass	
* <i>Bromus diandrus</i>	Ripgut grass	
* <i>Bromus madritensis</i>	Compact brome	
* <i>Bromus tectorum</i>	downy chess	
* <i>Cynodon dactylon</i>	Bermuda grass	
* <i>Echinochloa crus-galli</i>	Barnyardgrass	
* <i>Eleusine indica</i>	India goose grass	
<i>Eleusine sp.</i>	Goosegrass	
<i>Eragrostis sp.</i>	Love grass	
* <i>Festuca myuros</i>	Rattail sixweeks grass	
* <i>Festuca perennis</i>	Rye grass	
* <i>Hordeum murinum</i>	Wall barley	
* <i>Lamarckia aurea</i>	Goldentop grass	
* <i>Pennisetum setaceum</i>	Crimson fountain grass	
* <i>Poa annua</i>	Annual blue grass	
* <i>Polypogon monspeliensis</i>	Annual beard grass	
* <i>Schismus barbatus</i>	Common mediterranean grass	
<i>Setaria parviflora</i>	Knotroot bristle grass	
<i>Sporobolus cryptandrus</i>	Sand dropseed	
* <i>Stenotaphrum secundatum</i>	Saint augustine grass	
* <i>Stipa miliacea var. miliacea</i>	Smilo grass	
<i>Stipa pulchra</i>	Purple needle grass	
<b>Themidaceae - Brodiaea family</b>		

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Scientific Name	Common Name	Special Status
<i>Dichelostemma capitatum</i>	Blue dicks	
<b>Typhaceae - Cattail family</b>		
<i>Typha domingensis</i>	Southern cattail	

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### Legend

\*= Non-native or invasive species

Special Status:

Federal:

FE = Endangered

FT = Threatened

State:

SE = Endangered

ST =Threatened

CRPR – California Rare Plant Rank

1A. Presumed extinct in California

1B. Rare or Endangered in California and elsewhere

2. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

Threat Ranks

.1 - Seriously endangered in California

.2 – Fairly endangered in California

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## Appendix E Wildlife Species Detected

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**Appendix E. Wildlife Species Detected**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Special Status</b>
<b>INVERTEBRATES</b>		
<b>Branchiopods</b>		
<i>*Armadillidium vulgare</i>	Common Pillbug	
<b>Insects</b>		
<i>Enallagma sp.</i>	Bluet	
<i>Popillia japonica</i>	Japanese Tiger Beetle	
<i>*Apis mellifera</i>	Honey Bee	
<i>Messor/Pogonomyrmex sp.</i>	Harvester Ant	
<b>Moths, Skippers and Butterflies</b>		
<i>Pontia protodice</i>	Checkered White	
<i>*Pieris rapae</i>	Cabbage White	
<i>Strymon melinus</i>	Gray Hairstreak	
<i>Leptotes marina</i>	Marine Blue	
<i>Icaricia acmon</i>	Acmon Blue	
<i>Junonia coenia</i>	Common Buckeye	
<i>Hylephila phyleus</i>	Fiery Skipper	
<b>VERTEBRATES</b>		
<b>Reptiles</b>		
<i>Sceloporus occidentalis</i>	Western Fence Lizard	
<i>Uta stansburiana</i>	Side-blotched Lizard	
<i>Aspidoscelis tigris</i>	Western Whiptail	
<b>Birds</b>		
<i>Callipepla californica</i>	California Quail	
<i>*Gallus gallus domesticus</i>	Domestic Red Junglefowl	
<i>Gallus</i>	Domestic Chicken	
<i>Circus cyaneus</i>	Northern Harrier	CSC
<i>Accipiter cooperii</i>	Cooper's Hawk	
<i>Buteo jamaicensis</i>	Red-tailed Hawk	
<i>Falco sparverius</i>	American Kestrel	
<i>Charadrius vociferus</i>	Killdeer	
<i>*Columba livia</i>	Rock Pigeon	
<i>Zenaidura macroura</i>	Mourning Dove	
<i>Tyto alba</i>	Barn Owl	

<b>Scientific Name</b>	<b>Common Name</b>	<b>Special Status</b>
<i>Aeronautes saxatalis</i>	White-throated Swift	
<i>Calypte anna</i>	Anna's Hummingbird	
<i>Picoides nuttallii</i>	Nuttall's Woodpecker	
<i>Sayornis nigricans</i>	Black Phoebe	
<i>Sayornis saya</i>	Say's Phoebe	
<i>Tyrannus vociferans</i>	Cassin's Kingbird	
<i>Tyrannus verticalis</i>	Western Kingbird	
<i>Lanius ludovicianus</i>	Loggerhead Shrike	CSC
<i>Corvus brachyrhynchos</i>	American Crow	
<i>Corvus corax</i>	Common Raven	
<i>Eremophila alpestris</i>	Horned Lark	
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	
<i>Hirundo rustica</i>	Barn Swallow	
<i>Thryomanes bewickii</i>	Bewick's Wren	
<i>Sialia mexicana</i>	Western Bluebird	
<i>Mimus polyglottos</i>	Northern Mockingbird	
<i>Toxostoma redivivum</i>	California Thrasher	
* <i>Sturnus vulgaris</i>	European Starling	
<i>Phainopepla nitens</i>	Phainopepla	
<i>Dendroica petechia</i>	Yellow Warbler	CSC
<i>Pipilo maculatus</i>	Spotted Towhee	
<i>Melospiza crissalis</i>	California Towhee	
<i>Spizella breweri</i>	Brewer's Sparrow	
<i>Passerina caerulea</i>	Blue Grosbeak	
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	
<i>Icterus bullockii</i>	Bullock's Oriole	
<i>Haemorhous mexicanus</i>	House Finch	
<i>Carduelis psaltria</i>	Lesser Goldfinch	
* <i>Passer domesticus</i>	House Sparrow	
<b>Mammals</b>		
<i>Sylvilagus audubonii</i>	Desert Cottontail	
<i>Lepus californicus bennettii</i>	San Diego Black-tailed Jackrabbit	CSC

<b>Scientific Name</b>	<b>Common Name</b>	<b>Special Status</b>
<i>Spermophilus beecheyi</i>	California Ground Squirrel	
<i>Thomomys bottae</i>	Botta's Pocket Gopher	
<i>Perognathus longimembris brevinasus</i>	Los Angeles Pocket Mouse	CSC
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego Pocket Mouse	CSC
<i>Dipodomys agilis</i>	Agile Kangaroo Rat	
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	
<i>Peromyscus maniculatus</i>	Deer Mouse	
<i>Neotoma lepida intermedia</i>	San Diego Desert Woodrat	CSC
* <i>Mus musculus</i>	House Mouse	
<i>Microtus californicus</i>	California Vole	
* <i>Canis familiaris</i>	Domestic Dog	
<i>Canis latrans</i>	Coyote	
<i>Lynx rufus</i>	Bobcat	
* <i>Equus caballus</i>	Domestic Horse	

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### Legend

\*= Non-native or invasive species

Special Status:

Federal:

FE = Endangered

FT = Threatened

State:

SE = Endangered

ST = Threatened

CSC = California Species of Special Concern

CFP = California Fully Protected Species

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# Appendix F Measures

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The following minimization and avoidance measures, as well as compensatory measures, are presented throughout this report. Unless otherwise noted, the measures shown are avoidance and/or minimization measures.

**M-1 Avoid Clearing and Grubbing of Riversidean Alluvial Fan Sage Scrub (RAFSS).**

RAFSS is located within the buffer associated with the Biological Study Area (BSA), but is not located within the project footprint; therefore, clearing and grubbing of RAFSS would be avoided. Clear marking of construction limits will be implemented to ensure that impacts to RAFSS do not occur.

**M-2 Regular watering for dust control.** Active construction areas will be watered regularly to control dust and minimize impacts to adjacent vegetation.

**M-3 Firefighting Equipment and Preparation.** When work is conducted adjacent to RAFSS or Riversidean sage scrub, appropriate firefighting equipment (e.g., extinguishers, shovels, water truck) will be available on the project site during all phases of project construction to help minimize the chance of construction-related wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities.

**M-4 Environmental Training for All Construction Personnel.** A qualified biologist will conduct an environmental training session for all project personnel prior to staging or grading activities. The training will include a description of the species of concern and their habitats, the general provisions of the Federal Endangered Species Act and the California Endangered Species Act, the need to adhere to the provisions of the federal and state Endangered Species Acts, penalties associated with violating the provisions of the Acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes and project site boundaries within which the project activities must be accomplished.

**M-5 Presence of a Biological Monitor during Construction Activities.** A qualified biologist will be present to monitor construction activities for the duration of the proposed project to ensure that all practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside of the project limits. Special attention will be provided to ensure that the Environmental Sensitive Area (ESA) (in **M-6**, below) fencing is installed correctly and maintained daily. Additionally, ongoing monitoring and reporting will occur for the duration of construction activities to ensure implementation of best management practices (BMPs).

**M-6 Installation of ESA Fencing.** Construction limits adjacent to sensitive resource areas (i.e., RAFSS) will be demarcated using ESA fencing (i.e., orange snow screen), which will be installed by construction personnel under supervision of a biological monitor. Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. The ESA fencing will be reviewed daily by the biological monitor (as indicated in **M-5**) until the completion of all construction activities, or at a regular interval as to be determined in coordination with USFWS and CDFW. Construction personnel will be instructed that their activities are restricted to construction areas.

**M-7 Removal of Exotic Plant Species.** Any exotic species that are removed during construction will be properly handled to prevent sprouting or regrowth.

**M-8 Clean Construction Equipment of Mud and Debris.** Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected by construction personnel to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. Cleaning of equipment will occur at least 300 feet from ESA fencing in a designated area.

**M-9 Guidance on Removal and Disposal of Vegetation.** Trucks carrying loads of vegetation that will be removed from the project site will be covered and disposed of in accordance with applicable laws and regulations.

**M-10 Post-Construction Revegetation.** Once construction is complete, any disturbed areas remaining as bare ground will be hydro-seeded with a Caltrans-approved seed mix.

**M-11 Best Management Practices for Erosion Control and Water Pollution.** Applicable Best Management Practices will be implemented. These may include but are not limited to:

- Water pollution and erosion control plans will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements.
- Equipment storage, fueling, and staging areas will be located at sites with minimal risks of direct drainage into surface waters. Project related spills of hazardous materials will be reported to appropriate entities, including but not limited to the City and/or RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas.
- To avoid attracting wildlife to the project site, the construction will be kept as clean of debris as possible. All food related trash items will be enclosed in sealed containers and regularly removed from the site(s).

**M-12 Maintenance of SBKR Exclusionary Fencing.** To protect San Bernardino Kangaroo Rat (SBKR) from construction areas, SBKR exclusion fencing (EF) has been used. SBKR Critical Habitat (i.e., RAFSS) adjacent to construction areas will be demarcated using EF, and exclusionary fencing has been installed by construction personnel under the supervision of a biological monitor. EF consists of a fine, wire mesh, opaque fencing material. The location of EF has been placed along Caltrans right of way (ROW) on the southwest corner of the project area (see Figure 4-3). EF follows the ROW fence from coordinates (34.13486 / -117.35759) for approximately 500 feet toward the east (See Figure 4-3). The EF was buried below ground 12-18 inches, and extends for 36 inches above ground. This will help to exclude SBKR entering construction areas during construction activities, from known occupied SBKR habitat south of the Caltrans ROW. The EF will be reviewed by the biological monitor and maintained daily (as indicated in **M-5**), until the completion of all construction activities, or at a regular interval as to be determined in coordination with USFWS and CDFW.

**M-13. Take Avoidance Burrowing Owl Survey.** To determine if Burrowing Owl are occupying the project limits or adjacent areas prior to construction, a take avoidance survey following CDFW protocol (2012) will be conducted no less than 14 days prior to initiating ground disturbance activities. In addition, any time lapses between project activities would trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance. The survey will be conducted from civil twilight to 10:00 am or two hours before sunset until evening civil twilight within areas providing suitable habitat for Burrowing Owl. The survey will include the proposed project limits and a 300-foot buffer if performed between February 15 and August 31 (nesting season) and a 100-foot buffer if the survey is conducted outside of the nesting season. If Burrowing Owls are present, **M-14** or **M-15** shall be implemented.

**M-14. Avoidance of Burrowing Owl During the Nesting Season.** If Burrowing Owl are found during pre-construction take avoidance surveys (**M-13**) during the nesting season, the Burrowing Owl will be fully avoided by establishing an appropriate buffer in coordination with CDFW (minimum of 300 feet), where feasible.

**M-15. Passive Relocation of Burrowing Owl.** If Burrowing Owl are found during pre-construction take avoidance surveys outside of the nesting season, passive relocation by a qualified ornithologist will be conducted once it has been confirmed that pairing activities have not begun. Passive relocation efforts will be conducted in coordination with CDFW. If the Burrowing Owl is found to be paired and exhibiting potential nesting behavior, construction disturbance will not occur within 300 feet of the active burrow(s) until it is confirmed by the ornithologist that the pair is not nesting and that young are not present, or if present are independently foraging.

**M-16. Preconstruction Raptor Surveys.** Within 30 days prior to the commencement of construction (if between January 15 and September 1), a qualified biologist will perform a raptor nesting survey that will consist of a single visit to ascertain whether there are active raptor nests within 300 feet of the project footprint. This survey will also identify the species of nesting raptor and to the degree feasible, nesting stage (e.g., incubation of eggs, feeding of young, near fledging). Nests will be mapped (not by using GPS because close encroachment may cause nest abandonment). If active nests are found, construction will not occur within 300 feet of the nest until the nesting attempt has been completed and/or abandoned due to non-project-related reasons.

**M-17. Preconstruction Bat Survey.** To prevent impacts on daytime bat roosts and maternity roosts, a qualified biologist will be retained to conduct bat and bat roosting site surveys prior to commencement of mature tree removal activities. This pre-construction survey will be conducted at any mature tree proposed for removal and within 100 feet of the project limits. If roosting sites or bats are not found, a report confirming their absence will be sent to the CDFW and no further mitigation will be required.

If the pre-construction survey finds bats to be roosting, and tree removal is scheduled to occur between October 1 and March 30 (outside of the maternity season of April 1 through September 30), the bats will be evicted by the following methods. Eviction of bats will be conducted using bat exclusion techniques, developed by Bat Conservation International (BCI) and in consultation with CDFW. These techniques allow the bats to exit the roosting site but prevent re-occupation of the site. Where applicable for tree roosts, the following two-step cutting process would occur: Surrounding branches that do not house bats at the time that the eviction would occur, would be removed as step one. This would alter the condition of the roost tree, causing bats to abandon the roost. The tree can then be fully removed as step two. A visual inspection of the roost tree would be required prior to removal to verify that all bats have been successfully excluded. This work will be completed by a bat exclusion professional.

If the pre-construction survey finds bats to be roosting and tree removal is scheduled to occur during the maternity season (April 1 through September 30), a qualified biologist will monitor the roost to determine if the roost site is a maternal roost. This may be determined by either visual inspection of the roost for bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats will be evicted as described above. If the roost is determined to be a maternal roost, eviction of a maternal roost cannot occur during the nursery season, as bat pups cannot leave the roost until they have reached maturity. In this case, a 250-foot-wide buffer zone (or an alternative width, as determined in consultation with CDFW) will be established around the roosting site, within which no construction-related impacts will occur until the qualified biologist has determined the bat pups are mature enough to permanently leave the roost.

Appendix G Proof of Purchase of Mitigation  
Credits for Impacts to SBKR Critical  
Habitat for the Construction of SR-  
210

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## West, Zackry

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**From:** Julie Vandermost <JVandermost@vcsenvironmental.com>  
**Sent:** Thursday, February 07, 2013 9:04 AM  
**To:** West, Zackry  
**Cc:** Lennie Rae Cooke  
**Subject:** FW:  
**Attachments:** Cajon sales log 1998-current.doc

Julie Vandermost  
President

VCS Environmental  
EXPERT SOLUTIONS | CEQA-NEPA . Biology . Regulatory

30900 Rancho Viejo Road, Suite 100  
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[vcsenvironmental.com](http://vcsenvironmental.com)

---

**From:** <Linton>, Mike Linton <[lintonm@vmcmail.com](mailto:lintonm@vmcmail.com)>  
**Date:** Wednesday, October 10, 2012 11:29 AM  
**To:** Julie Vandermost <[jvandermost@vcsenvironmental.com](mailto:jvandermost@vcsenvironmental.com)>  
**Subject:** FW:

[Our history of credit sales from inception to current.](#)

Mike

Michael Linton  
Vulcan Materials Company, West Region  
500 North Brand Blvd.  
Suite 500  
Glendale, Ca 91203  
Phone: 818-553-8953  
Cell: 323-314-6241

---

**From:** Ortega, Sheri  
**Sent:** Wednesday, October 10, 2012 9:03 AM  
**To:** Linton, Mike  
**Subject:**

The 130 was to Caltrans for Hwy 30.

Sheri Ortega  
Property Manager

818-553-8954 (direct)  
626-633-4236 (Irwindale Office)

VULCAN

**Materials Company**

**Western Region**

500 N. Brand Blvd. Suite 500  
Glendale, Ca 91203-1923

1998-CURRENT  
CAJON CREEK MITIGATION BANK SALES LOG

1998-2000

Bill of Sale	Date	Customer	Project	Regulatory Agency	Permit Number	Type of Habitat	Credit/Acreage	Notes	Sales Price \$/Credit/Acre
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
00-1 (G)	2/9/00	Caltrans	Route 30 Freeway	U.S. Fish & Wildlife Service	Biological Opinion #1-6-93-F-48 revision #48RI & #48R2	RAFSS *(SBKR)	130	[REDACTED]	\$22,000
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

\*1998-2000 total credits sold to date @ 12-31-2000 [REDACTED]

