Natural Environment Study

(Minimal Impacts)

City of Grand Terrace and City of Colton, California

District 08 – San Bernardino

08-SBD-215 PM 0.58/1.66

EA No. 08-0J0700

(PN 0800000282)

October 2013

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

(Minimal Impacts)

I-215/Barton Road Interchange Improvement Project

City of Grand Terrace and City of Colton, California
District 08 – San Bernardino
08-SBD-215 PM 0.58/1.66
EA No. 08-0J0700
(PN 0800000282)

October 2013

STATE OF CALIFORNIA
Department of Transportation

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1. Summary

The San Bernardino Associated Governments (SANBAG), in cooperation with the California Department of Transportation (Caltrans), City of Grand Terrace, and City of Colton, proposes to improve the Interstate 215 (I-215)/Barton Road interchange. The proposed project area is located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County, California. On Barton Road, the project limits extend from approximately 0.3 mile (mi) west of I-215 to 0.4 mi east of I-215. The project limits on I-215 extend from approximately 0.8 mi south of Barton Road to 0.4 mi north of Barton Road.

An on-site assessment was conducted to evaluate the biological condition of the Biological Study Area (BSA), including vegetation, wildlife, and suitability of habitat for the presence of various sensitive species. The BSA represents the area of potential direct and indirect project impacts to biological resources and is predominantly a mixture of nonnative ruderal and ornamental vegetation. There are two drainages with associated riparian habitat. One is located at the north end of the BSA, along southbound I-215, approximately 1,000 feet (ft) south of Newport Avenue, and the other is located at the south end of the BSA. Both drainages were determined not to have potential suitable habitat for the federally and State listed as endangered least Bell's vireo (LBV; *Vireo bellii pusillus*); however, the drainages have marginal habitat for the nonlisted San Bernardino aster (*Corethrogyne filaginifolia*), a species of special concern. Additionally, a vacant field southeast of the I-215/Barton Road interchange potentially has marginal habitat for the northwestern San Diego pocket mouse (*Chaetodipus fallax*), a nonlisted species of special concern. Neither of these nonlisted species of special concern is anticipated to occur within the BSA or be affected by the project due to the high level of disturbance in the BSA. The western burrowing owl (*Athene cunicularia hypugaea*) was determined to be absent based on results of the burrow surveys; however, a preconstruction focused survey will be required for this species. The proposed project is not expected to result in any impacts to threatened or endangered species or other species of special concern.

A jurisdictional delineation was conducted in accordance with United States Army Corps of Engineers (ACOE) and California Department of Fish and Wildlife (CDFW) criteria. The results of the delineation indicate that there is 0.30 acre (ac) of potential ACOE nonwetland waters, 0.04 ac of potential ACOE wetlands, and 1.34 ac of potential CDFW jurisdictional areas in the study area (refer to Appendix D). The project would permanently impact up to 0.01 ac of potential ACOE nonwetland waters and up to 0.08 ac of potential CDFW jurisdictional areas. No potential ACOE wetlands would be impacted.

2. Introduction

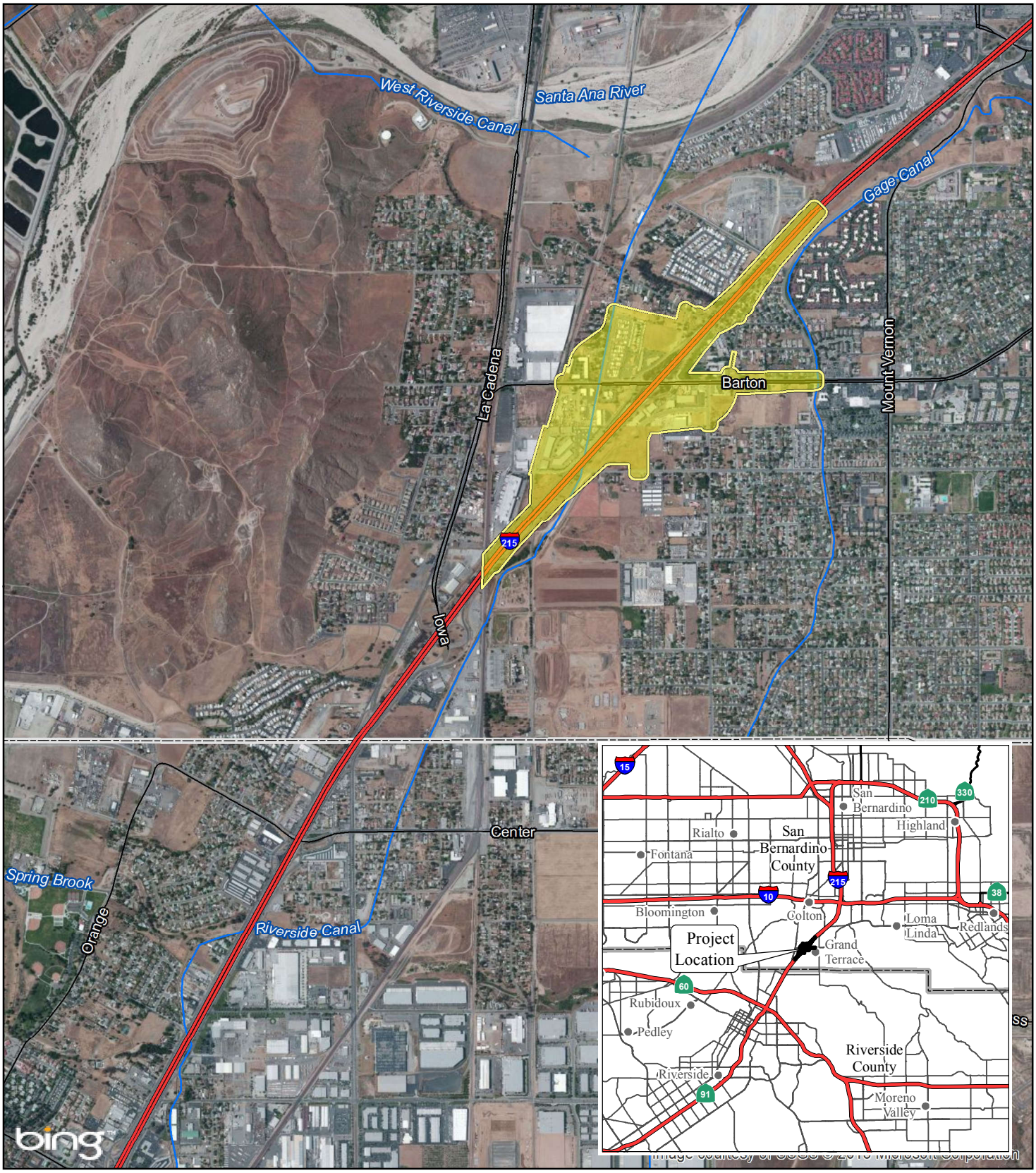
SANBAG, in cooperation with, Caltrans, City of Grand Terrace, and City of Colton proposes to improve the I-215/Barton Road interchange. The proposed project is located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County, California. On Barton Road, the project limits extend from approximately 0.3 mi west of I-215 to 0.4 mi east of I-215. The project limits on I-215 extend from approximately 0.8 mi south of Barton Road to 0.4 mi north of Barton Road. Figure 1 shows project location and vicinity maps.

I-215 is a major north-south freeway facility that begins at the southern junction of Interstate 15 (I-15) in the City of Murrieta in Riverside County and terminates at the northern junction with I-15, near Devore in San Bernardino County. It is an alternative route of I-15. The portion of I-215 within the project limits currently provides three through lanes in each direction and a paved median.

The existing I-215/Barton Road interchange is a compact diamond interchange with single-lane entrance and exit ramps. Both of the exit ramp approaches expand to two lanes to accommodate turning traffic. The existing northbound ramp intersection and southbound ramp intersection are spaced approximately 350 ft apart. The existing overcrossing is a single lane in each direction with back-to-back left-turn pockets for the entrance ramps.

Barton Road is an east-west primary arterial in the County of San Bernardino. It extends from La Cadena Drive in the City of Colton to east of San Mateo Street in the City of Redlands. Within the project limits, Barton Road is a two-lane roadway west of I-215. East of I-215, Barton Road is a four-lane facility with turn lanes at various intersections. Within the project limits, there are several intersections:

- Grand Terrace Road (unsignalized T-intersection)
- Southbound ramps and La Crosse Avenue intersection (signalized)
- Northbound ramps intersection (signalized)
- Michigan Avenue intersection (signalized T-intersection)
- Vivienda Avenue intersection (unsignalized T-intersection)



LEGEND

Project Area

FIGURE 1

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0 1000 2000

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I-215/Barton Road Interchange Improvement Project

Project Location

SOURCE: Bing Maps (c. 2008); USGS NHD (2011); ESRI (2008)

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2.1. Purpose and Need

2.1.1. Purpose

The purpose of the proposed project is to reconstruct and improve the interchange in order to improve operation, increase capacity, and reduce congestion at the I-215/Barton Road interchange and facilities served by the interchange.

2.1.2. Need

The proposed project is needed to increase capacity, improve operations, and reduce congestion at the I-215/Barton Road interchange. Based on traffic projections and the existing and future land uses in the vicinity, the facility is forecast to degrade to level of service (LOS) F (breakdown condition) by 2040 without improvements. Due to its nonstandard design, the existing interchange restricts large truck movements, as well as pedestrian and bicyclist access to local streets.

2.1.2.1. Capacity and Transportation Demand

The study area intersections currently operate at LOS B or C during the a.m. and p.m. peak hours. Without improvements, in 2016, the Barton Road/Grand Terrace Road intersection would operate at LOS F during the a.m. peak hour and LOS E during the p.m. peak hour. Because of the projected demand, without improvements, by 2040 all seven study area intersections would operate at LOS F during both the a.m. and p.m. peak hours, with the exception of Barton Road/La Cadena Drive during the a.m. peak hour, which would operate at LOS C.

The demand for interchange access is also represented in traffic volumes. Traffic projections for 2040 show that the average daily traffic (ADT) volumes on I-215 will increase by more than 200 percent. The 2009 Barton Road interchange ramp volumes are forecast to double by 2040. Additional capacity is needed to accommodate projected traffic volumes and improve LOS.

2.1.2.2. Roadway Deficiencies

The existing I-215 southbound off-ramp at Barton Road is nonstandard per the Highway Design Manual (Sixth Edition) because it intersects with a local street (La Crosse Avenue) before reaching Barton Road. The southbound off-ramp at Barton Road is a five-legged intersection with a two-way frontage road adjacent to the southbound on-ramp. The existing interchange does not have adequate space for Surface Transportation Assistance Act (STAA) truck-turning movements, a sidewalk on the south side, or bicycle lanes. Therefore, the

existing interchange restricts large truck movements and pedestrian and bicyclist access to local streets. Reconstruction of the interchange is needed to improve access to the freeway and local streets.

In the existing condition, the left-turn lane on westbound Barton Road at the I-215 southbound on-ramp does not have sufficient vehicle capacity during the a.m. and p.m. peak hours. This prevents left-turning and through traffic from moving through the interchange. Queue lengths are forecasted to increase substantially by 2040 without interchange improvements. Additional turn-pocket capacity is needed in order to reduce delays at the interchange.

2.1.2.3. Social Demand and Economic Development

The I-215/Barton Road interchange is the primary regional access for the City of Grand Terrace. It also serves the southwestern portion of the City of Colton and provides direct access to the City of Loma Linda. The western region of the City of Grand Terrace and eastern region of the City of Colton are projected to experience substantial population growth through 2035 according to the Southern California Association of Governments (SCAG) 2008 Adopted Regional Transportation Plan (RTP) Growth Forecasts. The build out of the area in accordance with the City of Grand Terrace General Plan and the Barton Road Specific Plan will result in increased traffic congestion on the freeway and the local street networks leading to the interchange. Reconstruction of the interchange is needed to relieve additional congestion.

2.2. Project Description

The Project Description describes the proposed action and the design alternatives that were developed to meet the identified need through accomplishing the defined purposes while avoiding or minimizing environmental impacts. The alternatives are Alternative 1 (No Build), Alternative 3 (Cloverleaf Interchange), Alternative 6 (Modified Cloverleaf), and Modified Alternative 7 (Modified Cloverleaf/Diamond). The proposed project is located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County, California. Within the limits of the proposed project, I-215 currently provides three lanes in each direction. Barton Road is a two-lane roadway west of I-215 and a four-lane facility with turn lanes at various intersections east of I-215. Barton Road provides four ramps that connect to I-215: southbound on- and off-ramps, and northbound on- and off-ramps.

The purpose of the proposed project is to reconstruct and improve the interchange in order to improve operation, increase capacity, and reduce congestion at the I-215/Barton Road interchange. The existing interchange has a nonstandard southbound off-ramp, and the existing interchange restricts large truck movements and pedestrian and bicyclist access. Without the interchange improvement, the operation of this facility will deteriorate over time to reach unacceptable LOS in the future.

The project area for the I-215/Barton Road Interchange Improvement Project overlaps the project area with the I-215 High-Occupancy Vehicle (HOV) Lane Gap Closure Project at the Burlington Northern Santa Fe Railroad (BNSF) two-track underpass (bridge over the freeway) and the Union Pacific Railroad (UPRR) single-track underpass between the Iowa Avenue/La Cadena Drive interchange and the Barton Road interchange. Both projects would require the reconstruction of these two structures. For the I-215/Barton Road Interchange Improvement Project, the reconstruction is needed to accommodate an auxiliary lane that is proposed between the northbound La Cadena entrance ramp and the proposed Barton Road exit ramp. The underpass replacements are required for I-215/Barton Road interchange Alternatives 3, 6, and Modified Alternative 7. For the I-215 Bi-County HOV Lane Gap Closure Project, the reconstruction is necessary due to inadequate horizontal clearance between the existing structure supports and the proposed HOV lane addition. The reconstructed bridges would be raised to provide adequate vertical clearance with the freeway.

Because the I-215 Bi-County HOV Lane Gap Closure Project analyzed the environmental impacts of reconstruction of the two railroad structures, as well as construction of temporary railroad bridges to be utilized during reconstruction of the existing structures (railroad shooflies), and this project is under construction, these impacts are not evaluated as part of this document.

2.3. Project Alternatives

Four alternatives are being analyzed in this document: the No Build Alternative (Alternative 1) and three Build Alternatives (Alternatives 3, 6, and Modified Alternative7).

2.3.1. No Build Alternative

2.3.1.1. Alternative 1 (No Build Alternative)

Under this alternative, no interchange reconstruction would occur. This alternative would not improve operations, increase highway capacity, or reduce highway congestion at the I-215/ Barton Road interchange.

2.3.2. Proposed Build Alternatives

2.3.2.1. Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would provide a conventional partial cloverleaf interchange with the northbound on- and off-ramps on the southern side of Barton Road and the southbound on and off-ramps on the northern side. This alternative would widen Barton Road from one through lane to two through lanes in each direction and add turning lanes onto the southbound and northbound loop on-ramps. The existing overcrossing would be replaced with a new structure with four through lanes and two turn lanes. This alternative also includes the improvements listed below:

- The existing ramps would be removed and a new southbound off-ramp, southbound loop on-ramp, northbound loop on-ramp, and northbound off-ramp would be constructed.
- The southbound off-ramp would make a new connection at Barton Road with one right-turn lane, one shared right-/left-turn lane, and one left-turn lane; La Crosse Avenue north of Barton Road would be removed.
- The southbound loop on-ramp would provide three lanes at Barton Road.
- The northbound off-ramp would accommodate three lanes (two right-turn lanes and one left-turn lane) at the Barton Road intersection.
- The northbound loop on-ramp would provide three lanes at Barton Road.
- A portion of the I-215 Bi-County HOV Gap Closure Project sound barrier in the northwest quadrant would be removed to accommodate the new southbound off-ramp.
- Commerce Way would be reconfigured to intersect with Barton Road at Vivienda Avenue.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.
- The segment of Vivienda Avenue west of I-215 would be converted into a cul-de-sac.
- A new two-lane road would be constructed between La Crosse Avenue and Grand Terrace Road adjacent to Vivienda Avenue.
- Grand Terrace Road and the Grand Terrace Road/Barton Road intersection would be realigned.

- Grand Terrace Road would be extended southwest of Barton Road to tie into East De Berry Street.
- Grand Terrace Road at Barton Road would be converted into a cul-de-sac.
- Barton Road would be widened to four through lanes approximately between Grand Terrace Road and Vivienda Avenue.
- Standard sidewalks and a Class II bicycle lane would be provided on both sides of Barton Road within the project limits.
- Bioswales would be constructed in the northwest and southeast quadrants to treat storm water runoff.
- New landscaping would be provided consistent with the I-215 Bi-County Aesthetic Concept.
- Utilities would be relocated or protected in place during construction.
- Drainage facilities would be modified consistent with other project improvements.
- Traffic signal modifications would be made at Barton Road/Grand Terrace Road/ De Berry Street, I-215 northbound ramps/Barton Road, I-215southbound ramps/Barton Road, and Commerce Way/Vivienda Avenue/Barton Road.

The conceptual design for Alternative 3 is shown in Figure 2.

LEGEND

- Alternative 3
- Temporary Construction Easement
- Proposed Right of Way
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Grand Terrace Fitness Park
- City Boundary

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SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011)

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FIGURE 2

I-215/Barton Road Interchange Improvement Project

Alternative 3

2.3.2.2. Alternative 6 (Modified Cloverleaf)

Alternative 6 proposes a modified cloverleaf interchange with the southbound entrance and exit ramps directly connected to Barton Road; the northbound entrance and exit ramps would be constructed to an extension of Commerce Way, which would be realigned to connect to Barton Road at the location of the existing Vivienda Avenue intersection to the east. Barton Road would be widened to two through lanes in each direction plus one left-turn and one right-turn lane. The existing overcrossing would be replaced with a new structure with four through lanes and three turn lanes. This alternative also includes the improvements listed below:

- The existing ramps would be removed.
- A new southbound loop on-ramp would provide two lanes at Barton Road.
- A new southbound off-ramp would make a new connection at Barton Road with one right-turn lane, one left-turn lane, and one shared right-/left-turn lane; La Crosse Avenue north of Barton Road would be removed; La Crosse south of Barton Road would be reconfigured to a right-in/right-out layout.
- A new northbound off-ramp would tie in to Commerce Way and provide for dual left-turn lanes and a single right-turn lane.
- A bridge would be constructed over the Riverside Canal on the northbound off-ramp to span the canal.
- A new northbound hook on-ramp would be provided in the southeast quadrant. The access to the ramp would be through the proposed extension of the Commerce Way.
- A portion of the I-215 Bi-County HOV Lane Gap Closure Project sound barrier in the northwest quadrant would be removed to accommodate the new southbound off-ramp.
- A new sound barrier is proposed adjacent to the Terrace Village RV Park and the Grand Terrace Mobile Home Park.
- Commerce Way would be reconfigured to intersect with Barton Road at Vivienda Avenue.
- Commerce Way would be shifted to the east to accommodate the northbound off- and on-ramps.
- Commerce Way would be extended southeast of Barton Road to cross Michigan Avenue in the vicinity of De Berry Street.
- The northbound on-ramp and off-ramp would intersect with the proposed Commerce Way extension.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.

- A new two-lane road between La Crosse Avenue and Grand Terrace Road would be constructed adjacent to Vivienda Avenue.
- Barton Road would be widened to four through lanes approximately between Grand Terrace Road and Vivienda Avenue.
- Standard sidewalks and a Class II bicycle lane would be provided on both sides of Barton Road within the project limits.
- Bioswales would be constructed in the northwest and southeast quadrants to treat storm water runoff.
- New landscaping would be provided consistent with the I-215 Bi-County Aesthetic Concept.
- Utilities would be relocated or protected in place during construction.
- Drainage facilities would be modified consistent with other project improvements.
- Traffic signal modifications would be made at Barton Road/Grand Terrace Road, I-215 northbound ramps/Commerce Way, I-215 southbound ramps/Barton Road and Commerce Way/Vivienda Avenue/Barton Road.

The conceptual design for Alternative 6 is shown in Figure 3.

LEGEND

- Alternative 6
- Temporary Construction Easement
- Proposed Right of Way
- Limits of Construction
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Grand Terrace Fitness Park
- City Boundary

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SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011)

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FIGURE 3

I-215/Barton Road Interchange Improvement Project

Alternative 6

2.3.3. Modified Alternative 7 (Modified Cloverleaf/Diamond) (Locally Preferred Alternative)

Modified Alternative 7 would provide a tight diamond configuration for the northbound ramps. The southbound ramps would have a modified cloverleaf configuration with a roundabout at the intersection of the southbound ramps, Barton Road, and La Crosse Avenue. Barton Road would be widened to two through lanes in each direction plus one left-turn and one right-turn lane east of the southbound ramps. The existing overcrossing would be replaced with a new structure with four through lanes and one turn lane. This alternative also includes the improvements listed below:

- The new southbound loop on-ramp would provide two lanes at Barton Road in a roundabout configuration.
- The new southbound off-ramp would make a connection at Barton Road and transition into a roundabout which would provide one right-turn lane, and one shared through/left-turn lane; La Crosse Avenue north of Barton Road would be removed.
- The new northbound off-ramp would terminate at Barton Road with one left-turn lane, one shared through/right-turn lane and one dedicated right-turn lane.
- The new northbound on-ramp would have two lanes at the Barton Road intersection.
- A portion of the I-215 Bi-County HOV Lane Gap Closure Project sound barrier in the northwest quadrant would be modified to accommodate the new southbound off-ramp.
- Commerce Way would be reconfigured to intersect with Barton Road at Vivienda Avenue.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.
- A new two-lane road between La Crosse Avenue and Grand Terrace Road would be constructed adjacent to Vivienda Avenue.
- Barton Road would be widened to four through lanes approximately between Grand Terrace Road and Vivienda Avenue.
- Standard sidewalks and a Class II bicycle lane would be provided on both sides of Barton Road within the project limits.
- Bioswales would be constructed in the northwest and southeast quadrants to treat storm water runoff.
- New landscaping would be provided consistent with the I-215 Bi-County Aesthetic Concept.
- Utilities would be relocated or protected in place during construction.
- Drainage facilities would be modified consistent with other project improvements.

Traffic signal modifications would be made at Barton Road/Grand Terrace Road, I-215 northbound ramps/Barton Road, and Commerce Way/Vivienda Avenue/Barton Road.

The conceptual design for Modified Alternative 7 is shown in Figure 4.

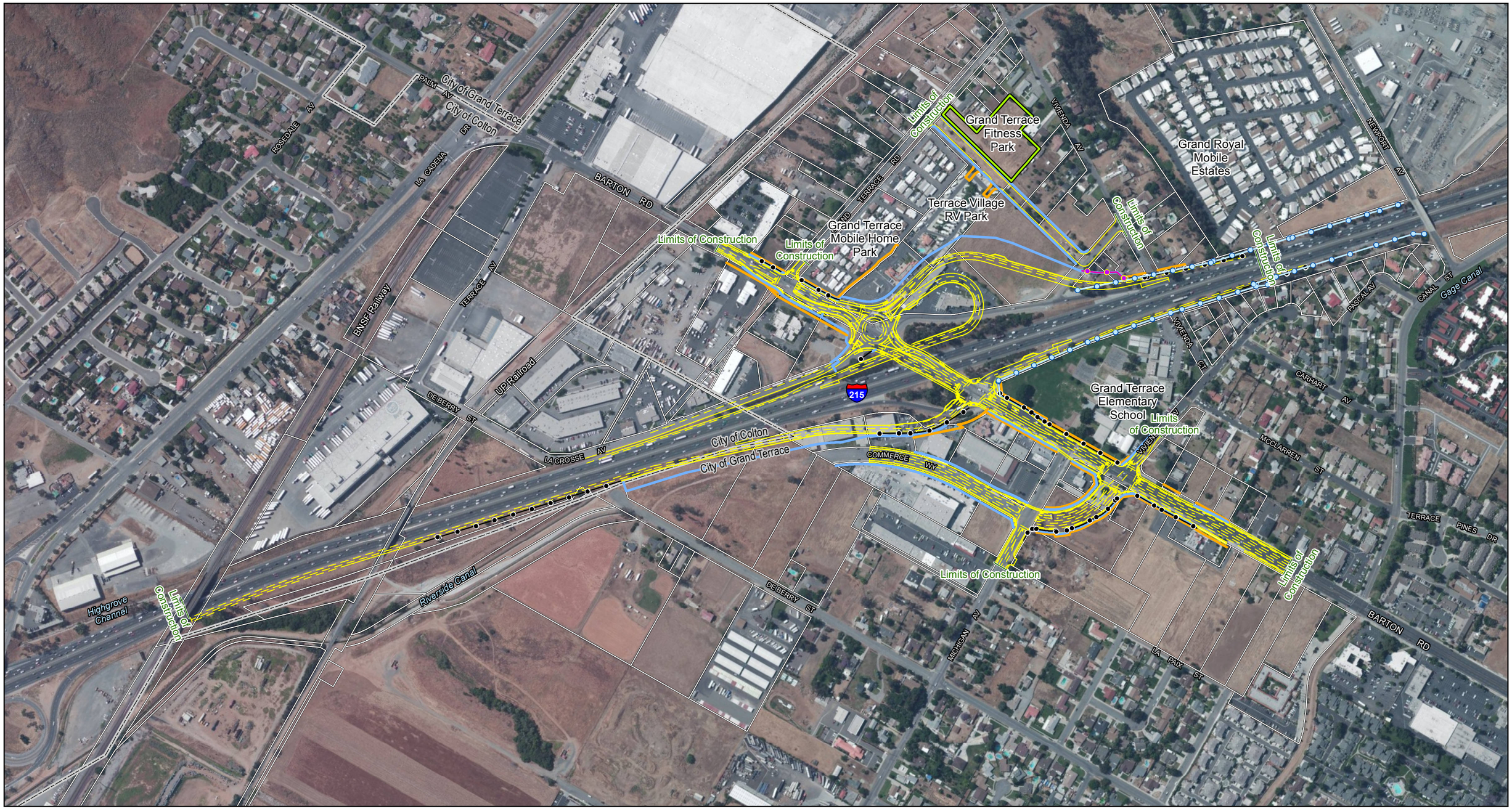
2.3.4. Alternatives Considered but Eliminated from Further Discussion

Alternatives 2 and 4 included a new northbound on-ramp that encroached into the playfields and portable buildings at Grand Terrace Elementary School in the northeast quadrant of the interchange. Meetings with the Colton Joint Unified School District Director of Facilities and Planning and a California Department of Education representative determined that the acquisition of school property under these alternatives would require the school to be relocated. This would require that the project cost include the cost of moving the school and environmental clearance of a new site. Further study determined that a suitable site within the school enrollment area was not available.

During reviews of the Build Alternatives that occurred between September 7, 2011, and October 27, 2011, it was discovered that the northbound on-ramp associated with Alternative 5 conflicts with the designed placement of the eastside bridge abutment for the Newport Avenue Overcrossing (OC) Bridge Replacement Project. The Newport OC Bridge project is in final design, and determining potential resolutions to the engineering conflict is expected to cause critical delays to this project by requiring substantial redesign, which in turn would be expected to result in an environmental reevaluation. In addition, Alternative 5 would result in greater environmental impacts than Alternatives 3, 6, and 7, and is the most expensive Build Alternative.

During the development of Alternative 7, the design team and Caltrans worked to resolve issues associated with the intersection configuration, access control on La Crosse Avenue, and intersection control measures. The existing intersection at the I-215 southbound ramps and Barton Road contains a local street, La Crosse Avenue, that forms two legs of the intersection. The existing connection of La Crosse Avenue north of Barton Road would be eliminated with Alternative 7, but the southern leg of La Crosse Avenue would remain active and provide access to the intersection. Because the connection of the southern leg of La Crosse Avenue at this intersection would occur directly opposite the proposed realigned southbound off-ramp, this connection would be nonstandard per the Caltrans Highway Design Manual (HDM) Index 504.8, Access Control.

In September 2011, Caltrans, SANBAG, and FHWA staff met to review the issue of access control at La Crosse Avenue. During this meeting it was concluded that right-in/right-out



LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Grand Terrace Fitness Park
- City Boundary

0 225 450
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SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013)

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FIGURE 4

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7

access to La Crosse Avenue would provide an adequate compromise to maintain access while minimizing the nonstandard access control. The decision was contingent upon verifying that traffic would operate at an acceptable LOS with the right-in/right-out access control. The traffic operations were verified, and the right-in/right-out control at La Crosse Avenue was incorporated into the various engineering and environmental studies needed for Project Approval/Environmental Document (PA/ED) approval as Alternative 7.

A few property owners along the southern leg of La Crosse Avenue were concerned about how Alternative 7 would impact the access for their delivery trucks and contacted the City of Colton with questions in early 2012. The City of Colton presented the concept of Alternative 7, and the property owners indicated that the loss of full access to the interchange from La Crosse Avenue would negatively affect their businesses.

In August 2012, Caltrans submitted a draft Modified Access Request (MAR), which evaluated the Locally Preferred Alternative (Alternative 7) to FHWA for review. FHWA staff visited the project site along with several Caltrans project staff members. The private property owners' concerns were discussed. During their visit, FHWA staff questioned whether a roundabout concept would improve conditions at the southbound ramp intersection, solve the access control issues, and eliminate the controversy regarding the right-in/right-out configuration. The group agreed that a roundabout would reduce the impacts of La Crosse Avenue on the intersection since wrong-way moves would be more difficult and all directions of the intersection's legs would be served. FHWA informally rejected the MAR pending further study of a roundabout.

The design team prepared a traffic analysis for one and two roundabout scenarios. The analysis determined that a roundabout would be feasible at the I-215 southbound ramps/ Barton Road /La Crosse Avenue intersection. A roundabout in this location would provide access control at La Crosse Avenue, maintain access to all four legs of the intersection, and solve the truck turning movement concerns of the surrounding property owners. The traffic analysis also concluded that a roundabout on Barton Road at the I-215 northbound ramps is not feasible due to operational issues and increased right of way (ROW) impacts. In February 2013, the Project Development Team (PDT) decided to proceed with a modification to Alternative 7 that includes a roundabout at the I-215 southbound ramps. This alternative was formally named Modified Alternative 7 and was selected as the Locally Preferred Alternative at the PDT meeting on March 5, 2013.

For the reasons described above, and because Alternatives 3, 6, and Modified Alternative 7 are feasible, the PDT made a decision to withdraw Alternatives 2 and 4 from further

consideration on March 18, 2008, to withdraw Alternative 5 from further consideration on January 17, 2012, and to withdraw Alternative 7 from further consideration on March 5, 2013.

3. Study Methods

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-interest biological resources (e.g., plant and animal species) in or within the vicinity of the BSA, which is within the *San Bernardino South, California* 7.5-minute United States Geological Survey (USGS) quadrangle. The database records reviewed were:

- California Natural Diversity Database (CNDDB) information (Rarefind 4, May 20, 2013), which is administered by the CDFW. This database covers sensitive plant and animal species as well as sensitive natural communities that occur within California.
- The California Native Plant Society (CNPS) Online Electronic Inventory of Rare and Endangered Vascular Plants of California (Version 7-08b, October 5, 2008, CNPS Inventory).

Searches of these databases were conducted for sensitive species expected to occur in or adjacent to the BSA. A letter from the United States Fish and Wildlife Service (USFWS, April 18, 2013) listing the federally listed as threatened or endangered species in the project vicinity was also reviewed (Appendix A).

Reconnaissance-level surveys were conducted by Senior Biologists Wendy Davis and Sarah Barrera to characterize the general biological resources and to ascertain the presence or absence of special-status plants and animals and the likelihood of their occurrence in the BSA. The purpose of the surveys was to evaluate the BSA based on existing conditions, with particular focus on the native vegetation and special-status species within the BSA. The BSA includes proposed ground disturbance area associated with the interchange, including the grading limits and staging areas.

During the course of the surveys described above, the biological condition of the BSA was assessed for the presence of various special-status biological resources, including vegetation, wildlife, and suitability of habitat. Spring surveys were not conducted because the BSA does not contain suitable habitat for species requiring spring surveys.

A habitat suitability assessment for the western burrowing owl was conducted concurrently with the reconnaissance-level surveys. Where potentially suitable habitat existed for the

burrowing owl, a burrow survey was conducted at 100 percent coverage with 30 ft transects. All burrows on site were observed for indication of burrowing owl presence, activity, or sign. All plant and animal species observed or otherwise detected in the BSA were noted as summarized in Appendix B.

Reconnaissance-level surveys and burrow surveys for the burrowing owl were conducted originally by Wendy Davis on June 20 and November 12, 2008. Wendy Davis and Sarah Barrera conducted an additional survey on August 6, 2009, to assess additional project impact areas resulting from engineering revisions. An additional reconnaissance survey and burrow survey were conducted by Wendy Davis on June 29, 2010, to update existing conditions. The burrowing owl habitat suitability assessment and burrow survey were updated on June 13 and 14, 2011, and again on March 13, 2013, by Wendy Davis.

Notes were taken on drainages that are potentially considered jurisdictional by the ACOE and CDFW during a site visit conducted by Wendy Davis and Senior Biologist Maria Lum on November 16, 2008, and on August 6, 2009, by Wendy Davis and Sarah Barrera.

An on-site meeting with a representative of the ACOE was held on May 5, 2009, to discuss jurisdictional waters. The following personnel attended the meeting: Veronica Chan, ACOE Regulatory Division Project Manager; Scott Quinnell, Caltrans District 8 Branch Chief/ Senior Environmental Planner; Wendy Davis, LSA Senior Biologist; and Sarah Barrera, LSA Senior Biologist.

4. Environmental Setting

The project site is an existing interchange in a developed area along I-215 in the City of Grand Terrace. The entire BSA is located on the USGS *San Bernardino South, California* 7.5-minute topographic map.

4.1. Description of the Existing Biological and Physical Conditions

The alignments of existing I-215 and Barton Road are relatively flat, ranging from approximately 940 to 1,020 ft in elevation. Much of the vegetation adjacent to the existing I-215 and Barton Road consists of ruderal and ornamental vegetation, as shown in Figure 5.

LEGEND

Biological Study Area

Vegetation

- Ruderal field
- Riparian habitat
- Developed/Ornamental
- Drainage Centerline

N

0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

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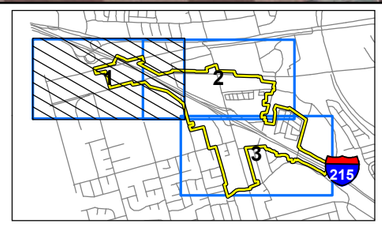
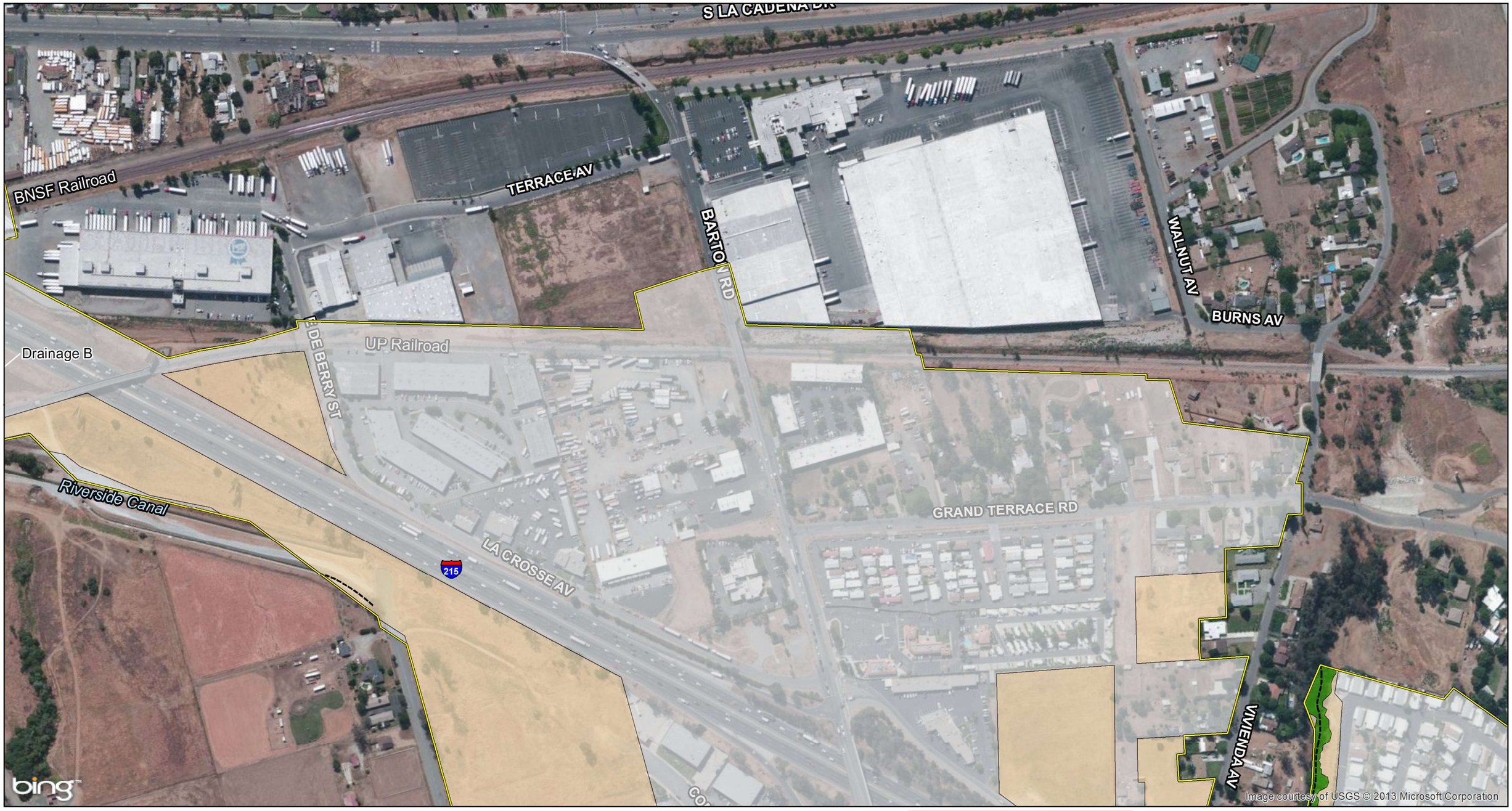


FIGURE 5
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation



LEGEND

Biological Study Area

Vegetation

- Ruderal field
- Riparian habitat
- Developed/Ornamental
- Drainage Centerline

N

0 150 300
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SOURCE: Bing Maps (c. 2008)

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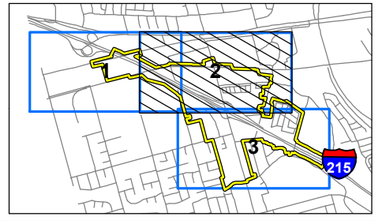

FIGURE 5
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation

LEGEND

Biological Study Area

Vegetation

- Ruderal field
- Riparian habitat
- Developed/Ornamental
- Drainage Centerline

0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

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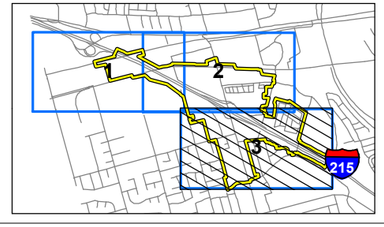

FIGURE 5
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation

4.2. Special-Status Species

Special-status species are those that are federally and/or State-listed, proposed for listing, candidate species listed as species of concern by the CDFW, or those found on CNPS list 1B. The 1B listing in the CNPS Inventory of Rare and Endangered Vascular Plants of California indicates those species considered endangered by the CNPS.

The results of the literature review indicated the potential occurrence of 24 special-status plant species and 21 special-status animal species known from the vicinity of the BSA.

Appendix C provides detailed habitat descriptions and special-status designations for these species. Species federally or State-listed as threatened, endangered, or candidates are designated below. The special-status plant species identified as potentially occurring in the vicinity of the BSA are:

- Chaparral sand-verbena (*Abronia villosa* var. *aurita*);
- Marsh sandwort (*Arenaria paludicola;* federally endangered/State endangered);
- Horn's milk-vetch (*Astragalus hornii* var. *hornii*);
- Bristly sedge (*Carex comosa*);
- Nevin's barberry (*Berberis nevinii;* federally endangered/State endangered);
- Smooth tarplant (*Centromadia pungens* ssp. *laevis*);
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*);
- Salt marsh bird's beak (*Cordylanthus maritimus* spp. *maritmus;* federally endangered/ State endangered);
- Peruvian dodder (*Cuscuta obtusifolia* var. *glandulosa*);
- Slender-horned spineflower (*Dodecahema leptoceras;* federally endangered/State endangered);
- Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum;* federally endangered/State endangered);
- Alvin meadow bedstraw (*Galium californicum* ssp. *primum*);
- Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*);
- Mesa horkelia (*Horkelia cuneata* ssp. *puberula*);
- Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*);
- Parish's desert thorn (*Lycium parishii*);
- Pringle's monardella(*Monardella pringlei*);
- Gambel's water cress (*Nasturtium gambelii;* federally endangered/State endangered);
- Parish's gooseberry (*Ribes divericatum* var. *parishii*);

- Brand's phacelia (*Phacelia stellaris; federal candidate*);
- Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*);
- Salt Spring checkerbloom (*Sidalcea neomexicana*);
- Prairie wedge grass (*Sphenopholis obtusata*); and
- San Bernardino aster (*Symphyotrichum defoliatum* [*Aster defoliatus*]).

The special-status animal species identified as potentially occurring in the BSA are:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis;* federally endangered);
- Santa Ana sucker (*Catostomus santaanae;* federally threatened);
- Arroyo chub (*Gila orcuttii*);
- Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*);
- Red diamond rattlesnake (*Crotalus ruber*);
- Coast horned lizard (*Phrynosoma blainvillii* [*coronatum*]);
- Western burrowing owl (burrow sites);
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis* [nesting]);
- Southwestern willow flycatcher (*Empidonax traillii extimus;* federally endangered/State endangered);
- Coastal California gnatcatcher (*Polioptila californica californica;* federally threatened);
- LBV (*Vireo belii pusillus*; federally endangered/State endangered);
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*);
- San Bernardino kangaroo rat (*Dipodomys merriami parvus;* federally endangered);
- Stephens' kangaroo rat (*Dipodomys stephensi;* federally endangered/State endangered);
- Western mastiff bat (*Eumops perotis*);
- Western yellow bat (*Lasiurus xanthinus*);
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*);
- Pocketed free-tailed bat (*Nyctinomops femorasacca*);
- Southern grasshopper mouse (*Onychomys torridus ramona*);
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*); and
- American badger (*Taxidea taxus*).

The probability for these species to occur within the BSA is discussed in Appendix C. No special-status animal species were observed or otherwise detected in the BSA at the time of the site visit.

Ruderal areas and riparian streambeds were assessed to determine if there was suitable habitat for any special-status species. The vacant field east of I-215 and south of Barton Road could provide potential habitat for two nonlisted species: the western burrowing owl and northwestern San Diego pocket mouse. The burrowing owl was determined to be absent at this time based on no evidence of potential burrowing owl burrows during the burrow surveys for this species. In addition, the vacant field is currently being used for construction equipment staging for the I-215 Bi-County HOV Lane Gap Closure Project and has been highly disturbed. Focused surveys are not required (and were not conducted) for the San Diego pocket mouse because this species is not listed.

Additionally, two drainages (Drainages B and F) contain riparian habitat that could support special-status species associated with riparian areas. However, the majority of the vegetation in Drainage F consists of nonnative species and does not include suitable breeding habitat for LBV. Portions of Drainage B are also vegetated with riparian habitat; however, there is not a dense understory to support LBV in this drainage. There is marginal habitat for the nonlisted San Bernardino aster, Salt spring checkerbloom, and prairie wedge grass in the riparian habitat within these riparian areas; however, these species are unlikely to occur due to the highly disturbed condition of the earthen drainage within the project limits. Further, these species were not detected during the site visits. The western yellow bat also had a potential to occur within riparian trees that are within the BSA.

The BSA does not contain, nor is it adjacent to, suitable habitat for any other species identified in the literature search. However, all native nesting birds are protected by the Migratory Bird Treaty Act (MBTA), as further discussed in Section 6.3.

4.3. Vegetation

The BSA supports three habitat types, or vegetation classifications. Figure 5 shows the location of each vegetation classification in the BSA. The two dominant vegetation types in the BSA are nonnative ruderal vegetation and developed areas dominated by ornamental vegetation (Developed/Ornamental). The third vegetation type present in the BSA is riparian woodland. Appendix B lists all plant species observed or detected in the BSA.

4.3.1. Developed/Ornamental

The majority of the BSA is developed and is dominated by ornamental plantings consisting of introduced plant species used for landscaping purposes. There is a total of 194.8 ac of developed/ornamental areas within the BSA. Species within this vegetation/land use type

include Bermuda grass (*Cynodon dactylon*), ornamental pine (*Pinus* sp.), eucalyptus (*Eucalyptus* sp.), California fan palm (*Washingtonia filifera*), oleander (*Nerium oleander*), tree of heaven (*Ailanthus altissima*), and elm (*Ulmus* sp.).

4.3.2. Ruderal Vegetation

Ruderal vegetation is found throughout the BSA in the disked fields, vacant lots, and other undeveloped parcels. There is a total of 47.2 ac of ruderal vegetation within the BSA. Species within this vegetation classification are primarily nonnative species and consist of shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), morning glory (*Ipomoea* sp.), dove weed (*Croton setigerus*), cheeseweed (*Malva parviflora*), wild oat (*Avena fatua*), rescue grass (*Bromus catharticus*), and foxtail barley (*Hordeum murinum*).

4.3.3. Riparian Woodland

There are two drainages with narrow isolated stands of riparian habitat, totaling 2.7 ac, within the BSA, along Drainages B and F. Drainage B is an earthen-lined channel that is separated into three segments of riparian habitat within the BSA. These stands of riparian habitat are located in the south part of the BSA, east of I-215, on either side of culverts under the UPRR and east of the BNSF Railroad/I-215 bridge. Drainage B is moderately disturbed and contains riparian woodland habitat dominated by tree of heaven, velvet ash (*Fraxinus velutina*), and arroyo willow (*Salix lasiolepis*).

The other area of riparian habitat is located along an earthen drainage (Drainage F) in the north part of the BSA, west of I-215, approximately 1,000 ft south of Newport Avenue and 400 ft north of Vivienda Avenue. Species in this stand include Goodding's willow (*Salix gooddingii*), Mexican fan palm (*Washingtonia robusta*), castor bean (*Ricinus communis*), and edible fig (*Ficus carica*). Within the BSA, the drainage is highly disturbed and contains numerous exotic species. The drainage is bounded by a trailer park to the north and residential development to the south. Within the BSA, the drainage has an overstory of riparian woodland species, primarily consisting of Goodding's willow; however, the channel bottom is covered in a concrete slurry pad for erosion protection at the I-215 culvert outlet.

4.4. Wildlife and Wildlife Corridors

The BSA is characterized predominantly by ruderal and ornamental vegetation. Wildlife species occurring within the BSA are characteristic of those found within developed and disturbed habitats. Appendix B provides a list of animal species observed during the surveys.

The project area does not function as a wildlife movement corridor. The interchange is within a highly developed area, and there are no adjacent native habitat areas that wildlife would access by passing through the project area. Drainage B consists of exotic species and is not contiguous with other riparian habitat. Drainage F is highly disturbed and constrained by development and fences on either side. Larger mammals would not likely use either drainage as a wildlife corridor due to access constraints posed by the fencing and the culvert under I-215.

4.5. Jurisdictional Waters

Potential jurisdictional areas were delineated in the Jurisdictional Study Area, which is the study area for the jurisdictional delineation and includes all areas of direct impacts. There are two earthen channels and five artificially constructed concrete-lined channels located within the Jurisdictional Study Area, as shown in Figure 6. The earthen channels (Drainage F and portions of Drainage B as shown in Figure 6) are vegetated with riparian habitat, as described above in Section 4.3. The portion of Drainage B (Highgrove Channel) closest to I-215 at the BNSF Railroad crossing did meet the ACOE wetlands criteria (vegetation, hydrology, and soils) and is considered a wetland (refer to Appendix D, Jurisdictional Delineation). Within the project footprint, Drainage F is highly disturbed with concrete slurry protection at the culvert outlet under I-215. Due to lack of hydric soils immediately downstream of the concrete slurry pad, this drainage did not meet the three ACOE criteria to be considered a wetland.

Two concrete ditches (Drainages D and E as shown in Figure 6) on either side of I-215 convey flows along the northern part of the Jurisdictional Study Area into the earthen channel described above. The concrete trapezoidal ditch along the northbound I-215 (Drainage E) conveys intermittent flows for approximately 1,700 ft and then directs flows through a culvert under I-215 on a concrete slurry pad within the earthen drainage. The concrete v-ditch along southbound I-215 (Drainage D) conveys ephemeral flows along the top of the slope adjacent to I-215 for approximately 1,300 ft and outlets on the same concrete pad of the earthen drainage.

East of the Barton Road northbound exit ramp, a concrete trapezoidal ditch (Drainage C) receives flows from under Barton Road, from the storm drain system. The concrete ditch is approximately 250 ft long and conveys flows into another underground storm drain system. Two other concrete-lined channels are located at the southeast part of the Jurisdictional Study Area. Drainage A (Riverside Canal Aqueduct) is nonjurisdictional and conveys water for

LEGEND

- Jurisdictional Study Area
- ACOE/CDFW Jurisdictional Drainages
  - Earthen / Vegetated Channel (Wetland Waters)
  - Earthen / Vegetated Channel (Non-Wetland Waters)
  - Lined Channel (Non-Wetland Waters)
  - Lined Channel (Non-Jurisdictional Waters)
- Sample Plot (with ID)
- ACOE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)

0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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FIGURE 6
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFW Jurisdictional Areas

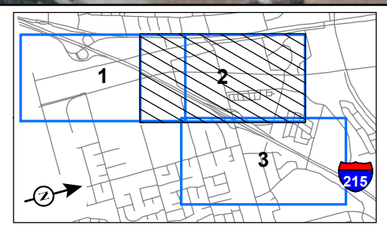
LEGEND

- Jurisdictional Study Area

ACOE/CDFW Jurisdictional Drainages

- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)

- Sample Plot (with ID)
- ACOE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)



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SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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FIGURE 6
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFW Jurisdictional Areas

LEGEND

Jurisdictional Study Area

ACOE/CDFW Jurisdictional Drainages

- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)

- Sample Plot (with ID)
- ACOE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)

0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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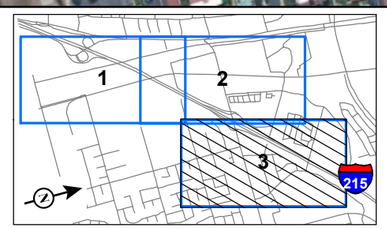

FIGURE 6
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFW Jurisdictional Areas

irrigation purposes and Drainage B conveys flows from the storm drain system. The total area of potential ACOE nonwetland Waters of the United States within the Jurisdictional Study Area is 0.30 ac. There is 0.04 ac of potential ACOE jurisdictional wetlands (i.e., areas that satisfy all three criteria for ACOE jurisdictional wetlands) present within Drainage B within the Jurisdictional Study Area.

The area satisfying the ACOE jurisdictional criteria for Waters of the United States, as described above, is also subject to CDFW jurisdiction. In addition, the width of the banks exceeding the ordinary high water mark (OHWM) and adjacent riparian areas extending beyond the limits of the banks are also considered subject to CDFW jurisdiction. The total acreage of potential CDFW jurisdiction in the Jurisdictional Study Area is 1.34 ac.

5. Project Impacts

5.1. Special-Status Species

The proposed project will not result in impacts to any listed, proposed for listing, or candidate species. No special-status species were observed or otherwise detected in the BSA at the time of the site visit. However, there is a low potential for the project to affect the following nonlisted species: northwestern San Diego pocket mouse, western yellow bat, Salt Spring checkerbloom, Prairie wedge grass, and San Bernardino aster, as discussed below. Additionally, a preconstruction survey for the burrowing owl will be required to ensure that this species has not subsequently occupied the site.

There is marginal habitat for the northwestern San Diego pocket mouse in the field north of De Berry Street and east of I-215 and for the western yellow bat, Salt Spring checkerbloom, prairie wedge grass, and San Bernardino aster in the riparian woodland (Drainages B and F). There is a low likelihood that these species would be affected because the field where the San Diego pocket mouse would be found is highly disturbed by regular disking and does not consist of native vegetation. . In addition, this field is being used for construction equipment staging for the I-215 Bi-County HOV Lane Gap Closure Project. The drainages where the western yellow bat, Salt Spring checkerbloom, prairie wedge grass, and San Bernardino aster would be found is also highly disturbed and constrained by development and consists primarily of nonnative species or species commonly found in developed and disturbed areas. Further, the I-215/Barton Road Interchange Improvement Project would not directly affect any riparian habitat, and therefore would not affect these riparian species. These nonlisted species were not observed during site visits. Any potential impacts to these species would not be considered substantial because these species are relatively widespread in distribution, the

species are afforded no legal or regulatory protection, and the species are not State or federally listed as threatened or endangered.

Although the western burrowing owl was determined to be absent from the BSA at the time of the site visits, it is a mobile species, and a preconstruction survey will be required within 30 days prior to project-related ground-disturbing activities to ensure that owls have not subsequently occupied potentially suitable ruderal fields. If owls are determined to be present outside the nesting season (February 15–August 31), coordination with the CDFW will be required and the owls will be passively relocated. If owls are determined to be present during the nesting season, construction activities within a 300 ft buffer of the occupied burrow will be prohibited until the end of nesting season or until it is determined that the owls are not utilizing the burrow as a nest.

The BSA does not contain, nor is it adjacent to, suitable habitat for any other species identified in the literature search; however, all native nesting birds are protected by the MBTA.

In addition, the site does not appear to function as a wildlife movement corridor, and the proposed project will not affect any wildlife movement corridors.

5.2. Vegetation Communities

The only native vegetation community within the Project Impact Area is disturbed riparian woodland, located within two drainages (Drainages B and F). The I-215 Bi-County HOV Lane Gap Closure project is currently under construction and will widen I-215 where Drainage B passes below the freeway. Based on the final design plans for this project, no additional widening would be required for the I-215/Barton Interchange Improvement Project, so no impacts to Drainage B would occur. Similarly, the I-215 Bi-County HOV Lane Gap Closure Project will impact Drainage F in order to construct a sound barrier. Because this sound barrier will already be constructed as part of the HOV project, the I-215/Barton Interchange Improvement Project would not impact Drainage F. Only Developed/Ornamental and Ruderal Vegetation communities will be affected by the project. Removal of ornamental trees will be conducted according to the applicable standards described in Section 6.3 to avoid impacts to nesting birds protected by the MBTA.

5.3. Jurisdictional Waters

As discussed above, there would be no impacts to jurisdictional areas including riparian habitat within Drainages B and F because the improvements being constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project would accommodate the I-215/Barton Road Interchange Improvement Project in these areas.

5.3.1. ACOE Jurisdiction

An ACOE permit would be required for any impacts to jurisdictional waters. Because the proposed project is a linear transportation project, impacts to jurisdictional nonwetland waters may be authorized under ACOE Nationwide Permit (NWP) 14 for impacts if there is less than 0.50 ac of permanent impacts to Waters of the United States.

Alternatives 3 and 6 would not result in temporary impacts to potential ACOE jurisdiction. Modified 7 would result in <0.01 ac of temporary impacts to potential ACOE jurisdiction within Drainage E. Table A summarizes the permanent impacts to ACOE jurisdiction for each Build Alternative. Impacts to potential ACOE jurisdiction for Alternative 3 and Modified Alternative 7 are depicted in Figures 7 and 8, respectively. There are no impacts to potential ACOE jurisdiction for Alternative 6. Compensatory mitigation is not anticipated due to the minor impacts to concrete-lined channels.

Table A: Permanent Impacts to Potential ACOE Jurisdictional Areas

	Alternative 3	Alternative 6	Modified Alternative 7
Potential Jurisdictional Wetland Areas			
Drainage B (Highgrove Channel)	0	0	0
Potential Jurisdictional Nonwetland Areas			
Drainage B	0	0	0
Drainage C	0.01	0	0.01
Drainage D	0	0	0
Drainage E	0	0	<0.01
Drainage F	0	0	0
Total Impacts to Potential ACOE Jurisdiction	**0.01**	**0**	**0.01**

Source: AECOM 2013; Caltrans 2012
ACOE = United States Army Corps of Engineers

5.3.2. CDFW Jurisdiction

The CDFW, through provisions of the State of California Code of Regulations, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. Streams (and rivers) are defined by the

LEGEND

Jurisdictional Study Area

Alternative 3

Permanent Impact to Jurisdictional Areas

CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

Wetland Waters

Non-Wetland Waters

Non-Jurisdictional

Non-Jurisdictional Waters

0 150 300

FEET

SOURCE: Bing Maps (2008); AECOM (8/2012)

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FIGURE 7

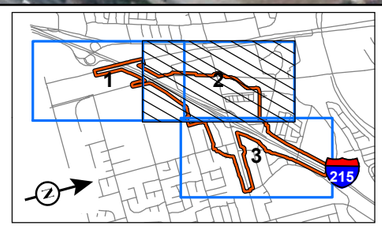
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

LEGEND

- Jurisdictional Study Area
- Alternative 3
  - Permanent Impact to Jurisdictional Areas
- CDFW Potential Jurisdictional Waters
- USACE Potential Jurisdiction
  - Wetland Waters
  - Non-Wetland Waters
- Non-Jurisdictional
  - Non-Jurisdictional Waters



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SOURCE: Bing Maps (2008); AECOM (8/2012)

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FIGURE 7
Sheet 2 of 3

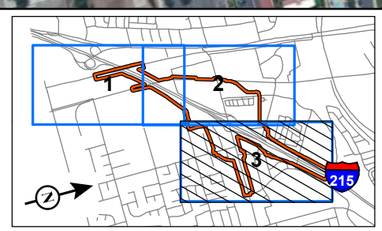
I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

DE BERRY ST
COMMERCE WY
Drainage C
MICHIGAN AV
VIVIENDA AV
VIVIENDA CT
MCCLARREN ST
LA PAIX ST
BARTON
TERRACE PINES DR
CARHART AV
PASCAL AV
Drainage E
CANAL ST
Drainage F
Drainage D
NEWPORT AV
Drainage D
Drainage E
215
bing
Image courtesy of USGS © 2013 Microsoft Corporation

LEGEND

- Jurisdictional Study Area
- Alternative 3
  - Permanent Impact to Jurisdictional Areas
- CDFW Potential Jurisdictional Waters
- USACE Potential Jurisdiction
  - Wetland Waters
  - Non-Wetland Waters
- Non-Jurisdictional
  - Non-Jurisdictional Waters



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SOURCE: Bing Maps (2008); AECOM (8/2012)

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FIGURE 7
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

LEGEND

Jurisdictional Study Area

Modified Alternative 7
- Permanent Impacts to Jurisdictional Areas
- Temporary Impacts to Jurisdictional Areas

CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction
- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional
- Non-Jurisdictional Waters

0 150 300
FEET

SOURCE: Bing Maps (2008); AECOM (4/2013)

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FIGURE 8
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

LEGEND

- Jurisdictional Study Area

Modified Alternative 7

- Permanent Impacts to Jurisdictional Areas
- Temporary Impacts to Jurisdictional Areas

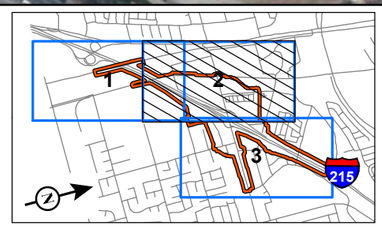
CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters



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SOURCE: Bing Maps (2008); AECOM (4/2013)

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FIGURE 8
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

LEGEND

- Jurisdictional Study Area
- Modified Alternative 7
  - Permanent Impacts to Jurisdictional Areas
  - Temporary Impacts to Jurisdictional Areas
- CDFW Potential Jurisdictional Waters
- USACE Potential Jurisdiction
  - Wetland Waters
  - Non-Wetland Waters
- Non-Jurisdictional
  - Non-Jurisdictional Waters

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SOURCE: Bing Maps (2008); AECOM (4/2013)

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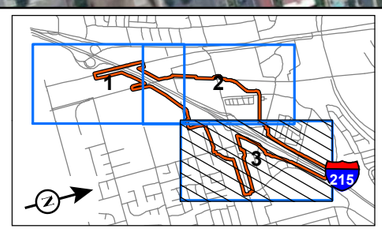

FIGURE 8
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

presence of a channel bed and banks and at least an ephemeral flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFW.

The CDFW has not defined wetlands for jurisdictional purposes. The CDFW generally includes, within the jurisdictional limits of streams and lakes, any *riparian* habitat present. Riparian habitat includes willows, alders, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas. Wetlands not associated with a lake, stream, or other regulated area are generally not subject to CDFW jurisdiction. Alternatives 3 and 6 would not result in temporary impacts to CDFW jurisdiction. Modified Alternative 7 would result in <0.01 ac of temporary impacts to Drainage E. Table B shows permanent impacts to CDFW jurisdiction for each Build Alternative. Impacts to CDFW jurisdiction are also depicted in Figures 7 and 8.

Table B: Permanent Impacts to Potential CDFW Jurisdictional Areas

	Alternative 3	Alternative 6	Modified Alternative 7
Potential Jurisdictional Areas			
Drainage B (Highgrove Channel)	0	0	0
Drainage C	0.08	0	0.08
Drainage D	0	0	0
Drainage E	0	0	<0.01
Drainage F	0	0	0
Total Impacts to Potential CDFW Jurisdiction	**0.08**	**0**	**0.08**

Source: AECOM 2013; Caltrans 2012
CDFW = California Department of Fish and Wildlife

A CDFW Lake or Streambed Alteration Notification (SAN) would be required for all activities resulting in impacts to streambeds and their associated riparian habitats. Compensatory mitigation is not anticipated for the minor impacts to unvegetated concrete-lined channels.

5.3.3. RWQCB Jurisdiction

Pursuant to Section 401 of the Clean Water Act, RWQCB asserts jurisdiction over areas meeting the federal definition of wetlands and other waters of the U.S. Therefore, the potential ACOE jurisdictional areas described in the Jurisdictional Delineation Report (Drainages B–F) would also be under the jurisdiction of the RWQCB.

6. Avoidance, Minimization, and/or Mitigation Measures

The project impacts to biological resources will require measures to ensure compliance with applicable laws and regulations. Because impacts to biological resources will be minimal, the required measures will also be minimal. An appropriate level of mitigation is determined primarily through two considerations:

- The nature and relative magnitude of the project's impacts to the resource; and
- The resource's degree of sensitivity.

6.1. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plant and animal species listed as threatened or endangered. In this case, no federally listed species are present within the BSA. Therefore, no impacts will occur to listed species as a result of the proposed project, no designated critical habitat for federally listed species will be affected, and no consultation or mitigation is required.

6.2. California Endangered Species Act

The California Endangered Species Act (CESA) protects plant and animal species listed as threatened or endangered. In this case, no State-listed species are present within the BSA. Thus, no impacts will occur to listed species as a result of the proposed project, and no consultation or mitigation is required.

6.3. Migratory Bird Treaty Act

All native nesting birds are protected by the Migratory Bird Treaty Act (MBTA). To comply with the MBTA and the California Fish and Game Code, vegetation clearing should be restricted to outside the active breeding season (February 15–August 31) for birds. If vegetation clearing is scheduled during the breeding season, a qualified biologist will be needed to conduct clearance surveys for active bird nesting immediately prior to any clearing of vegetation. This is necessary to ascertain definitively whether any raptors or other migratory birds are actively nesting in the BSA. During the clearance surveys, the location of any active bird nests will be mapped by the biologist, and an appropriate buffer (e.g., 250-foot [ft] buffer for raptors) where work will not take place will be established and monitored.

The buffer will be delineated by roping or flagging the boundaries and will remain in place until the nest is either abandoned or the young have fledged.

6.4. Federal Clean Water Act

The ACOE regulates discharges of dredged or fill material into Waters of the United States. For linear transportation projects with impacts to less than 0.5 ac of Waters of the United States, proposed impacts to jurisdictional nonwetland waters could likely be authorized under ACOE Nationwide Permit (NWP) 14. Impacts to the jurisdictional areas will not require authorization from the ACOE prior to construction. Compensatory mitigation is not anticipated.

In addition, Section 401 of the federal Clean Water Act (CWA) requires that any applicant for a federal license or permit for activities resulting in any discharge into navigable waters provide the licensing or permitting agency a certification from the State in which the discharge originates. In California, the State agency that certifies discharges (or issues waivers) is the State Water Resources Control Board (SWRCB), which is divided into local Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the Santa Ana RWQCB (Region 8).

Best management practices (BMPs) will be implemented to ensure that erosion caused by construction activities does not occur and that sedimentation is not deposited in the storm drain system or adjacent drainages. A Storm Water Pollution Protection Plan (SWPPP) will be prepared and will specify the BMPs to be implemented. Refer to the Water Quality Assessment Report for additional discussion of BMPs.

6.5. California Fish and Game Code

As described above, impacts to the CDFW jurisdictional areas within the project site will require authorization from the CDFW prior to construction. The CDFW generally does not regulate impacts to concrete channels.

6.6. Porter-Cologne Water Quality Control Act

The State Porter-Cologne Water Quality Control Act mandates that the State regulate discharges of waste into Waters of the State. In the event that a Section 404 authorization or permit is not required for the proposed project and no Section 401 certification is issued, a

State waste discharge permit may be required by the Regional Water Quality Control Board (RWQCB) for project impacts to Waters of the State.

7. Permits Required

- The applicable Nationwide Permit will be complied with, pursuant to Section 404 of the Clean Water Act.
- A SAN will be submitted, and authorization from the CDFW will be obtained.
- A certification from the Region 8 RWQCB will be obtained.

8. References

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9. Appendices

A: USFWS SPECIES LIST (LETTER, APRIL 18, 2013)

B: SPECIES OBSERVED

C: SPECIAL-STATUS SPECIES OCCURRENCE

D: JURISDICTIONAL DELINEATION

Appendix A USFWS Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

In Reply Refer To:
FWS-SB-08B0601-13SL0251

APR 18 2013

Mr. Scott Quinnell
Senior Environmental Planner
Department of Transportation, District 8
464 West Fourth Street, 6th Floor
San Bernardino, California 92401

Attention: Adam Compton

Subject: Request for a List of Proposed, Threatened, or Endangered Species potentially occurring in the vicinity of the Barton Road/Interstate 215 Project, City of Grand Terrace, San Bernardino County, California

Dear Mr. Quinnell:

This letter is in response to your request, received by our office via email on April 9, 2013, for concurrence with a list of federally endangered, threatened, proposed, and candidate species and their critical habitat potentially present in the vicinity of the Barton Road/Interstate 215 Project as previously issued (FWS-SB-08B0601-12SL0483). The project site is located along Interstate 215 between Iowa Avenue and Newport Avenue in the city of Grand Terrace, San Bernardino County, California. We understand this information will be used in support of documentation required by the California Department of Transportation to assist you in evaluating the potential occurrence of federally listed endangered, threatened, proposed, and candidate species and their critical habitat potentially present. This updated list was generated from a species and critical habitat search, employing a 1-mile buffer around the extent of the proposed project, and lists species with the potential to occur within the area. We also suggest that you contact the California Department of Fish and Wildlife regarding State-listed and sensitive species that may occur within the project area. Please note that State-listed species are protected under the provisions of the California Endangered Species Act.

As a reminder if a proposed project is authorized, funded, or carried out by a Federal agency and may affect a federally listed species, then section 7 consultation pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), is required. Should you have any questions regarding the species listed or your responsibilities under the Act, please contact John M. Taylor of this office at 760-322-2070, extension 218.

Sincerely,

Jennen E. McBride
for

Kennon A. Corey
Assistant Field Supervisor

Enclosure

Federally Endangered, Threatened, Proposed, and Candidate Species and their Critical Habitat that May Occur in the Vicinity of the Barton Road/Interstate 215 Project, City of Grand Terrace, San Bernardino, County, California

April 18, 2013

Type	Scientific Name	Common Name	Federal Status	Critical Habitat in Vicinity
Birds	*Polioptila californica californica*	coastal California gnatcatcher	Threatened	Yes
	Vireo bellii pusillus	least Bell's vireo	Endangered	No
	Empidonax traillii extimus	southwestern willow flycatcher	Endangered	Yes
	Coccyzus americanus	western yellow-billed cuckoo	Candidate	N/A
Fish	*Catostomus santaanae*	Santa Ana sucker	Threatened	Yes
Flowering Plants	*Eriastrum densifolium ssp. sanctorum*	Santa Ana River woolly-star	Endangered	No
	Arenaria paludicola	marsh sandwort	Endangered	N/A
	Dodecahema leptoceras	slender-horned spineflower	Endangered	N/A
	Chloropyron maritimum subsp. *maritimum* (*Cordylanthus maritimus* subsp. *maritimus*)	salt marsh bird's-beak	Endangered	N/A
Mammals	*Dipodomys merriami parvus*	San Bernardino Merriam's kangaroo rat	Endangered	No

Appendix B Species Observed

PLANT SPECIES OBSERVED

Scientific Name	Common Name
Aizoaceae	**Carpet weed family**
Conicosia pugioniformis (nonnative species)	Narrow-leaved iceplant, roundleaf iceplant
Trianthema portulacastrum	Horse-purslane
Amaranthaceae	**Amaranth family**
Amaranthus albus (nonnative species)	Tumbling pigweed
Asteraceae	**Sunflower family**
Ambrosia cf. confertiflora	Weak-leaved burweed
Conyza bonariensis (nonnative species)	Flax-leaved horseweed
Encelia farinosa	Brittlebush
Lactuca serriola (nonnative species)	Prickly lettuce
Sonchus oleraceus (nonnative species)	Common sow thistle
Ambrosia acanthicarpa	Annual bur-sage
Helianthus annuus	Common sunflower
Boraginaceae	**Borage family**
Heliotropium curassavicum	Salt heliotrope
Brassicaceae	**Mustard family**
Hirschfeldia incana (nonnative species)	Shortpod mustard
Sisymbrium irio (nonnative species)	London rocket
Raphanus sativus (nonnative species)	Wild radish
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Chenopodiaceae	**Saltbush family**
Salsola tragus (nonnative species)	Russian thistle
Convolvulaceae	**Morning-glory family**
Ipomoea sp. (nonnative species)	Morning glory
Euphorbiaceae	**Spurge family**
Croton setigerus	Dove weed
Chamaesyce albomarginata	Rattlesnake weed
Ricinus communis (nonnative species)	Castor bean
Juglandaceae	**Walnut family**
Juglans sp.	Walnut
Malvaceae	**Mallow family**
Malva parviflora (nonnative species)	Cheeseweed
Moraceae	**Mulberry family**
Ficus carica (nonnative species)	Edible fig
Myrtaceae	**Myrtle family**
Eucalyptus sp. (nonnative species)	Eucalyptus
Oleaceae	**Olive family**
Olea europaea (nonnative species)	European olive

PLANT SPECIES OBSERVED

Scientific Name	Common Name
Onagraceae	**Evening primrose family**
Epilobium ciliatum	Green willow herb
Rosaceae	**Rose family**
Prunus ilicifolia	Hollyleaf cherry
Salicaceae	**Willow family**
Salix gooddingii	Goodding's willow
Salix lasiolepis	Arroyo willow
Simaroubaceae	**Quassia family**
Ailanthus altissima (nonnative species)	Tree of heaven
Solanaceae	**Nightshade family**
Datura sp.	Datura
Ulmaceae	**Elm family**
Ulmus sp.	Elm
Arecaceae	**Palm family**
Washingtonia robusta (nonnative species)	Mexican fan palm
Cyperaceae	**Sedge family**
Bolboschoenus glaucus	Bulrush
Poaceae	**Grass family**
Avena fatua (nonnative species)	Wild oat
Bromus catharticus (nonnative species)	Rescue grass
Hordeum murinum (nonnative species)	Foxtail barley
Paspalum dilatatum (nonnative species)	Dallis grass
Agrostis viridis (nonnative species)	Water bentgrass
Bromus diandrus (nonnative species)	Ripgut brome
Cynodon dactylon (nonnative species)	Bermuda grass
Leptochloa uninervia	Mexican sprangletop
Pennisetum cf. clandestinum (nonnative species)	Kikuyugrass
Polypogon sp.	
Typhaceae	**Cattail family**
Typha angustifolia	Narrow-leaved cattail

ANIMAL SPECIES OBSERVED

Scientific Name	Common Name
AVES	**BIRDS**
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Hirundinidae	**Swallows**
Stelgidopteryx serripennis	Northern rough-winged swallow
Fringillidae	**Finches**
Carpodacus mexicanus	House finch

Appendix C Special-Status Species Occurrence

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Plants				
Abronia villosa var. *aurita* **Chaparral sand-verbena**	US: – CA: 1B	Sandy areas generally in chaparral and coastal sage scrub 300 to 5,300 ft elevation. In California, known from Riverside and San Diego Counties, believed extirpated from Orange County, and may also occur in Imperial, Los Angeles, Ventura, and San Bernardino Counties. Also reported from Arizona and Mexico (Baja California).	January through August (annual herb)	**Absent.** Suitable habitat for this species (chaparral and coastal sage scrub) is not located within the BSA.
Arenaria paludicola **Marsh sandwort**	US: FE CA: SE	Found in freshwater marshes and swamps from 10 to 560 ft elevation, where it grows up through dense mats of *Typha*, *Juncus*, *Scirpus*, etc. Known to presently occur only in San Luis Obispo County. Believed extirpated from Los Angeles, Orange, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the state of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900.	May through August	**Absent.** BSA is outside elevation range for species.
Astragalus hornii var. *hornii* **Horn's milk-vetch**	US: – CA: 1B	Alkaline playas and lake margins from 200 to 2,800 ft elevation. In California, known only from Inyo and Kern Counties. Believed extirpated from San Bernardino County. Also occurs in Nevada.	Blooms May through October	**Absent.** Suitable habitat for this species (alkaline playas or lake margins) is not located within the BSA.
Berberis nevinii **Nevin's barberry**	US: FE CA: SE	Gravelly wash margins in alluvial scrub, or coarse soils and rocky slopes in chaparral; typically 275 to 825 meters (900 to 2,700 ft) elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties	Blooms March through April (evergreen shrub, survey year-round)	**Absent.** Suitable habitat for this species (alluvial scrub and chaparral) is not located within the BSA.
Carex comosa **Bristly sedge**	US: – CA: 2	Bogs and fens, freshwater marshes and swamps, and lake margins below 1,400 ft. Known from Lake, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties; and Idaho, Oregon, and Washington. Believed extirpated from San Bernardino County (last known occurrence was in 1882).	May through September	**Absent**. Believed extirpated from County. Potential habitat on site is sparse and artificially created.
Centromadia pungens ssp. *laevis* **Smooth tarplant**	US: – CA: 1B	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 1,600 ft elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Blooms April through November (annual herb)	**Absent.** Suitable habitat for this species (alkaline areas) is not located within the BSA. Species believed to be

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
				extirpated from San Bernardino County.
Chorizanthe parryi var. parryi ***Parry's spineflower***	US: – CA: 1B	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 100 to 5,600 ft elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	April through June (annual herb)	**Absent.** Suitable habitat for this species (chaparral, coastal scrub, or upland woodlands) is not located within the BSA.
Cordylanthus maritimus spp. *maritmus* **Salt marsh bird's beak**	US: FE CA: SE	Coastal dunes and salt marshes below 100 ft elevation. In California, known from Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Historical collections referred to this taxon from alkaline meadow in vicinity of San Bernardino Valley are intermediate to *C. maritimus* ssp. *canescens*.	Blooms May through October (annual herb)	**Absent.** The BSA is outside elevation range for this species.
Cuscuta obtusifolia var. glandulosa ***Peruvian dodder***	US: – CA: 2	May be extirpated in California. Formerly found sporadically in freshwater marsh on herbs, including *Alternanthera*, *Dalea, Lythrum, Polygonum,* and *Xanthium* below about 1,600 ft elevation. Reported in California from Los Angeles, San Bernardino, Sonoma, Sutter, Butte, Sacramento, and Merced Counties. Also known from eastern and southern US, West Indies, and Mexico.	July through October (annual parasitic vine)	**Absent**. Believed extirpated from County. Potential habitat on site is sparse and artificially created.
Dodecahema leptoceras **Slender-horned spineflower**	US: FE CA: SE	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (*Lastarriaea coriacea*) and other native annual species, and is often associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 600 to 2,500 ft elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	Blooms April through June (annual herb)	**Absent.** Suitable habitat for this species (Temecula arkose deposits or sandy cobbly riverbed alluvium) is not located within the BSA.
Eriastrum densifolium ssp. *sanctorum* **Santa Ana River woollystar**	US: FE CA: SE	Sandy soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 400 to 2,100 ft elevation in San Bernardino and Riverside Counties.	Blooms June through September	**Absent.** Suitable habitat for this species (sandy soils) is not located within the BSA.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Galium californicum ssp. *primum* **Alvin meadow bedstraw**	US: – CA: 1B	Granitic soils in chaparral and lower montane coniferous forest; 4,400 to 5,600 ft. Known from Riverside and San Bernardino Counties.	Blooms May through July	**Absent.** The BSA is outside elevation range for this species.
Helianthus nuttallii ssp. parishii ***Los Angeles sunflower***	US: – CA: 1A	Marshes and swamps (coastal salt and freshwater) 30 to 1,600 ft elevation. This species is historically known from Los Angeles, Orange, and San Bernardino Counties, California. Last seen in 1937. Presumed extinct. Plants found in 2002 at Castaic Spring along the Santa Clara River in Los Angeles County were initially reported as possibly this taxon, but instead appear to be hybrids or evolutionary intermediates between *H. nuttallii* and *H. californicus*, based on chromosome counts and pollen morphology (*A Quantitative Analysis of Pollen Variation in Two Southern California Perennial* Helianthus *(Heliantheae: Asteraceae)*, J.M. Porter and N. Fraga, 2004).	Blooms August through October (perennial herb)	**Absent**. Believed extinct. Potential habitat on site is sparse and artificially created.
Horkelia cuneata ssp. *puberula* **Mesa horkelia**	US: – CA: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 200 to 2,700 ft elevation. Occurs in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties. Believed extirpated from Riverside and San Diego Counties.	February through September	**Absent.** Suitable habitat for this species (chaparral, cismontane woodland, or coastal scrub) is not located within the BSA.
Lepidium virginicum var. *robinsonii* **Robinson's pepper-grass**	US: – CA:: 1B	Dry soils in coastal sage scrub and chaparral, typically below 1,600 ft elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties.	January through July	**Absent.** Suitable habitat for this species (coastal sage scrub and chaparral) is not located within the BSA.
Lycium parishii ***Parish's desert-thorn***	US: – CA: 2	Coastal scrub and Sonoran desert scrub at 1,000 to 3,300 ft elevation. In California, known from Imperial and San Diego Counties. Report from Riverside County is based on a misidentification. Known only historically from San Bernardino County (benches and/or foothills north of San Bernardino).	Blooms March through April (deciduous shrub)	**Absent**. Believed extirpated from San Bernardino County. Closest known occurrence is in San Diego County.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Monardella pringlei ***Pringle's monardella***	US: – CA: 1A	Sandy hills in coastal sage scrub at 980 to 1,300 ft elevation. Known only from two occurrences west of Colton. Last seen in 1941. Habitat lost to urbanization. Presumed extinct.	May through June	**Absent.** Suitable habitat for this species (coastal sage scrub and chaparral) is not located within the BSA.
Nasturtium gambelii **Gambel's water cress**	US: FE CA: ST	Marshes and swamps from 20 to 1,100 ft elevation. Currently believed to occur in California only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, San Diego, and San Bernardino Counties, although the San Diego County records may be based on misidentification of another species. Also occurs in Baja California.	Blooms April through September	**Absent.** Suitable habitat for this species (marshes and swamps) is not located within the BSA.
Ribes divericatum var. parishii ***Parish's gooseberry***	US: – CA: 1A	Deciduous shrub of willow swales in riparian habitats at 200 to 1,000 ft elevation. Believed to be extinct. Historical collections from Los Angeles and San Bernardino Counties.	Blooms February through April	**Absent**. Believed to be extinct. Shrub was not observed during site visit.
Phacelia stellaris **Brand's phacelia**	US: FC CA: 1B	Sandy openings, sandy benches, dunes, sandy washes or river floodplains in coastal sage scrub at 5 to 400 meters (20 to 1,300 ft) elevation. In western Riverside County, this species appears to be restricted to sandy washes and benches in alluvial floodplains. In California, known only from Los Angeles (believed extirpated), Riverside and San Diego Counties.	Blooms March through June (annual herb)	**Absent.** Suitable habitat for this species (sandy areas, floodplains, and coastal sage scrub) is not located within the BSA.
Sidalcea hickmanii ssp. *parishii* **Parish's checkerbloom**	US: – CA: 1B.2	Burned or cleared areas on rocky slopes, and along roads in chaparral, cismontane woodland, and lower montane coniferous forest at 3,300 to 7,000 ft elevation. Known only from in Santa Barbara, San Bernardino, and San Luis Obispo Counties.	May through June (perennial herb)	**Absent.** The BSA is outside elevation range of species.
Sidalcea neomexicana ***Salt spring checkerbloom***	US: – CA: 2.2	Alkaline springs and brackish marshes below 5,000 ft elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico.	Blooms March through June (perennial herb)	**Low**. Marginal habitat for this species (streambed) is located within the BSA. Potential habitat on site is sparse and artificially created.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Sphenopholis obtusata ***Prairie wedge grass***	US: – CA: 2	Wet meadows, streambanks, and ponds at 1,000 to 6,600 ft elevation. In Southern California, known only from San Bernardino, Riverside (Santa Ana River), and perhaps San Diego Counties.	April through July (perennial herb)	**Low**. There are only historical records from the project vicinity. Species is very sparsely distributed in Southern California.
Symphyotrichum defoliatum (Aster defoliatus) **San Bernardino aster**	US: – CA: SP CNPS: 1B	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 6,700 ft elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	Blooms July through November (perennial herb)	**Low.** Marginal habitat for this species (streambed) is located within the BSA.
Invertebrates				
Rhaphiomidas terminatus abdominalis **Delhi Sands flower-loving fly**	US: FE CA: SA	Restricted to Delhi series sands in western Riverside and San Bernardino Counties.	Aboveground emergence August and September. Not visible during the rest of the year.	**Absent.** Suitable habitat for this species (Delhi series sands) is not located within the BSA.
Fish				
Catostomus santaanae **Santa Ana sucker**	US: FT CA: CSC	The Santa Ana sucker's historical range includes the Los Angeles, San Gabriel, and Santa Ana River drainage systems located in Southern California. An introduced population also occurs in the Santa Clara River drainage system in southern California. Found in shallow, cool, running water.	Year-round	**Absent.** Suitable habitat for this species (larger perennial stream) is not located within the BSA.
Gila orcuttii **Arroyo chub**	US: – CA: CSC	Perennial streams or intermittent streams with permanent pools; slow water sections of streams with mud or sand substrates; spawning occurs in pools. Native to Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita River systems; introduced in Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and smaller coastal streams.	Year-round	**Absent.** Suitable habitat for this species (permanent pools with mud or sand substrates) is not located within the BSA.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Reptiles				
Cnemidophorus hyperythrus beldingi **Orange-throated whiptail**	US: – CA: CSC	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 3,000 ft elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties west of the crest of the Peninsular Ranges, in extreme southern San Bernardino County near Colton, and in Baja California.	March through July with reduced activity August through October	**Absent.** Suitable habitat for this species (washes with native habitat) is located is not located within the BSA.
Crotalus ruber **Red diamond rattlesnake**	US: – CA: CSC	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	Mid-spring through mid-fall	**Absent.** Suitable habitat for this species (rocky areas or dense vegetation) is not located within the BSA.
Phrynosoma blainvillii (coronatum) **Coast horned lizard**	US: – CA: CSC	Occurs in annual grassland, coastal sage scrub, chaparral, and woodland communities. Prefers open country, especially sandy areas, washes, and floodplains. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs in Siskiyou County, in the Central Valley and adjacent foothills below 4,000 ft elevation, in coastal areas of central California, and in nondesert areas of southern California below 6,000 ft elevation, and throughout the Baja California Peninsula.	April through July with reduced activity August through October	**Absent.** Suitable habitat for this species (sandy areas in native habitat) is not located within the BSA.
Birds				
Athene cunicularia (burrow sites) **Burrowing owl**	US: – CA: CSC	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad ROWs, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round	**Absent.** Species determined to be absent based on burrow survey. Preconstruction survey required on marginal habitat (nonnative grassland) located within ruderal parts of the BSA.
Empidonax traillii extimus **southwestern willow flycatcher**	US: FE CA: SE MSHCP: S	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	May through September	**Absent.** Suitable habitat for this species (extensive willow riparian forest) is not located within the BSA.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Coccyzus americanus occidentalis (nesting) **Western yellow-billed cuckoo**	US: FC CA: SE	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	May through September	**Absent.** Suitable habitat for this species (dense cottonwood/willow riparian forest) is not located within the BSA.
Polioptila californica californica **Coastal California gnatcatcher**	US: FT CA: CSC	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Year-round	**Absent.** Suitable habitat for this species (coastal sage scrub) is not located within the BSA.
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 ft above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September	**Absent.** Suitable habitat for this species (native riparian forests and willow thickets) is not located within the disturbed riparian habitat within the BSA.
Mammals				
Chaetodipus fallax fallax **Northwestern San Diego pocket mouse**	US: – CA: CSC	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Year-round	**Low.** Marginal habitat for this species (ruderal field) is located within the BSA.
Dipodomys merriami parvus **San Bernardino kangaroo rat**	US: FE CA: CSC	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern part of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon. In Riverside County, this species occurs along the San Jacinto River east of approximately Sanderson Avenue, and along Bautista Creek. Remnant populations may also occur in Riverside County in Reche Canyon, San Timoteo Canyon, Laborde Canyon, the Jurupa Mountains, and the Santa Ana River Wash north of State Route 60.	Nocturnal, active year-round	**Absent.** Suitable habitat for this species (alluvial fans and terraces) is not located within the BSA.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Dipodomys stephensi **Stephens' kangaroo rat**	US: FE CA: ST	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemesia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow construction. Not found in soils that are highly rocky, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 3,000 ft elevation. In northwestern Riverside County, known only from east of Interstate 15. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.	Year-round	**Absent.** Suitable habitat for this species (coastal sage scrub and native grassland) is not located within the BSA.
Eumops perotis **Western mastiff bat**	US: – CA: CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, and tunnels, and travels widely when foraging.	Primarily the warmer months	**Absent.** Suitable roosting habitat for this species (vertical cliff faces, high buildings, or tunnels) is not located within the BSA.
Lasiurus xanthinus ***Western yellow bat***	US: – CA: SSC (in process) BLM: –	Found in desert and riparian areas of the southwest U.S. Individuals roost in the dead fronds of palm trees, and have also been documented roosting in cottonwood trees.	Year-round; nocturnal	**Low.** Suitable roosting habitat for this species (riparian areas) is located within the BSA.
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	US: – CA: CSC	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	Year-round, diurnal and crepuscular activity	**Absent.** Suitable habitat for this species (desert scrub areas and other native habitat) is not located within the BSA.
Nyctinomops femorasacca **Pocketed free-tailed bat**	US: – CA: CSC	Usually associated with cliffs or rock outcrops, often near riparian habitat. Occurs from the southwestern United States to central Mexico.	Probably year-round	**Absent.** Suitable areas for this species (cliffs or rock outcrops) are not located within the BSA.

SPECIAL-STATUS SPECIES OCCURRENCE

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability
Onychomys torridus ramona **Southern grasshopper mouse**	US: – CA: CSC	Arid habitats, especially scrub habitats with friable soils. Coastal scrub, mixed chaparral, sagebrush, low sage, bitterbrush, and grassland habitats. Arid parts of southwestern California and northwestern Baja California.	Nocturnal, active year-round	**Absent.** Suitable habitat for this species (native scrub habitats) is not located within the BSA.
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	US: – CA: CSC	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties.	Nocturnal. Active late spring to early fall.	**Absent.** Suitable habitat for this species (coastal sage scrub) is not located within the BSA.
Taxidea taxus **American badger**	US: – CA: CSC	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Year-round	**Absent.** Suitable habitat for this species (native habitats and uncultivated grasslands) is not located within the BSA.

LEGEND	
US: Federal Classifications	
–	No classification.
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
FC	Candidate for listing as Threatened or Endangered.
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
SR	Taxa State-listed as Rare.
CSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or
SP	Special Plant. Refers to any other plant monitored by the Natural Diversity Data Base, regardless of its legal or

1A	California Rare Plant Rank 1A – presumed extinct in California.
1B	California Rare Plant Rank 1B – rare, threatened or endangered in California and elsewhere.
2	California Rare Plant Rank 2 – rare, threatened or endangered in California, but more common elsewhere.
3	California Rare Plant Rank 3 – a review list of plants about which more information is needed.
4	California Rare Plant Rank 4 – a watch list of plants of limited distribution.

Appendix D Jurisdictional Delineation

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JURISDICTIONAL DELINEATION

INTERSTATE 215/BARTON ROAD INTERCHANGE IMPROVEMENT PROJECT

Cities of Grand Terrace and Colton

County of San Bernardino

08-SBd-215-PM 0.58/1.66

EA 0J070

June 2011

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INTRODUCTION

The California Department of Transportation (Department), in cooperation with the San Bernardino Associated Governments (SANBAG), the Riverside County Transportation Commission (RCTC), and the City of Grand Terrace, proposes to improve the Interstate 215 (I-215)/Barton Road interchange. The proposed project is located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County. On Barton Road, the project limits extend from approximately 0.3 mile (mi) west of I-215 to 0.4 mi east of I-215. The project limits on I-215 extend from approximately 0.8 mi south of Barton Road to 0.4 mi north of Barton Road.

The purpose of the proposed project is to reconstruct and improve the interchange in order to improve operation, increase capacity, and reduce congestion at the I-215/Barton Road interchange and facilities served by the interchange.

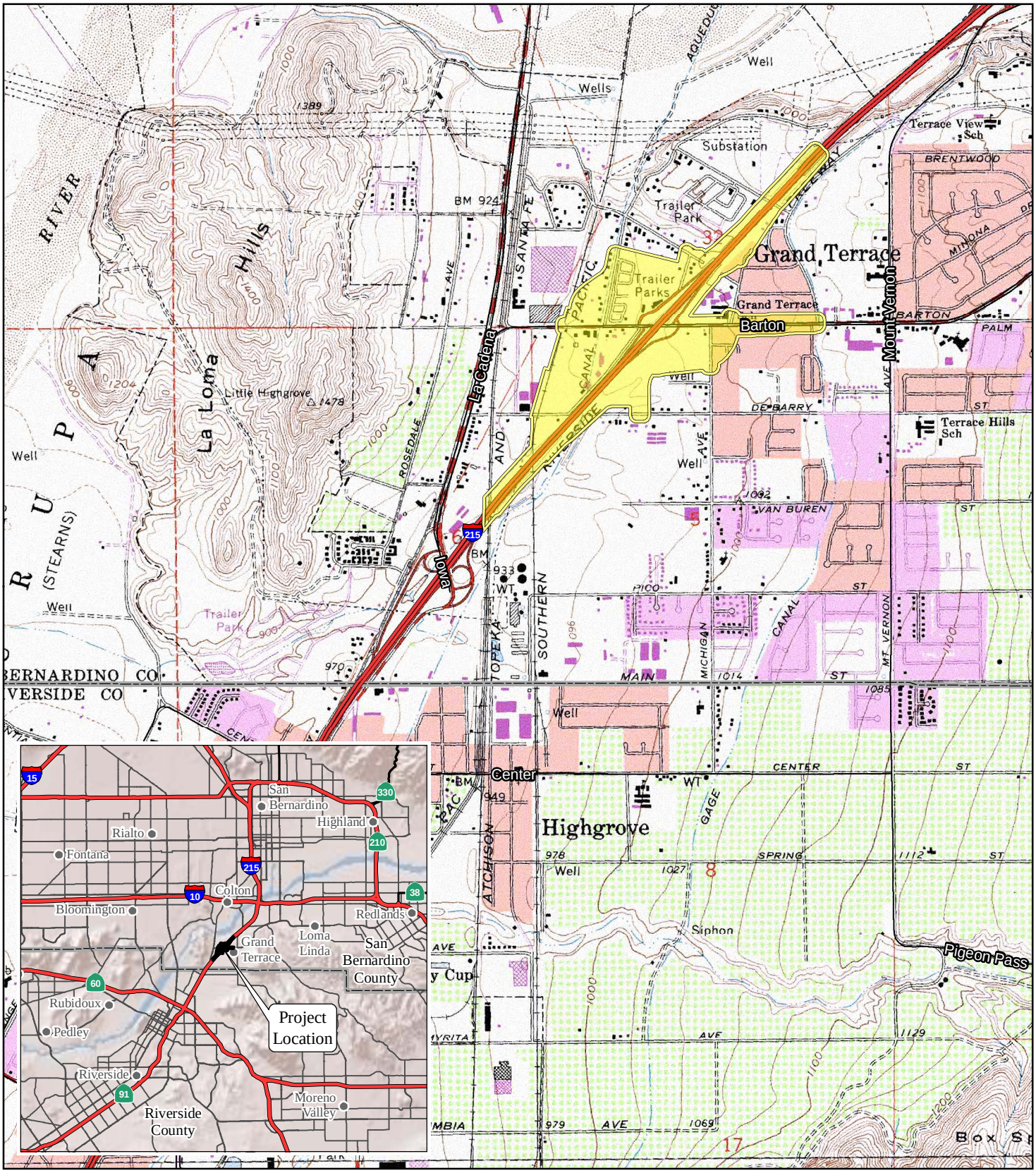
On behalf of the Department and SANBAG , this evaluation of regulatory jurisdiction was prepared for use primarily by the United States Army Corps of Engineers (ACOE), California Department of Fish and Game (CDFG), and Regional Water Quality Control Board (RWQCB) as part of their evaluations for permit authorization under Section 404 of the federal Clean Water Act (CWA), for Streambed Alteration Agreement processing under Section 1600 et seq. of the California Fish and Game Code, and for certification of water quality or waste discharge requirements under Section 401 of the CWA, respectively. This jurisdictional delineation is also an important source of CEQA and NEPA information for the evaluation of potential impacts associated with the proposed construction of the project.

SUMMARY

The total acreage of ACOE jurisdiction within the study area is 0.34 acre (ac) of jurisdictional waters of the United States (0.30 ac of nonwetland waters of the United States and 0.04 ac of wetlands). The study area represents the project footprint. The total CDFG jurisdiction in the study area is 1.34 ac. The findings and conclusions presented in this report, including the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinion of the project biologists. These findings and conclusions should be considered preliminary until verified by the ACOE and CDFG.

PROJECT LOCATION AND STUDY AREA

The project site is in a developed area along I-215. The Jurisdictional Study Area (JSA) is the study area for the jurisdictional delineation, which includes areas where direct impacts may occur. The JSA includes all areas of direct impacts. The study area is mostly within the City of Grand Terrace and partially within the City of Colton. A small part is in Riverside County. The study area is moderately flat, gently sloping toward the southwest. The study area ranges from approximately 940 to 1,020 feet (ft) in elevation and is located at the north end of a terrace, the landform from which the City of Grand Terrace's name is derived. Vegetation throughout the majority of the study area consists predominantly of ruderal and ornamental vegetation. However, a small amount of riparian woodland is located in an earthen drainage in the northwest part of the study area. The entire study area is depicted on the United States Geological Survey (USGS) *San Bernardino South, California* 7.5-minute topographic map (Figure 1).



LEGEND

Project Area

FIGURE 1

0 1000 2000

FEET

SOURCE: USGS 7.5 min. quad. (San Bernardino South, 1980)

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I-215/Barton Road Interchange Improvement Project

Project Location

08-SBd-215-PM 0.58/1.66

EA# 0J070

REGULATORY BACKGROUND

United States Army Corps of Engineers

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

"The term Waters of the United States means:

> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce . . . ;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams) . . . the use, degradation or destruction of which could affect interstate or foreign commerce . . . ;
>
> (4) All impoundments of waters otherwise defined as waters of the United States under the definition; and
>
> (5) Tributaries of waters defined in paragraphs (a) (1)–(4) of this section."

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

As discussed above, ACOE regulatory jurisdiction under Section 404 of the CWA is founded on a connection between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or indirect, through a nexus identified in the ACOE regulations. In the past, an indirect nexus could potentially be established if isolated waters provided habitat for migratory birds, even in the absence of a surface connection to a navigable water of the United States.

The 1984 rule that enabled the ACOE to expand jurisdiction over isolated waters of this type became known as the Migratory Bird Rule. However, on January 9, 2001, the United States Supreme Court narrowly limited the ACOE jurisdiction of "nonnavigable, isolated, intrastate" waters based solely on

the use of such waters by migratory birds and, particularly, the use of indirect indicators of interstate commerce (e.g., use by migratory birds that cross state lines) as a basis for jurisdiction. The Court's ruling derives from the case *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (SWANCC), wherein the Supreme Court determined that the ACOE exceeded its statutory authority by asserting CWA jurisdiction over an abandoned sand and gravel pit in northern Illinois that provides habitat for migratory birds.

In 2006, the United States Supreme Court further considered the ACOE jurisdiction of "waters of the United States" in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as "Rapanos." The Supreme Court concluded that wetlands are "waters of the United States" if they significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as navigable. On June 5, 2007, the ACOE issued guidance regarding the Rapanos decision. This guidance states that the ACOE will continue to assert jurisdiction over traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent nonnavigable tributaries that have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries. The ACOE will determine jurisdiction over waters that are nonnavigable tributaries that are not relatively permanent and wetlands adjacent to nonnavigable tributaries that are not relatively permanent only after making a significant nexus finding. According to the guidance, the ACOE generally will not assert jurisdiction over the following features: swales or erosional features (e.g., gullies, small washes characterized by low-volume, infrequent, or short-duration flows) and ditches (including roadside ditches) excavated wholly in and draining only uplands and not carrying a relatively permanent flow of water.

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

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

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

Wetlands

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

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

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

To be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied for that particular wetland characteristic to be met. Several indicators may be analyzed to determine whether the criteria are satisfied.

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

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

Hydrophytic Vegetation. Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Hydrophytic species are those included on the *National List of Plant Species That Occur in Wetlands: California (Region 0)* (Reed 1988), published by the United States Fish and Wildlife Service (USFWS). Each species on the list is rated according to a wetland

indicator category, as shown in Table A. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated OBL, FACW, or FAC).

Table A: Hydrophytic Vegetation

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

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately). When more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the ACOE recommends the use of the "50/20" rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities have only one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover.

In addition, ACOE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (ACOE 2006). If the plant community passes either the dominance test or prevalence index after reconsidering the indicator status of any plant species that exhibit morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

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

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

[2] Current definition as of 1994 (Federal Register, July 13, 1994).

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

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil, which causes a depletion of oxygen. While saturation may occur at any time of year, microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 1.6 ft, below which the growth and function of locally adapted plants are negligible). Biogeochemical processes that occur under anaerobic conditions during the growing season result in the distinctive morphologic characteristics of hydric soils. Based on these criteria, a National List of Hydric Soils was created from the National Soil Information System (NASIS) database and is updated annually.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The NRCS (2003) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These include hydrogen sulfide generation; accumulation of organic matter; and reduction, translocation and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology. Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years (ACOE 2008).

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

California Department of Fish and Game

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

[1] Long duration is defined as a single event ranging from 7 to 30 days; very long duration is defined as a single event that lasts longer than 30 days.

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

Regional Water Quality Control Board

The California RWQCB is responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the ACOE (i.e., waters of the United States, including any wetlands). RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Act.

METHODOLOGY

The fieldwork for this evaluation was conducted by Senior Biologists Wendy Walters and Maria Lum on November 12, 2008, and by Senior Biologists Sarah Barrera and Liz Delk on July 14, 2009. The study area was surveyed on foot for both federal and State jurisdictional areas. Areas of potential jurisdiction were evaluated according to the appropriate ACOE and CDFG criteria. The boundaries of the potentially jurisdictional areas were observed in the field and mapped on aerial photographs showing the entire study area. The limits of federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from aerial photographs and topographic maps created for drainage plans.

Areas supporting species of plant life potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the 1987 Manual and the 2006 Regional Supplement. Representative sample plots were selected and examined in the field where wetland jurisdiction was in question or needed to be confirmed. Figure 2 shows the locations of the sample plots and the potentially jurisdictional areas. At the sample plots, the dominant plant species were identified and their wetland indicator statuses noted (Reed 1988). Soil pits were required to determine whether the earthen drainage was a wetland. Soil characteristics were assessed by digging soil pits and examining the soil profile to determine the presence or absence of hydric indicators. Soil matrix colors were noted and classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. General site characteristics were also noted. Standard data forms were completed for each sample plot; copies of these data forms are provided in Appendix A. Representative site photos are located in Appendix B.

LEGEND

- Jurisdictional Study Area
- ACOE/CDFG Jurisdictional Drainages
  - Earthen / Vegetated Channel (Wetland Waters)
  - Earthen / Vegetated Channel (Non-Wetland Waters)
  - Lined Channel (Non-Wetland Waters)
  - Lined Channel (Non-Jurisdictional Waters)
- Sample Plot (with ID)
- ACOE/CDFG Jurisdictional Width
- Riparian habitat (CDFG Jurisdiction)

0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFG jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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FIGURE 2
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFG Jurisdictional Areas

08-SBd-215-PM 0.58/1.95
EA# 0J070

LEGEND

- Jurisdictional Study Area
- ACOE/CDFG Jurisdictional Drainages
  - Earthen / Vegetated Channel (Wetland Waters)
  - Earthen / Vegetated Channel (Non-Wetland Waters)
  - Lined Channel (Non-Wetland Waters)
  - Lined Channel (Non-Jurisdictional Waters)
- Sample Plot (with ID)
- ACOE/CDFG Jurisdictional Width
- Riparian habitat (CDFG Jurisdiction)

0 150 300
FEET

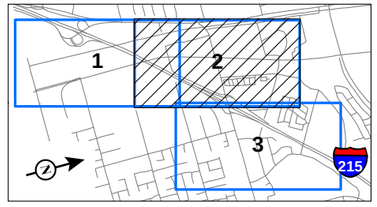

FIGURE 2
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFG Jurisdictional Areas

08-SBd-215-PM 0.58/1.95
EA# 0J070

SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFG jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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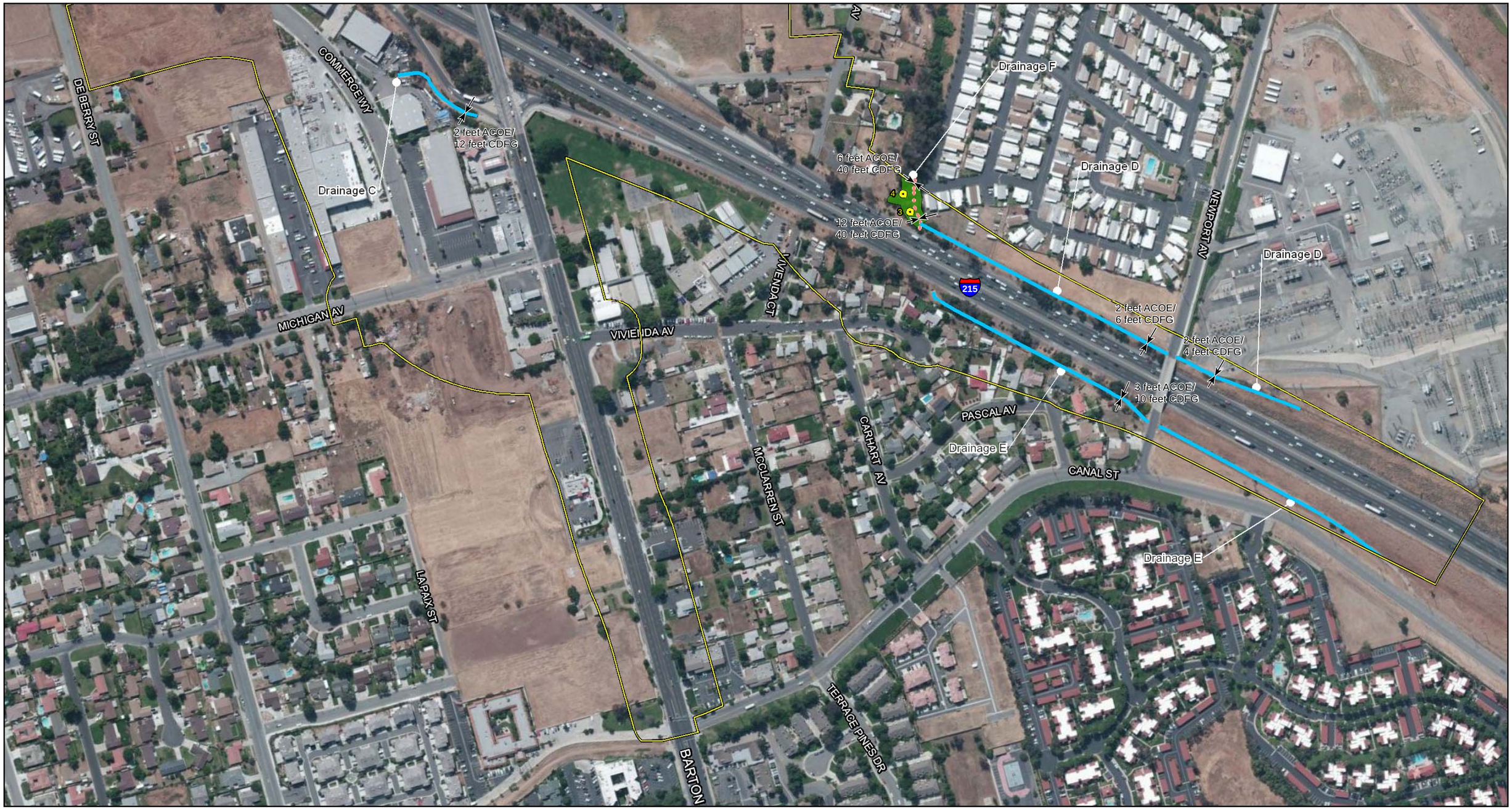


LEGEND

Jurisdictional Study Area

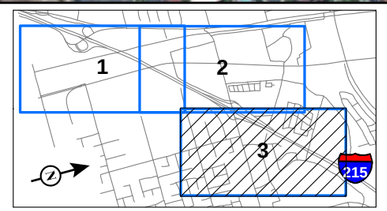
ACOE/CDFG Jurisdictional Drainages

- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)

Sample Plot (with ID)

ACOE/CDFG Jurisdictional Width

Riparian habitat (CDFG Jurisdiction)



0 150 300
FEET

SOURCE: Bing Maps (c. 2008)

NOTE: ACOE jurisdictional width is based on Ordinary High Water Mark; CDFG jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

I:\SBA330\Barton_I-215\GIS\JuriDel.mxd (6/16/2011)

FIGURE 2
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential ACOE/CDFG Jurisdictional Areas

08-SBd-215-PM 0.58/1.95

EA# 0J070

An on-site meeting with the ACOE was held on May 5, 2009, to discuss jurisdictional waters. The following personnel attended the meeting: Veronica Chan, ACOE Regulatory Division Project Manager; Scott Quinnell, Department District 8 Biologist/Associate Environmental Planner, Wendy Walters, LSA Senior Biologist, and Sarah Barrera, LSA Senior Biologist.

RESULTS AND CONCLUSIONS

ACOE Jurisdiction: Nexus to Navigable Waters

There are five artificially constructed, concrete-lined channels and two earthen channels located within the study area (referred to in this report, and shown in Figure 2, as Drainages A through F). The Riverside Canal Aqueduct (Drainage A) is a concrete channel in the southeast part of the study area that conveys water pumped from wells in Colton by the City of Riverside solely for the purpose of sale for irrigation purposes and not to be diverted back into waters of the United States, according to John Farley, City of Riverside Public Utilities Director. The Riverside Canal Aqueduct does not appear to receive flows from sources other than upstream wells and as an aqueduct is not considered jurisdictional by the ACOE or the CDFG. Highgrove Channel (Drainage B), in the southeast part of the study area, apparently conveys flows from a storm drain system to the south into an earthen-lined channel with culverts under railroad tracks and under I-215. Drainage C is a concrete trapezoidal ditch located east of the northbound I-215 exit ramp. Drainage C receives flows from under Barton Road (apparently from the storm drain system) and a small amount of runoff from Barton Road. Drainage C is approximately 250 ft long and conveys flows into another underground storm drain system, which is likely connected to Drainage B. Drainage B conveys flows into the Santa Ana River near the San Bernardino/Riverside County line, approximately 3 miles to the southwest.

Two concrete ditches on either side of I-215 (Drainages D and E), convey flows along the northern portion of the JSA into an earthen channel (Drainage F) described below. Drainage D is a concrete v-ditch that conveys ephemeral flows along the top of the slope adjacent to southbound I-215 and outlets onto a concrete slurry pad within the earthen drainage. Drainage E is a concrete trapezoidal ditch along the toe of slope above northbound I-215 and conveys intermittent flows through a culvert under I-215 onto the same concrete erosion control pad as Drainage F.

The earthen channel (Drainage F) is west of I-215 and originates approximately 1,000 ft south of Newport Avenue and 400 ft north of Vivienda Avenue. The drainage is highly disturbed, with nonnative species and a concrete erosion control pad at the base of the Drainage E culvert outlet under I-215 and at the base of the Drainage D outlet. Water from Drainage F is conveyed through the disturbed stand of riparian habitat, and down the west side of the mesa landform. Although a connection to the Santa Ana River is not evident from the flow pattern, it is assumed that all flows eventually reach the Santa Ana River, a relatively permanent water body located less than 1 mile to the northwest.

All flows from Drainages B–F within the study area eventually reach the Santa Ana River. The Santa Ana River conveys flows generally southwest into Orange County and eventually into the Pacific Ocean. The Pacific Ocean is a navigable water of the United States; therefore, the potential ACOE jurisdictional areas identified as Drainages B through F in Figure 2 have an interstate commerce nexus.

Drainage A is an aqueduct; it is wholly excavated in uplands and is not part of a surface tributary system to any navigable waters, therefore, it is not jurisdictional by the ACOE or CDFG. However, as a isolated water body, impacts to this feature would be regulated by the RWQCB under Porter Cologne Act.

The total area within the study area of ACOE jurisdiction is 0.34 ac (including 0.30 ac of nonwetland waters of the United States and 0.04 ac of wetlands), as shown in Table B. The RWQCB may also regulate impacts to Drainage A, which include an additional 0.18 acre within the Study Area.

Table B: Acreage of ACOE Jurisdictional Area

Drainage	Acreage of Jurisdictional Nonwetland Area Within Study Area	Acreage of Jurisdictional Wetland Area Within Study Area	TOTAL ACREAGE
A	N/A	N/A	N/A
B	0.08	0.04	0.12
C	0.01	N/A	0.01
D	0.06	N/A	0.06
E	0.12	N/A	0.12
F	0.04	N/A	0.04
TOTAL	**0.30**	**0.04**	**0.34**

Source: LSA Associates, Inc., September 2010.
N/A = Not applicable

ACOE Jurisdiction: Wetlands

As discussed below, Drainage B is the only potential ACOE jurisdictional wetland (i.e., area that satisfies all three criteria for ACOE jurisdictional wetlands) occurring within the study area.

Vegetation. Drainages B and F are the only drainages that have vegetation and earthen-bottomed channel portions in the study area. The main channel of Drainage B is largely unvegetated, with a dense canopy of trees lining the steeply sloped banks. Species on the banks of the drainage include southern California black walnut (*Juglans californica* var. *californica*), arroyo willow (*Salix lasiolepsis*), Mexican fan palm (*Washingtonia robusta*), and Fremont's cottonwood (*Populus fremontii*). The main channel closest to I-215 consists of fringed willow herb (*Epilobium ciliatum*), rabbitsfoot grass (*Polypogon monspieliensis*), and castor bean (*Ricinus communis*). Two sample plots were conducted within Drainage B. The vegetation at Sample Plot 1 did not meet the hydrophytic indicator for either the dominance test worksheet or the prevalence index worksheet. The vegetation at Sample Plot 2 had suitable hydrophytic vegetation to satisfy the ACOE hydrophytic vegetation dominance test criterion.

Species within Drainage F include a mix of hydrophytic and upland species and include Goodding's willow (*Salix gooddingii*), edible fig (*Ficus carica*), eucalyptus (*Eucalyptus* sp.), California black walnut (*Juglans californica*), Mexican fan palm, and goosefoot (*Chenopodium* sp.). At the downstream end of the study area boundary along Drainage F, there is a 12 ft by 8 ft stand of tall flatsedge (*Cyperus eragrostis*) outside the OHWM. Sample Plot 3 was recorded at this location. A

Goodding's willow overstory was located at this sample plot as well. Along the bank of the ponded area of Drainage F, there is a small population (less than 10 square feet) of tall flatsedge and narrow-leaved cattail (*Typha angustifolia*). These hydrophytic species are found with other nonhydrophytic species, such as Mexican fan palm, edible fig, goosefoot, wild radish (*Raphanus sativus*), and nonnative grasses (*Bromus* sp.); thus, this area does not meet the wetland criteria for hydrophytic vegetation due to the dominance of upland species.

The hydrophytic vegetation criterion for jurisdictional wetlands is satisfied when there is a prevalence of hydrophytes. The vegetation at Sample Plot 1 did not meet the hydrophytic vegetation indicator for either the dominance test worksheet or the prevalence index worksheet. Vegetation at Sample Plot 4 did meet the hydrophytic vegetation indicator. All other potentially jurisdictional areas are concrete channels and devoid of vegetation.

Soils. The NRCS Report and General Soil Map for San Bernardino County describe the soils expected to be found in the study area. The following soil types are located in the study area:

- Greenfield sandy loam (GtC), 2–9 percent slopes
- Hanford coarse sandy loam (HaC), 2–9 percent slopes
- Monserate sandy loam (MoC), 2–9 percent slopes
- Saugus sandy loam (ShF), 30–50 percent slopes

A soil pit was attempted for Sample Plot 1 in Drainage B. It was not possible to take a suitable soil sample to analyze due to excessive live roots in the sample plot area, sandy soils, and water filling the pit. However, a hydrogen sulfide odor was present and hydrophytic soil criterion A4 was satisfied. No soil pit was dug for Sample Plot 2 in Drainage B due to the lack of hydrophytic vegetation.

Sample Plot 3 was taken downstream of the concrete slurry pad in Drainage F, as shown on Figure 2. Soils were loamy, with a matrix color of 10YR2/1, and displayed <1 percent mottles. Another sample plot was taken outside the OHWM, where the vegetation was determined to be hydrophytic. Soils at Sample Plot 4 were sandy loam with a matrix color of 2.5Y3/1. However, in both cases, the soil did not have a depleted matrix within the top 2 or 6 inches of the soil surface or meet other hydric indicators as defined by the Arid West Manual.

Hydrology. Some of the concrete drainages in the study area met the wetland hydrology indicators due to the presence of surface water. Drainages A and B convey flowing water throughout the year. Drainage C conveys urban runoff for 250 ft and outlets into another underground storm drain system under the adjacent commercial development.

The concrete trapezoidal ditch, Drainage D, was dry during all site visits and conveys urban runoff along the toe of slope of southbound I-215. Drainage E was conveying water during the November 2008 site visit. This concrete trapezoidal ditch apparently receives runoff from the City of Grand Terrace storm drain system, between the local hills and I-215.

Hydrology and soil conditions were further examined within a sample plot of Drainage F (Figure 2). Hydrological indicators, including salt crust and riverine deposits, were observed within the vegetated drainage.

The Regional Supplement states that soils would need to be saturated to the surface for a minimum of 14 consecutive days to satisfy the wetland hydrology criterion. Due to Drainage F receiving urban runoff, it is concluded that this drainage is likely to have saturated soils at or within 12 inches of the surface for at least 14 consecutive days in most years. Therefore, this earthen drainage meets the wetland hydrology criterion.

CDFG Jurisdiction

All the areas satisfying the ACOE jurisdictional criteria for waters of the United States, as described above, are also subject to CDFG jurisdiction pursuant to Section 1600 et seq of the California Fish and Game Code. Figure 2 shows the extent of CDFG jurisdictional areas in the study area. As shown in Table C, the total acreage of CDFG jurisdictional streambed and riparian habitat within the study area is 1.34 ac.

Table C: Acreage of CDFG Jurisdictional Area

Drainage	Acreage of Jurisdictional Streambed and Associated Riparian Habitat Within the Study Area
A	N/A
B	0.47
C	0.09
D	0.16
E	0.38
F	0.24
TOTAL	**1.34**

Source: LSA Associates, Inc., September 2010.

Functions and Values of Jurisdictional Areas

The following is an assessment of the functions and values attributable to the drainages in the study area. All wetlands and other waters have some degree of functionality, and no single wetland can perform all of the functions considered below. The following functions exist at low or moderate levels in the identified jurisdictional areas in the study area. Unless otherwise specified, the functions and values of the concrete-lined ditches area all considered to be low, and the assessment focuses on earthen-lined drainages (Drainages B and F).

Groundwater Discharge/Recharge. Portions of the jurisdictional waters in the study area are the product of runoff from I-215 and suburban land uses. The concrete ditches do not allow for groundwater discharge. The earthen drainages allow for recharge of groundwater but likely do not play a large role in groundwater discharge. Therefore, this is considered a **low**-level function of the potential jurisdictional waters.

Flood Flow Alteration. The concrete-lined ditches (with the exception of the Riverside Canal Aqueduct) are artificially created structures in an urban area that are designed to accommodate high flows. The earthen channels function to slow water and fill up to provide temporary storage. Therefore, flood flow alteration is considered a **moderate- to high**-level function of these potentially jurisdictional waters.

Sediment Stabilization. Sediment stabilization is a **low- to moderate**-level function of the jurisdictional waters in the study area. The earthen drainages can slow flows and allow sediment to stabilize due to the gradual slope and vegetation within the channel. The sediment stabilization function is not relevant to the concrete-lined channels.

Sediment/Toxicant Retention. There is only minimal evidence of newly deposited sediment in the earthen drainages. Wetland vegetation, such as tall flatsedge, is located farther downstream of Drainage F and may function to remove toxics. No wetland vegetation is present in the concrete-lined ditches. Therefore, this is considered a **low- to moderate-**level function.

Nutrient Removal/Transformation. The only wetland in the study area is along Drainage B by I-215. Minimal herbaceous vegetation (consisting of fringed willow herb and rabbitsfoot grass) is present within this drainage, which would result in minimal nutrient removal and transformation. At the downstream end of the study area along Drainage F, there were some hydrophytic herbaceous plant species that may function to provide nutrient removal and transformation. This is considered a **low- to moderate**-level function in the study area.

Wildlife Habitat. There is some evidence of wildlife use of the vegetation associated with the earthen drainage. However, the habitat is highly disturbed by nonnative plant species and surrounded by development. Wildlife using the drainage would be common to urban areas. Thus, wildlife habitat is a **low- to moderate**-level function for this area.

Uniqueness/Heritage. There is nothing unique or of any social significance about these potentially jurisdictional areas. Therefore, this is considered a **low-**level value in the study area.

Recreation. The jurisdictional areas in the study area are surrounded by the freeway, roads, and commercial and other developed uses and do not provide any recreational opportunities. Recreation is therefore considered a **low**-level value in the study area.

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APPENDIX A

WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-215 HOV Gap Closure/Barton Rd City/County: Grand Terrace, S.B. Sampling Date: 7/17/09

Applicant/Owner: State: CA Sampling Point: 1 (I8-HOV)

Investigator(s): S. Barrera, L. Delk Section, Township, Range: Sect 6, T2S, R4W

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

Subregion (LRR): C - Mediterranean Lat: 34.026171° Long: -117.333050° Datum: WGS84

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	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

Disturbed drainage directing flows under I-215, flowing towards southwest. Earthen bottom.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20'w x 30'l)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans californica	40	Y	FAC
2. Washingtonia robusta	5	N	None
3. Populus fremontii	2	N	FACW
4. Fraxinus velutina	20	Y	FACW
Ailanthus altissima	20	Y	None
	87	= Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1. Juglans californica	3	N	FAC
2.			
3.			
4.			
5.			
	3	= Total Cover	

Herb Stratum (Plot size:)			
1. Epilobium ciliatum	3	N	FACW
2. Ricinus communis	1	N	None
3. Polypogon monspieliensis	1	N	FACW+
4.			
5.			
6.			
7.			
8.			
	5	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	—	= Total Cover	

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust —

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	26	x 2 =	52
FAC species	43	x 3 =	129
FACU species	0	x 4 =	0
UPL species	26	x 5 =	130
Column Totals:	95 (A)		311 (B)

Prevalence Index = B/A = 3.27

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks:

Dense tree canopy consisting of black walnut, ash and tree of heaven. Very little understory. Overall drainage has a lot of non-native species. Willows, also.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

Couldn't dig pit deeper than 4" due to too many live roots and hole filling w/ sand & water. Dark soil w/ ~5% orange mottles in small sample we looked at.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 6

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks: Oily film on water. Evidence of otters to toe of slope

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-215 HOV Gap Closure / Barton Rd City/County: Grand Terrace / S.B. Sampling Date: 7/17/09

Applicant/Owner: State: CA Sampling Point: 2 (17-HOV)

Investigator(s): S. Barrera, L. Delk Section, Township, Range: Sect. 6, T2S, R4W

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

Subregion (LRR): C-Mediterranean Lat: 34.027034° Long: -117.330882° Datum: WGS84

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 ✓	**Is the Sampled Area within a Wetland?** Yes No ✓
Hydric Soil Present?	Yes —	No —	
Wetland Hydrology Present?	Yes ✓	No	

Remarks:

Disturbed channel with earthen bottom. Water entering channel near sample point from a pipe that flows under existing R.R. tracks. Vegetation on banks, very little in channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 40'w x 30'l)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ailanthus altissima	70	Y	None
2. Washingtonia robusta	10	N	None
3. Salix gooddingii	10	N	OBL
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Ailanthus altissima	1	N	None
2.			
3.			
4.			
5.			
	1	= Total Cover	
Herb Stratum (Plot size:)			
1. Polypogon monspeliensis	1	N	FACW+
2. Epilobium ciliatum	1	N	FACW+
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	—	= Total Cover	

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	81	x 5 =	405
Column Totals:	93 (A)		419 (B)

Prevalence Index = B/A = 4.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No ✓

Remarks:

Plants w/ No indicator status considered UPL for calculations

Disturbed, nonnative canopy. Channel likely maintained for flood control.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
N/A	No soil pit dug							

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

No soil pit dug due to lack of hydrophytic vegetation indicators.
Soil likely composed of fill due to R.R. and Access Rd construction

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 14"

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

Metal pipe draining into channel, coming in from under R.R. tracks to SW
Oily film on water
1' deep. 3' o'flow

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: I-215 / Barton Road City/County: Colton/Grand Terrace San Bernardino Sampling Date: 11/16/08

Applicant/Owner: Caltrans State: CA Sampling Point: 3

Investigator(s): N Walters, M Lam Section, Township, Range: Sect 32 T1S/R4W

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

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Saugus sandy loam (ShF) 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 ✓	Is the Sampled Area within a Wetland? Yes _____ No ✓
Hydric Soil Present?	Yes _____ No ✓	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	80%	Y	FACW
2. Juglans californica	10%	N	FAC
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1. Ficus carica	30%	Y	UPL
2. Washingtonia robusta	5%	N	UPL
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Chenopodium	1%	N	UPL
2. Bromus	1%	N	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 1	x 2 = 2
FAC species 1	x 3 = 3
FACU species _____	x 4 = _____
UPL species 4	x 5 = 20
Column Totals: 6 (A)	25 (B)

Prevalence Index = B/A = 25/6 = 4.16

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

bare ground in herb stratum includes mostly litter cover

Sampling Point: 3

SOIL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1		5YR 4/6	<1	RM	RC	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

2 2% oxidized rhizosphere in soil sample.
some water runoff from culvert under I-15 onto concrete slurry pad. Highly disturbed within ROW by concrete erosion control

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Barton Rd/215 City/County: Colton/Grand Terrace/S.B.Co. Sampling Date: 11/16/08

Applicant/Owner: Caltrans State: _____ Sampling Point: 4

Investigator(s): W Walters MLam Section, Township, Range: Sect 32 T1S/R4W

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

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Saugus sandy loam (SbF) 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix goodingii	40	Y	FACW
2. Morus sp. Fan Palm	50	Y	UPL
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Cyperus eragrostis	100	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 2	x 2 = 4
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species 1	x 5 = 5
Column Totals: 3 (A)	9 (B)

Prevalence Index = B/A = 9/3 = 3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

12'x8' Cyperus

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/1						Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

Indicators for Problematic Hydric Soils[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Saturated soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

15' away from ordinary channel.

APPENDIX B

SITE PHOTOGRAPHS

LEGEND

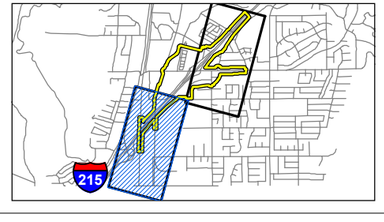
- Jurisdictional Study Area
- Lined Channel (ACOE/CDFG Jurisdiction)
- Earthen / Vegetated Channel (ACOE/CDFG Jurisdiction)
- Riparian habitat (CDFG Jurisdiction)

0 150 300
FEET

Photograph location and direction taken

Photograph 1: View of riparian habitat along Drainage B, as seen facing east.

Photograph 2: View of non-jurisdictional aqueduct (Drainage A), as seen facing southwest. Channelized portion of Drainage B is on the left.



SOURCE: World Imagery: Bing Maps (2010); LAN Engineering (2011)

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APPENDIX B
Sheet 1 of 2

I-215/Barton Road
Interchange Improvement Project
Site Photographs

08-SBd-215 PM 0.58/1.66
EA# 0J070

LEGEND

- Photograph location and direction taken
- Jurisdictional Study Area
- Lined Channel (ACOE/CDFG Jurisdiction)
- Earthen / Vegetated Channel (ACOE/CDFG Jurisdiction)
- Riparian habitat (CDFG Jurisdiction)

0 150 300
FEET

SOURCE: ESRI Imagery: Bing Maps (2010); LAN Engineering (2011)

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Photograph 3: View of concrete channel (Drainage C), as seen facing southwest along northbound exit ramp.

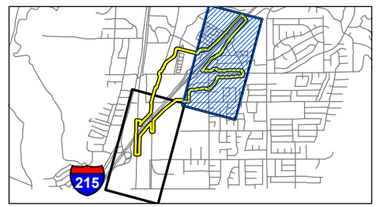
Photograph 4: View of concrete channel (Drainage C), as seen facing northeast along northbound exist ramp.

Photograph 5: View of concrete channel (Drainage E; receiving storm drain flow from culvert to east and from Drainage E upstream), as seen facing southwest.

Photograph 6: View of concrete channel (Drainage E), as seen facing northeast.

Photograph 7: View of riparian habitat and debris downstream of culvert (along Drainage F), as seen facing west.

Photograph 8: View of concrete v-ditch (Drainage D), as seen facing southwest.



APPENDIX B
Sheet 2 of 2

I-215/Barton Road Interchange Improvement Project

Site Photographs

08-SBd-215 PM 0.58/1.66
EA# 0J070