

***State Route 60/World Logistics Center Parkway
Interchange Project***

NES



Natural Environment Study

Discussions of Biological Assessments, Jurisdictional Delineation,
MSHCP Consistency, and Focused Species Surveys

City of Moreno Valley, Riverside County, California

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Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation District 8
and City of Moreno Valley

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Summary

The City of Moreno Valley, in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/World Logistics Center Parkway (WLC Pkwy) interchange. The purpose of the project is to alleviate existing and future traffic congestion at the SR-60/WLC Pkwy interchange ramps during peak hours, to improve traffic flow along the freeway and through the interchange, to improve safety by upgrading the geometry at the current interchange, and to provide standard vertical clearance for the WLC Pkwy overcrossing.

The biological study area (BSA) contains suitable habitat for two federally and/or State-listed species: coastal California gnatcatcher (*Polioptila californica californica*) and Stephens' kangaroo rat (*Dipodomys stephensi*). The coastal California gnatcatcher is a covered species, for which take is provided under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). In addition, avoidance and minimization measures will be implemented for this species to avoid and reduce potential project effects. The BSA is within the boundary of the Habitat Conservation Plan (HCP) for Stephens' kangaroo rat. Project effects to Stephens' kangaroo rat are covered through project compliance with the HCP. In addition, avoidance and minimization measures will be implemented for this species to avoid and reduce potential project effects.

The BSA contains suitable habitat for 12 non-listed special-status species. One species, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), was determined to be present. Focused surveys were conducted for two of these species, burrowing owl (*Athene cunicularia*) and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). These two species were determined to be absent from the BSA. A preconstruction survey for the burrowing owl will be required to avoid potential project effects to this species. Avoidance and minimization measures will be implemented for the northwestern San Diego pocket mouse. Potential project effects to the other non-listed species with potential to occur are not considered substantial.

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

A jurisdictional delineation of the BSA was conducted and identified the presence of potential jurisdictional waters. The project would result in 0.111 acre of temporary effects and 0.027 acre of permanent effects to potential nonwetland waters regulated

by the United States Army Corps of Engineers (USACE) for each project alternative. The project would affect streambed/riparian regulated by the California Department of Fish and Wildlife (CDFW) as follows: 1.159 ac of temporary effects and 0.549 ac of permanent effects from Alternative 2, 1.138 ac of temporary effects and 0.570 ac of permanent effects from Alternative 6, 1.133 ac of temporary effects and 0.564 ac of permanent effects from Design Variation 2a, and 1.133 ac of temporary effects and 0.574 ac of permanent effects from Design Variation 6a. Alternatives 2 and 6 and Design Variations 2a and 6a would each result in 0.026 ac of temporary effects and 0.163 ac of permanent effects to CDFW riparian/riverine features. The proposed project is anticipated to require the following agency permits: a federal Clean Water Act (CWA) Section 404 permit authorization from the USACE, a CWA Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Fish and Game Code Section 1602 Streambed Alteration Agreement from the CDFW.

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

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Chapter 1– Introduction

A segment of Theodore Street has been renamed to World Logistics Center Parkway (WLC Pkwy). The SR-60/Theodore Street Interchange Project will now be referred to as the State Route 60 (SR-60)/WLC Pkwy Interchange Project (project).

The City of Moreno Valley (City), in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to reconstruct and improve the SR-60/WLC Pkwy interchange. The majority of the project site is within the City of Moreno Valley; however, the northeast quadrant of the site is within unincorporated Riverside County but within the City's Sphere of Influence. The purpose of the project is to alleviate existing and future traffic congestion at the SR-60/WLC Pkwy interchange ramps during peak hours, to improve traffic flow along the freeway and through the interchange, to improve safety by upgrading the geometry at the current interchange, and to provide standard vertical clearance for the WLC Pkwy overcrossing. Figure 1 shows the regional location and project limits (all figures are included in Appendix A).

The project will be funded with a variety of funding sources including federal and local funds and, as such, will be required to comply with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans will be the Lead Agency for CEQA, the City is a Responsible Agency under CEQA, and the Federal Highway Administration (FHWA) is the federal Lead Agency for NEPA. The environmental review, consultation, and any other action required in accordance with the applicable federal laws for this project will be carried out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (USC) 327. Therefore, preparation of the NEPA compliance documents, including the technical studies and the environmental document, will have oversight by Caltrans District 8. An Initial Study/Environmental Assessment (joint CEQA/NEPA document) is being prepared and is anticipated to result in a Mitigated Negative Declaration/Finding of No Significant Impact.

Project History

PURPOSE AND NEED

Project Purpose

The purpose of the proposed project is to:

1. Provide increased interchange capacity, reduce congestion, and improve traffic operations to support the forecast travel demand for the 2045 design year;
2. Improve existing and projected interchange geometric deficiencies; and

3. Accommodate a multimodal facility that has harmony with the community and preserves the values of the area.

Project Need

The proposed project is needed for the following reasons:

1. According to the demographics and growth forecast prepared for the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016), between 2012 and 2040, Riverside County's population is expected to increase by 41 percent, job growth is anticipated to increase by 90 percent, and the number of households is anticipated to increase by 51 percent. For Moreno Valley specifically, between 2012–2040, population is anticipated to increase by 30 percent, household jobs are anticipated to increase by 165 percent, and the number of households is anticipated to increase by 41 percent. Without improvements, in the year 2045, the eastbound and westbound on-and off- ramps are anticipated to operate at unacceptable levels of service (LOS) (LOS E in the a.m. peak hour and F in the p.m. peak hour, respectively) and the ramp intersections with WLC Pkwy are anticipated to operate at LOS F for both the a.m. and p.m. peak hours. The westbound mainline segment on SR-60 between WLC Pkwy and Redlands Boulevard is anticipated to operate at LOS E during the a.m. peak hour. The Theodore Street intersections with Ironwood Avenue, the SR-60 westbound and eastbound ramps, and Eucalyptus Avenue are forecast to operate at LOS F in the p.m. peak hour.
2. The overpass bridge at the interchange was hit recently (January 2015) and a costly emergency repair project was required, so there is a need to bring vertical clearance up to current standards. In addition, the WLC Pkwy overcrossing is geometrically deficient and needs additional capacity to accommodate projected future travel volumes.
3. This project will fulfill the need to accommodate the movement of people using multiple modes of transportation by community-based design taking into consideration the natural environment, social environment, transportation behavior, cultural characteristics and economic environment.

Project Description

Although the City's General Plan Circulation Element designates WLC Pkwy as a Minor Arterial (two lanes in each direction), existing WLC Pkwy through the project limits is one travel lane in each direction, including on the overcrossing over SR-60.

Existing SR-60 between Redlands Boulevard and Gilman Springs Road is two mixed-flow travel lanes in each direction. The proposed project would construct modifications to the existing SR-60/WLC Pkwy interchange from Post Mile 20.0 to Post Mile 22.0 on SR-60, a distance of approximately 2 miles (mi). Major improvements to the interchange will include: (1) reconstruction of the westbound and eastbound on- and off-ramps to SR-60, (2) replacement of the existing WLC Pkwy overcrossing with an expanded four-lane overcrossing (two through lanes in each direction) with a minimum 16.5-foot (ft) vertical clearance between the eastbound and westbound SR-60 ramps and reconstruction of WLC Pkwy between the southern limits of the project and the eastbound SR-60 ramps, and (3) construct three lanes each direction on WLC Pkwy between the eastbound SR-60 ramps and Eucalyptus Avenue west (Eucalyptus Avenue west of WLC Pkwy); construct two lanes each direction but grade for three lanes each direction on WLC Pkwy between Eucalyptus Avenue west and Eucalyptus Avenue east (Eucalyptus Avenue east of WLC Pkwy); south of Eucalyptus Avenue east WLC Pkwy would narrow to one lane in each direction. The proposed improvements to the on- and off-ramps would extend west and east of the proposed overcrossing on SR-60 for proposed auxiliary lanes in each direction. The proposed improvements to Theodore Street/WLC Pkwy would extend north of SR-60 to Ironwood Avenue and south of SR 60 to south of Eucalyptus Avenue. Project construction is anticipated to begin in early 2022 and be completed in winter 2023, contingent upon full funding of all phases.

An existing Caltrans paved material transfer area located in the southwest quadrant of the existing SR-60/WLC Pkwy interchange, within the existing eastbound loop on-ramp, is currently used as a temporary site for the transfer of street sweeping materials. The existing paved material transfer area will be relocated to the SR-60/Gilman Springs interchange area as part of the proposed project.

Three alternatives and two design variations will be evaluated in the environmental document for the proposed project: Alternative 1 (No Build Alternative [no project]), Alternative 2 (Modified Partial Cloverleaf), Alternative 6 (Modified Partial Cloverleaf with Roundabout Intersections), Alternative 2 with Design Variation 2a and Alternative 6 with Design Variation 6a. The Design Variations for each Build Alternative are similar and would realign the Eucalyptus Avenue to join WLC Pkwy approximately 900 ft south of the existing Eucalyptus Avenue/WLC Pkwy intersection. Both Build Alternatives and Design Variations would require full right-of-way acquisitions. There would be partial right-of-way acquisitions within all four quadrants of the interchange.

During the construction phase of the proposed project, removal of the existing overcrossing and construction of the new overcrossing and ramps would interfere with access to the SR-60 at WLC Pkwy. The WLC Pkwy overcrossing is being evaluated for

closure during construction of the proposed project. Therefore, if not done prior to this project, Eucalyptus Avenue would be extended and improved approximately 5,100 ft between WLC Pkwy and Redlands Boulevard to provide a detour route to SR-60. The improvements to Eucalyptus Avenue will be constructed early in the construction schedule, prior to the closure of the WLC Pkwy overcrossing. North of the freeway, access to SR-60 during construction would be provided via Ironwood Avenue and Redlands Boulevard. South of the freeway, access to SR-60 would be provided via Alessandro Boulevard and Gilman Springs Road and via Eucalyptus Avenue and Redlands Boulevard. Additional intersection improvements are proposed along the detour routes to facilitate vehicle movement. As a result, widening is proposed at the Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road intersections. Consequently, signal modifications are proposed at the Redlands Boulevard/Ironwood Avenue and Redlands Boulevard/Eucalyptus Avenue intersections. A new signal would be installed at the Gilman Springs Road/Alessandro Boulevard intersection due to the high through movements on Gilman Springs Road conflicting with left turns to and from Alessandro Boulevard. The improvements required for the detour routes also include utility adjustments and/or relocations at Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road.

Project construction would also involve the import of soils to the project site from a Borrow Site. One borrow site, the City Stockpile, is located at the northwest corner of the intersection of Alessandro Boulevard/Nason Street, approximately 2.3 mi from the western boundary of the project site. Approximately 50,000 cubic yards of material will be imported to the project from the City Stockpile borrow site. The City Stockpile will be environmentally cleared with this project. Additional fill material beyond the 50,000 cubic yards will be necessary for the project and will come from another site(s) to be determined during future phases of the project.

Project Alternatives

In addition to the No Build Alternative (Alternative 1), two Build Alternatives (Alternatives 2 and 6) and Design Variations (Design Variations 2a and 6a) are under consideration. Alternatives 1, 2, 6 and the Design Variations are described in further detail below. Figure 2 shows Alternative 2 and 6 geometrics and Figure 3 shows Alternative shows Design Variation 2a and 6a geometrics.

ALTERNATIVE 1 (NO BUILD)

The No Build Alternative assumes that no improvements will be made to the freeway mainline or to the existing SR-60/WLC Pkwy interchange. Without the planned improvements proposed as part of the project, the LOS at the on- and off-ramps and

traffic operations at the interchange would continue to worsen over time. Alternative 1 was determined to not meet or satisfy the project purpose and need.

COMMON DESIGN FEATURES FOR BOTH BUILD ALTERNATIVES

As described further in Sections 1.3.3 and 1.3.4, Alternatives 2 and 6 both propose to modify the SR 60/WLC Pkwy interchange and share several common design features. These common design features are discussed below by type of improvement.

Interchange On- and Off-Ramp Improvements

The proposed interchange is located approximately 1 mi east of the SR-60/Redlands Boulevard interchange and 0.7 mi west of the SR-60/Gilman Springs Road interchange. The new on- and off- ramps and the new bridge overcrossing would provide a direct and continuous alignment for WLC Pkwy traffic crossing SR-60. In accordance with the Caltrans District 8 Ramp Meter Design Manual, all interchange on-ramps would be two-lane and/or three-lane metered ramps, with sufficient right-of-way to accommodate vehicle storage, ramp meter equipment, and California Highway Patrol enforcement areas. Additionally, all on- ramps would provide high-occupancy vehicle (HOV) preferential lanes.

Roadway Improvements

Roadway improvements associated with the proposed project include the following:

- Widening of WLC Pkwy through the proposed project limits
- Improvements along WLC Pkwy to include a parkway, sidewalk, and multi-use trail
- Improvement of Eucalyptus Avenue to a four-lane cross-section between Redlands Boulevard and WLC Pkwy; and
- Addition of one auxiliary lane in each direction between the Redlands Boulevard and Gilman Springs Road interchanges with SR-60.

The WLC Pkwy improvements listed above would have a design speed of 45 miles per hour (mph). Aside from the improvements listed above, no additional future widening on WLC Pkwy is planned within the interchange limits. The proposed overcrossing would be designed to the ultimate width.

Nonvehicular and Pedestrian Access Improvements. The proposed project includes construction of a number of nonvehicular and pedestrian access improvements. These include an 8 ft wide sidewalk on the east side of WLC Pkwy along the limits of the WLC

Pkwy improvements, a 6 ft wide sidewalk on the west side of WLC Pkwy between the southern project limits and Eucalyptus Avenue, and a 6 ft wide sidewalk on both sides of Eucalyptus Avenue from WLC Pkwy to Redlands Boulevard. Additionally, an 11 ft wide multi-use trail would be constructed on the east side of WLC Pkwy between Eucalyptus Avenue and Ironwood Avenue.

The proposed project would also accommodate a future 11 ft wide multi-use trail on the north side of Eucalyptus Avenue between Redlands Boulevard and WLC Pkwy. A grade-separated trail and pedestrian crossing over the eastbound SR-60 direct on-ramp would potentially be provided with the proposed project based on available funding.

Utility and Right-of-Way Requirements

The proposed project would require relocation or protection in place of several utility facilities. To prevent impacts to utility facilities and services during construction, the following utilities have been contacted regarding the proposed project: Eastern Municipal Water District (EMWD), Metropolitan Water District of Southern California (MWD), Western Municipal Water District (WMWD), Riverside County Flood Control and Water Conservation District (RCFCWCD), Riverside County Waste Management, Moreno Valley Electric Utility, Time Warner Cable, Charter Communications, Southern California Edison (SCE), Southern California Gas Company (SCG), Questar Southern Trails Pipeline Company, Sunesys, Verizon, and AT&T. The existing SCE overhead 115-kilovolt (kV) transmission line and 12 kV distribution line that are currently adjacent to the west side of WLC Pkwy would be relocated to the east side of WLC Pkwy between the westbound ramps intersection and the southern limits of the proposed project. North of the westbound ramps intersection, the SCE utility lines will cross WLC Pkwy and be relocated to the parkway on the west side of WLC Pkwy. In order to accommodate future utilities, the proposed overcrossing would incorporate conduits for Moreno Valley Electric Utility, SCE and other utility companies as requested.

Build Alternatives 2 and 6 and Design Variation 2a would each require a total of six full acquisitions: one full acquisition in the northwest quadrant and five full acquisitions in the southwest quadrant. Design Variation 6a will require the same amount of acquisitions with an additional full acquisition in the southeast quadrant of the interchange. There would be partial right-of-way acquisitions within all four quadrants of the interchange. The full acquisition for Design Variation 6a in the southeast quadrant of the interchange would require one residential displacement.

Additional Considerations

- Geotechnical investigations would be required during final design of the WLC Pkwy overcrossing and the interchange improvements.
- Highway planting would potentially be provided and coordinated with Caltrans and the City.
- Infiltration basins will be proposed in the undeveloped areas between the on-/off-ramps and SR 60.

ALTERNATIVE 2 (MODIFIED PARTIAL CLOVERLEAF)

Alternative 2 proposes to reconstruct the SR-60/WLC Pkwy interchange in a modified partial cloverleaf configuration. Improvements under Alternative 2 would include the construction of a new westbound direct on-ramp and a new westbound loop off-ramp in the northwest quadrant of the interchange, in a cloverleaf configuration. A new eastbound direct off-ramp, a new eastbound loop on-ramp, and a new eastbound direct on-ramp would be constructed in the southwest and southeast quadrants, in a partial cloverleaf configuration.

Alternative 2 would also remove the existing two-lane (one lane in each direction) WLC Pkwy overcrossing and replace it with a new four-lane (two lanes in each direction) overcrossing. The proposed overcrossing would accommodate turn lanes: in the northbound and southbound direction.

Additional improvements as part of Alternative 2 include the installation of signals at both the proposed eastbound and westbound ramp intersections, as well as at the intersection of Eucalyptus Avenue/WLC Pkwy. Bike lanes would be provided on both sides of WLC Pkwy and Eucalyptus Avenue throughout the project limits.

Design Variation 2a – (Alternative 2 with Design Variation)

Design Variation 2a will have the same features as Alternative 2 with the exception of the location of the Eucalyptus Avenue/WLC Pkwy intersection. The Design Variation will consist of moving the current Eucalyptus Avenue/WLC Pkwy intersection approximately 900' south from its current location. The shift will cause a partial realignment of Eucalyptus Avenue from approximately 2,600' west of WLC Pkwy to connect with the west side of WLC Pkwy.

Alternative 6 (Modified Partial Cloverleaf with Roundabout Intersections)

Alternative 6 proposes to reconstruct the SR-60/WLC Pkwy interchange in a modified partial cloverleaf configuration. Improvements under Alternative 6 would include the construction of a new westbound direct on-ramp and a new westbound loop off-ramp in the northwest quadrant, in a partial cloverleaf configuration. New eastbound direct off- and on-ramps would be constructed in the southwest and southeast quadrants, respectively, in a partial cloverleaf configuration.

Similar to Alternative 2, Alternative 6 would also remove the existing two-lane (one lane in each direction) WLC Pkwy overcrossing and replace it with a new four-lane (two through lanes in each direction) overcrossing. Additional improvements included as part of Alternative 6 include the installation of roundabouts at both the proposed eastbound and westbound ramp intersections, as well as at Eucalyptus Avenue/WLC Pkwy. On WLC Pkwy north of the Eucalyptus Avenue intersection and on Eucalyptus Avenue, bike lanes are provided on both sides within the width of the proposed shoulders. Bicyclists would have the option to merge with vehicular traffic to navigate through the roundabout or exit the travel lane prior to each roundabout and cross the roundabout with pedestrian traffic.

Design Variation 6a – (Alternative 6 with Design Variation)

Design Variation 6a will have the same features as Alternative 6 with the exception of the location of the Eucalyptus Avenue/WLC Pkwy intersection. The Design Variation will consist of moving the current Eucalyptus Avenue/WLC Pkwy intersection approximately 900' south from its current location. The shift will cause a partial realignment of Eucalyptus Avenue from approximately 2600' west of WLC Pkwy to connect to the west side of WLC Pkwy. Design Variation 6a would require the same amount of acquisitions with an additional full acquisition in the southeast quadrant of the interchange that would result in one residential displacement. There would be partial right-of-way acquisitions within all four quadrants of the interchange.

Chapter 2 – Study Methods

Regulatory Requirements

FEDERAL LAWS AND REGULATIONS

Federal Endangered Species Act

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

Under the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program*, which became effective on July 1, 2007, Caltrans serves as the NEPA Lead Agency for compliance with Section 7(a)(2) of FESA. Because this project is covered by the Pilot Program MOU, the FHWA has assigned, and Caltrans has assumed, FHWA responsibility for environmental review, consultation, and coordination on this project.

Clean Water Act

The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have fewer adverse impacts.

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

The discharge of dredged or fill material (temporarily or permanently) into waters of the United States (including wetlands) requires authorization from the USACE pursuant to Section 404 of the CWA.

- **Section 401:** This section of the CWA requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California.

The RWQCBs also assert authority over waters of the State under waste discharge requirements pursuant to the California Porter Cologne Water Quality Control Act (Porter-Cologne Act).

Migratory Bird Treaty Act and Executive Order 13186

Native bird species and their nests are protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703 712). The MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird or its eggs, parts, or nests, except as authorized under a valid permit.

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

Executive Order 11990 – Protection of Wetlands

Executive Order 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The United States Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included.

- This must be documented in a specific Wetlands Only Practicable Alternative Finding.

- An additional requirement is to provide early public involvement in projects affecting wetlands. The FHWA provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

STATE LAWS AND REGULATIONS

California Environmental Quality Act

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

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

California Endangered Species Act

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

Section 1600 of the California Fish and Game Code

The State of California Code of Regulations empowers the CDFW to issue Agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. These regulations do not apply to Tribal Lands. Streams (and rivers) are defined by the presence of a channel bed and banks, and at

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

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

LOCAL LAWS AND REGULATIONS

Western Riverside County Multiple Species Habitat Conservation Plan

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

Studies Required

LITERATURE SEARCH

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 biological study area (BSA). Federal and State lists of sensitive species were examined. Current and historical aerial photographs were also reviewed in Google Earth (2018) and NETRonline Historic Aerials (2018). Current database records reviewed included the following:

- CDFW, California Natural Diversity Database (CNDDDB). 2019. Rarefind 5 (version 5.2.14). Website: <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>

(accessed May 30, 2019). United States Geological Survey (USGS) California 7.5-minute topographic quadrangle maps searched: *Sunnymead, El Casco, Lakeview, Perris, Redlands, and Yucaipa*.

- California Native Plant Society (CNPS). 2019. Electronic Inventory of Rare and Endangered Plants (online edition, v8-03 0.45). Website: <http://www.cnps.org/inventory> (accessed May 30, 2019). USGS California 7.5-minute topographic quadrangle maps searched: *Sunnymead, El Casco, Lake View, Perris, Redlands, and Yucaipa*.
- MSHCP. 2003. Volume 1, The Plan, Parts 1 and 2.
- National Marine Fisheries Service (NMFS). 2019. California Species List Tool. Website: http://www.westcoast.fisheries.noaa.gov/maps_data/maps_and_gis_data.html (accessed May 30, 2019).
- USFWS, Information Planning and Conservation System (IPaC). 2019. Website: <http://www.ecos.fws.gov> (accessed May 30, 2019).

FIELD REVIEWS

Initial on-site field investigations were conducted in 2013, 2015, and 2018, to identify vegetation communities, habitats for special-status species, potential jurisdictional waters, and other biological resource issues. Based on the literature review and initial field investigations, focused field surveys were completed for the following:

- Fairy shrimp habitat assessment
- Burrowing owl (*Athene cunicularia*) habitat assessment and focused survey
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM) focused survey
- Bat habitat assessment
- Wetlands delineation and assessment of jurisdictional waters

Survey methods for these studies are described in the Personnel and Survey Dates section below.

BIOLOGICAL STUDY AREA

The BSA was created to encompass the proposed project footprint including Alternatives 2, and 6 and Design Variations 2a and 6a (see Figures 2 and 3) and adjacent habitats within 50 feet of the project footprint.

SURVEY METHODS

The following provides the methods for the surveys conducted as part of the field reviews identified above.

Fairy Shrimp

A habitat assessment for fairy shrimp was conducted within the BSA by USFWS permitted (USFWS Permit TE-777965-10) fairy shrimp biologist Stanley Spencer on August 5, 2013, and by and by Ms. Woodard and Ms. Haller on October 4, 2018. No suitable fairy shrimp habitat was found within the BSA; therefore, fairy shrimp are not discussed further in this document.

Burrowing Owl

The burrowing owl habitat assessments and focused surveys were conducted in accordance with the MSHCP accepted protocol, *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (Riverside County Environmental Programs Department, March 2006). The burrow survey was conducted on August 26 and 27, 2013, by Dr. Spencer, and on April 1, 2015 by biologist Denise Woodard. A habitat assessment was conducted on September 19, 2018 by biologist Andrea Haller for Design Variations 2a and 6a. The surveys were conducted by walking throughout the BSA. Transect spacing averaged 70 ft, which allowed for 100 percent visual coverage of the ground surface. Potential habitat was examined for burrowing owl and owl sign (e.g., feathers, pellets, whitewash, and prey remnants). Potential habitat within 500 ft of the BSA was surveyed using binoculars.

Los Angeles Pocket Mouse

For the SR-60/Gilman Springs Road MSHCP survey area, biologists Richard Erickson and Leo Simone conducted 5 nights of protocol trapping (August 4 through 9, 2013), pursuant to LSA's USFWS Permit TE-777965-10 and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals. Ms. Woodard assisted. The survey was conducted according to the MSHCP Biological Monitoring Program, Small Mammal Trappings Standard Operating Procedures and LAPM Project-Specific Procedures, the currently accepted protocol for LAPM. A total of 130 traps were set in one line and baited with birdseed and wild oats. Trap checks took

place at midnight and at dawn. All animals were identified and released, unharmed, at their capture sites.

For the Gilman Springs Road/Alessandro Boulevard MSHCP survey area, biologists Leo Simone and Claudia Bauer conducted 5 nights of protocol trapping (July 26 through 31, 2015), pursuant to LSA's CDFW attachment to Scientific Collecting Permit No. SC-000777 providing Conditions for Research on Listed Mammals (November 27, 2012, through January 31, 2017). A total of 100 traps were set in two lines. Traps were baited with birdseed and wild oats. Trap checks took place near midnight and at dawn. All animals were identified and released unharmed at their capture sites.

Bats

A daytime bat habitat assessment was conducted on August 5, 2013, by bat specialist Jill Carpenter and Dr. Spencer, and by Ms. Woodard on April 1, 2015. Potential roosting sites within the project footprint and immediate surrounding areas were first identified by reviewing aerial map imagery and project design plans to locate bridges and culvert structures greater than 3 ft in height or diameter. These structures were then visited on foot and examined for suitable roosting habitat, such as crevices or cavities, as well as for the presence of bats or bat sign (e.g., guano, urine staining, or vocalizations) that may indicate use by bats. Any suitable roosting features observed were evaluated for potential use as day- and/or night-roosting habitat based on the quality of the structural feature(s) present and the proximity of the structure to water or to vegetated areas that may provide foraging habitat; these factors increase the desirability of a given structure as a potential roost site. Locations containing suitable day-roosting habitat were also assessed for potential use as maternity roost sites, based on indications that the observed roost feature supports or may support a large congregation of bats, or that bats are present in the structure during the maternity season (April 1–August 31). To facilitate the assessment of maternity roosting potential, this survey was performed in the summer, when a maternity colony would be present and detectable.

Jurisdictional Delineation

The fieldwork for this evaluation was conducted by consulting biologists Ms. Woodard and Elizabeth Hohertz on September 4 and October 7, 2013, by Ms. Woodard on April 1, 2015, and by Ms. Woodard and Ms. Haller on October 4, 2018. The BSA was surveyed by vehicle and on foot for both federal and State jurisdictional areas according to currently accepted federal and State regulations and guidelines.

Personnel and Survey Dates

Table 1 lists the survey data, including survey type, date(s), and qualified biologist(s) for the various surveys performed within the BSA. Table 1 is followed by a detailed discussion of the methods used for these surveys.

Table 1: Survey Data

Survey Type	Date(s)	Biologist(s)
Fairy Shrimp	August 5, 2013	Stanley Spencer
Burrowing Owl	August 26 and 27, 2013; April 1, 2015; September 19, 2018	Stanley Spencer, Denise Woodard; Andrea Haller
Los Angeles Pocket Mouse	August 4, 5, 6, 7, 8 and 9, 2013.	Richard Erickson, Leo Simone, Denise Woodard
	July 26, 27, 28, 29, and 31, 2015	Leo Simone, Claudia Bauer
Bats	August 5, 2013; and April 1, 2015	Jill Carpenter, Stanley Spencer, Denise Woodard
Jurisdictional Delineation	September 4 and October 7, 2013; April 1, 2015; and October 4, 2018	Denise Woodard, Elizabeth Hohertz; Andrea Haller

Source: Compiled by LSA Associates, Inc. (2018).

Agency Coordination and Professional Contacts

No agency coordination has been conducted to date.

Limitations That May Influence Results

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

Chapter 3 – Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

STUDY AREA

The BSA spans approximately 3.5 mi in the City of Moreno Valley and parts of unincorporated Riverside County. The BSA is north of Lake Perris and the San Jacinto Wildlife Area/Mystic Lake area and south of the foothills of The Badlands along SR-60. The BSA is primarily developed with existing roadway infrastructure and associated ornamental vegetation. Vegetation in the BSA includes ruderal/agricultural, nonnative grassland, saltbush scrub, coastal sage scrub, and riparian scrub. Surrounding land uses consist of undeveloped open space and developed areas including transportation corridors and residential and commercial/industrial development. Details of the biological and physical conditions within the BSA are discussed below.

PHYSICAL CONDITIONS

The BSA is north of Lake Perris and the San Jacinto Wildlife Area/Mystic Lake area, and south of the foothills of The Badlands. The topography slopes gently to the south, with elevations ranging from 1,600 ft above mean sea level to 1,950 ft above mean sea level. Soils within the BSA, as mapped by the Natural Resource Conservation Service, Online Web Soil Survey (2017), are included in Table 2.

Table 2: Soils Within the BSA

Soil Type	Percentage Slope
Badland	None
Metz Loamy Sand, Channeled	0 to 15
Metz Gravelly Sandy Loam	2 to 15
San Emigdio Fine Sandy Loam	2 to 8
San Emigdio Loam	2 to 8

Source: Natural Resource Conservation Service (2017).
BSA = biological study area

Several drainage features are present within the BSA. They consist primarily of channelized stormwater drainages that eventually convey flows into the San Jacinto River. The flows are conveyed into the San Jacinto River via Mystic Lake and a series of nearby reclamation ponds within the San Jacinto Wildlife Area.

BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

Vegetation/Natural Communities

Vegetation within the BSA has been affected by agriculture, commercial, and residential development. The BSA contains six vegetation communities—Ornamental/Developed, Ruderal/Agriculture, Nonnative Grassland, Saltbush Scrub, Coastal Sage Scrub, And Riparian Scrub—as described below. Figure 4 shows the vegetation and land use within the BSA.

- **Ornamental/Developed:** Ornamental species common within the community include Peruvian pepper (*Schinus molle*), tamarisk (*Tamrix aphylla*), European olive (*Olea europea*) and eucalyptus (*Eucalyptus* sp.). Developed areas within the BSA include residential and commercial development and transportation corridors. This is the dominant land use within the BSA.
- **Ruderal/Agriculture:** Ruderal/agriculture areas are present throughout the BSA, mostly adjacent to the existing SR-60 alignment, WLC Pkwy, and other roads. These areas have been subject to repeated disturbance by disking and agricultural use. Dominant species include stinknet (*Oncosiphon piluliferum*), common Mediterranean grass (*Schismus barbatus*), shortpod mustard (*Hirschfeldia incana*), Russian-thistle (*Salsola tragus*), riggut grass (*Bromus diandrus*), and red brome (*Bromus madritensis* ssp. *rubens*).
- **Nonnative Grassland:** Nonnative grassland is present in small patches adjacent to developed areas. Dominant species include red brome, riggut grass, common Mediterranean grass, and redstem filaree (*Erodium cicutarium*). The area of nonnative grassland on the southeast quadrant of SR-60/WLC Pkwy contains scattered mule fat (*Baccharis salicifolia*) but is not different enough from the rest of the nonnative grassland within the BSA to be mapped as a separate community.
- **Saltbush Scrub:** Saltbush scrub occurs in small, scattered patches north of the intersection of SR-60/WLC Pkwy and in the eastern portion of the BSA. This community is dominated by fourwing saltbush (*Atriplex canescens*) and sprawling saltbush (*Atriplex suberecta*).
- **Coastal Sage Scrub:** Coastal sage scrub is present primarily on cut slopes adjacent to SR-60 and Gilman Springs Road at the eastern end of the BSA. This plant community is composed predominantly of California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and California buckwheat (*Eriogonum fasciculatum*).

- **Riparian Scrub:** Riparian scrub is mapped in three small areas within the BSA and is associated with two drainages. The dominant plant species within the riparian scrub community are mule fat and fourwing saltbush.

Common Animal Species

Wildlife observed within the BSA is consistent with the local plant communities. Common animal species identified include mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), California towhee (*Melospiza crissalis*), common side blotted lizard (*Uta stansburiana*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Otospermophilus beecheyi*). Appendix C provides a complete list of plant and animal species observed.

Aquatic Resources

The drainage features within the BSA are primarily channelized features that carry ephemeral stormwater runoff. As a result, these drainage features do not support aquatic plants. In addition, aquatic animals requiring perennial water flows (e.g., fish) are not supported by the drainage features within the BSA. These features may, however, support common amphibian species such as the western toad (*Anaxyrus boreas*).

Invasive Species

Invasive plant species exist throughout the BSA as a result of agricultural activities and existing development. Invasive species vary in abundance within the BSA, depending on the level of disturbance, and are more numerous adjacent to roads and developed areas within the BSA. A detailed discussion of invasive species is provided in Chapter 5 below.

Habitat Connectivity

The BSA is in an area heavily affected by freeway and roadway infrastructure where habitat connectivity is highly fragmented. The majority of the BSA is not within MSHCP designated Cores or Linkages that provide for regional habitat connectivity.

Two small portions of the BSA are within and immediately adjacent to MSHCP conservation area. The MSHCP conservation area, consisting of quarter-section (i.e., 160-acre) Criteria Cells, comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks. The portion of the proposed project at the intersection of Gilman Spring Road/Alessandro Boulevard is within an MSHCP Criteria Cell, and the portion of the proposed project at the intersection of Theodore Street/Ironwood Avenue is adjacent to a Core area. These portions of the

project will not result in effects to MSHCP Cores or conservation areas designated for habitat connectivity as discussed in detail in Chapter 5 below.

Regional Species and Habitats and Natural Communities of Concern

SPECIAL-STATUS SPECIES

The presence or absence of special-status species depends on many factors, including habitat conditions, behavior, seasonal activity, and seasonal occurrence. It is often difficult to ascertain the presence or absence of a species at any particular moment in time. Thus, the presence, or the likelihood of the presence, of special-status species is based on the following criteria (in descending order, from species determined to be present to those considered potentially present): (1) direct observation of the species or its sign in the study area or the immediate vicinity during surveys conducted for this study or reported in previous biological studies, (2) sighting by other qualified observers, (3) records reported by the California Natural Diversity Database published by CDFW, (4) presence or location of specific species lists provided by private groups (e.g., CNPS), and/or (5) the study area lies within the known distribution of a given species and contains appropriate habitat.

Table 3 lists special-status species potentially present within the proposed project area.

LISTED SPECIES AND CRITICAL HABITAT

Fourteen State/federally listed species were evaluated for the proposed project, including eight plant species and nine animal species. Habitat was present in the BSA for two of these listed species, coastal California gnatcatcher and Stephens' kangaroo rat.

The coastal California gnatcatcher is an MSHCP covered species, and no further study is required. Any project effects to this species will be covered through project compliance with the MSHCP.

The proposed project is within the boundary of the HCP for the Stephens' kangaroo rat in western Riverside County, California (Riverside County Habitat Conservation Agency 1996). The proposed project is within the fee boundary of the HCP, but is not within a HCP Core Reserve. Any project effects to this species are covered through project compliance with the HCP.

Coastal California gnatcatcher and Stephens' kangaroo rat are discussed in further detail in Chapter 4.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
PLANTS					
San Diego ambrosia	<i>Ambrosia pumila</i>	US: FE CA: 1B MSHCP: S	Occurs in open habitats, usually near drainages or vernal pools, and usually in sandy loam or on clay (including upland clay slopes) from 20 to 487 meters (70 to 1,600 ft) in elevation. Known from western Riverside and western San Diego Counties. Also occurs in Mexico.	A	No vernal pools or clay soils occur in the BSA.
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	US: FE CA: 1B MSHCP: S	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 ft) in elevation. Known from Riverside and San Bernardino Counties; extirpated from San Diego County.	A	Alkaline soils are absent, and the BSA is dominated by nonnative plant communities. Any potential impacts to the species are covered through participation in the MSHCP.
Davidson's saltscale	<i>Atriplex serenana</i> var. <i>davidsonii</i>	US: – CA: 1B MSHCP: S	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy, cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage) and on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers. Is most often found in shallow silty depressions dominated by leather-spineflower (<i>Lastarriaea coriacea</i>) and other native annual species. Is often associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 200 to 760 meters (600 to 2,500 ft) in elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	A	No chamise chaparral or alluvial fan sage scrub occurs in the BSA.
Nevin's barberry	<i>Berberis nevini</i>	US: FE CA: SE/1B MSHCP: S	Gravelly wash margins in alluvial scrub, or coarse soils and rocky slopes in chaparral; typically 275 to 825 meters (900 to 2,700 ft) in elevation. Known from Los Angeles, San Bernardino, Riverside, and San Diego Counties.	A	Alluvial scrub and chaparral are not present in the BSA.
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	US: FT CA: SE/1B MSHCP: S	Usually on clay or associated with vernal pools or alkaline flats; occasionally in vernal moist sites in fine soils (clay loam, silt loam, fine sandy loam, loam, loamy fine sand). Typically	A	Clay soils and alkaline flats are not present in the BSA.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			associated with needlegrass or alkali grassland or vernal pools. Occurs from 25 to 1,220 meters (80 to 4,000 ft) in elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties.		
Round-leaved filaree	<i>California macrophylla</i>	US: – CA: 1B MSHCP: S	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland below 1,400 meters (4,600 ft) elevation. Known from Colusa, Merced, Tulare, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino County, and possibly Tulare County. Also occurs in Mexico.	A	Alkaline soils are absent, and the BSA is dominated by nonnative plant communities. Any potential impacts to the species are covered through participation in the MSHCP.
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	US: – CA: 1B MSHCP: S	In vernal pools, playas, shallow freshwater marshes, and similar sites at 30 to 1,310 meters (100 to 4,300 ft) in elevation. In California, known only from Los Angeles, San Luis Obispo, Riverside, and San Diego Counties. Also occurs in Mexico.	A	No vernal pools, playas, freshwater marshes, or similar habitats occur in the BSA.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	US: – CA: 1B MSHCP: P	Sandy or rocky soils in chaparral, coastal scrub, oak woodlands, and grassland at 40 to 1,705 meters (100 to 5,600 feet) elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	A	No chaparral, coastal scrub, oak woodlands, or native grassland occur in the BSA.
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	US: FE CA: SE/1B MSHCP: S	Alkaline soils in meadows, riverbeds, vernal pools, and lakes at 5 to 435 meters (20 to 1,430 ft) elevation. In California, known from the Central Valley and Riverside County. Also occurs in Texas and Baja California.	A	No meadows, riverbeds, vernal pools, or lakes with alkaline soils occur in the BSA.
Santa Ana River woolly-star	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	US: FE CA: SE/1B MSHCP: C	Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of flood-plains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks; lower portions of City and Mill Creeks) at 90 to 625 meters (300 to 2,100 ft) in elevation in San Bernardino and Riverside Counties.	A	Suitable habitat (Riversidean alluvial fan sage scrub and chaparral) is not present in the BSA.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	US: – CA: 1B MSHCP: S	Generally alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 ft) in elevation. Known from Riverside and San Bernardino Counties; extirpated from San Diego County.	A	Alkaline soils are absent, and the BSA is dominated by nonnative plant communities. Any potential impacts to the species are covered through participation in the MSHCP.
Spreading navarretia	<i>Navarretia fossalis</i>	US: FT CA: 1B MSHCP: S	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland below 1,400 meters (4,600 ft) in elevation. Known from Colusa, Merced, Tulare, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino Counties, and possibly Tulare County. Also occurs in Mexico.	A	Alkaline soils are absent, and the BSA is dominated by nonnative plant communities. Any potential impacts to the species are covered through participation in the MSHCP.
San Bernardino aster	<i>Symphotrichum defoliatum</i>	US: - CA: 1B MSHCP: -	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 2,040 meters (6,700 feet) in elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and is documented only from Temescal and San Timoteo Canyons (The Vascular Plants of Western Riverside County, California. F.M. Roberts et al., 2004).	A	No vernal wet sites occur within the BSA.
Wright's trichocoronis	<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	US: – CA: 2B MSHCP: S	Dry soils in coastal sage scrub and chaparral below 885 meters (2,900 ft) in elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties, and Santa Cruz Island. Also occurs in Mexico.	HP	Suitable habitat occurs in coastal sage scrub within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
INVERTEBRATES					
Branchinecta lynchi	<i>Vernal pool fairy shrimp</i>	US: FT CA: SA MSHCP: S	Vernal pools and swales in grassland areas. Known from the Central Valley, the Central Coast, and south coast mountains as far south as Ventura County, and from the Santa Rosa	A	Suitable habitat was found to be absent during the 2013 habitat assessment for fairy shrimp.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			Plateau, Skunk Hollow, and the Stowe Road vernal pool near Salt Creek, just west of Hemet in Riverside County.		
Streptocephalus woottoni	<i>Riverside fairy shrimp</i>	US: FE CA: SA MSHCP: S	Warm-water vernal pools (i.e., large, deep pools that retain water into the warm season) with low to moderate dissolved solids, in annual grassland areas interspersed through chaparral or coastal sage scrub vegetation. Suitable habitat includes some artificially created or enhanced pools, such as some stock ponds, that have vernal pool-like hydrology and vegetation. Known from areas within about 50 mi of the coast from Ventura County south to San Diego County and Baja California.	A	Suitable habitat was found to be absent during the 2013 habitat assessment for fairy shrimp.
AMPHIBIANS					
Western spadefoot	<i>Spea hammondi</i>	US: – CA: SSC MSHCP: C	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least 3 weeks for breeding; burrows in loose soils during the dry season. Occurs in the Central Valley and adjacent foothills, the nondesert areas of Southern California, and Baja California.	A	No suitable habitat with persistent water occurs in the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
REPTILES					
Orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	US: – CA: SSC MSHCP: C	Prefers washes and other sandy areas with patches of brush and rocks in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 915 meters (3,000 ft) elevation. Perennial plants required. Occurs in Riverside, Orange, and San Diego Counties west of the crest of the Peninsular Ranges; in extreme southern San Bernardino County near Colton; and in Baja California.	HP	Suitable habitat occurs in all undeveloped areas within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Red-diamond rattlesnake	<i>Crotalus ruber</i>	US: – CA: SSC MSHCP: C	Desert scrub, thornscrub, open chaparral, and woodland; occasionally in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	HP	Suitable habitat occurs in all undeveloped areas within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Blainville's horned lizard	<i>Phrynosoma blainvillii (coronatum)</i>	US: – CA: SSC MSHCP: C	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 ft) elevation.	HP	Suitable habitat occurs in all undeveloped areas within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
BIRDS					
Tricolored blackbird	<i>Agelaius tricolor</i> (nesting colony)	US: – CA: ST (breeding) MSHCP: C	Open country in western Oregon, California, and northwestern Baja California. Forages in grassland and cropland habitats. Nests in large groups near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, or tall herbs. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	A	No freshwater sources that would provide nesting habitat occur within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	US: – CA: SA MSHCP: C	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	HP	Suitable habitat occurs in coastal sage scrub and adjacent nonnative grassland communities within the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Golden eagle	<i>Aquila chrysaetos</i> (nesting and wintering)	US: – CA: CFP MSHCP: C	Generally open country of the Temperate Zone worldwide. Nests primarily in rugged mountainous country. Uncommon resident in Southern California.	A	No suitable nesting habitat occurs within the BSA. May forage over open habitat areas of the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Burrowing owl	<i>Athene cunicularia</i> (burrow sites)	US: – CA: SSC (breeding) MSHCP: S	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and rangelands, railroad rights-of-way, and	HP	Suitable habitat occurs within open habitat areas of the BSA. Focused surveys were conducted, and the species was determined absent from the BSA in 2013.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			margins of highways, golf courses, and airports. Often uses man-made structures, such as earthen berms; cement culverts; cement, asphalt, rock, or wood debris piles. Avoids thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.		Preconstruction surveys will be required.
Ferruginous hawk	<i>Buteo regalis</i> (wintering)	US: – CA: SA MSHCP: C	Forages in open fields, grasslands and agricultural areas, sagebrush flats, desert scrub, fringes of pinyon-juniper habitats, and other open country in western North America. Not known to breed in California.	HP	Suitable foraging habitat occurs in open habitat areas of the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Southwestern willow flycatcher	<i>Empidonax trailii extimus</i>	US: FE CA: SE BLM: – MSHCP: S	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern United States and possibly extreme northwestern Mexico. Winters in Central and South America. Below 1,830 meters (6,000 ft) in elevation.	A	Suitable riparian habitat is not present in the BSA.
White-faced ibis	<i>Plegadis chihi</i> (nesting colony)	US: – CA: SA MSHCP: C	Winters locally in wet meadows, shallow freshwater marshes, ponds, lakes, rivers, flooded fields, and estuaries. May frequent brackish areas or feed in flooded fields. Known rookery in western Riverside County.	A	No suitable nesting colony habitat occurs in the BSA. Any potential impacts to the species are covered through participation in the MSHCP.
Coastal California gnatcatcher	<i>Polioptila californica</i>	US: FT CA: SSC MSHCP: C	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 500 meters (1,640 ft) in elevation in cismontane southwestern California and Baja California.	HP	Coastal sage scrub is present in the BSA.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	US: FE CA: SE MSHCP: S	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 ft (0.6–3.0 meters) above the ground. Nests from central California to northern Baja California. Winters in southern Baja California.	A	No riparian habitat areas of suitable size or vegetation structure occur within the BSA. No major riparian corridors are in the vicinity of the BSA.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
MAMMALS					
Western mastiff bat	<i>Eumops perotis californicus</i>	US: – CA: SSC MSHCP: NC	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.	HP	Potential foraging habitat throughout the BSA.
Southwestern yellow bat	<i>Lasiurus xanthinus</i>	US: – CA: SSC MSHCP: NC	Found mostly in desert and desert riparian areas of the southwestern United States, but is also expanding its range with the increased usage of native and nonnative ornamental palms in landscaping. Individuals typically roost amid dead fronds of palms in desert oases but have also been documented roosting in cottonwood trees. Forages over many habitats.	HP	Potential foraging habitat throughout the BSA.
Northwestern San Diego pocket mouse	<i>Chaetodipus fallax fallax</i>	US: – CA: SSC MSHCP: C	Found in sandy herbaceous areas usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	HP/P	Suitable habitat in coastal scrub and nonnative grassland communities. This species was captured during the 2013 and 2015 trapping sessions. Impacts to the species are covered through participation in the MSHCP.
San Bernardino kangaroo rat	<i>Dipodomys merriami parvus</i>	US: FE CA: SSC MSHCP: S	Gravelly and sandy soils of alluvial fans, braided river channels, active channels, and terraces in the San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County). In San Bernardino County, this species occurs primarily in the Santa Ana River and its tributaries north of Interstate 10, with small remnant populations in the Etiwanda alluvial fan, the northern portion of the Jurupa Mountains in the south Bloomington area, and in Reche Canyon. 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 within Riverside County in Reche Canyon, San Timoteo Canyon, Laborde Canyon, the Jurupa Mountains,	A	No suitable active alluvial channels occur within the BSA.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
			and the Santa Ana River Wash north of State Route 60.		
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	US: FE CA: ST MSHCP: C	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50 percent. Most commonly associated with <i>Artemisia tridentata</i> , <i>Eriogonum fasciculatum</i> , and <i>Erodium</i> . Requires well-drained soils with compaction characteristics suitable for burrow construction (neither sandy nor too hard). Not found in soils that are highly rocky or sandy, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 915 meters (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.	HP	Suitable habitat occurs at the coastal sage scrub/nonnative grassland interface. Any potential impacts to the species are covered through participation in the Habitat Conservation Plan for Stephens' kangaroo rat in Western Riverside County, California (Riverside County Habitat Conservation Agency 1996).
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	US: – CA: SSC MSHCP: NC	Believed to inhabit sandy or gravelly valley floor habitats with friable soils in open and semi-open scrub, including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, preferring low to moderate shrub cover. More susceptible to small- and large-scale habitat loss and fragmentation than most other rodents, due to its low fecundity, low population density, and large home range size. Known from arid portions of southwestern California and northwestern Baja California.	HP	Suitable habitat occurs in coastal sage scrub and nonnative grassland habitat in the BSA. Not captured during the focused Los Angeles pocket mouse trapping conducted in 2013.

Table 3: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat	Rationale
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	US: – CA: SSC MSHCP: S	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.	HP	Not captured during the focused Los Angeles pocket mouse trapping conducted in 2013 and 2015 for the survey areas identified in the MSHCP. Any potential impacts to the species are covered through participation in the MSHCP.
American badger	<i>Taxidea taxus</i>	US: – CA: SSC MSHCP: NC	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.	A	The BSA is too developed to support this species.

Source: Compiled by LSA Associates, Inc. (2018).

US: Federal Classifications

- No applicable classification
- FE Taxa listed as Endangered.
- FT Taxa listed as Threatened.

CA: State Classifications

- SE Taxa State-listed as Endangered.
 - ST Taxa State-listed as Threatened.
 - SSC California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
 - CFP California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515.
 - SA Special Animal. Refers to any other animal monitored by the CNDDDB, regardless of its legal or protection status.
 - 1B* California Rare Plant Rank 1B: Rare, threatened, or endangered in California and elsewhere.
 - 2B* California Rare Plant Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.
- *California Rare Plant Ranks are assigned by a committee of government agency and nongovernmental botanical experts and are not official State designations of rarity status.

MSHCP: MSHCP Status

- S Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
- C Species is adequately conserved under the MSHCP.
- NC Species is not covered under the MSHCP.

Habitat Presence/Absence Determinations

- A Habitat is absent, or habitat may be present but the species was determined to be absent.
- HP Habitat is or may be present. The species may be present.
- P The species was determined to be present

BSA = biological study area

CNDDDB = California Natural Diversity Database

ft = foot/feet

mi = mile/miles

MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan

NON-LISTED SPECIAL-STATUS SPECIES

Of the 23 non-federally/State listed species identified, 12 were found to have potentially suitable habitat present within the BSA as indicated in Table 3. One species, San Diego pocket mouse, was determined to be present, and is discussed further in Chapter 4. Focused surveys were conducted for two of these species, the burrowing owl and LAPM, and these species were determined to be absent from the BSA. These two species are discussed further in Chapter 4. Project-related effects to the other nonlisted special species with potential to occur and the need, if any, for further study are also detailed in Chapter 4.

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

Habitats and Natural Communities of Special Concern

The BSA contains six vegetation communities: ornamental/developed, ruderal/agriculture, nonnative grassland, saltbush scrub, coastal sage scrub, and riparian scrub. The dominant plant community in the BSA is ruderal/agricultural. Impacts to vegetation and land use were calculated using geographic information systems (GIS) software based on current design plans for Alternatives 2 and 6 and Design Variations 2a and 6a. Table 4 provides the temporary and permanent effects to vegetation and land uses within the BSA for Alternatives 2 and 6, and Table 5 provides the temporary and permanent effect to vegetation and land uses within the BSA for Design Variations 2a and 6a. .

Table 4: Acreage of Impacts to Vegetation and Land Uses for Alternative 2 and Alternative 6

Vegetation and Land Use Type	Total in BSA	Alternative 2		Alternative 6	
		Temporary Impact	Permanent Impact	Temporary Impact	Permanent Impact
Ornamental/Developed	111.58	43.02	38.96	43.00	38.98
Ruderal/Agriculture	215.00	63.62	68.47	63.15	68.93
Nonnative Grassland	25.62	6.40	10.54	6.40	10.54
Saltbush Scrub	1.50	0.00	1.39	0.00	1.39
Coastal Sage Scrub	10.87	0.26	7.33	0.26	7.33
Riparian Scrub	0.34	0.03	0.19	0.03	0.19
GRAND TOTAL	364.91	113.33	126.88	112.84	127.36

Source: Compiled by LSA Associates, Inc. (2018).
BSA = biological study area

Table 5: Acreage of Impacts to Vegetation and Land Uses for Alternative 2a and Alternative 6a

Vegetation and Land Use Type	Total in BSA	Alternative 2a		Alternative 6a	
		Temporary Impact	Permanent Impact	Temporary Impact	Permanent Impact
Ornamental/Developed	111.58	40.38	42.02	40.41	43.84
Ruderal/Agriculture	215.00	58.71	100.06	58.29	102.41
Nonnative Grassland	25.62	6.40	10.54	6.40	10.54
Saltbush Scrub	1.50	0.00	1.39	0.00	1.39
Coastal Sage Scrub	10.87	0.26	7.33	0.26	7.33
Riparian Scrub	0.34	0.03	0.19	0.03	0.19
GRAND TOTAL	364.90	105.78	161.53	105.03	165.70

Source: Compiled by LSA Associates, Inc. (2018).
BSA = biological study area

The proposed project will not have substantial effects to any of the vegetation communities within the BSA because these communities are not communities of concern. In addition, the proposed project will result in a relatively minor loss of these habitats from a regional perspective. Effects to these communities are discussed, as applicable, in the special-status plant and animal discussions below.

Special-Status Plant Species

As identified in Table 3, no habitat for State/federally listed plant species is present in the BSA. Habitat is present for one non-listed plant species, Wright's trichocoronis, which is discussed below.

DISCUSSION OF WRIGHT'S TRICHOCORONIS

Survey Results

Wright's trichocoronis is a California Rare Plant Rank 2B, and is a covered species under the MSHCP. The coastal sage scrub plant community in the BSA provides potentially suitable habitat for Wright's trichocoronis. There are 10.87 acres (ac) of coastal sage scrub in the BSA.

Project Impacts

As shown in Tables 4 and 5, the project will temporarily affect 0.26 ac and permanently affect 7.033 ac of coastal sage scrub, which is considered to be potentially suitable habitat for Wright's trichocoronis. Wright's trichocoronis is considered rare in California, but has no official status and is a covered species under the MSHCP. The loss of 7.33 acre of coastal sage scrub is not considered to be a substantial impact to this species. In addition, the BSA is not in an MSHCP survey area for this species, and any project effects to this species will be covered through project participation in the MSHCP.

Avoidance and Minimization Efforts

Project effects to Wright's trichocoronis are not considered substantial, and it is an MSHCP covered species. Therefore, no avoidance and minimization efforts are required through project compliance with the MSHCP.

Compensatory Mitigation

Wright's trichocoronis is an MSHCP covered species, and no compensatory mitigation is required through project compliance with the MSHCP.

Cumulative Impacts

The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. Through participation in the MSHCP, no substantial cumulative effects are anticipated to occur to Wright's trichocoronis.

Special-Status Animal Species Occurrences

Habitat was present in the BSA for two federally and/or State listed species, coastal California gnatcatcher and Stephens' kangaroo rat, and these species are discussed in further detail below.

One nonlisted special status species, San Diego pocket mouse, was found to be present in the BSA and is discussed further below. Focused surveys were conducted for two other non-listed special status species, burrowing owl and LAPM, which are also discussed in further detail below. In addition, nesting migratory birds are discussed in this section.

The remaining nonlisted special-status species with potential to occur in the BSA have no official status but merit consideration under CEQA in order to evaluate any potential adverse effects. Project effects to these nonlisted species are not considered substantial with implementation of avoidance and minimization measures discussed in this section for habitats and other special-status species present within the BSA.

DISCUSSION OF BURROWING OWL

Survey Results

The burrowing owl is a California Species of Special Concern. The BSA is within the MSHCP burrowing owl survey area. The portions of the BSA vegetated by nonnative grasslands and ruderal/agricultural fields were found to contain suitable habitat for the burrowing owl. Focused surveys were conducted for the burrowing owl in August 2013 and April 2015 in suitable habitat areas. A habitat assessment was conducted in September 2018 for Design Variations 2a and 6a.

The focused surveys and habitat assessment were conducted according to the MSHCP *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan* (Riverside County Environmental Programs Department 2006).

The burrowing owl was not detected within the BSA during the 2013 and 2015 focused surveys or during the 2018 habitat assessment; however, the burrowing owl is a highly mobile species with the potential to move onto the proposed project site prior to

construction. Therefore, a preconstruction focused survey will be required to verify the species' absence from the proposed project site prior to grading.

Project Impacts

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

Avoidance and Minimization Efforts

For the burrowing owl, the MSHCP has specific procedures to follow in order to comply with its conservation objectives, the State Fish and Game Code, and the MBTA. A preconstruction survey within 30 days prior to ground disturbance is mandatory in suitable habitat areas.

Compensatory Mitigation

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

Cumulative Impacts

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

DISCUSSION OF COASTAL CALIFORNIA GNATCATCHER

Survey Results

Coastal California gnatcatcher is federally listed as threatened and is a California Species of Special Concern. The coastal sage scrub plant community in the BSA provides potentially suitable habitat for the California gnatcatcher. As shown in Table 4, there are 10.87 ac of coastal sage scrub in the BSA..

Project Impacts

The project will temporarily affect 0.26 ac and permanently affect 7.33 ac of coastal sage scrub that is considered to be potentially suitable habitat for coastal California gnatcatcher. Coastal California gnatcatcher is a covered species under the MSHCP. Any project effects to this species will be covered through project participation in the MSHCP.

Avoidance and Minimization Efforts

To avoid potential effects to coastal California gnatcatcher, vegetation clearing and preliminary ground-disturbing work will be completed outside the bird breeding season (typically set as February 15 through August 31), or a preconstruction nesting bird survey will be conducted. In addition, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the coastal sage scrub plant community adjacent to the project footprint to designate Environmentally Sensitive Areas (ESAs) to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in a manner to prevent accidental damage to nearby preserved areas. No structure of any kind, nor incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Compensatory Mitigation

No mitigation is required with implementation of the above-stated avoidance and minimization measures.

Cumulative Impacts

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

DISCUSSION OF NESTING MIGRATORY BIRDS

Survey Results

The WLC Pkwy overcrossing provides nesting habitat for migratory birds. Nesting birds were found within the WLC Pkwy bridge structure during emergency repair work conducted on the bridge in the spring of 2015. (Email correspondence Tim Hale of

Michael Baker International, LLC to King Thomas, LSA Associates, Inc., March 23, 2015). In addition, undeveloped portions of the BSA may provide nesting habitat for nesting raptors, special status birds identified in Table 3, and other migratory bird species protected by the MBTA and the California Fish and Game Code.

Project Impacts

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

Avoidance and Minimization Efforts

To avoid potential effects to fully protected raptors, special-status bird species and other nesting birds protected by the MBTA and California Fish and Game Code, and for compliance with MSHCP Incidental Take Permit Condition 5, the following measures will be implemented:

- If nesting birds are found within the WLC Pkwy bridge structure, exclusionary devices and nest prevention methods, designed to prevent birds from using the bridge, will be determined and implemented by a qualified biologist. Exclusionary devices must be installed prior to the beginning of nesting season (February 15) and before any bridge demolition and other bridge construction activities begin.
- WLC Pkwy construction and vegetation removal should be completed outside of bird breeding season (typically set as February 15 through August 31).
- In the event that vegetation removal cannot be conducted outside the bird breeding season, focused surveys will be conducted by a qualified biologist within 3 days prior to ground-disturbing activities. Should nesting birds be found, an exclusionary buffer will be established by a qualified biologist. The buffer may be up to 500 feet in diameter, depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.
- If construction of the WLC Pkwy bridge structure cannot take place outside the nesting season, exclusionary devices and nest prevention methods, designed to

prevent birds from using the bridge, will be determined and implemented by a qualified biologist. Exclusionary devices must be installed prior to the beginning of nesting season (February 15), and before any bridge demolition and other bridge construction activities begin.

- If nesting birds are found within the WLC Pkwy bridge structure, exclusionary devices and nest prevention methods, designed to prevent birds from using the bridge, will be determined and implemented by a qualified biologist. Exclusionary devices must be installed prior to the beginning of nesting season (February 15) and before any bridge demolition and other bridge construction activities begin.
- Nesting bird habitat within the BSA will be resurveyed during bird breeding season if there is a lapse in construction activities longer than 7 days.

Compensatory Mitigation

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

Cumulative Impacts

The MSHCP is designed to mitigate for impacts to covered species and habitats on a regional scale. Through participation in the MSHCP and implementation of the avoidance, minimization, and mitigation measures identified above, no substantial cumulative effects are anticipated to occur to nesting migratory birds.

DISCUSSION OF LOS ANGELES POCKET MOUSE

Survey Results

The BSA lies within an MSHCP Small Mammal Species Survey Area for LAPM. In August 2013 and July 2015, five 1-night small mammal trapping sessions were conducted within selected areas of suitable habitat in the MSHCP Small Mammal Species Survey Area at the intersection of SR-60/Gilman Springs Road and the intersection of Gilman Springs Road/Alessandro Boulevard. The trapping sessions were in coastal sage scrub and nonnative grassland, and in coastal sage scrub/nonnative grassland ecotone.

During the 2013 trapping session at the intersection of SR-60/Gilman Springs Road, there were 168 rodent captures involving three species, but no LAPM captures. Complete capture results are included in the August 23, 2013, letter report entitled *Los Angeles Pocket Mouse Survey Results: SR-60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California* (August 2013) (Appendix E).

During the 2015 trapping session at the intersection of Gilman Springs Road/ Alessandro Boulevard, there were 125 rodent captures involving 4 species, but no LAPM captures. Complete capture results are included in the August 4, 2015, letter report entitled *Los Angeles Pocket Mouse Survey Results: SR-60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California; July 2015* (Appendix E).

Project Impacts

Based on the negative results of the 2013 and 2015 surveys, the proposed project will not affect LAPM.

Avoidance and Minimization Efforts

Because LAPM is considered absent, no avoidance and minimization measures are required at this location.

Compensatory Mitigation

No mitigation is required; LAPM is considered absent from the BSA.

Cumulative Impacts

The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. Through participation in the MSHCP, no substantial cumulative effects are anticipated to occur to LAPM.

DISCUSSION OF NORTHWESTERN SAN DIEGO POCKET MOUSE

Survey Results

The northwestern San Diego pocket mouse is an MSHCP covered species and is usually found within sandy areas associated with rocks or coarse gravel in coastal sage scrub, chaparral, grasslands, and sagebrush. The northwestern San Diego pocket mouse was captured during both the 2013 and 2015 trapping sessions. A total of 117 pocket mice were captured, out of a total of 650 rodent captures, during the 2013 trap session. A total of 13 pocket mice were captured, out of a total of 500 rodent captures, during the 2015 trap session. The northwestern San Diego pocket mouse was captured within nonnative grasslands, coastal sage scrub, and nonnative grassland/coastal sage scrub ecotone.

Project Impacts

Both of the project alternatives, including the design variations, will have temporary and permanent effects to nonnative grasslands and coastal sage scrub, which are considered to be potentially suitable habitat for northwestern San Diego pocket mouse in the BSA. The project alternatives including the design variations will temporarily affect 6.40 ac and permanently affect 10.54 ac of nonnative grasslands, and will temporarily affect 0.26 ac and permanently affect 7.33 ac of coastal sage scrub.

Avoidance and Minimization Efforts

Prior to ground-disturbing activities or construction, highly visible barriers (such as orange construction fencing) will be installed around the coastal sage scrub and nonnative grasslands plant communities to designate ESAs to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in such a manner to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Compensatory Mitigation

The northwestern San Diego pocket mouse is a covered species under the MSHCP. As such, the MSHCP provides full mitigation for impacts to this species under CEQA and NEPA.

Cumulative Impacts

The MSHCP is designed to mitigate for impacts to covered species and habitat on a regional scale. Through participation in the MSHCP, and with implementation of the avoidance and minimization measures identified above, no substantial cumulative effects are anticipated to occur to northwestern San Diego pocket mouse.

DISCUSSION OF STEPHENS' KANGAROO RAT

Survey Results

The BSA contains potentially suitable habitat for the Stephens' kangaroo rat in the form of coastal sage scrub and where coastal sage scrub interfaces with nonnative grasslands and ruderal/agricultural lands. No further study of the Stephens' kangaroo rat is required for compliance with the HCP.

Project Impacts

The project will temporarily affect 0.26 ac and permanently affect 7.33 ac of coastal sage scrub, as well as adjacent nonnative grasslands and agricultural lands considered to be potentially suitable habitat for Stephens' kangaroo rat..

Avoidance and Minimization Efforts

Prior to ground-disturbing activities or construction, highly visible barriers (such as orange construction fencing) will be installed around the coastal sage scrub plant community and around areas where coastal sage scrub interfaces with nonnative grasslands and agricultural lands adjacent to the project footprint to designate ESAs to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in a manner to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Compensatory Mitigation

The HCP for the Stephens' kangaroo rat provides full mitigation for impacts under CEQA, NEPA, CESA, and FESA.

Cumulative Impacts

Cumulative effects to the Stephens' kangaroo rat have been addressed as part of the HCP. Therefore, the project will not have substantial cumulative effects to the Stephens' kangaroo rat.

DISCUSSION OF BATS

Survey Results

A bat habitat assessment was conducted in 2013 and 2015. The majority of the vegetation within the project area is composed of ruderal, nonnative species or ornamental vegetation that could provide some limited foraging habitat. A water source generated by urban runoff that could attract insects for a variety of foraging bat species was observed at a single culvert location during the assessment.

Fourteen structures comprising 3 bridges and 11 culverts (see Figure 5) within the proposed project area were examined for the presence of structural features that might

be used by day- and/or night-roosting bats, and for the presence of bats or bat sign. Potential day-roosting habitat is present within all three bridge structures in the project area, and a confirmed night roost is present within Culvert F. The remaining 10 culvert structures contain no roosting habitat or marginally suitable roosting habitat. As the culverts do not have known official names or designations, each of the 11 culverts surveyed was assigned a letter designation between A and J, as shown on Figure 4.

Bat species that commonly use anthropogenic structures such as bridges and culverts for roosting and that may occur within the proposed project area include Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), western small-footed myotis (*Myotis ciliolabrum*), California myotis (*Myotis californicus*), and canyon bat (*Parastrellus hesperus*).

Habitat suitable for day-roosting bats was observed at three structures within the proposed project area: Redlands Boulevard overcrossing (Bridge 56-487), WLC Pkwy overcrossing (Bridge 56-488), and Gilman Springs Road overcrossing (Bridge 56-489). The potential day-roosting habitat observed at all three locations consists of expansion joint crevices in the sides of the bridge deck. Although some of these expansion joints were sealed with filler material and therefore did not contain any crevice habitat, approximately half of the expansion joints at each bridge structure contained very little to no material; these open crevices could provide day-roosting habitat for bats. At the Gilman Springs Road overcrossing, crevice habitat suitable for day-roosting bats was also present in horizontal joints on each bent. In addition to containing potential day-roosting habitat, all three bridges have a girder design that creates open chambers that are sheltered from the wind and reduce air circulation, creating air pockets where temperatures remain generally far warmer than the ambient temperature for most of the night. Structures with this girder design are commonly used by bats for night roosting; however, the location of these structures over an active freeway, coupled with a lack of adjacent foraging habitat, significantly decreases their desirability to night-roosting bats. Furthermore, no bats or bat sign (e.g., guano, urine staining, or vocalizations) were observed at any of the three bridges during the assessment, and there is no other evidence that these structures are used as day, night, or maternity roosts. Obvious staining or large deposits of guano that would indicate the presence of a maternity colony were absent from the study area. In addition, this assessment was conducted during the summer, when a maternity colony would be present and detectable. Based on the relatively low quality of the surrounding habitat for foraging and the lack of bat sign observed at all three bridges, it is unlikely that bats use these structures for day or night roosting, and if these bridge structures are used for roosting, it is by a small number of bats.

The remaining 11 structures surveyed within the project area were culverts that did not contain any crevices or other structurally suitable components for day-roosting bats. Although concrete pipe and box culvert structures are commonly used by bats for night roosting, the majority of the culverts in the project area are relatively small (e.g., less than 4 ft in diameter) and would be considered only marginally suitable for roosting, even for smaller bat species such as western canyon bat and some myotis species (including California myotis and western small-footed myotis). In addition, most of the culverts in the project area are near relatively low-quality foraging habitat, further decreasing their desirability, and therefore, the likelihood of use by bats for night roosting.

A single confirmed night roost was found at the southern entrance to Culvert F, which is south of Eucalyptus Avenue at the southern edge of the project area. This large single-box culvert appears to function as an outlet for various drainage systems north of SR-60 and contains flowing water generated by urban runoff. Night-roosting habitat is present along the walls throughout the culvert, and the adjacent foraging habitat is of fair quality and consists of flowing water and scattered ruderal vegetation. Bats may also forage over the water inside this culvert. In addition, a small amount of scattered guano confirming the use of this structure by roosting bats was observed at several locations within the structure.

Seven of the 11 culverts contain marginally suitable night-roosting habitat for bats. These culverts are of marginally sufficient size to permit roosting by small bat species and are adjacent to marginal or low-quality foraging habitat. Five of these culverts (Culverts B, E, H, I, and J) were cluttered with vegetation and/or spiderwebs. The accumulation of so many spiderwebs along the walls of the structures indicates that bats are not currently roosting within these culverts; these spiderwebs would also deter bats from flying into or roosting within the structure. Although Culverts A and K are relatively open and did not appear to be cluttered with vegetation or spiderwebs, these culverts' shortness may provide little protection from the elements that bats seek in a potential night roost. No bat sign (e.g., guano or staining) was observed within any of these structures during the assessment, and bats are not expected to day- or night-roost in these culverts.

The remaining 3 of the 11 culverts did not contain any suitable roosting habitat. Two of these culverts, Culverts C and G, are too small even for very small bat species to use for roosting, and Culvert D has filled partway with sediment, reducing airspace within the culvert and rendering it unsuitable as well. Therefore, bats are not expected to day- or night-roost in these culverts.

Although roosts in anthropogenic structures such as bridges and culverts can be relatively easy to identify, tree roosts are more cryptic and require close examination. Because roosting activity in trees is difficult to confirm (foliage-roosting species tend to roost singly, beneath leaves, and may roost in a different location each night), trees were not closely examined during this assessment. However, mature palm trees (*Washingtonia* spp.) with untrimmed fronds were observed along the right-of-way; these may provide roosting habitat for southwestern yellow bats (*Lasiurus xanthinus*), which roost in the dead fronds of palm trees.

Project Impacts

Of the 14 structures inspected for bat roosting habitat within the proposed project area, potential day- roosting habitat is present within all three bridges (Redlands Boulevard overcrossing, WLC Pkwy overcrossing, and Gilman Springs Road overcrossing), and a confirmed night roost is present within Culvert F. Seven structures (Culverts A, B, E, H, I, J, and K) contained marginally suitable roosting habitat, and three structures (Culverts C, D, and G) were unsuitable for use by roosting bats. Due to the small size of the various marginally suitable culverts, the low quality of the adjacent foraging habitat, and the lack of any bat sign observed, bat use of any culverts within the project area other than Culvert F is not expected.

The proposed project may have direct and indirect effects to bats using structures and culverts within the BSA. Direct effects, such as mortality, may occur to bats roosting in bridges during construction. Construction activities in the form of noise, dust, night lighting, and human encroachment, may also cause temporary indirect effects to bats.

The project is not expected to substantially affect roosting bats' long-term use of structures and culverts in the BSA.

Avoidance and Minimization Efforts

The following is required to avoid and minimize any potential effects to roosting bats:

- To ensure that no bats begin roosting in the WLC Pkwy overcrossing or other bridge structures to be affected by the proposed project prior to or during construction activities, a humane eviction/exclusion should be conducted by a qualified bat biologist in the fall (September or October) preceding construction at the structure(s) to prevent potential direct impacts to bats.
- During installation of the humane eviction/exclusion devices, each potentially suitable roost crevice will be closely inspected using flashlights and/or a fiber-optic scope for the presence of day-roosting bats. At crevices where the absence of bats can be confirmed, the crevices may be immediately sealed with exclusionary

material. At crevices where bats are visibly roosting or where their absence cannot be confirmed, humane eviction devices (i.e., one-way doors) will be installed that will allow the bats to exit the roosting crevice but will prevent them from returning. All aspects of the humane eviction/exclusion of bats from structures should be directly supervised and monitored by a qualified bat biologist approved by the CDFW. This qualified bat biologist will determine the specific type of humane eviction devices and exclusionary material that will be used within the crevices. These devices shall remain in place for the duration of construction work at that structure.

- Prior to conducting a humane eviction/exclusion, nighttime preconstruction surveys that include acoustic monitoring may be conducted by a qualified bat biologist to verify the presence of bats and to determine what species, if any, inhabit the structure. These surveys should include exit counts to ascertain the approximate number of bats using the potential roost site. Nighttime surveys should be performed between June 1 and August 15, when maternity colonies have formed but before they begin to disperse, to confirm whether a maternity colony is roosting at any of the structures in the project area. The nighttime survey should also be conducted no later than the summer at least 1 year prior to construction to allow adequate time for coordination and planning between biologists and engineers should a maternity colony or other grouping of bats be discovered, and to implement any appropriate strategies necessary to minimize negative effects to roosting bats.
- Palm trees suitable for use by southwestern yellow bats, which roost in the untrimmed fronds of palm trees, occur in the project area. If palm tree removal or palm frond trimming is necessary for project construction, this activity should be conducted outside of the bat maternity season (April 1–August 31); this time period coincides with the clearing and grubbing restrictions typically associated with bird nesting season. If palm tree removal or trimming is conducted outside the bat maternity and bird nesting season as recommended, impacts to flightless young would be avoided.

Because the project is not anticipated to directly or indirectly affect Culvert F, no negative effects to bat roosting habitat in this culvert will occur.

Compensatory Mitigation

Through implementation of the avoidance and minimization measures above, no compensatory mitigation is required.

Cumulative Impacts

The proposed project will not have long-term effects to roosting bats in the BSA; therefore, the project will not have substantial cumulative effects to bats.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

The USFWS authorizes take of listed species and destruction of critical habitat through Section 7(a)(2) of FESA (16 USC 1531-1544).

A USFWS species list was received from the USFWS on November 28, 2018 (refer to Appendix B). Table 6 lists one of the following effect determinations for every listed species and critical habitat: no effect; or may affect, likely to adversely affect.

Table 6: Effects Determination on USFWS Species

Species	Status	Effects Determination
Birds		
Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	Threatened	May effect, likely to adversely affect
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	Endangered	No effect
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered	No effect
Crustaceans		
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	Endangered	No effect
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Threatened	No effect
Flowering Plants		
Nevin's barberry (<i>Berberis nevinii</i>)	Endangered	No effect
San Diego ambrosia (<i>Ambrosia pumila</i>)	Endangered	No effect
San Jacinto Valley Crownscale (<i>Atriplex coronata</i> var. <i>notatior</i>)	Endangered	No effect
Santa Ana River woolly-star (<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>)	Endangered	No effect
Spreading navarretia (<i>Navarretia fossalis</i>)	Threatened	No effect
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	Threatened	No effect
Mammals		
San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)	Endangered	No effect
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	Endangered	May effect, likely to adversely affect

Source: Compiled by LSA Associates, Inc. (2018).

Habitat for two federally listed as threatened species (coastal California gnatcatcher and Stephens' kangaroo rat) will be affected by the proposed project. Caltrans has made a determination of "may affect, likely to adversely affect" for Stephens' kangaroo rat and the coastal California gnatcatcher.

Caltrans will submit the Natural Environment Study and MSHCP documents to USFWS for MSHCP consistency following the MSHCP State permittee review process. Pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, as described in the NEPA Delegation Pilot Program between FHWA and Caltrans, Caltrans has been designated the authority to conduct Section 7 consultation of the FESA. Following MSHCP consistency approval, Caltrans will initiate consultation with USFWS to obtain a streamlined biological opinion for this project to address project impacts to Stephens' kangaroo rat and coastal California gnatcatcher.

To receive take coverage under FESA for potential effects to coastal California gnatcatcher, an MSHCP consistency review under Section 7 of FESA would be performed by the USFWS to concur that the proposed project is consistent with the requirements of the MSHCP.

The proposed project site is within the plan area boundary of the Stephens' kangaroo rat HCP, but is not within an HCP Core Reserve. Although the MSHCP manages Stephens' kangaroo rat HCP Core Reserves as part of the MSHCP Conservation Area, other actions within the non-reserve areas of the HCP must be addressed under the HCP. Caltrans is not a Stephens' kangaroo rat HCP permittee. To rely on the analysis of the incidental take coverage provided by the HCP, the proposed action must be consistent with the HCP, its associated implementation agreement, and permit.

The Stephens' kangaroo rat HCP is implemented by the Riverside County Habitat Conservation Agency (RCHCA) on behalf of the County of Riverside and eight member cities, including the City of Moreno Valley. The RCHCA has an MOU with the USFWS, CDFW, and Bureau of Land Management (BLM) that authorizes incidental take of Stephens' kangaroo rat in accordance with the HCP terms and conditions. To establish a regional mechanism to fund implementation of the Stephens' kangaroo rat HCP, Riverside County Ordinance No. 663.10 was adopted, which requires the payment of a fee for projects that are inside the Stephens' kangaroo rat HCP fee area but outside of the Core Reserve system. The proposed project is within the Stephens' kangaroo rat HCP fee area but outside of the Core Reserves, and therefore qualifies for take coverage through payment of fees. However, no fee is required for the proposed project, because public works projects are exempt from fee payment.

Essential Fish Habitat Consultation Summary

An official NMFS species list was obtained December 5, 2018 (refer to Appendix C). The proposed project is within NMFS jurisdictional area; however, no species were identified in the official species list obtained from NMFS. The proposed project will not

affect aquatic habitat and will result in No Effect to federally endangered NMFS resources.

CALIFORNIA ENDANGERED SPECIES ACT CONSULTATION SUMMARY

The CDFW authorizes take of endangered, threatened, or other species of concern through the provisions of Sections 2081 and 2080.1 of the California Fish and Game Code. The project may have potential effects to the State-listed as threatened Stephens’ kangaroo rat. The RCHCA has an MOU with the USFWS, the CDFW, and the BLM that authorizes incidental take of the Stephens’ kangaroo rat in accordance with the HCP’s terms and conditions. To establish a regional mechanism to fund implementation of the Stephens’ kangaroo rat HCP, Riverside County Ordinance No. 663.10 was adopted, which requires the payment of a fee for projects that are inside the Stephens’ kangaroo rat HCP fee area but outside of the Core Reserve system. The proposed project is within the Stephens’ kangaroo rat HCP fee area but outside of the Core Reserves, and therefore qualifies for take coverage through payment of fees. However, no fee is required for the proposed project because public works projects are exempt from fee payment.

Pursuant to the California Endangered Species Act (CESA), the project will result in “no-take” to the State-listed and State fully protected species identified in Table 7.

Table 7: Effects Determination on CDFW Species

Species	Status	Take Determination
Birds		
Tricolored blackbird (<i>Agelaius tricolor</i>)	Threatened	No take
Golden Eagle (<i>Aquila chrysaetos</i>)	Fully Protected	No take
Least Bell’s vireo (<i>Vireo bellii pusillus</i>)	Endangered	No take
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered	No take
Flowering Plants		
Nevin’s barberry (<i>Berberis nevinii</i>)	Endangered	No take
Slender-horned spineflower (<i>Dodecahema leptoceras</i>)	Endangered	No take
Santa Ana River woolly-star (<i>Eriastrum densifolium ssp. sanctorum</i>)	Endangered	No take
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	Endangered	No take
Mammals		
Stephens’ kangaroo rat (<i>Dipodomys stephensi</i>)	Threatened	No take

Source: Compiled by LSA Associates, Inc. (2019).

Wetlands and Other Waters Coordination Summary

The USACE regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and nonwetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction, pursuant to Section 404 of the CWA, is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or indirect (through a nexus identified in the USACE regulations). 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.

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

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

The detailed results of the wetlands delineation and assessment of jurisdictional waters prepared for this project are found in Appendix F. Based on the results of the jurisdictional delineation, nine drainage features were identified in the BSA (Drainage Features A through I). Drainage Features A, B, C, D, E, and F are roadside, ephemeral drainage features, lack the attributes of a natural drainage feature (including riparian habitat), and were excavated on dry land. These features convey nuisance and storm water from adjacent roads to nearby agricultural fields that eventually lead to Drainage Feature G during extraordinary rain events. Drainages A through F are not subject to the regulatory authority of the USACE, because they are ephemeral drainage features

excavated on dry land. However, drainages A through F are subject to CDFW regulatory authority based on the presence of beds and banks.

Drainage Features G, H, and I are natural ephemeral drainage features that likely contained flows historically, but only seasonally. Drainage Features G, H, and I eventually flow to the San Jacinto River via Mystic Lake. The San Jacinto River continues beyond Canyon Lake until it conveys flows into Lake Elsinore. In rare cases, Lake Elsinore overflows into Temescal Creek. Temescal Creek conveys flows into the Santa Ana River, which then conveys flows into the Pacific Ocean, a traditionally navigable water, thereby establishing a nexus to navigable waters, as defined by USACE guidance. Drainages G, H, and I are natural drainage features that are subject to the regulatory authority of the USACE, because they are natural drainage features with a nexus to navigable waters. Drainage features G, H, and I are subject to CDFW regulatory authority based on the presence of beds and banks.

The jurisdictional delineation found the total acreage of nonjurisdictional USACE drainage features (A through F) within the BSA is 1.079 ac, and the total potential USACE jurisdictional nonwetland waters (drainage features G, H and I) within the BSA is 0.165 ac. There were no areas in the BSA identified as USACE jurisdictional wetland waters. Table 8 provides project effects to USACE nonjurisdictional waters by alternative, and Table 9 provides effects to potential USACE jurisdictional waters by alternative. Figures 6, 7, 8, and 9 depict impacts to potential USACE jurisdictional waters by alternative.

Table 8: Effects to USACE Nonjurisdictional Waters by Alternative

Drainage Feature ID	USACE Nonjurisdictional Waters (acres)				USACE Jurisdictional Waters (acres)			
	Alternative 2		Alternative 6		Design Variation 2a		Design Variation 6a	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
A	0.257	–	0.257	–	0.257	–	0.257	–
B	0.102	0.001	0.102	0.001	0.102	0.001	0.102	0.001
C	0.005	0.040	0.005	0.040	–	0.044	–	0.044
D	–	0.011	–	0.011	–	0.011	–	0.011
E	0.204	0.259	0.204	0.259	0.189	0.267	0.196	0.267
F	0.107	0.044	0.107	0.044	0.101	0.047	0.104	0.047
G	–	–	–	–	–	–	–	–
H	–	–	–	–	–	–	–	–
I	–	–	–	–	–	–	–	–
Total	0.675	0.355	0.675	0	0.649	0.370	0.659	0.370

Source: Compiled by LSA Associates, Inc. (2018).
 USACE = United States Army Corps of Engineers

Table 9: Effects to Potential USACE Jurisdictional Waters by Alternative

Drainage Feature ID	USACE Nonjurisdictional Waters (acres)				USACE Jurisdiction Nonwetland Waters (acres)			
	Alternative 2		Alternative 6		Alternative 2a		Alternative 6a	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
A	—	—	—	—	—	—	—	—
B	—	—	—	—	—	—	—	—
C	—	—	—	—	—	—	—	—
D	—	—	—	—	—	—	—	—
E	—	—	—	—	—	—	—	—
F	—	—	—	—	—	—	—	—
G	—	0.024	—	0.024	—	0.024	—	0.024
H	0.043	0.003	0.043	0.003	0.043	0.003	0.043	0.003
I	0.068	—	0.068	—	0.068	—	0.068	—
Total	0.111	0.027	0.111	0.027	0.111	0.027	0.111	0.027

Source: Compiled by LSA Associates, Inc. (2018).
 USACE = United States Army Corps of Engineers

The jurisdictional delineation found the total potential CDFW jurisdictional streambed/riparian areas within the BSA is 2.097 ac. Tables 10 and 11 below show the project's effects to potential jurisdictional waters. Figures 6, 7, 8 and 9 depict potential jurisdictional CDFW streambed/riparian by alternative.

Table 10: Effects to Potential CDFW Streambed by Alternative

Drainage ID	Riverine Areas (acres)							
	Alternative 2		Alternative 6		Design Variation 2a		Design Variation 6a	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
A	0.520	—	0.520	—	0.520	—	0.520	—
B	0.209	0.006	0.209	0.006	0.209	0.006	0.209	0.006
C	0.005	0.040	0.005	0.040	—	0.044	—	0.044
D	—	0.011	—	0.011	—	0.011	—	0.011
E	0.204	0.421	0.189	0.436	0.189	0.429	0.189	0.436
F	0.107	0.044	0.101	0.050	0.101	0.047	0.101	0.050
G	—	0.019	—	0.019	—	0.019	—	0.019
H	0.046	0.008	0.046	0.008	0.046	0.008	0.046	0.008
I	0.068	—	0.068	—	0.068	—	0.068	—
Total	1.159	0.549	1.138	0.570	1.133	0.564	1.133	0.574

Source: Compiled by LSA Associates, Inc. (2019).

Table 11: Effects to Potential CDFW Riparian/Streambed by Alternative

Drainage ID	Riparian/Riverine Areas (acres)							
	Alternative 2		Alternative 6		Design Variation 2a		Design Variation 6a	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
G	—	0.163	—	0.163	—	0.163	—	0.163
H	0.026	—	0.026	—	0.026	—	0.026	—
Total	0.026	0.163	0.026	0.163	0.026	0.163	0.026	0.163

Source: Compiled by LSA Associates, Inc. (2019).

The following sections discuss USACE, CDFW, and RWQCB jurisdictional areas.

USACE JURISDICTION

Based on the results of the jurisdictional delineation, drainage features A through F total 1.079 acres in the BSA and are considered roadside ephemeral drainage ditches that are not regulated under current USACE regulations. Drainage features G, H and I are natural drainage features that have a nexus to navigable waters regulated by USACE. As shown in Table 9, the build alternatives, including the design variations, will have 0.11 ac of temporary effects and 0.27 ac of permanent effects to potential nonwetland waters as a result of the build alternatives, including the design variations.

The project would qualify under NWP 14, which authorizes activities required for the construction, expansion, modification, or improvement of linear transportation projects.

CDFW JURISDICTION

Due to the presence of streambeds, banks, and riparian vegetation, all nine drainage features within the BSA may be subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. As shown in Table 10, the project would affect CDFW streambeds as follows: 1.159 ac of temporary effects and 0.549 ac of permanent effects from Alternative 2, 1.138 ac of temporary effects and 0.570 ac of permanent effects from Alternative 6, 1.133 ac of temporary effects and 0.564 ac of permanent effects from Design Variation 2a, and 1.133 ac of temporary effects and 0.574 ac of permanent effects from Design Variation 6a. As shown in Table 11, Alternatives 2 and 6 and Design Variations 2a and 6a would each result in 0.026 ac of temporary effects and 0.163 ac of permanent effects to CDFW riparian/riverine features.

RWQCB JURISDICTION

Because there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of nonwetland waters of the United States (ordinary high water mark); it would be measured by USACE methods, even in ditches that are not subject to USACE jurisdiction. Therefore, RWQCB jurisdiction includes both nonjurisdictional and jurisdictional USACE waters (Tables 3 and 4). Alternatives 2 and 6 would have 0.765 acre of temporary effects and 0.12 acre of permanent effects, and Design Variations 2a and 6a would have 0.76 acre of temporary effects and 0.16 acre of permanent effect to potential jurisdictional waters regulated by the RWQCB.

Compensatory mitigation would likely be required to offset the loss of jurisdictional waters by the USACE, the CDFW, and the RWQCB at a minimum 1:1 mitigation ratio. Mitigation for effects to any regulated USACE nonwetland waters or “waters of the

United States and State” will be consistent with the USACE Compensatory Mitigation for Losses of Aquatic Resources (USACE 2008), also known as the USACE Compensatory Mitigation Rule. The final determination of what is jurisdictional, what permits will be required, and whether mitigation will be required for such impacts ultimately is subject to the discretion of the agencies (i.e., USACE, CDFW, and RWQCB) during the Federal and State regulatory processes.

Invasive Species

Seventeen exotic plants on the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory (2018) were identified as occurring in the BSA as shown in Table 12. Each plant in the inventory is given an overall rating of high, moderate, or limited. Plants with a rating of high have severe ecological impacts. Plants with a rating of moderate have a substantial and apparent, but not severe, ecological impact. Plants with a limited rating are invasive but their ecological impacts are minor on a statewide level. Two plant species, Sahara mustard and red brome, were identified in the BSA that have a high rating for ecological impacts.

Table 12: Cal-IPC Invasive Plants Identified in the BSA and Ranking

Plant Species	Rank
Peruvian pepper tree (<i>Schinus molle</i>)	Low
Tocalote (<i>Centaurea melitensis</i>)	Moderate
Sahara mustard (<i>Brassica tournefortii</i>)	High
Wild turnip (<i>Hirschfeldia incana</i>)	Moderate
Wild radish (<i>Raphanus sativus</i>)	Low
London rocket (<i>Sisymbrium irio</i>)	Moderate
Russian-thistle (<i>Salsola tragus</i>)	Limited
European olive (<i>Olea europaea</i>)	Limited
Athel (<i>Tamarix aphylla</i>)	Limited
Puncture vine (<i>Tribulus terrestris</i>)	Limited
Oat (<i>Avena sp.</i>)	Moderate
Ripgut grass (<i>Bromus diandrus</i>)	Moderate
Red brome (<i>Bromus madritensis rubens</i>)	High
Bermuda grass (<i>Cynodon dactylon</i>)	Moderate
Rattail fescue (<i>Festuca myuros</i>)	Moderate
Hare barley (<i>Hordeum murinum</i>)	Moderate
Mediterranean grass (<i>Schismus barbatus</i>)	Limited

Source: Cal-IPC Invasive Plant Inventory.
 BSA = biological study area
 Cal-IPC = California Invasive Plant Council

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

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

Western Riverside County Multiple Species Habitat Conservation Plan

The MSHCP provides for the assembly of conservation lands consisting of Criteria Areas for the conservation of sensitive, threatened, and endangered species covered by the MSHCP. The MSHCP conservation area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks.

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

The MSHCP provides for the assembly of conservation lands consisting of Criteria Areas for the conservation of sensitive, threatened, and endangered species it covers. The MSHCP conservation area comprises a variety of existing and proposed Cores, Linkages, Constrained Linkages, and Noncontiguous Habitat Blocks. The project is a covered activity under MSHCP Section 7.3.5, Planned Roads Within the Criteria Area. A portion of the project is within Criteria Cell 1204 and adjacent to Proposed Core 3. As a result, the proposed project must comply with the following sections of the MSHCP:

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

MSHCP SECTION 6.1.2: PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS

The MSHCP species associated with riparian/riverine areas and vernal pools, as listed in MSHCP Section 6.1.2, were assessed for the probability of occurring within and adjacent to the project site. Drainage features G, H and I were determined to be riparian/riverine features protected under the MSHCP. The project will result in 0.14 ac of temporary effects and 0.189 ac of permanent effects to riparian/riverine areas. Habitat for riparian/riverine species (e.g., least Bell's vireo) is absent from the BSA, as detailed in Chapter 4.

Because the project cannot avoid all impacts to riparian/riverine areas, a Determination of Biologically Superior or Equivalent Preservation (DBESP) analysis will be required to mitigate for any impacts. The project will compensate for riparian/riverine impacts through a combination of on-site and off-site habitat restoration. Mitigation in the

DBESP is meant to mitigate impacts of both the bridge and the City-funded roadway project and will be equivalent or superior to that which would occur if impacts to the riparian/riverine resources were avoided.

MSHCP SECTION 6.1.4: GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE

As a covered activity under MSHCP Section 7.3.5, the project is subject to Guidelines Pertaining to the Urban/Wildlands Interface. The guidelines describe management measures to avoid or reduce project effects related to drainage, toxics, lighting, noise, invasive species, barriers, grading, and land development.

MSHCP SECTION 6.3.2: ADDITIONAL SURVEY NEEDS AND PROCEDURES

The BSA is within the MSHCP Section 6.3.2 survey area for burrowing owl and LAPM. The focused burrowing owl survey determined that burrowing owl was absent from the BSA at the time of the surveys; however, to comply with the MSHCP, the California Fish and Game Code, and the MBTA, a preconstruction survey for burrowing owl will be required prior to project clearing, grading, and construction. The focused LAPM surveys determined LAPM to be absent from the BSA. No avoidance, minimization, or mitigation measures are required.

MSHCP SECTION 7.5.1: GUIDELINES FOR THE SITING AND DESIGN OF PLANNED ROADS WITHIN THE CRITERIA AREA AND PUBLIC/QUASI-PUBLIC LANDS, AND SECTION 7.5.2: GUIDELINES FOR CONSTRUCTION OF WILDLIFE CROSSINGS

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

Section 7.5.2 contains guidelines for roads that have the potential to result in impediments to wildlife movement. They include both general considerations and specific design guidelines for the construction of wildlife crossings where appropriate. The BSA encompasses existing transportation corridors, the majority of which are outside MSHCP Criteria Area (see Figure 10), and the BSA is not in an area identified as a corridor or linkage in the MSHCP. The proposed improvements at Gilman Springs Road/Alessandro Boulevard within Criteria Cell 1204 will be temporary and relatively small (1.60 acre). SR-60 is considered to be an existing barrier to wildlife movement north and south of the freeway. Regional wildlife movement east and west through the BSA is restricted by dense development in the City of Moreno Valley to the west of the

BSA. The current WLC Pkwy overcrossing at SR-60 serves as a vehicular route over SR-60 and does not support wildlife movement.

Because the project is within an existing transportation corridor and is not identified as a wildlife corridor or linkage in the MSHCP, Section 7.5.2 guidelines are not applicable to the proposed project. However, the project will avoid and minimize impacts to special status species and habitats protected under the MSHCP through implementation of avoidance and minimization measures, as well as implementation of Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface as detailed in Section 4.3 above, Section 7.5.3 Construction Guidelines, and Section 7.5.2 Guidelines for Construction of Wildlife Crossings and Standard Best Management Practices, found in Appendix C of the MSHCP, as discussed below.

MSHCP SECTION 7.5.3: CONSTRUCTION GUIDELINES, AND APPENDIX C: STANDARD BEST MANAGEMENT PRACTICES

The project, as a covered activity under Section 7.3.5, is subject to compliance with MSHCP Section 7.5.3 Construction Guidelines and Volume 1, Appendix C, Standard Best Management Practices. The project will incorporate, as applicable, these construction guidelines and standard best management practices.

Chapter 6 – References

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Appendix A – Figures

Figure 1: Project Location and Vicinity (1 sheet)

Figure 2: Alternatives 2 and 6 Geometrics (9 sheets)

Figure 3: Design Variations 2a and 6a Geometrics (9 sheets)

Figure 4: Vegetation and Land Use Map (10 sheets)

Figure 5: Bat Roosting Habitat (1 sheet)

Figure 6: Potential Jurisdictional Features – Alternative 2 Impacts (10 sheets)

Figure 7: Potential Jurisdictional Features – Alternative 6 Impacts (10 sheets)

Figure 8: Potential Jurisdictional Features – Design Variation 2a Impacts (10 sheets)



Figure 9: Potential Jurisdictional Features – Design Variation 6a Impacts (10 sheets)

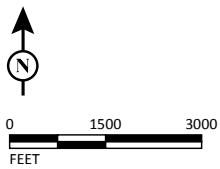
Figure 10: MSHCP Criteria Areas and Survey Areas (1 sheet)

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LEGEND

-  Project Area
-  City Boundary



SOURCE: Bing (2016); MBI (9/2018); ESRI (07/2012)

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FIGURE 1

*SR-60/World Logistics Center Parkway
Interchange Project*
Project Location and Vicinity

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LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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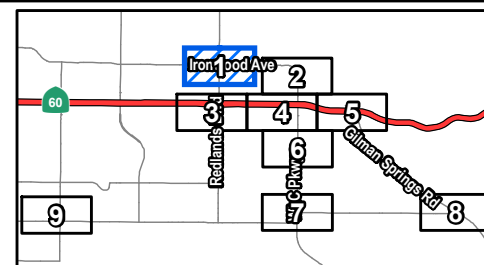


FIGURE 2

Sheet 1 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

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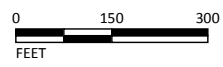
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LEGEND

- - - Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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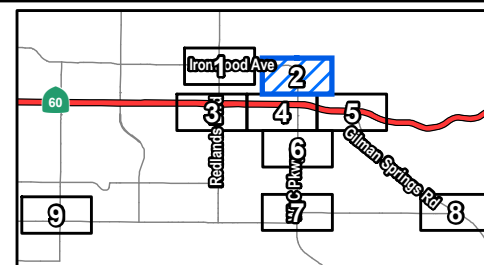


FIGURE 2

Sheet 2 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

08-RIV-60 PM 20.0/22.0

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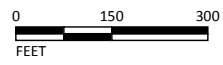
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LEGEND

- - - Alternative 2 Proposed Improvements
- - - Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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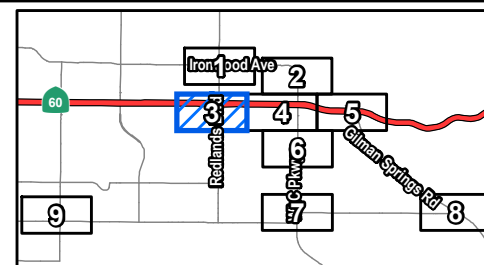


FIGURE 2

Sheet 3 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

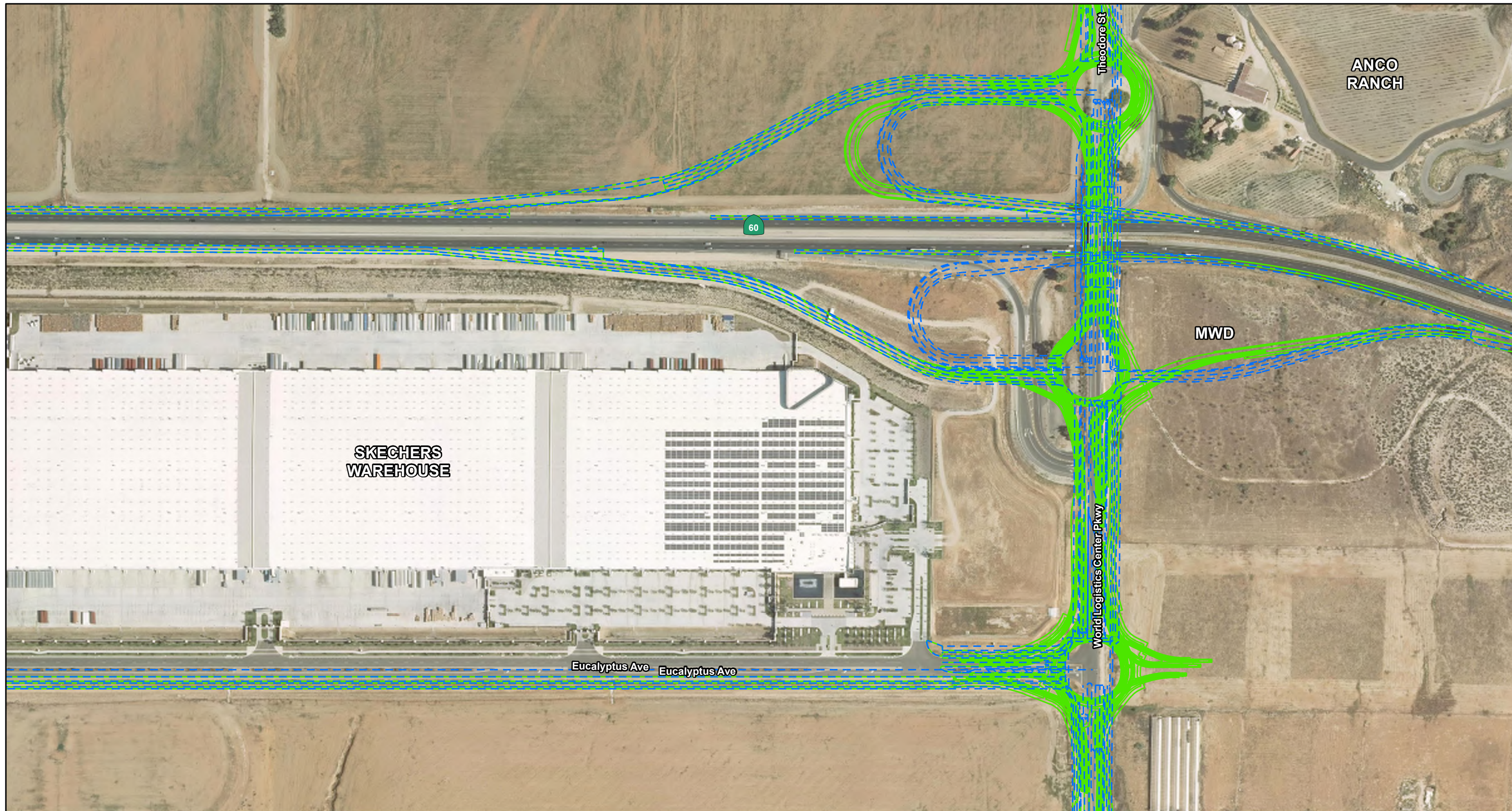
Geometrics

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LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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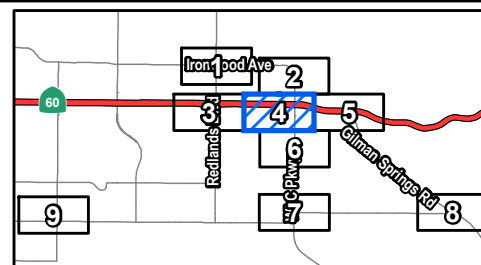


FIGURE 2
Sheet 4 of 9
SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6
Geometrics
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Project No. 0813000109

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LEGEND

- - - Alternative 2 Proposed Improvements
- - - Alternative 6 Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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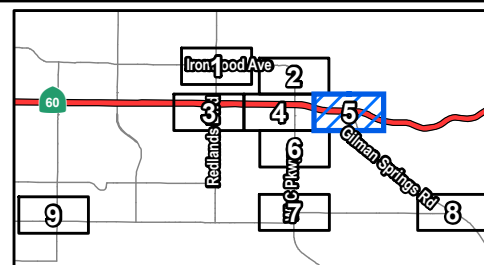


FIGURE 2

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SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

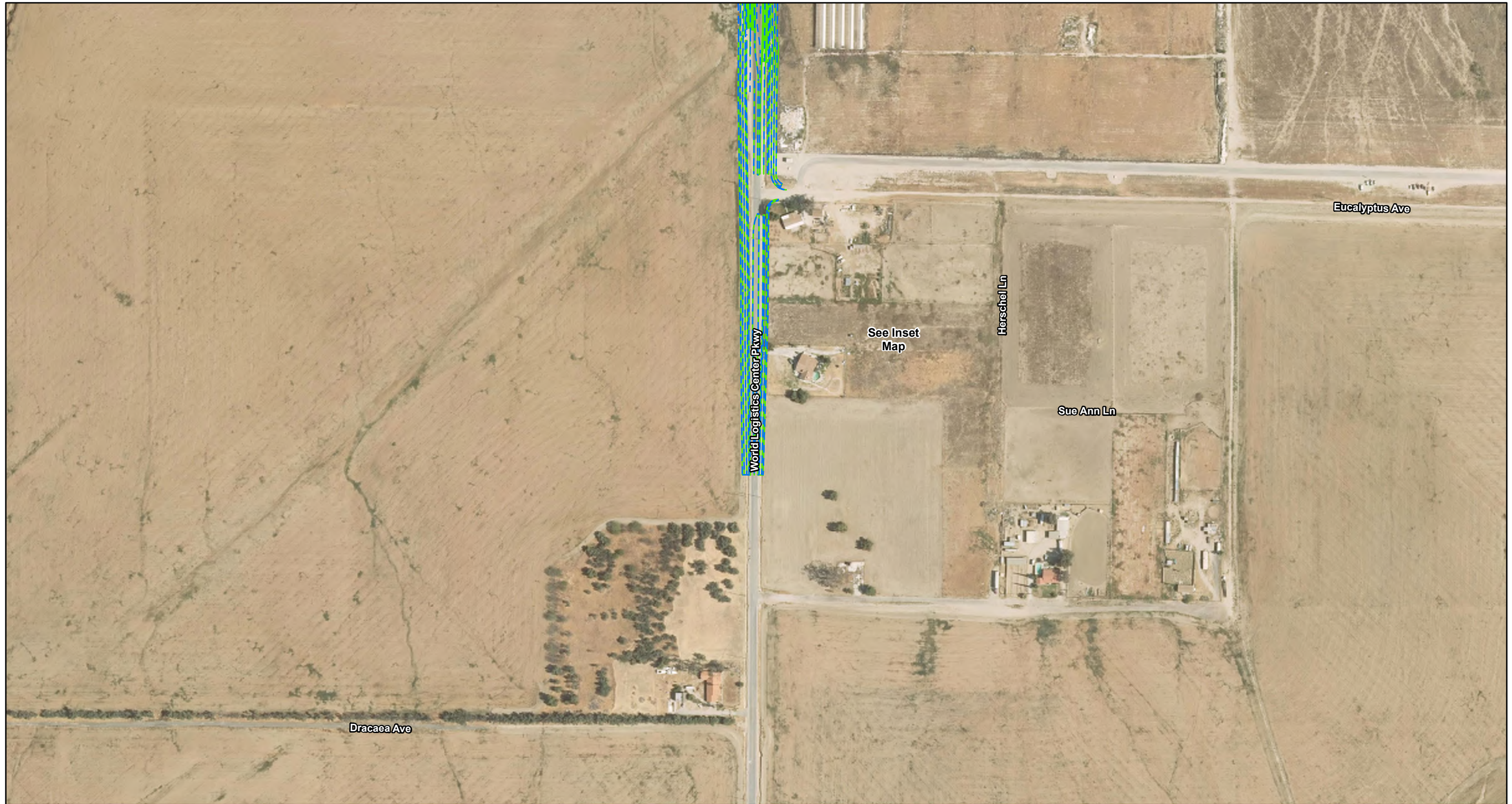
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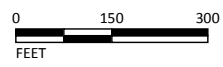
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LEGEND

- - - Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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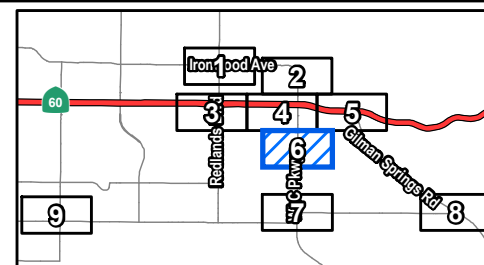


FIGURE 2

Sheet 6 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

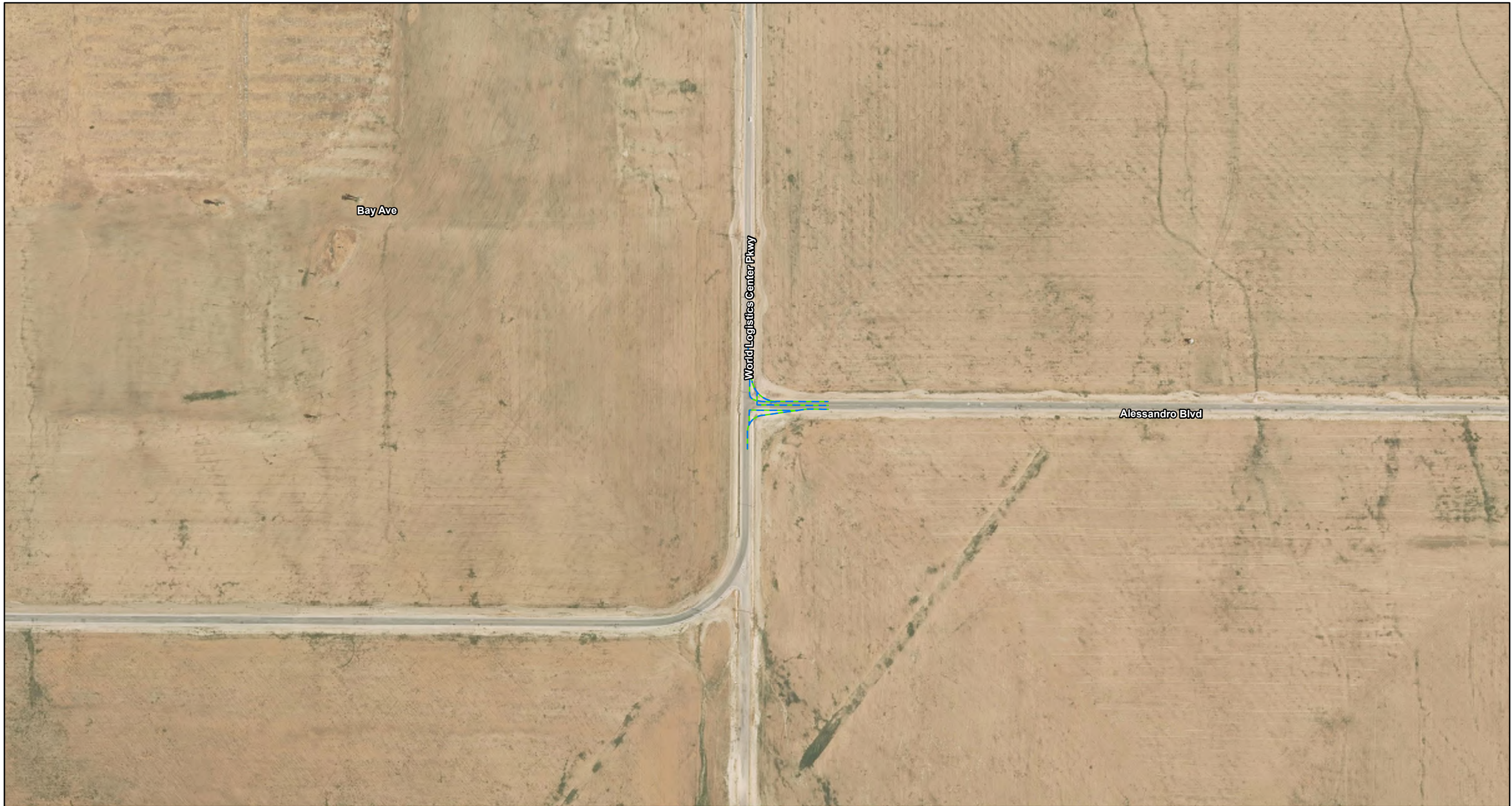
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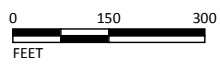
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- - - Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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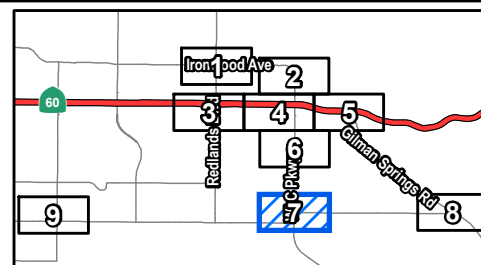


FIGURE 2

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SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

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LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



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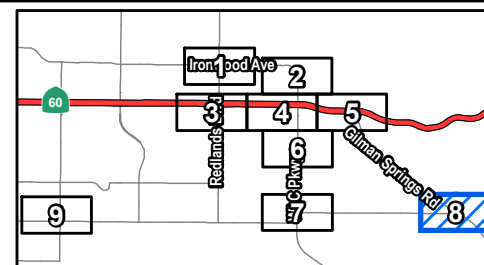


FIGURE 2

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SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

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LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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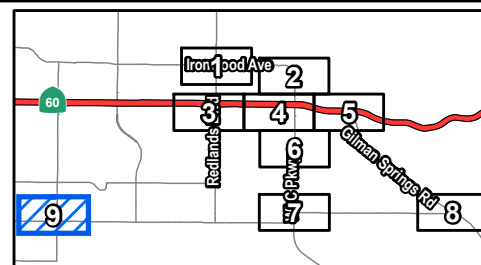


FIGURE 2

Sheet 9 of 9

SR-60/World Logistics Center Parkway

Interchange Project

Alternatives 2 and 6

Geometrics

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LEGEND

- - - Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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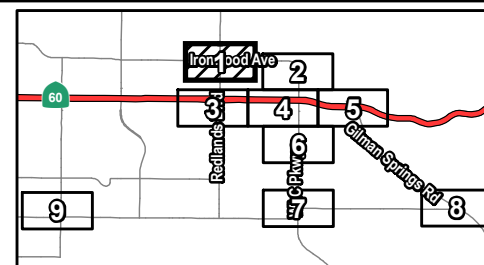


FIGURE 3
Sheet 1 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

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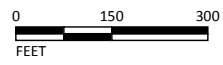
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- Design Variation 6a Proposed Improvements



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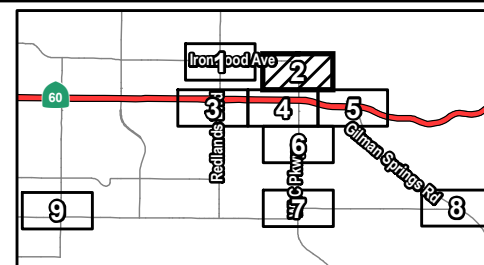


FIGURE 3
Sheet 2 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

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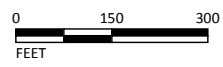
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LEGEND

- - - Design Variation 2a Proposed Improvements
- - - Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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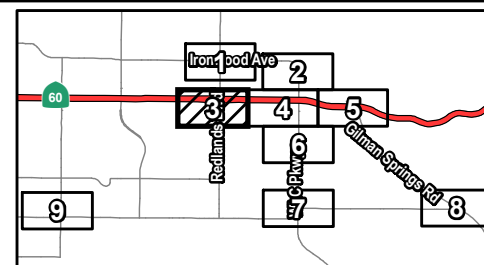


FIGURE 3
Sheet 3 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

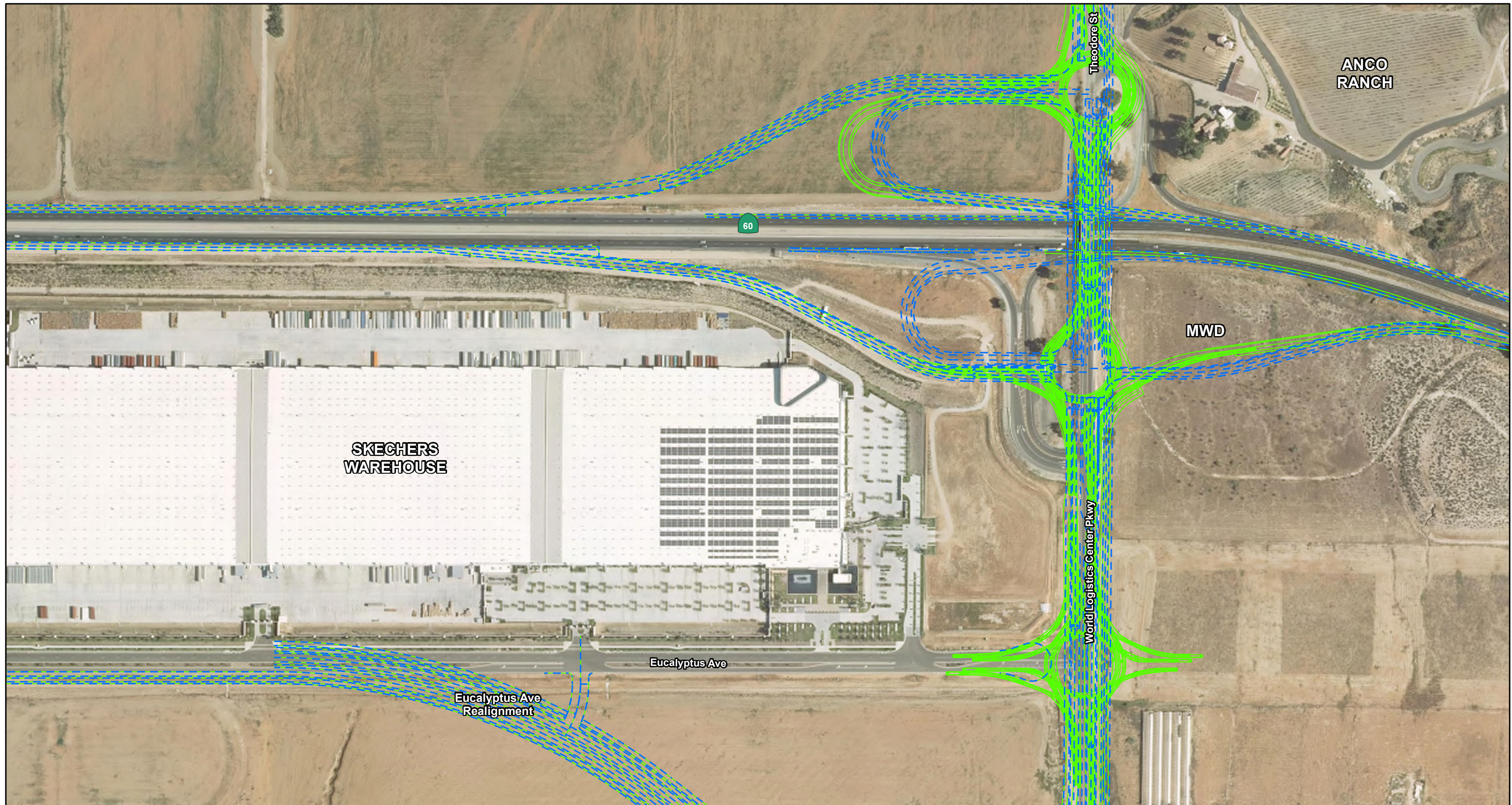
Geometrics

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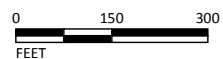
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LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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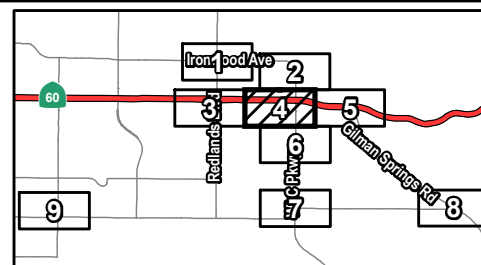


FIGURE 3
 Sheet 4 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Design Variations 2a and 6a
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109

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LEGEND

- - - Design Variation 2a Proposed Improvements
- - - Design Variation 6a Proposed Improvements



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SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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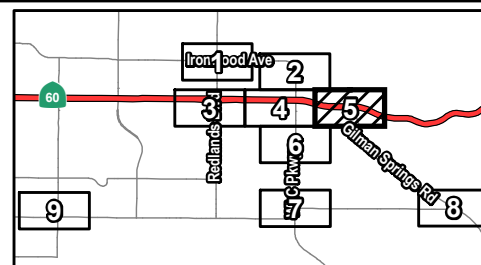


FIGURE 3
Sheet 5 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

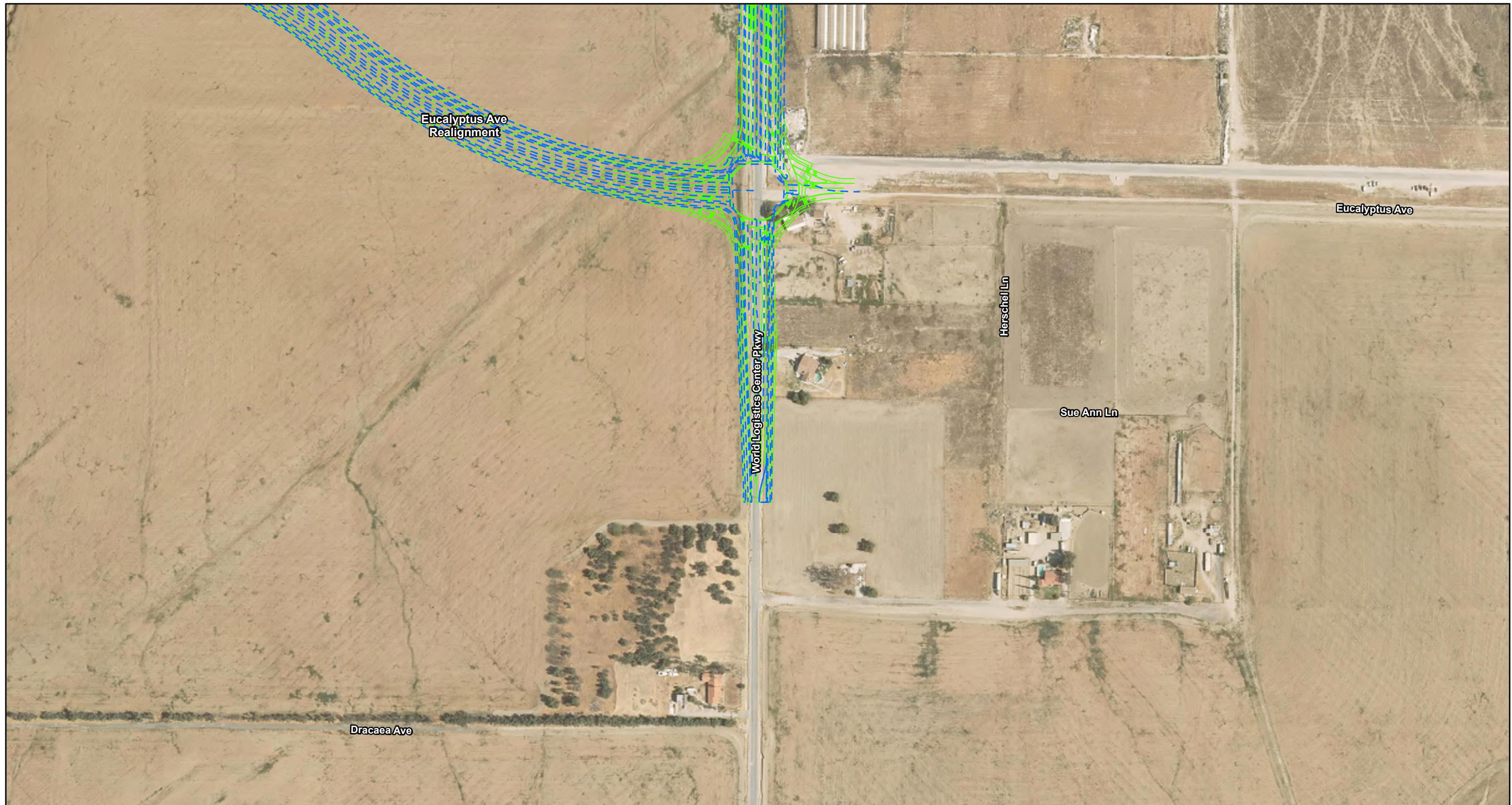
Geometrics

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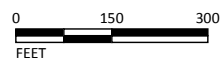
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LEGEND

- - - Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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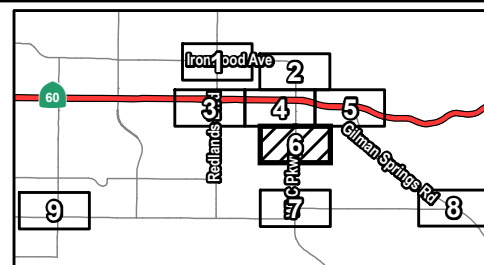
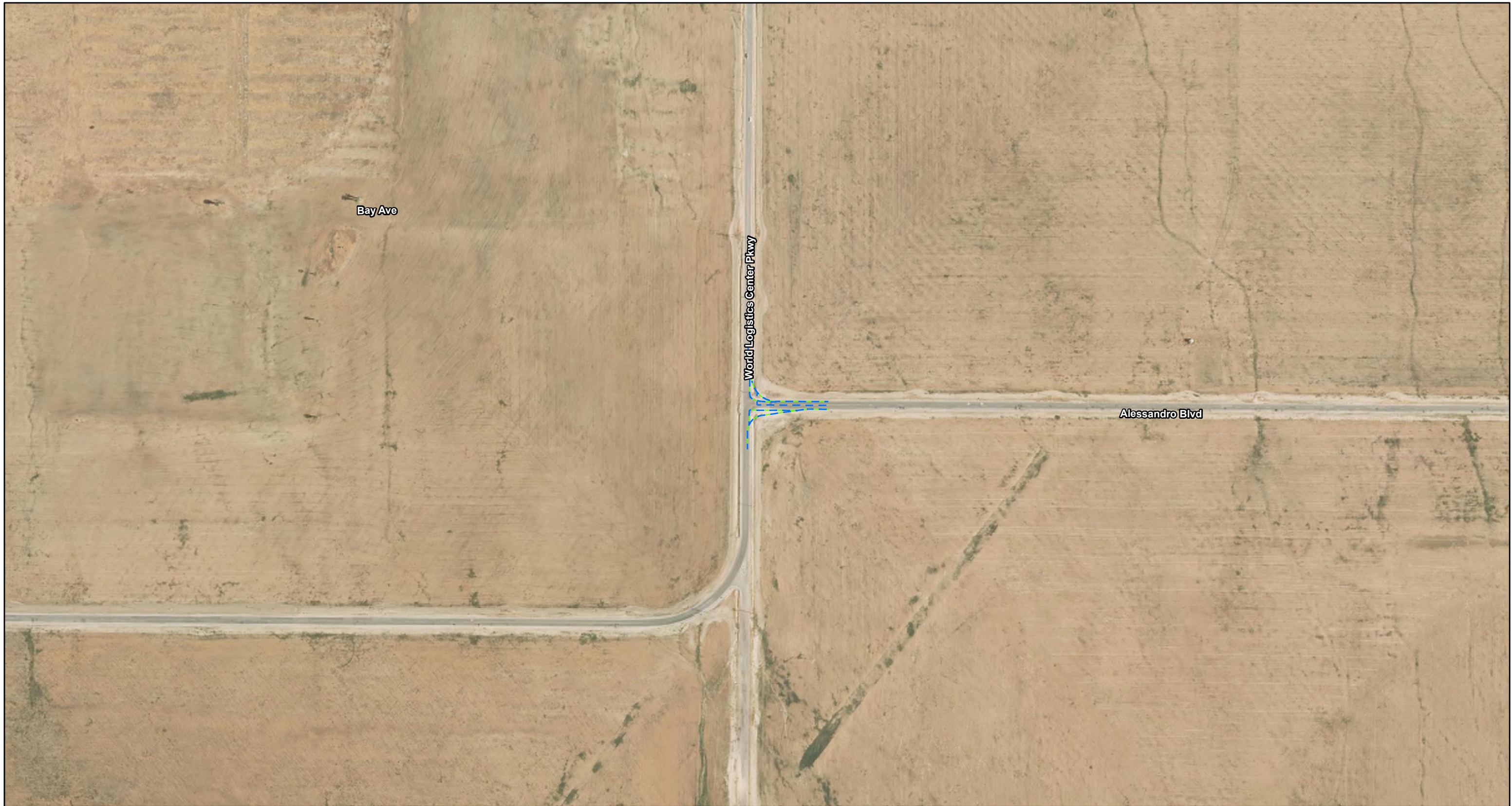


FIGURE 3
 Sheet 6 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Design Variations 2a and 6a
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109

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LEGEND

- - - Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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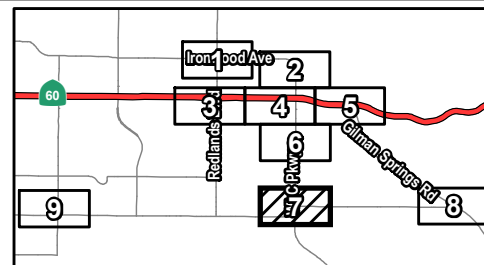


FIGURE 3
Sheet 7 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

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LEGEND

- - - Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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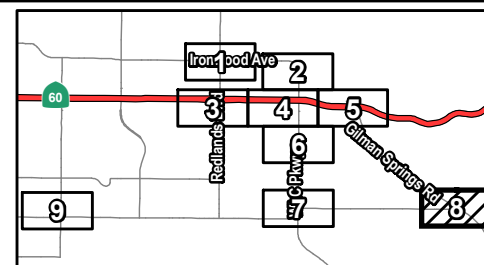


FIGURE 3
Sheet 8 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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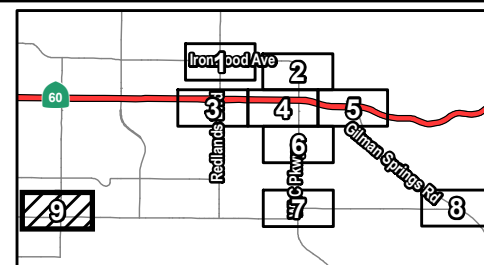


FIGURE 3
Sheet 9 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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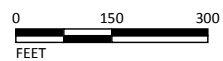
LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)
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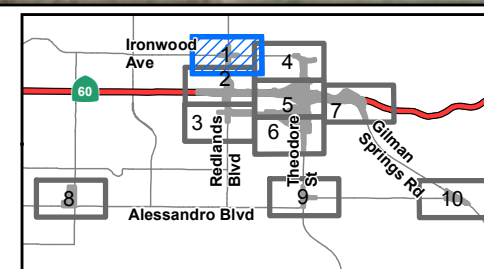
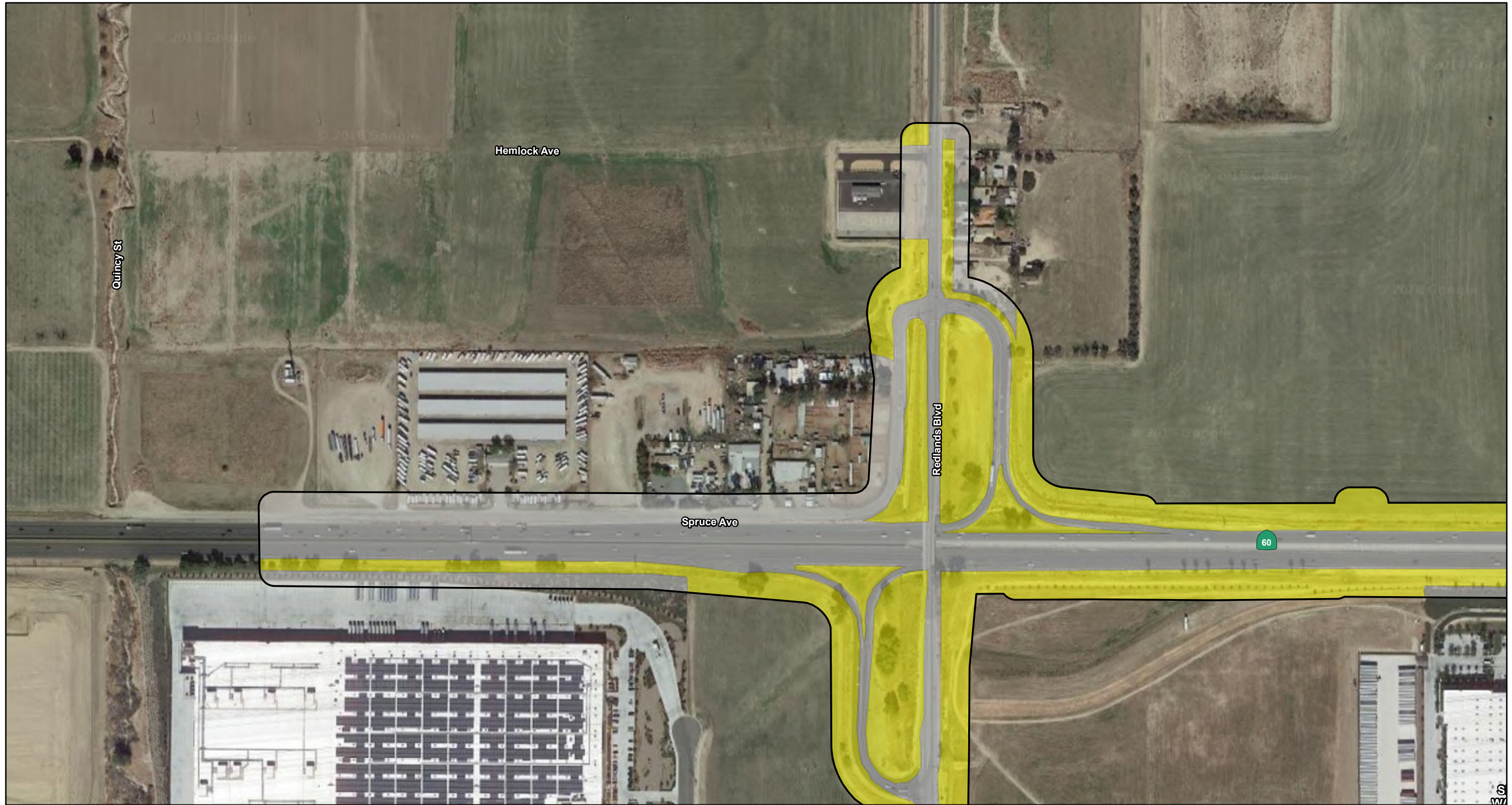


FIGURE 4
 Sheet 1 of 10

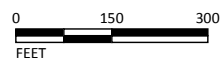
SR-60 /World Logistics Center Parkway
 Interchange Project
 Vegetation and Land Use Map
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109

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LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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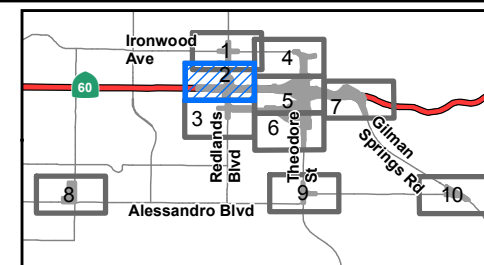


FIGURE 4
Sheet 2 of 10

SR-60 / World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

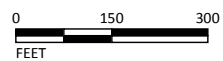
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EA No. 0M590
Project No. 0813000109

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LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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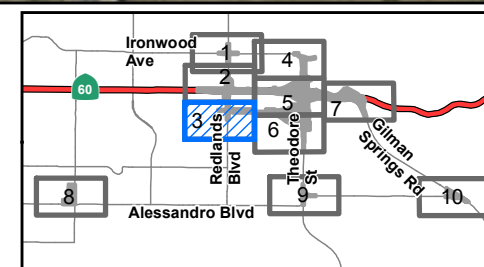


FIGURE 4
Sheet 3 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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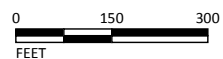


LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed
- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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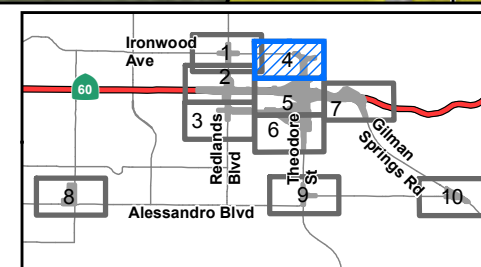
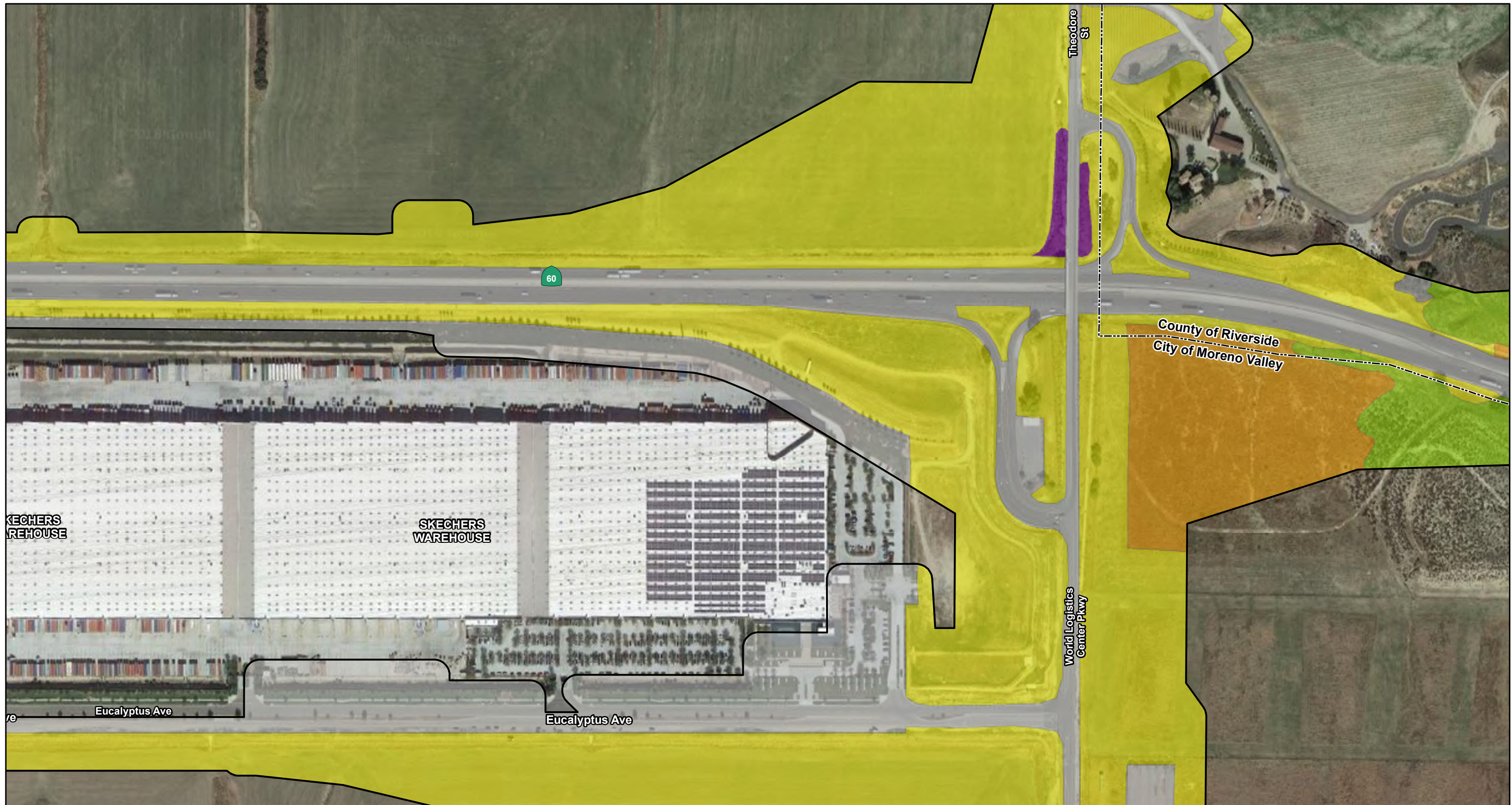


FIGURE 4
Sheet 4 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

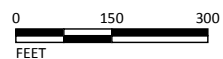
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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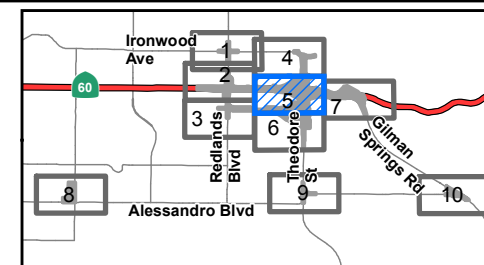
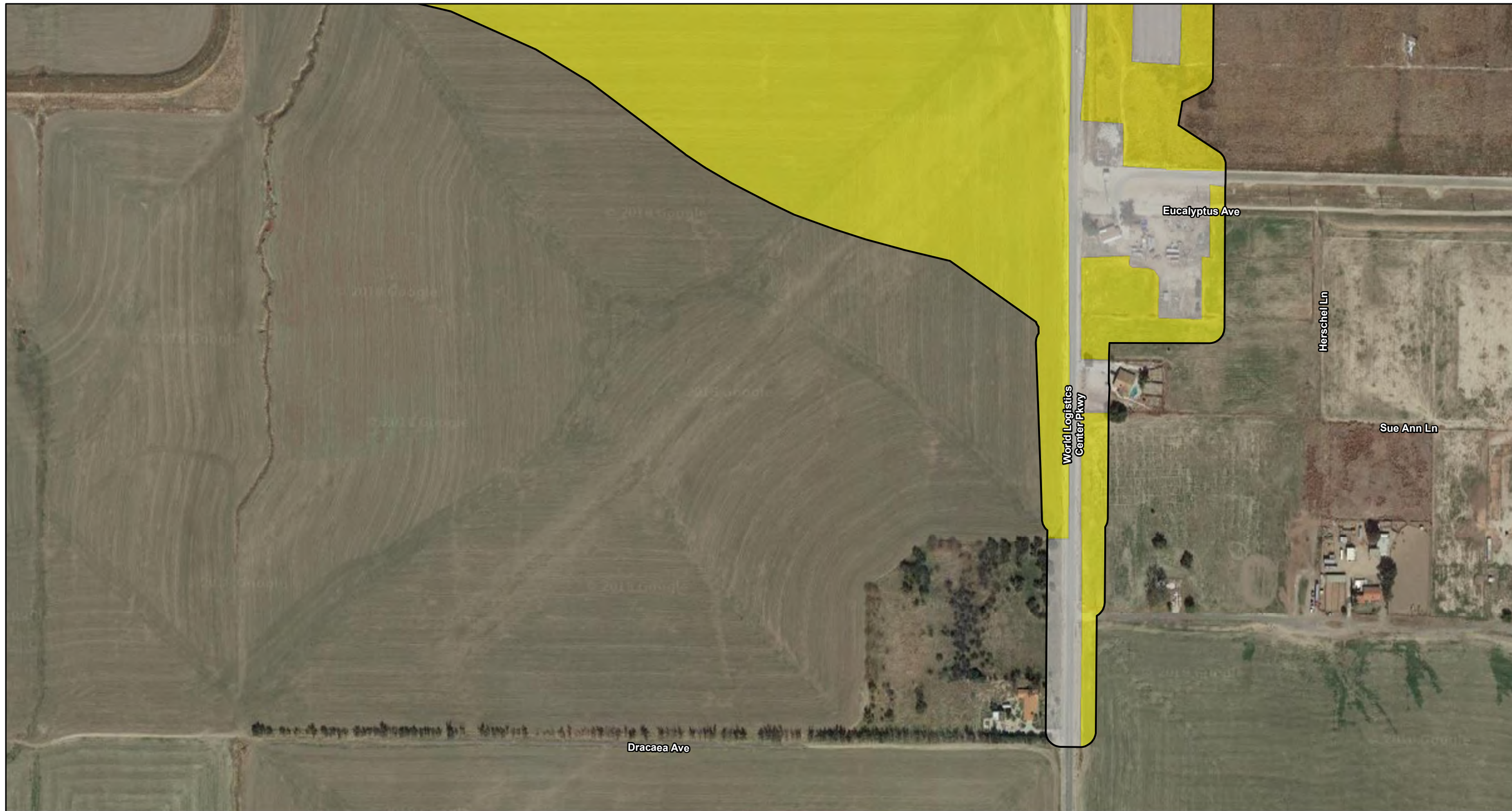


FIGURE 4
Sheet 5 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub

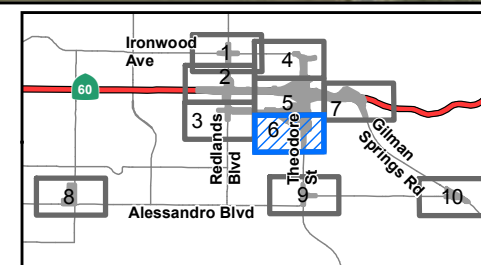
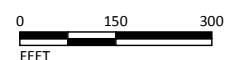


FIGURE 4
Sheet 6 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed
- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub

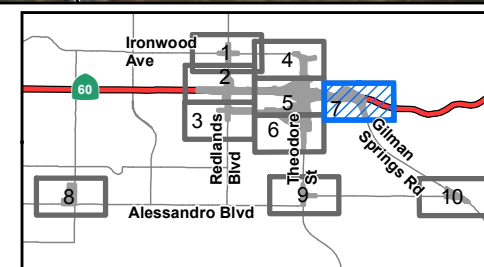


FIGURE 4
Sheet 7 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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LEGEND

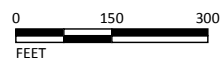
- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

Riparian Scrub

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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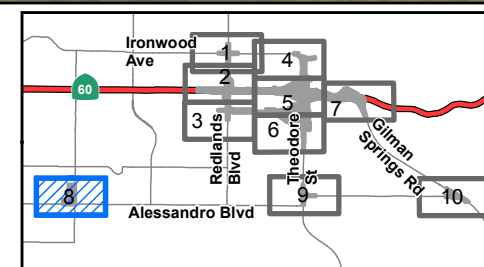
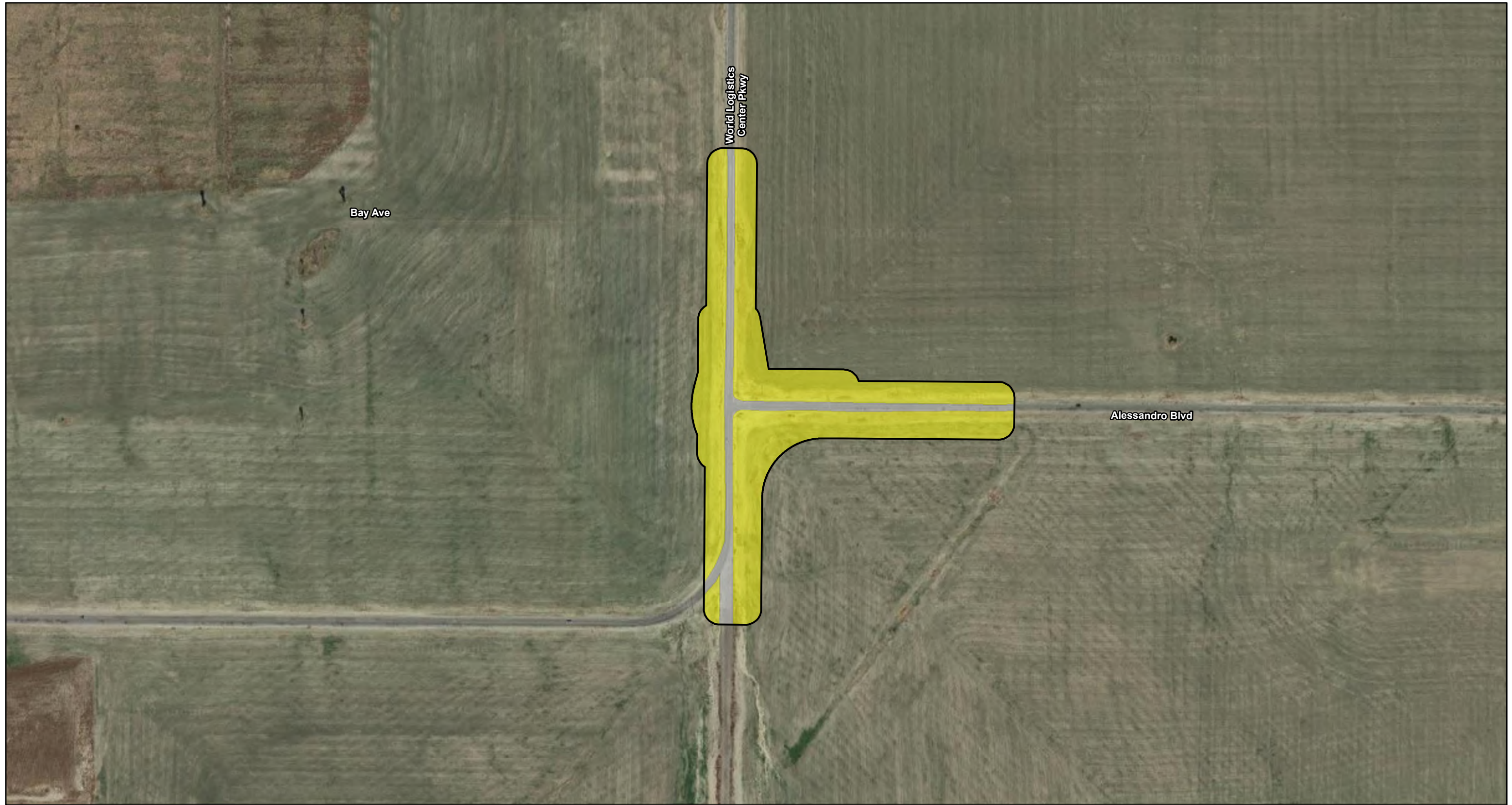


FIGURE 4
Sheet 8 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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LEGEND

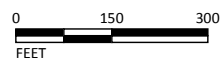
- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

Riparian Scrub

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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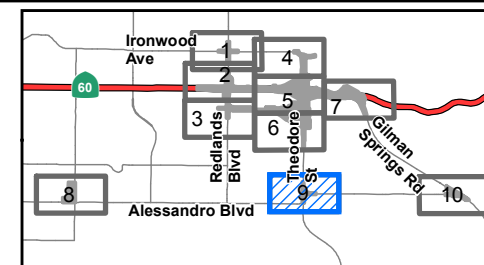


FIGURE 4
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SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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LEGEND

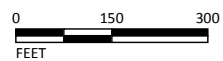
- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

Riparian Scrub

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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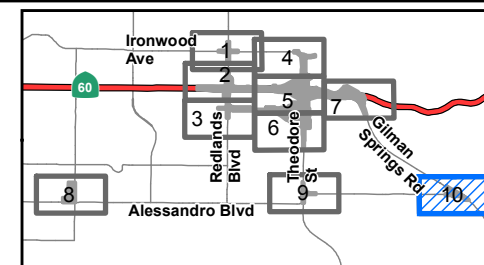


FIGURE 4
Sheet 10 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

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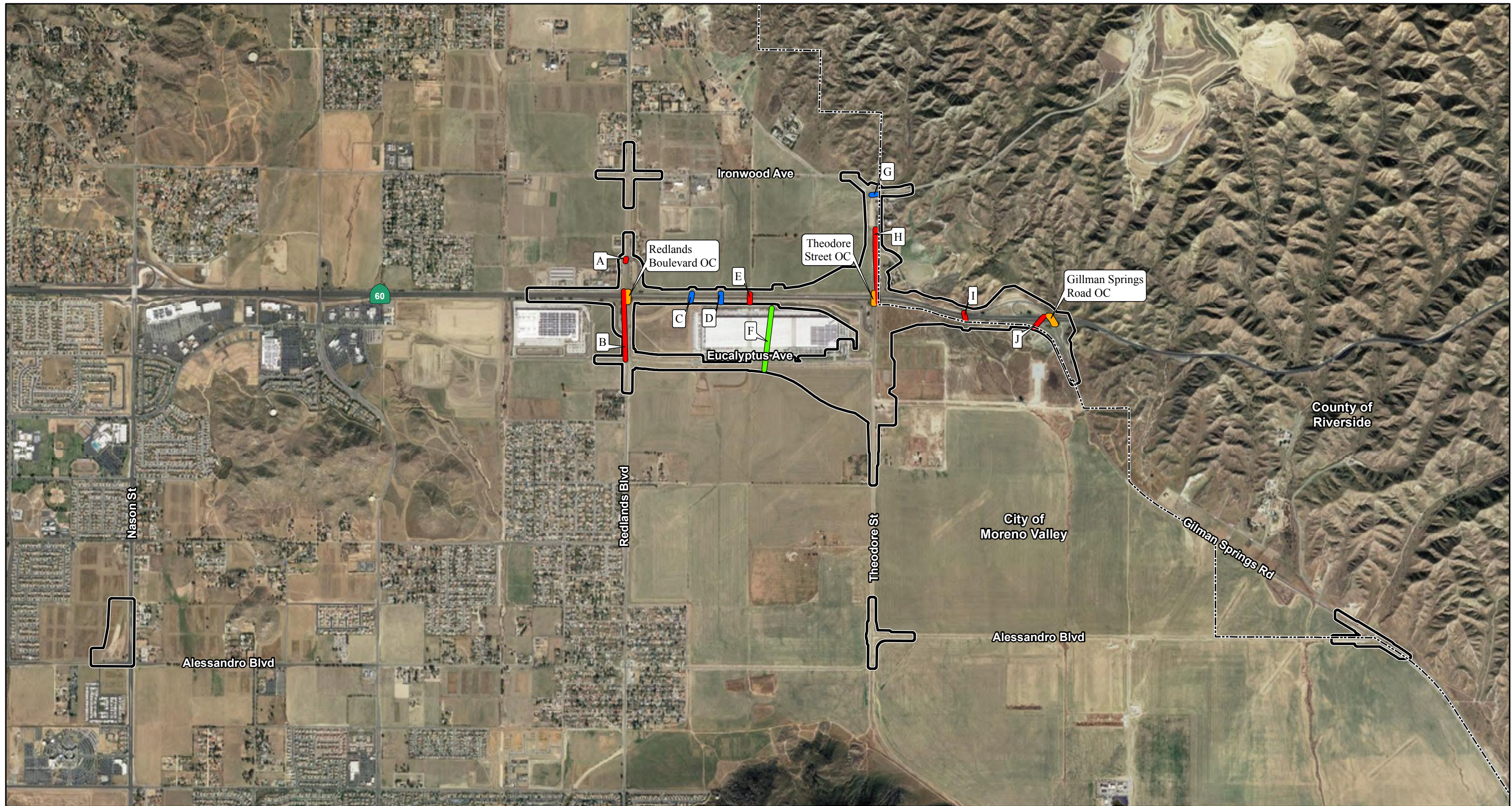
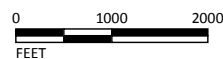


FIGURE 5

LEGEND

- Biological Survey Area (BSA)
- City/County Boundary
- Bridge, Potential Day Roost
- Culvert, Confirmed Night Roost
- Culvert, Marginally Suitable Night Roost
- Culvert, Not Suitable for Roosting
- BatRoostArea



SOURCE: Google (2018); RBF (2018); Riverside County (2014)

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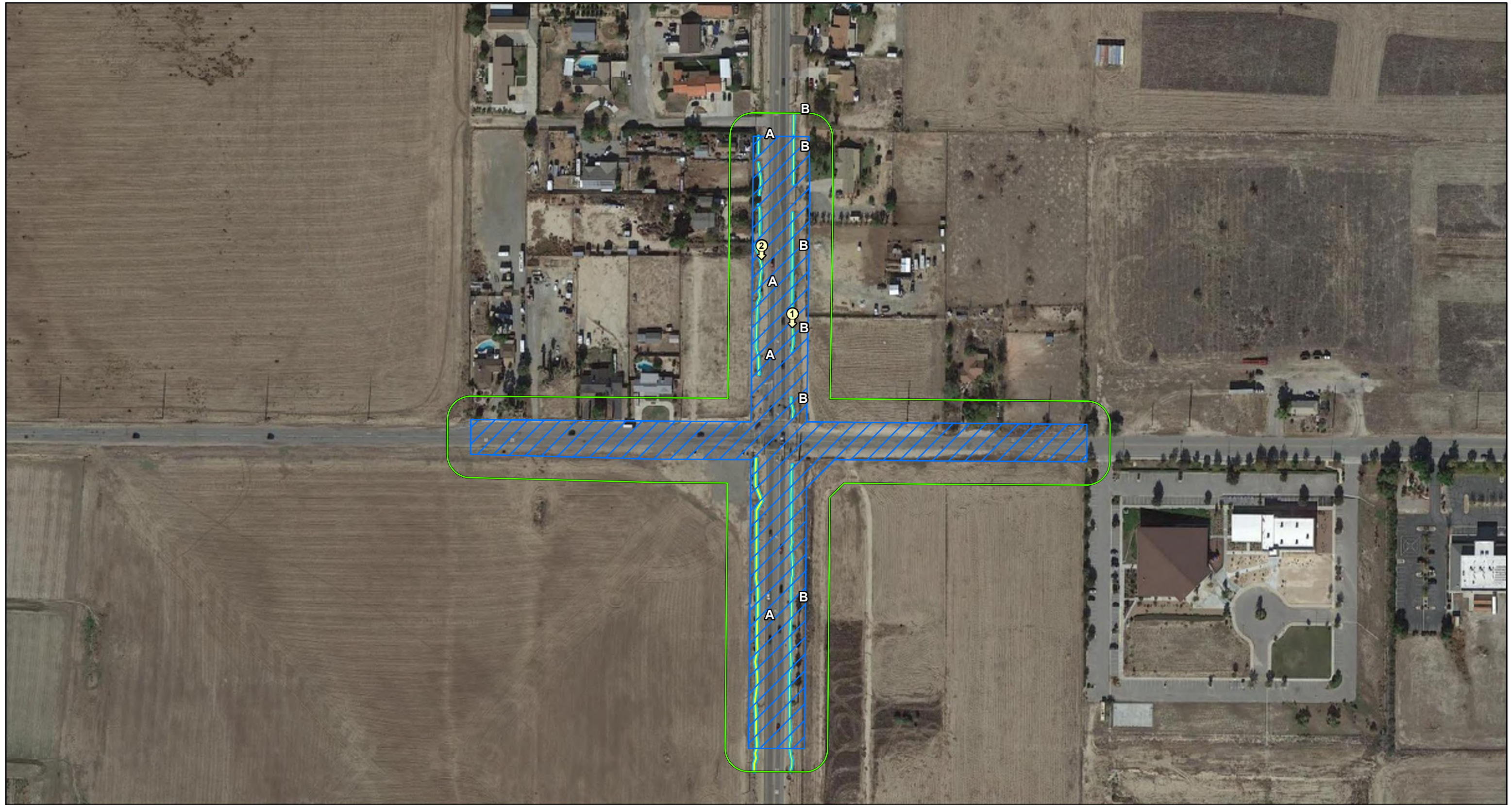
SR-60/World Logistics Center Parkway
Interchange Project
Bat Roosting Habitat

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

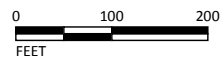
Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

Non-Jurisdictional Waters (permanent = 0.355 ac, temporary = 0.675 ac)

CDFW

Streambed (permanent = 0.549 ac, temporary = 1.159 ac)

Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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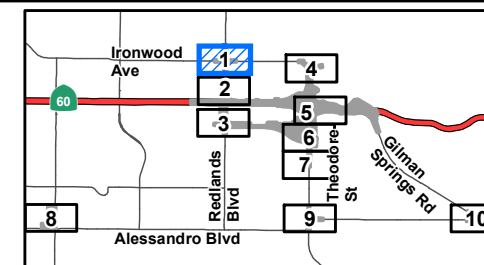


FIGURE 6
Sheet 1 of 10

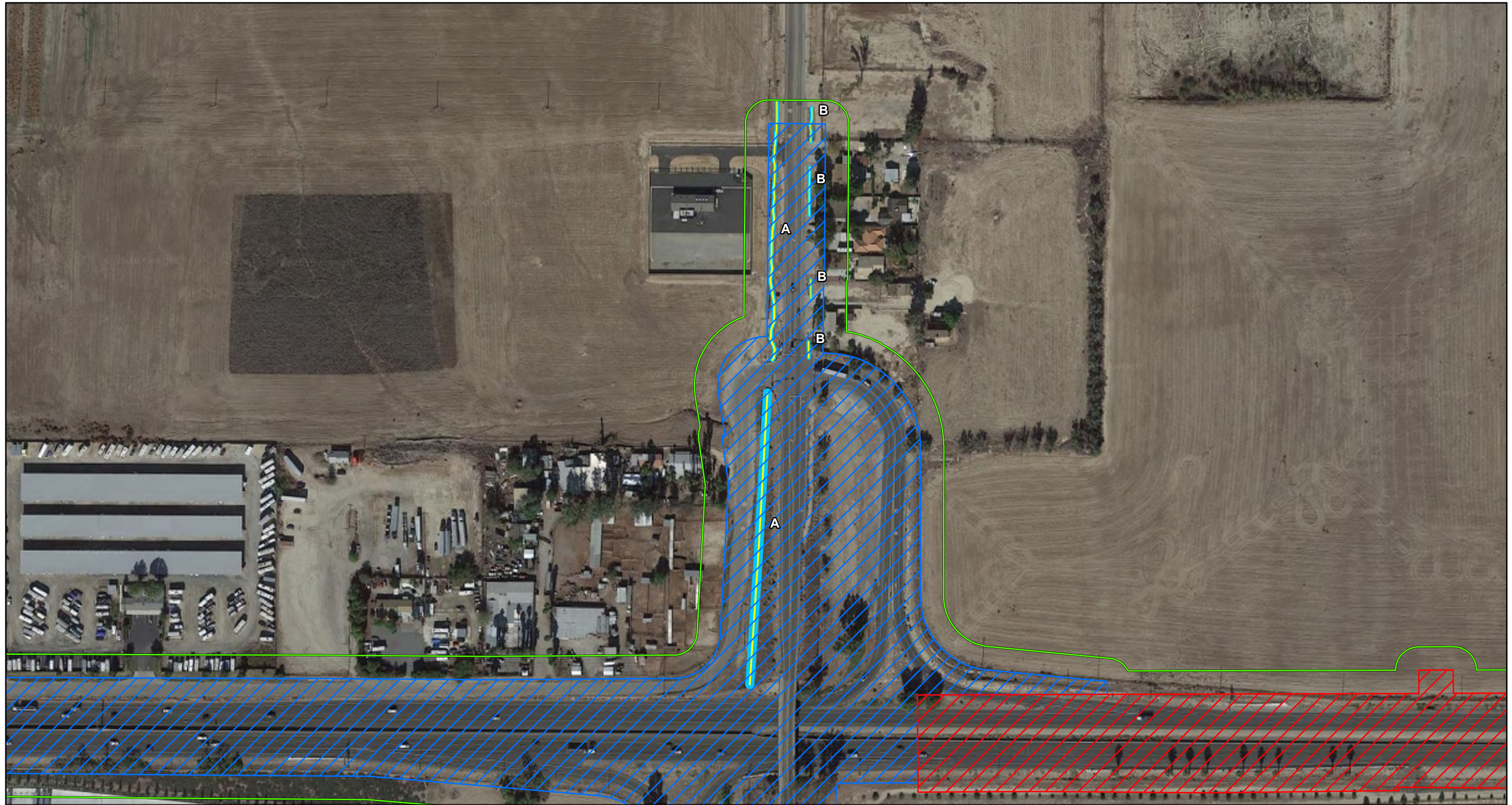
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

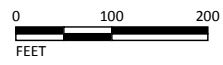
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Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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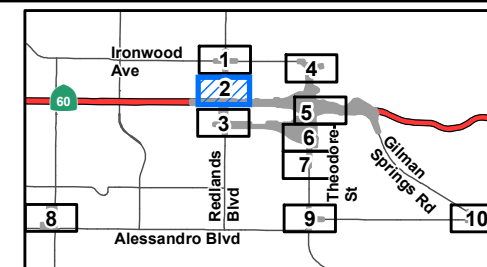


FIGURE 6
Sheet 2 of 10

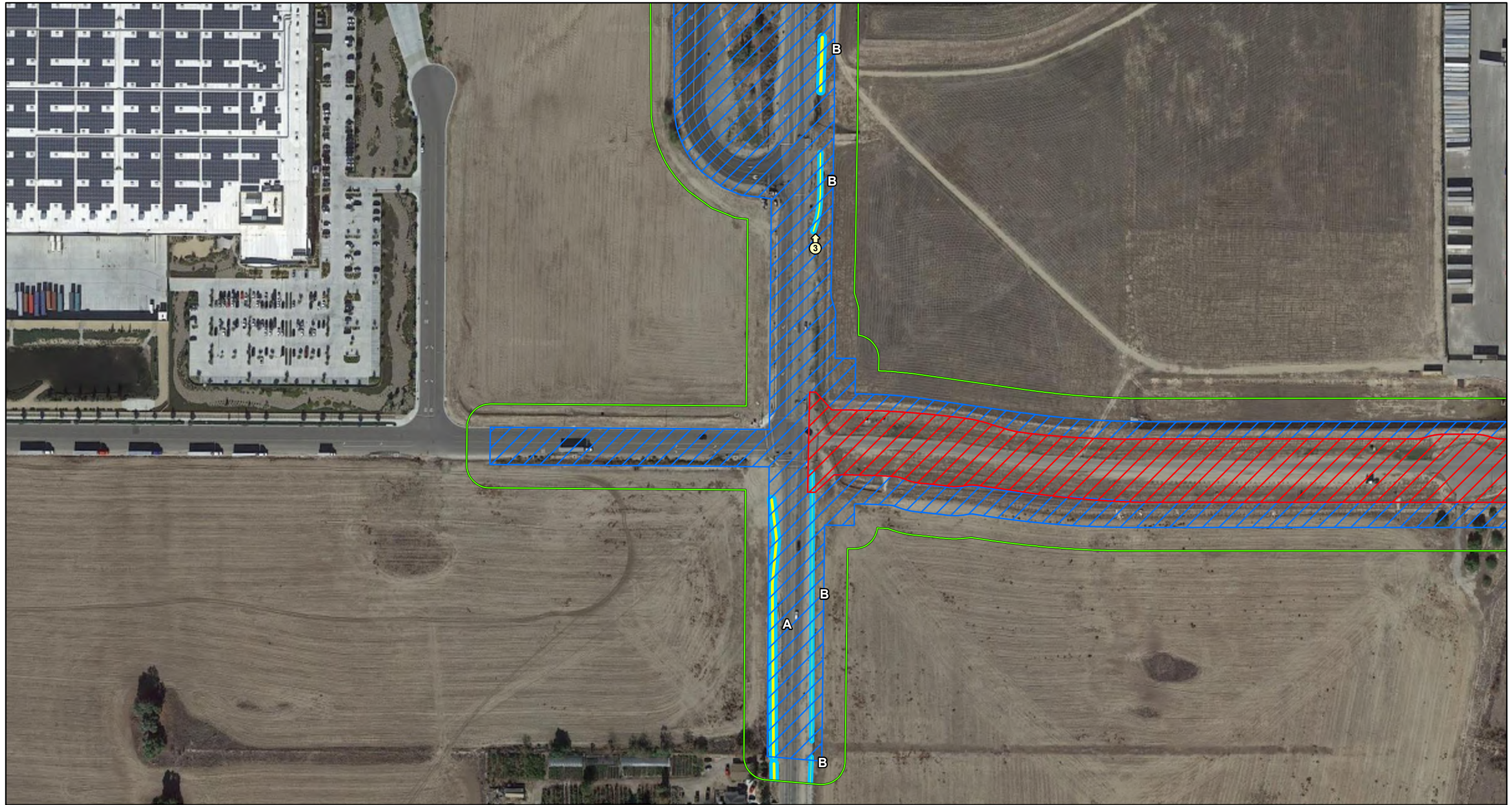
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

Non-Jurisdictional Waters (permanent = 0.355 ac, temporary = 0.675 ac)

CDFW

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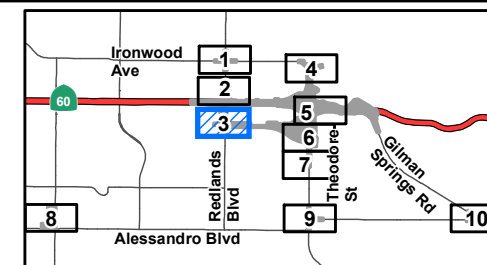


FIGURE 6
Sheet 3 of 10

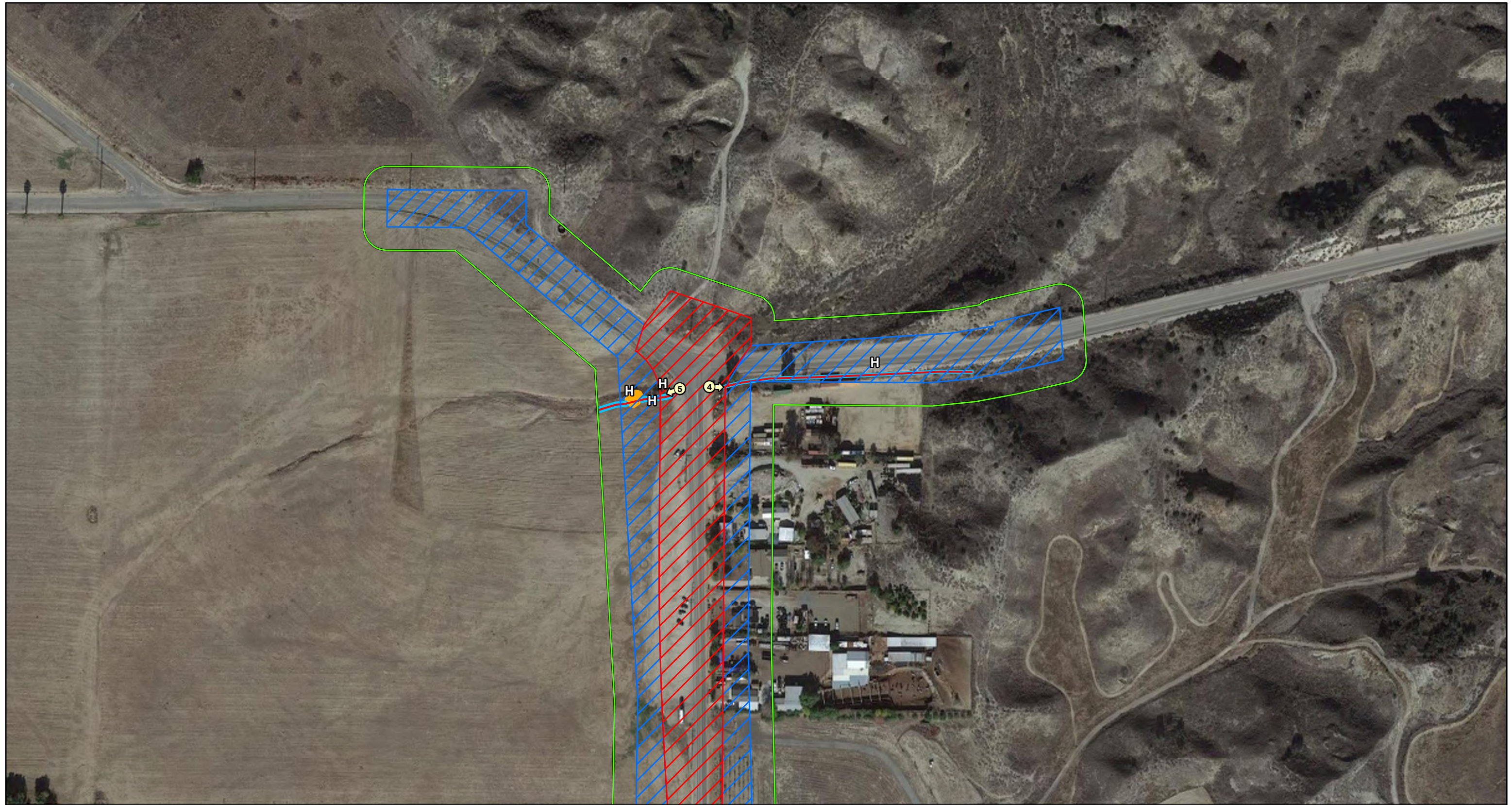
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

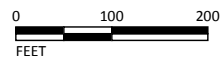
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Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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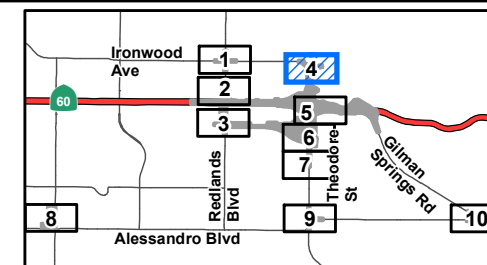


FIGURE 6
Sheet 4 of 10

*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

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Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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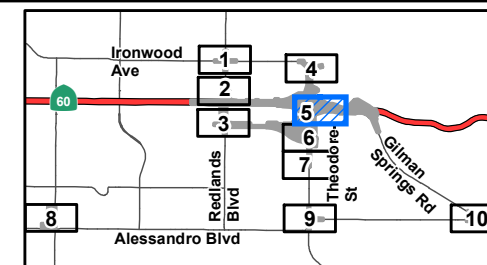


FIGURE 6
Sheet 5 of 10

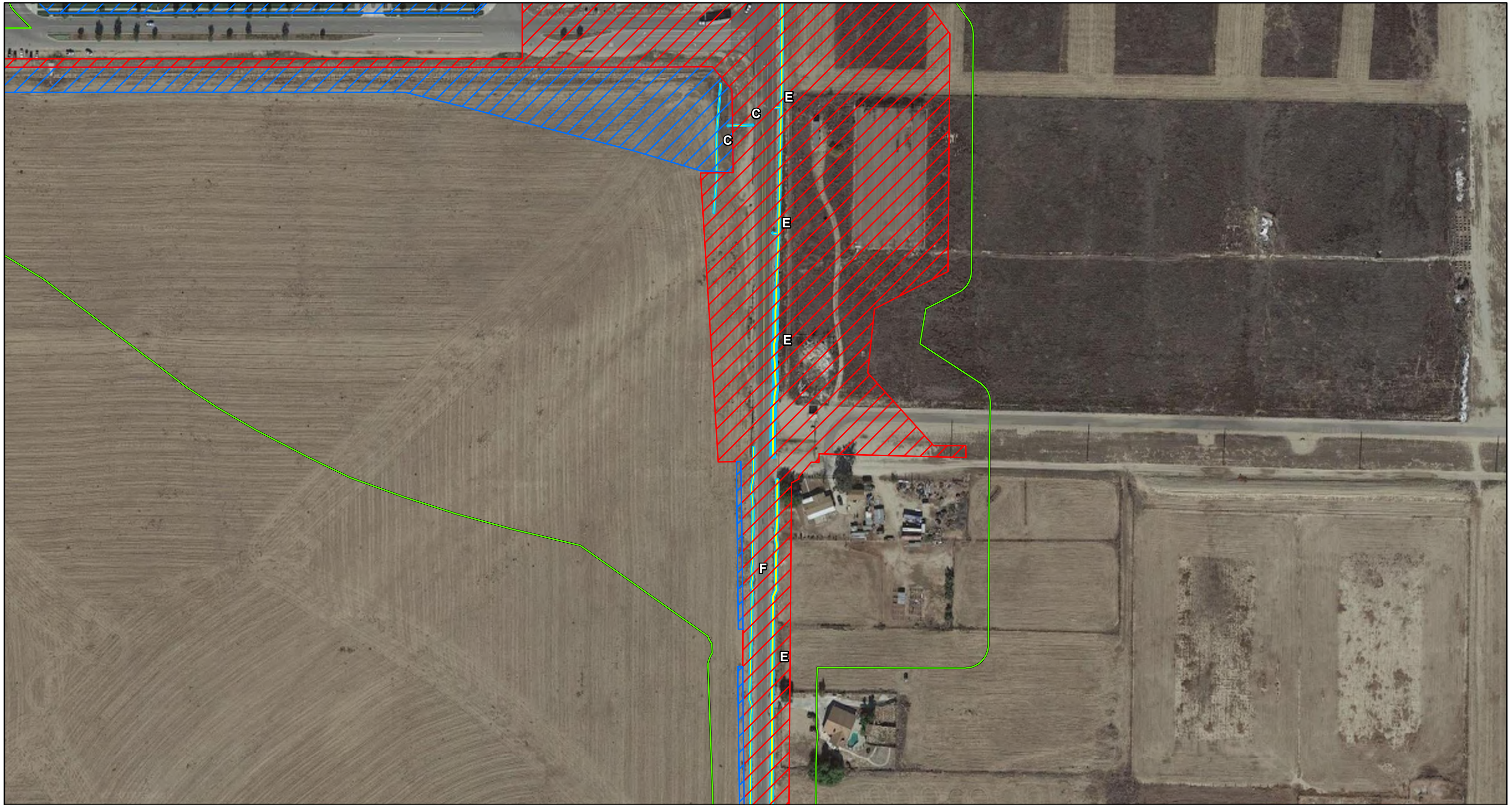
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

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CDFW

Streambed (permanent = 0.549 ac, temporary = 1.159 ac)

Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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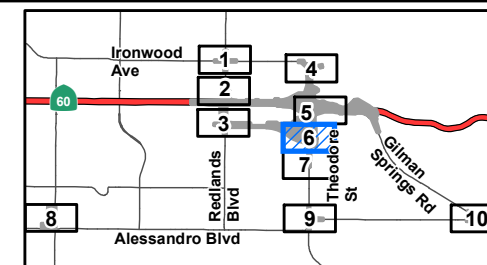


FIGURE 6
Sheet 6 of 10

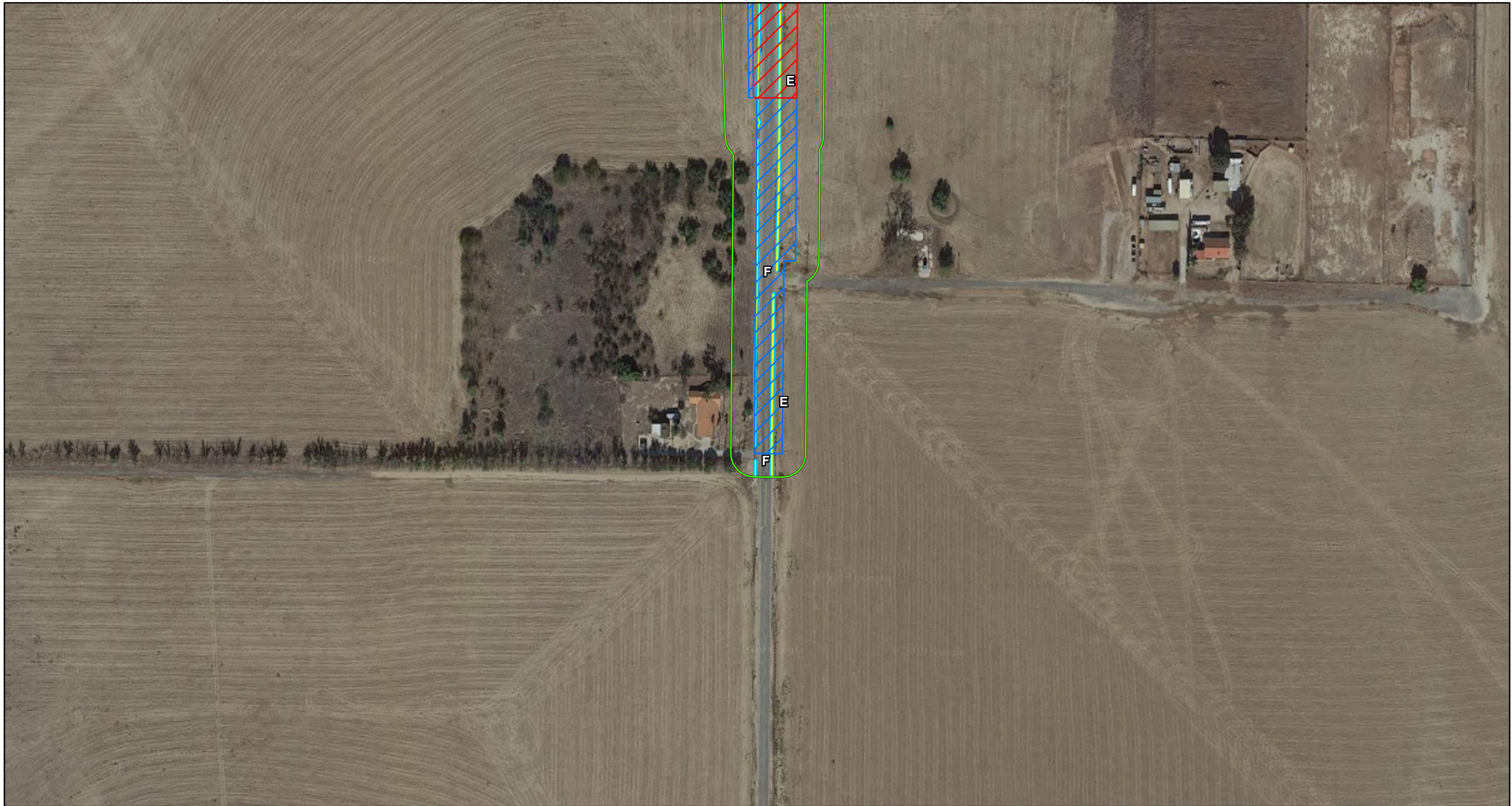
*SR-60/World Logistics Center Parkway
Interchange Project*
Potential Jurisdictional Features
Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

Non-Jurisdictional Waters (permanent = 0.355 ac, temporary = 0.675 ac)

CDFW

Streambed (permanent = 0.549 ac, temporary = 1.159 ac)

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SOURCE: Google (2018); RBF (2018)

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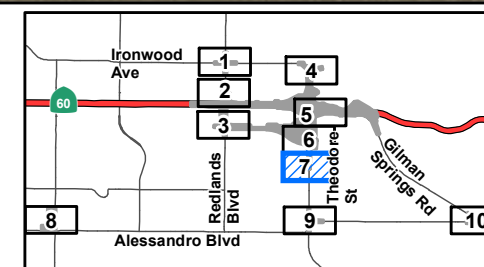


FIGURE 6
Sheet 7 of 10

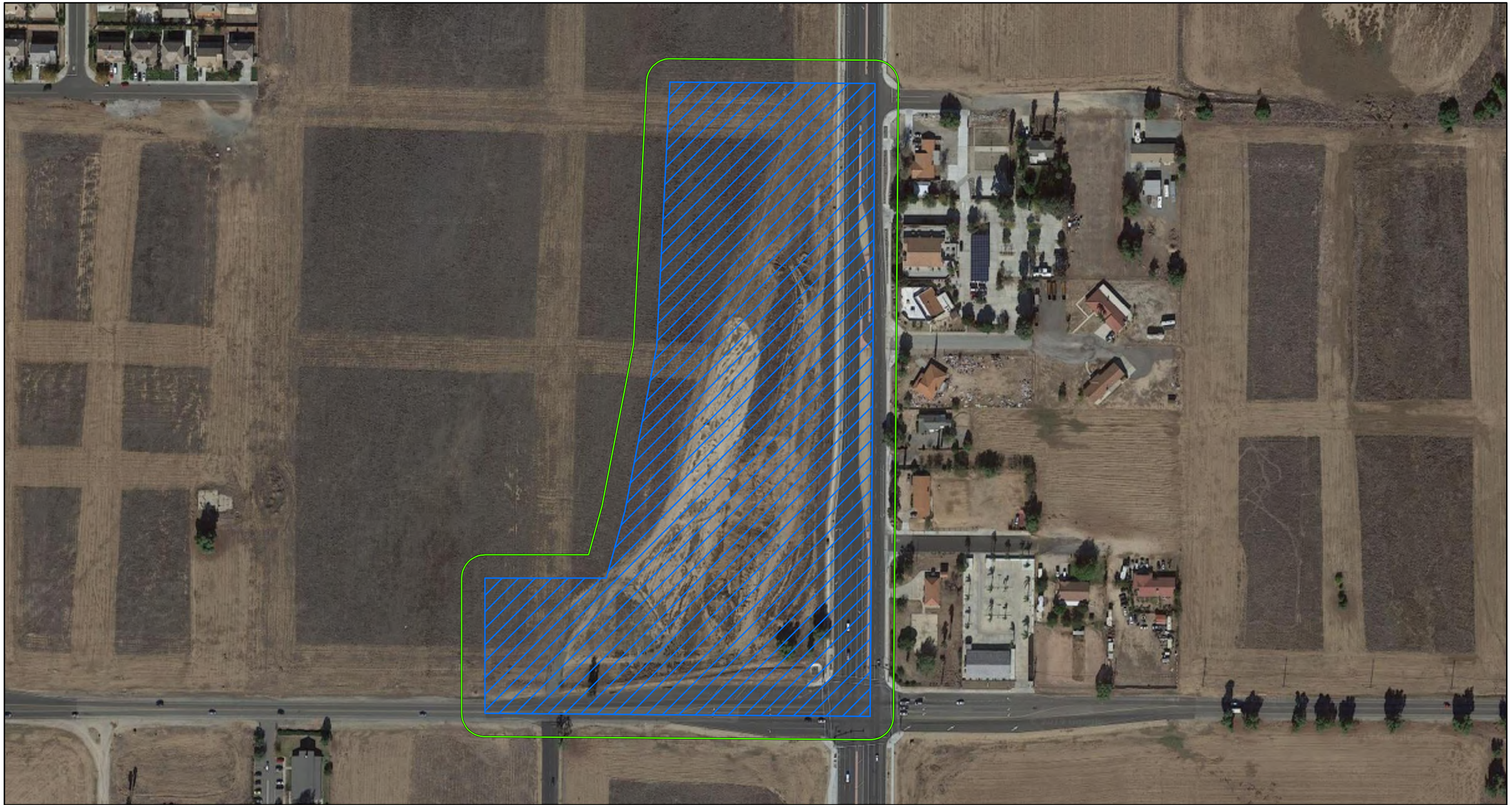
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

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SOURCE: Google (2018); RBF (2018)

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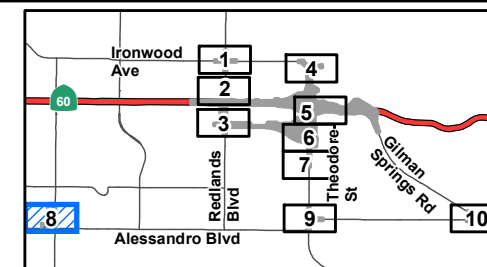


FIGURE 6
Sheet 8 of 10

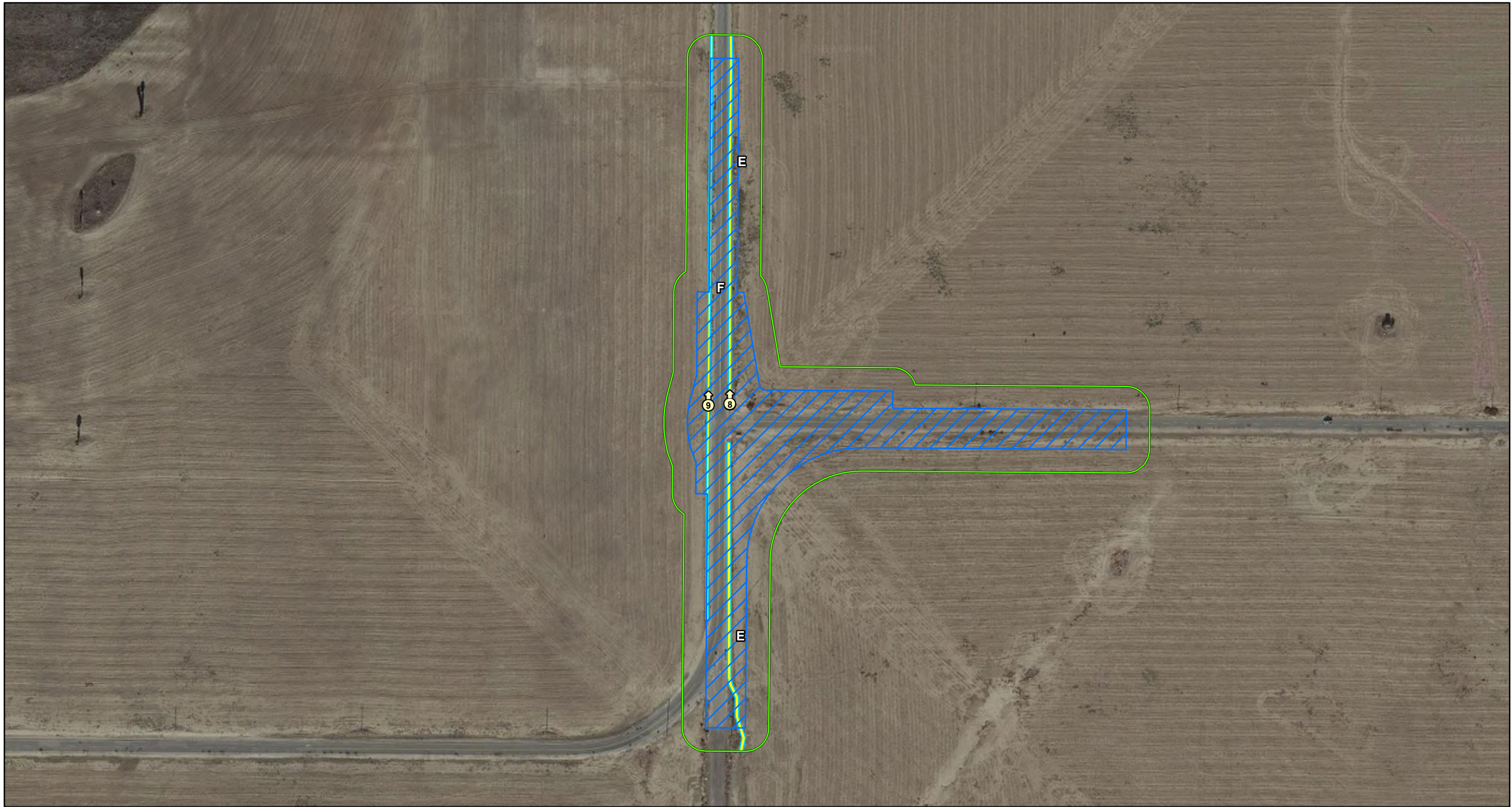
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

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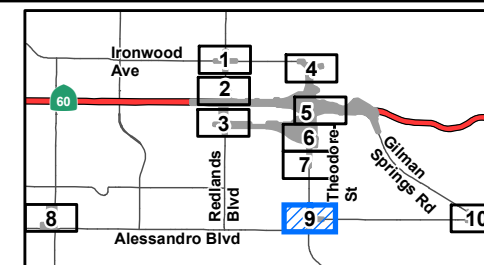


FIGURE 6
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*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 2 Impacts

Permanent

Temporary

Photo Locations

USACE

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SOURCE: Google (2018); RBF (2018)

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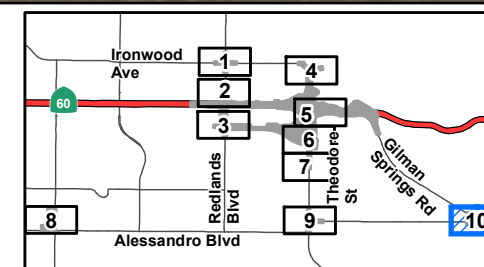


FIGURE 6
Sheet 10 of 10

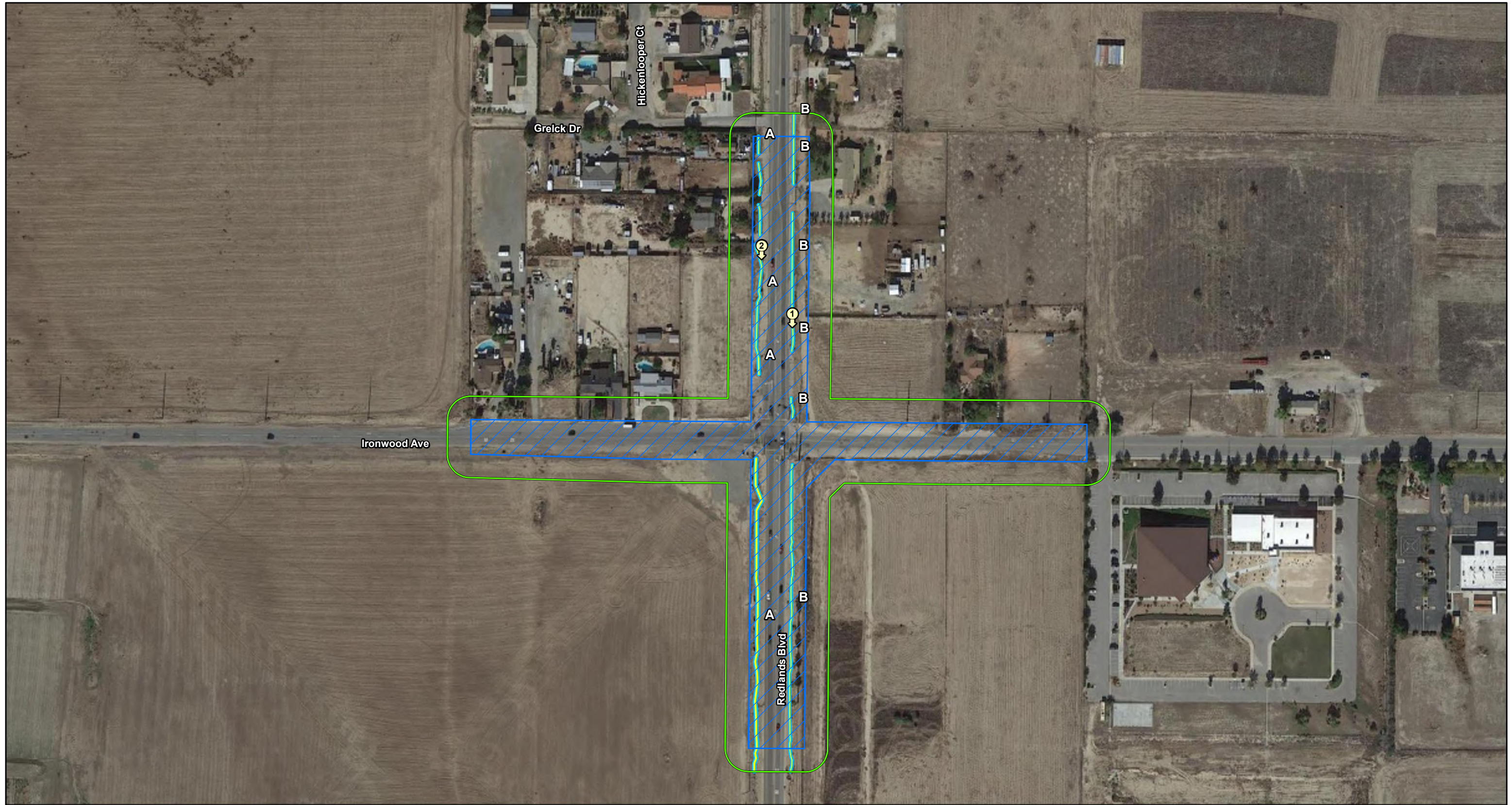
*SR-60/World Logistics Center Parkway
Interchange Project*
**Potential Jurisdictional Features
Alternative 2 Impacts**

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

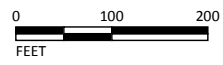
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Streambed (permanent = 0.570 ac, temporary = 1.138 ac)

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SOURCE: Google (2018); RBF (2018)

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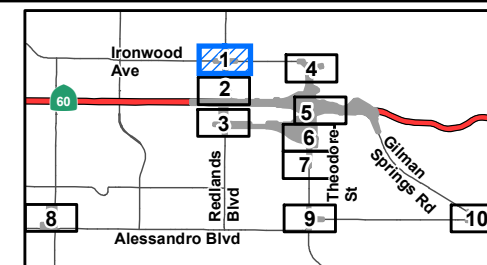


FIGURE 7

Sheet 1 of 10

SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

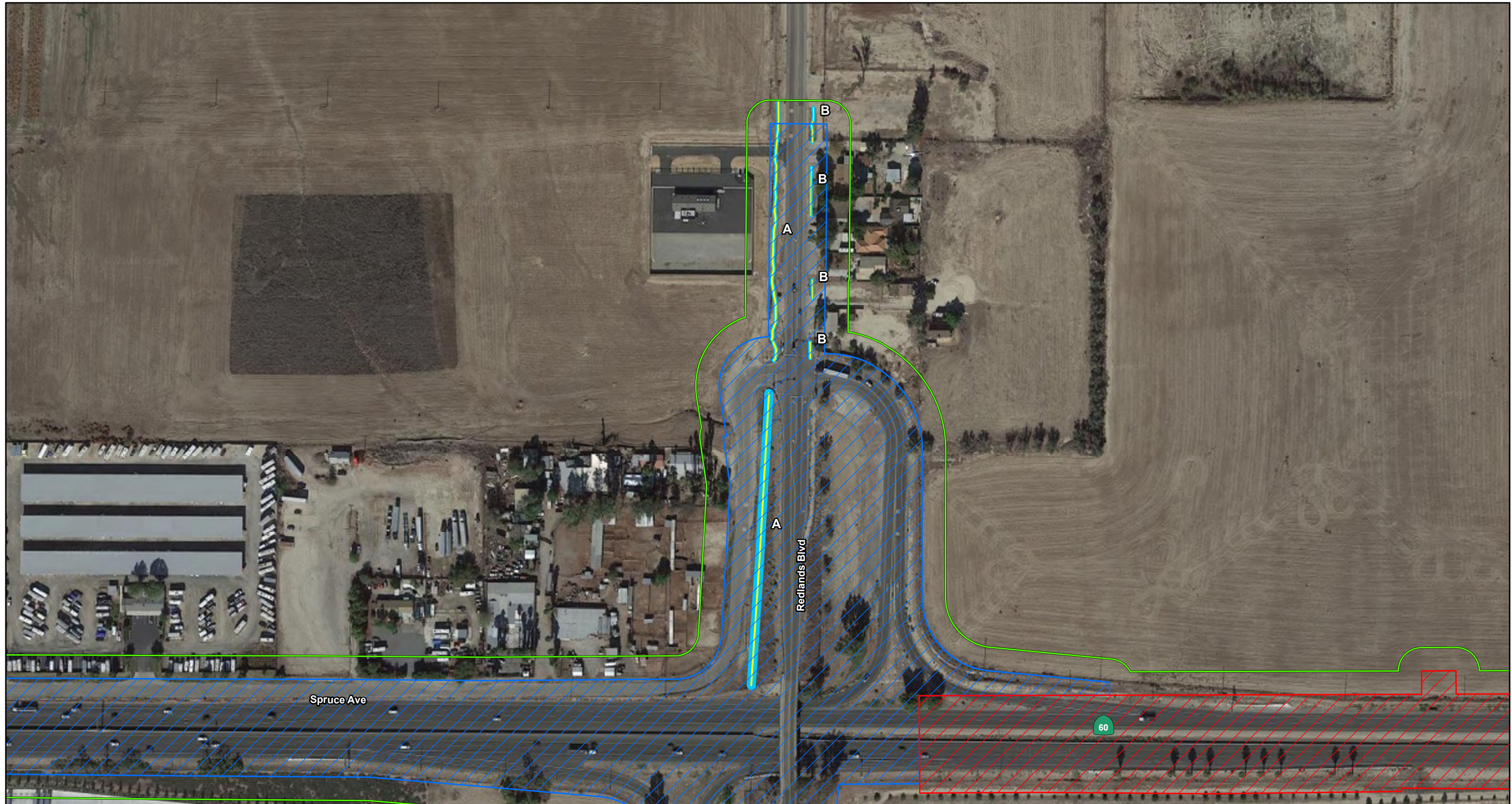
-Alternative 6 Impacts

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EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

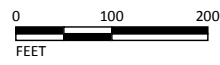
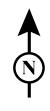
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SOURCE: Google (2018); RBF (2018)

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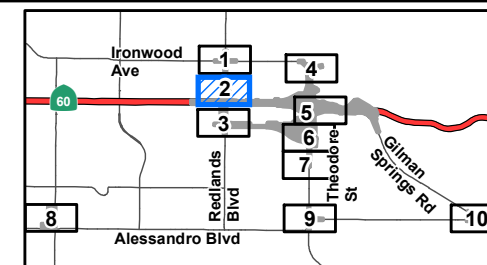


FIGURE 7

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SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

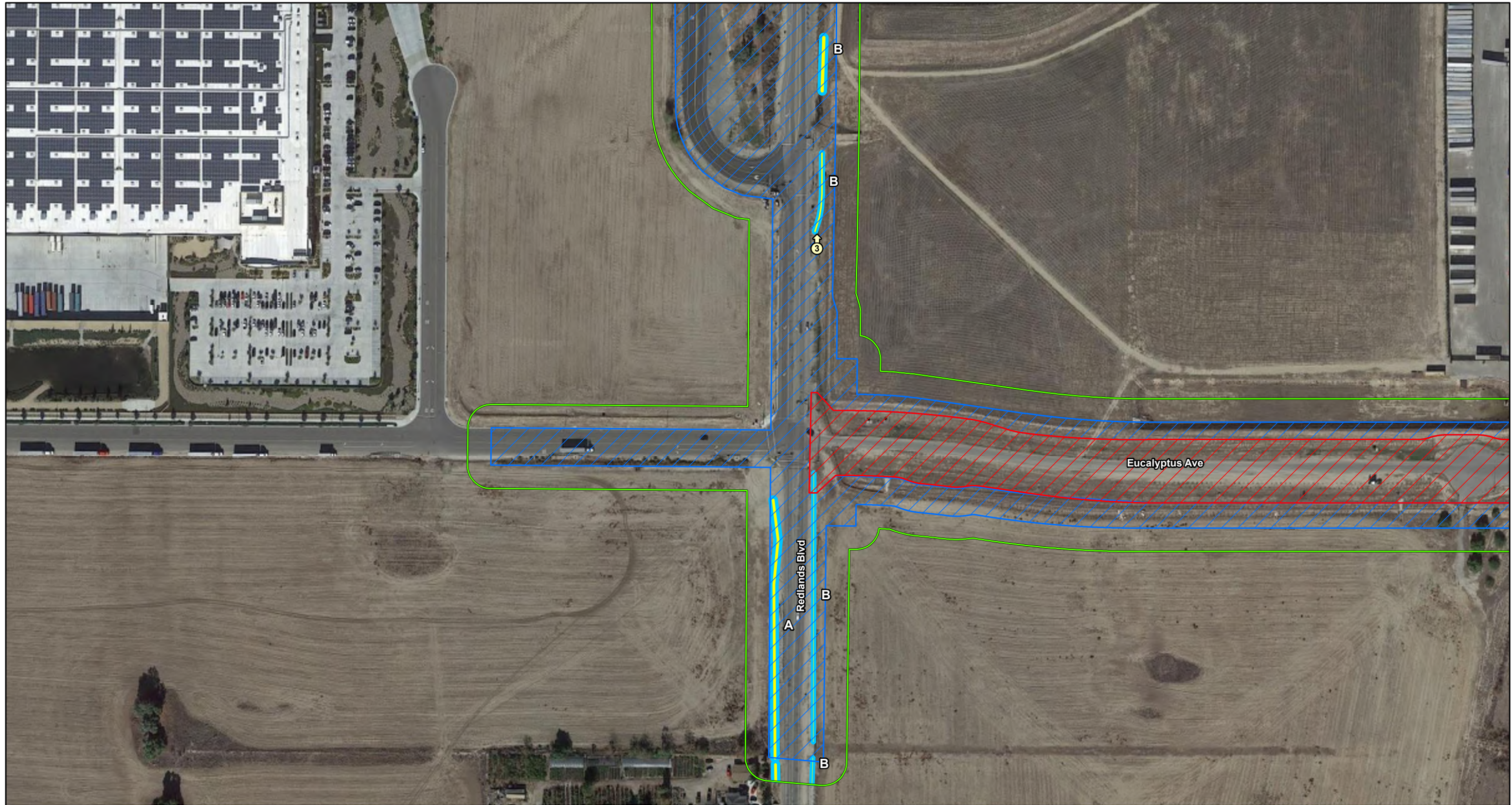
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

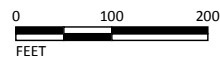
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SOURCE: Google (2018); RBF (2018)

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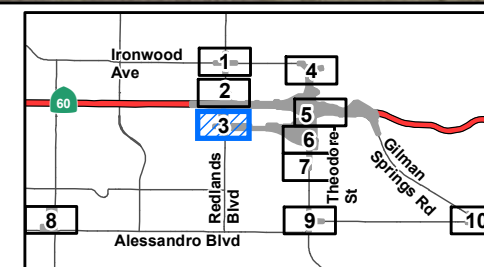


FIGURE 7

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SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Alternative 6 Impacts

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

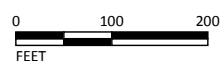
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SOURCE: Google (2018); RBF (2018)

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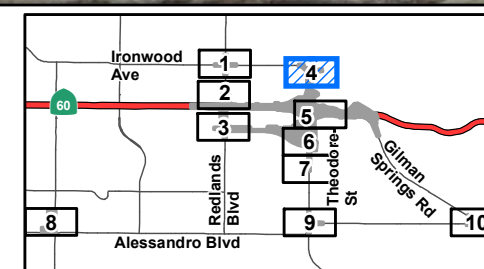


FIGURE 7

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SR-60/World Logistics Center Parkway Interchange Project

Potential Jurisdictional Features

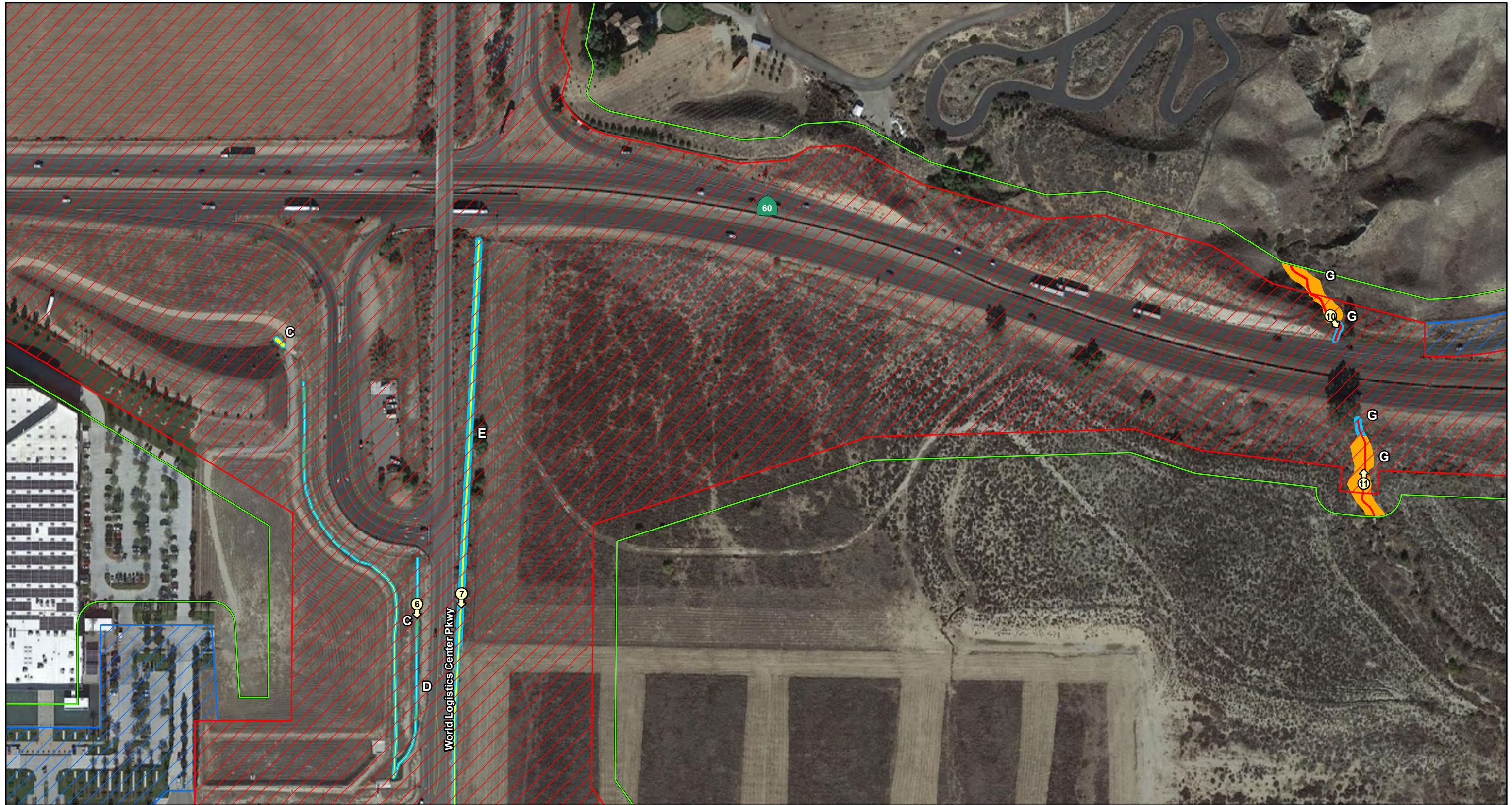
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

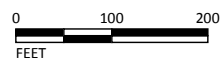
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SOURCE: Google (2018); RBF (2018)

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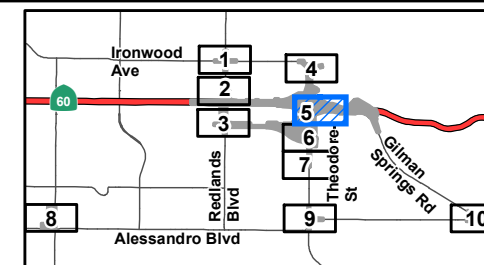


FIGURE 7

Sheet 5 of 10

SR-60/World Logistics Center Parkway Interchange Project

Potential Jurisdictional Features

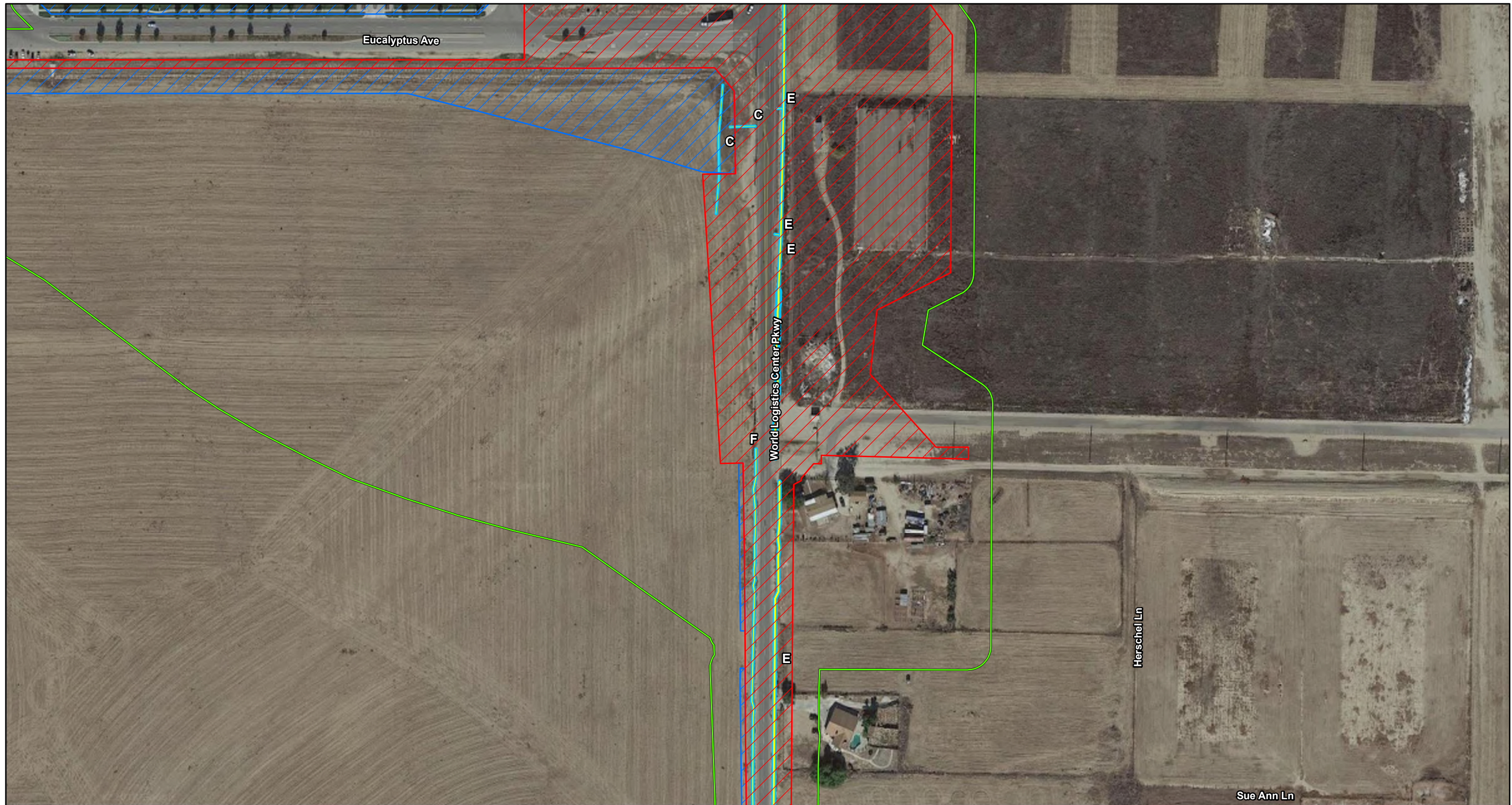
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

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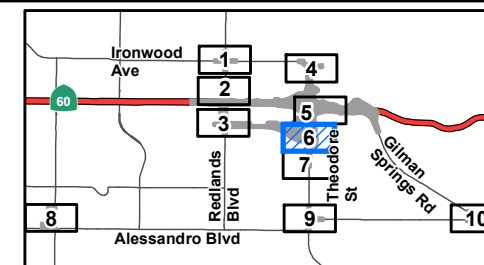


FIGURE 7

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SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

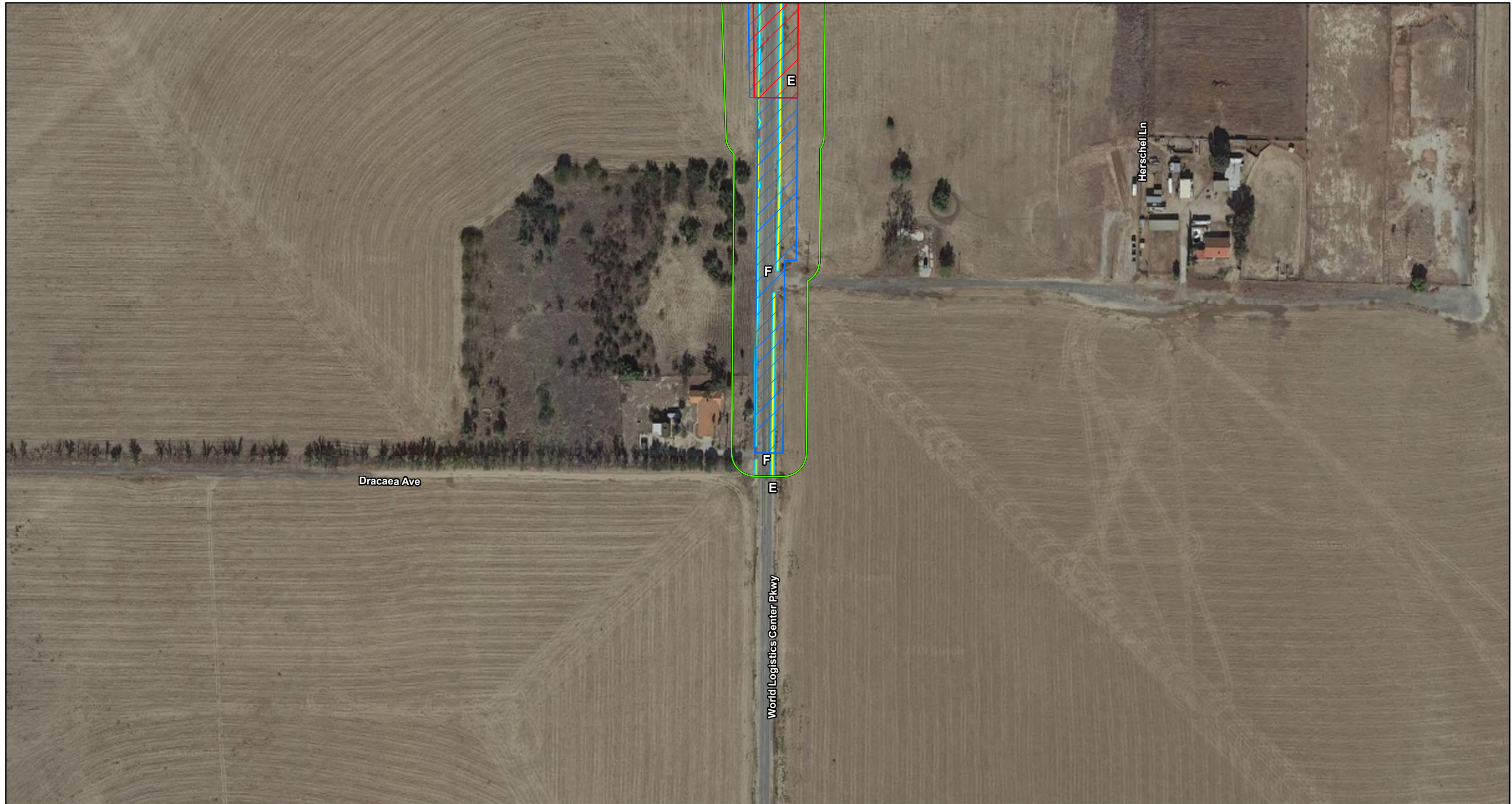
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

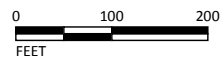
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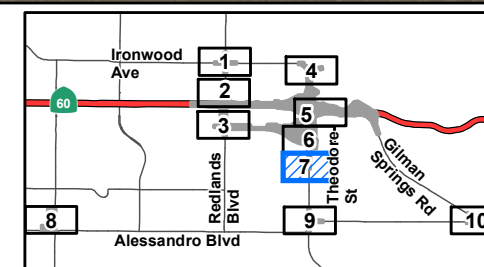


FIGURE 7

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SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

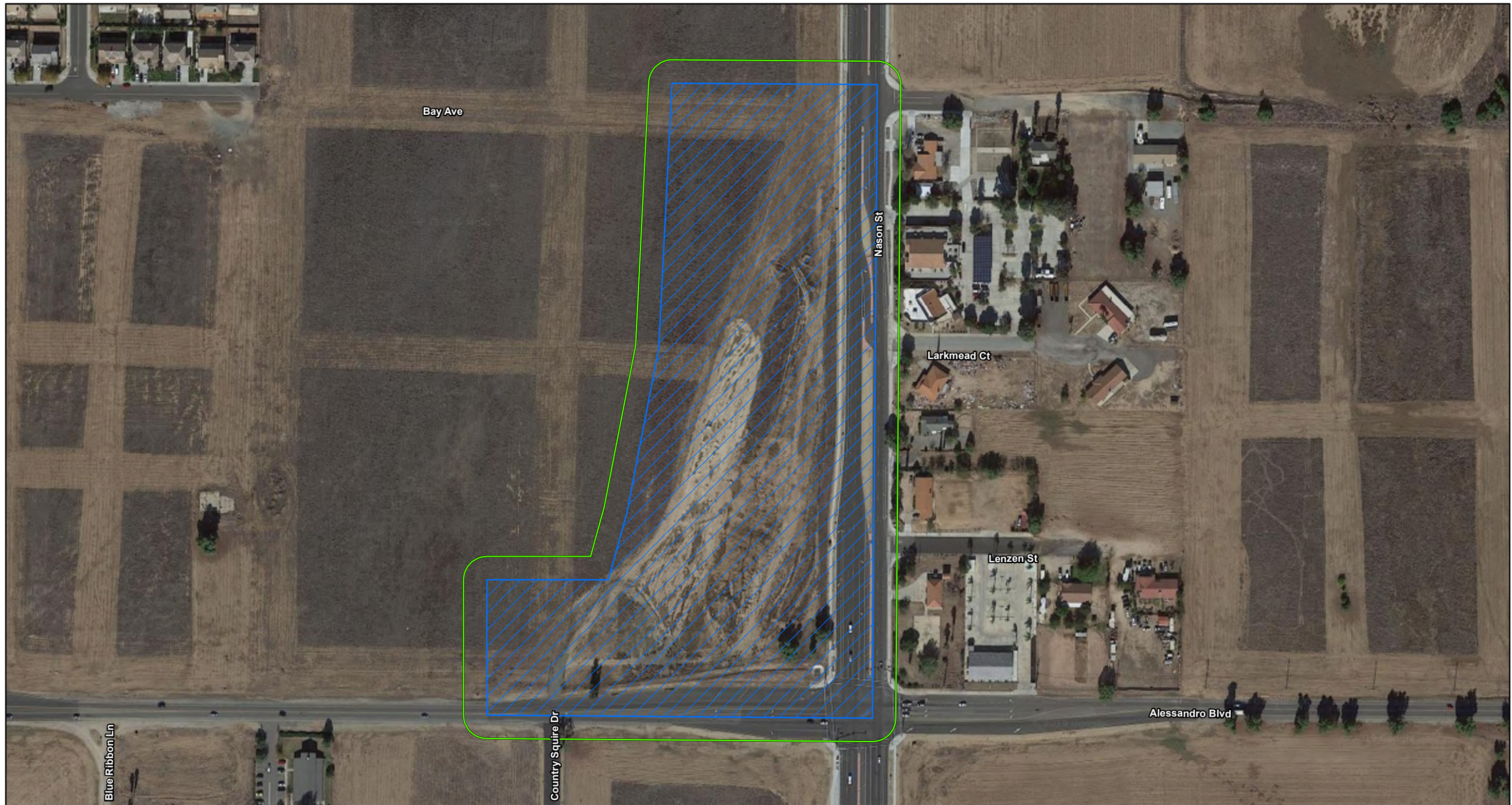
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

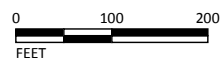
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SOURCE: Google (2018); RBF (2018)

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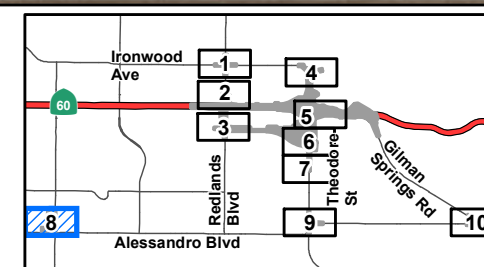


FIGURE 7

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SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

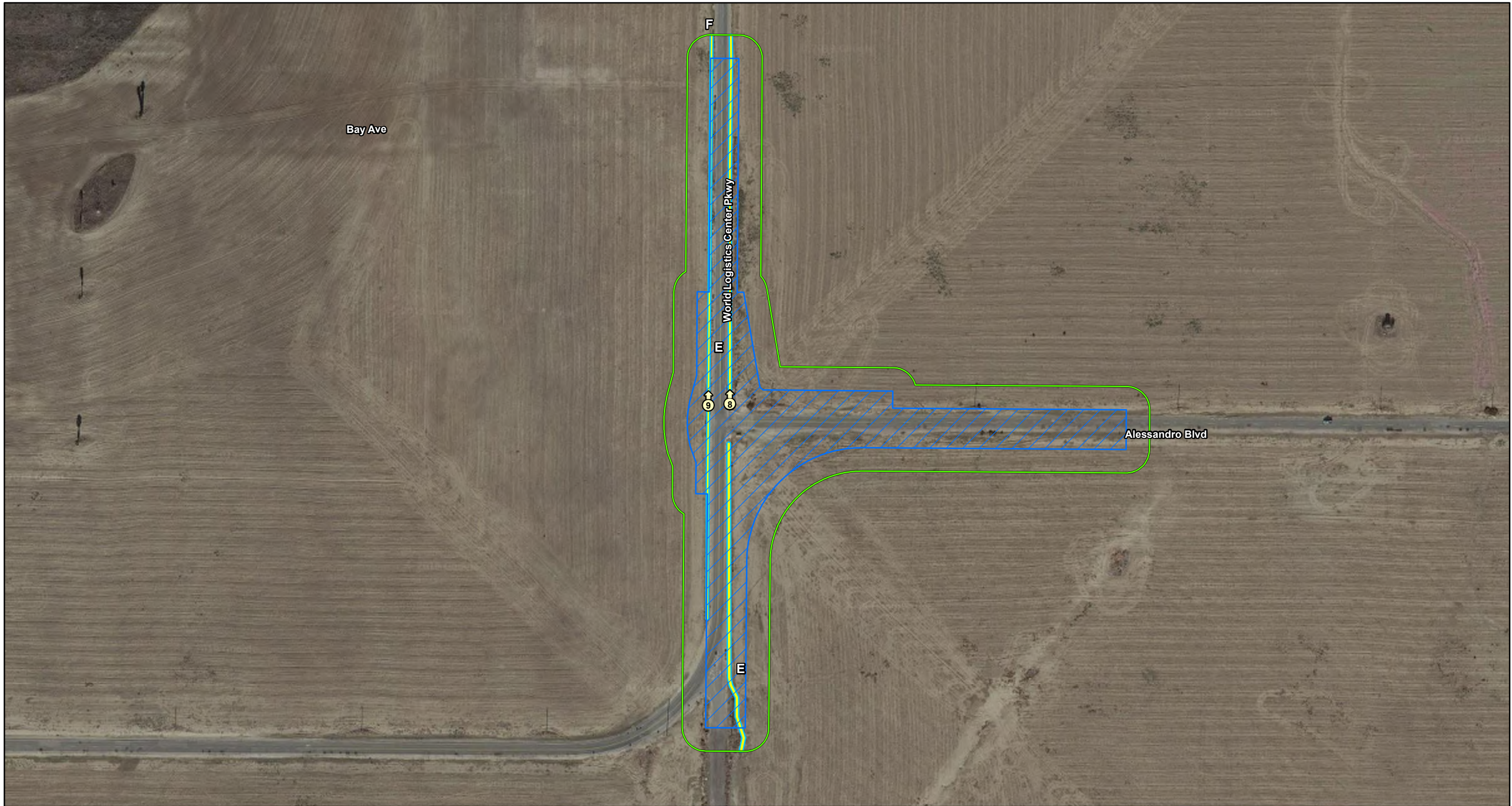
-Alternative 6 Impacts

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Project No. 0813000109

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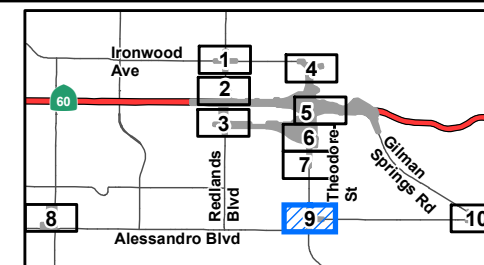


FIGURE 7

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SR-60/World Logistics Center Parkway Interchange Project

Potential Jurisdictional Features

-Alternative 6 Impacts

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Alternative 6 Impacts

Permanent

Temporary

Photo Locations

USACE

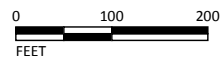
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SOURCE: Google (2018); RBF (2018)

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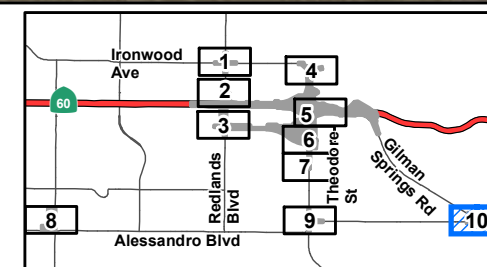


FIGURE 7

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SR-60/World Logistics Center Parkway

Interchange Project

Potential Jurisdictional Features

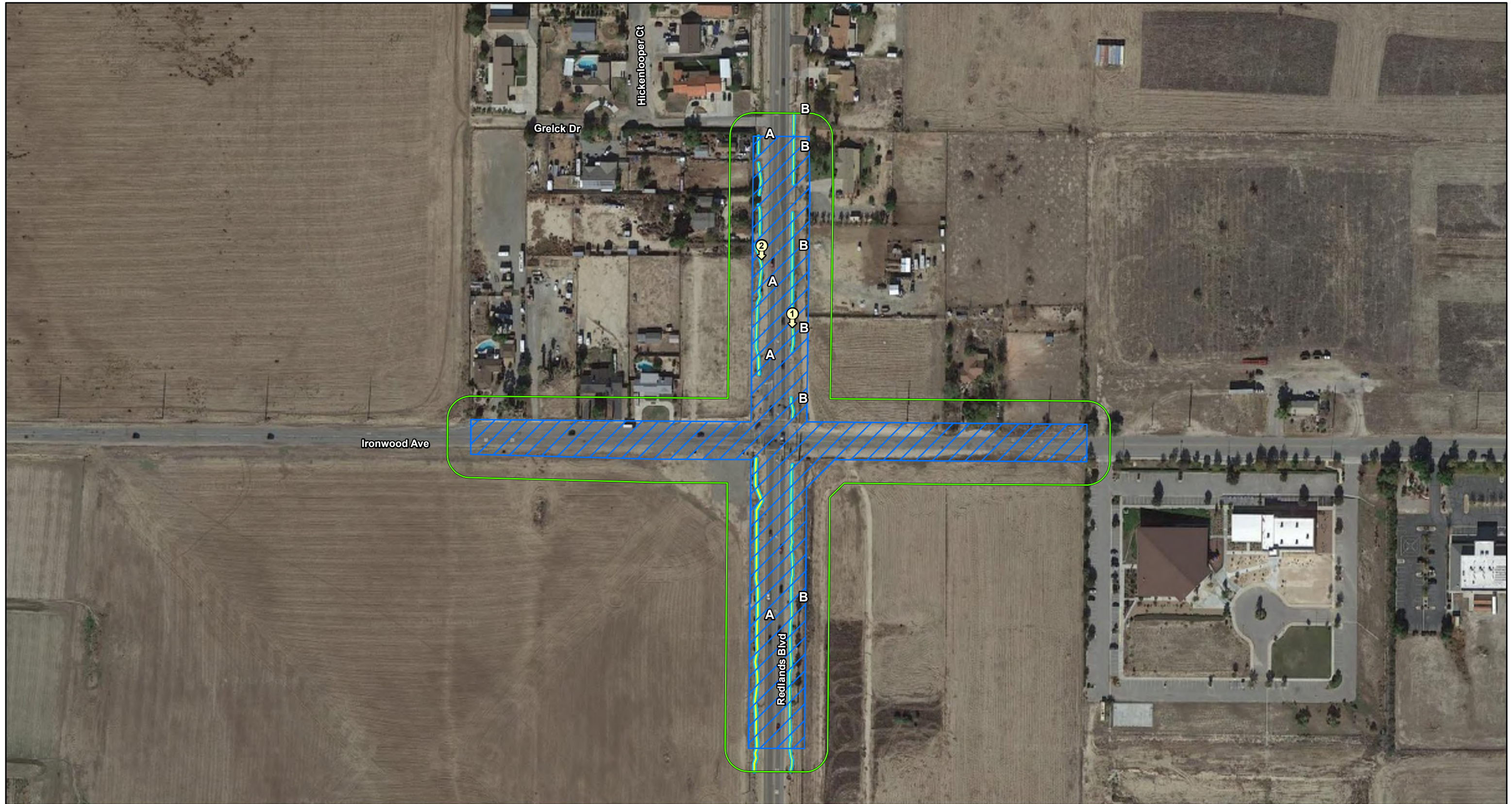
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

Permanent

Temporary

Photo Locations

USACE

Jurisdictional Waters (permanent = 0.027 ac, temporary = 0.111 ac)

Non-Jurisdictional Waters (permanent = 0.370 ac, temporary = 0.649 ac)

CDFW

Streambed (permanent = 0.564 ac, temporary = 1.133 ac)

Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)



SOURCE: Google (2018); RBF (2018)

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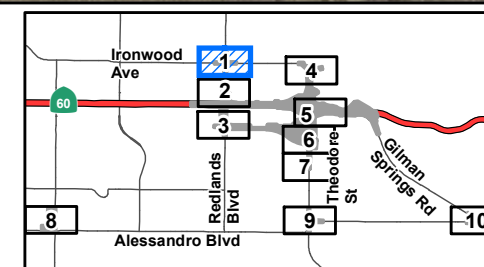


FIGURE 8

Sheet 1 of 10

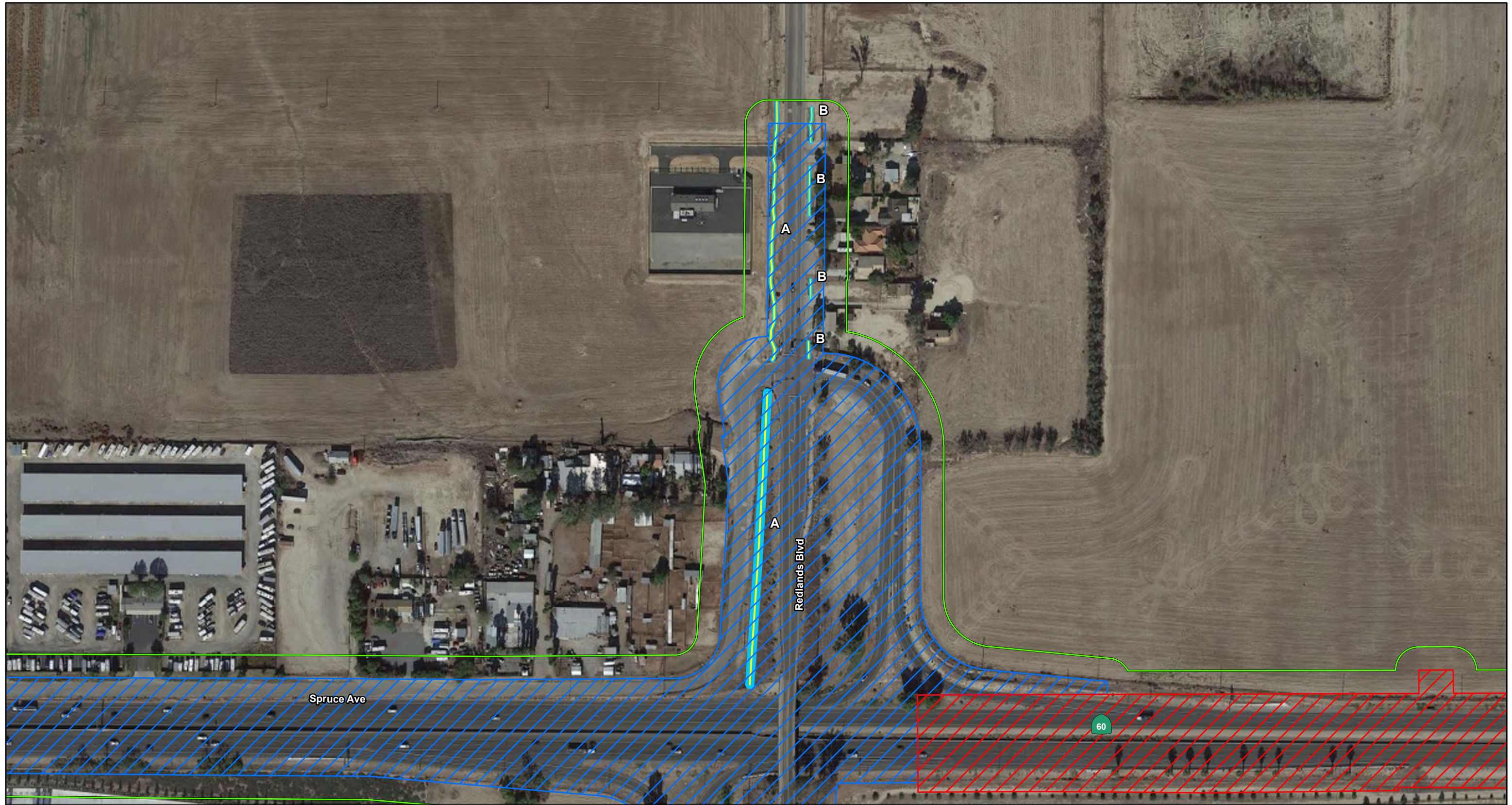
SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
-Design Variation 2a Impacts

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

Permanent

Temporary

Photo Locations

USACE

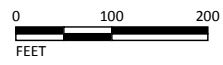
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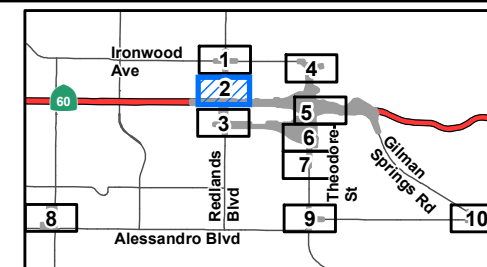


FIGURE 8

Sheet 2 of 10

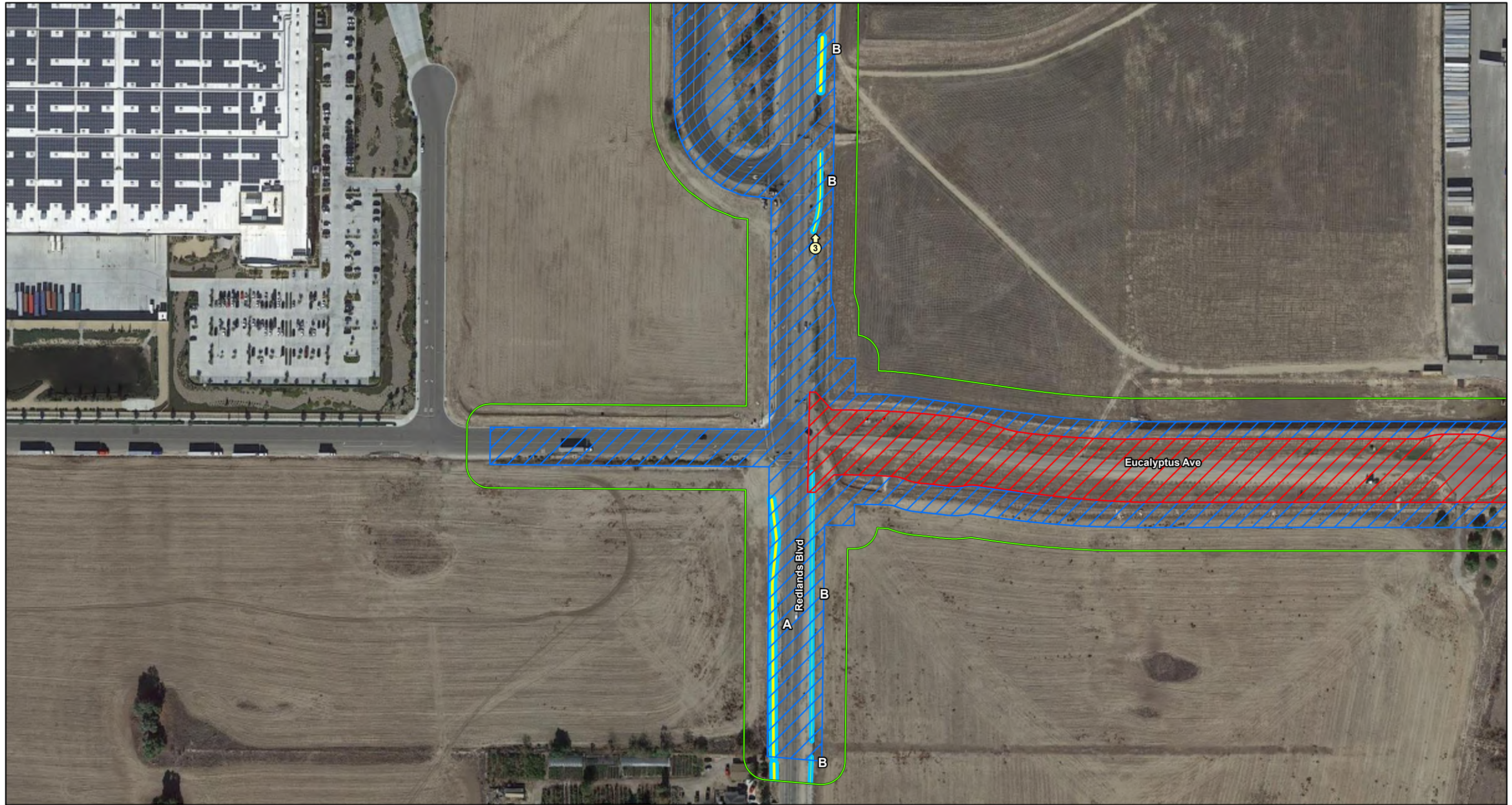
SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

Permanent

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USACE

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Non-Jurisdictional Waters (permanent = 0.370 ac, temporary = 0.649 ac)

CDFW

Streambed (permanent = 0.564 ac, temporary = 1.133 ac)

Streambed/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

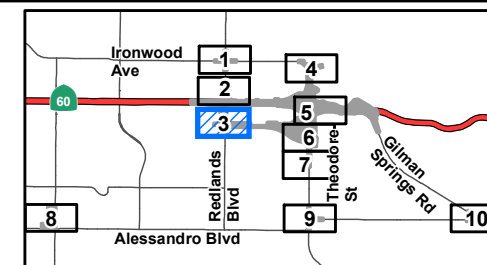


FIGURE 8

Sheet 3 of 10

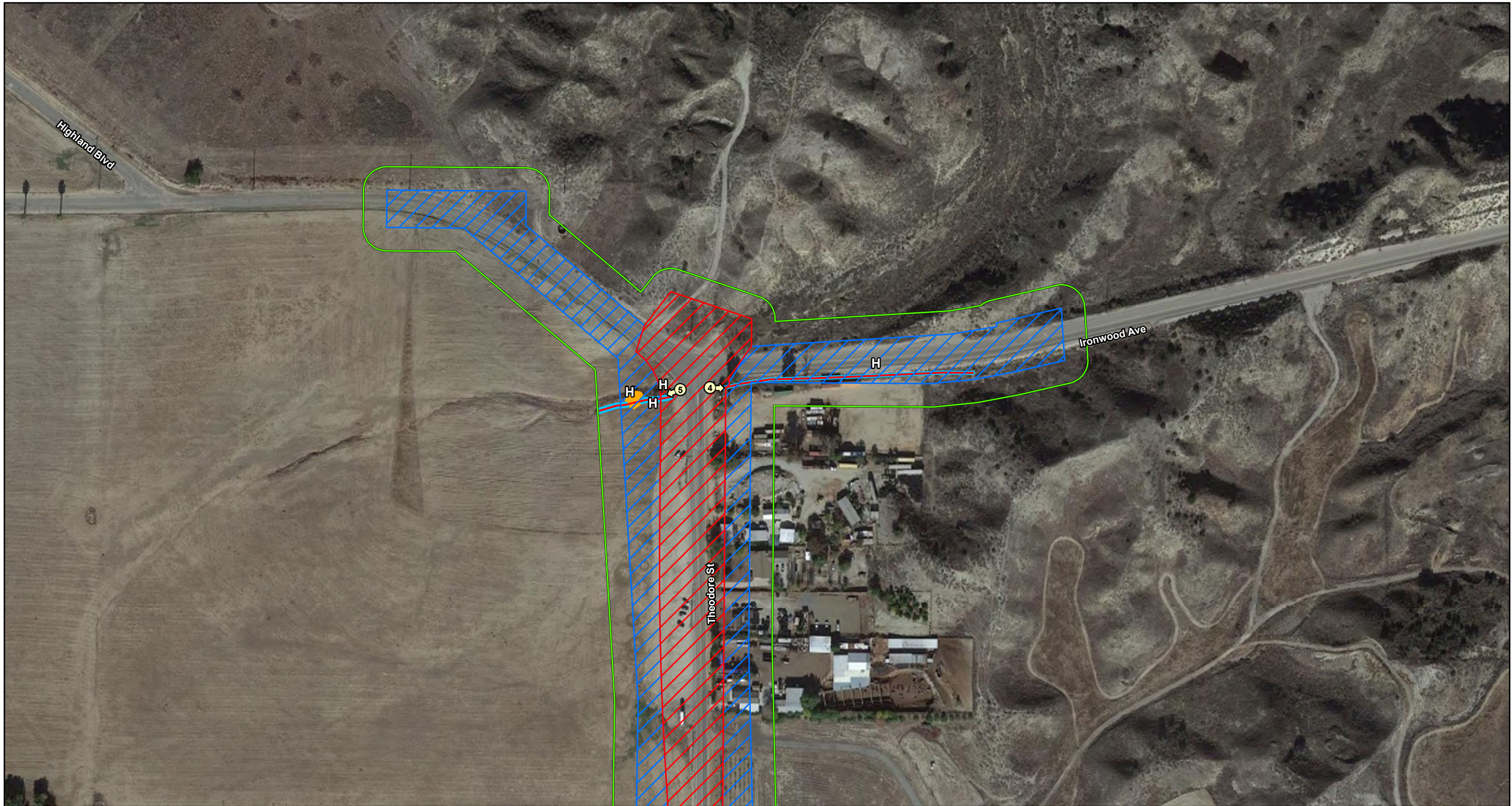
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 2a Impacts

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

Permanent

Temporary

Photo Locations

USACE

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SOURCE: Google (2018); RBF (2018)

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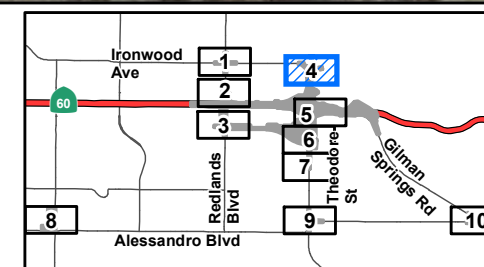


FIGURE 8

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SR-60/World Logistics Center Parkway Interchange Project
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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

Permanent

Temporary

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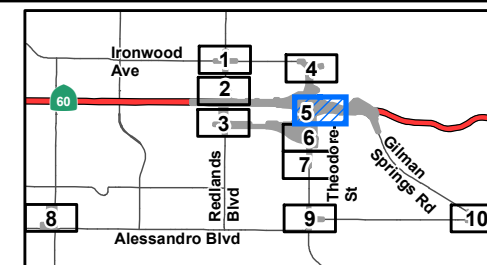


FIGURE 8

Sheet 5 of 10

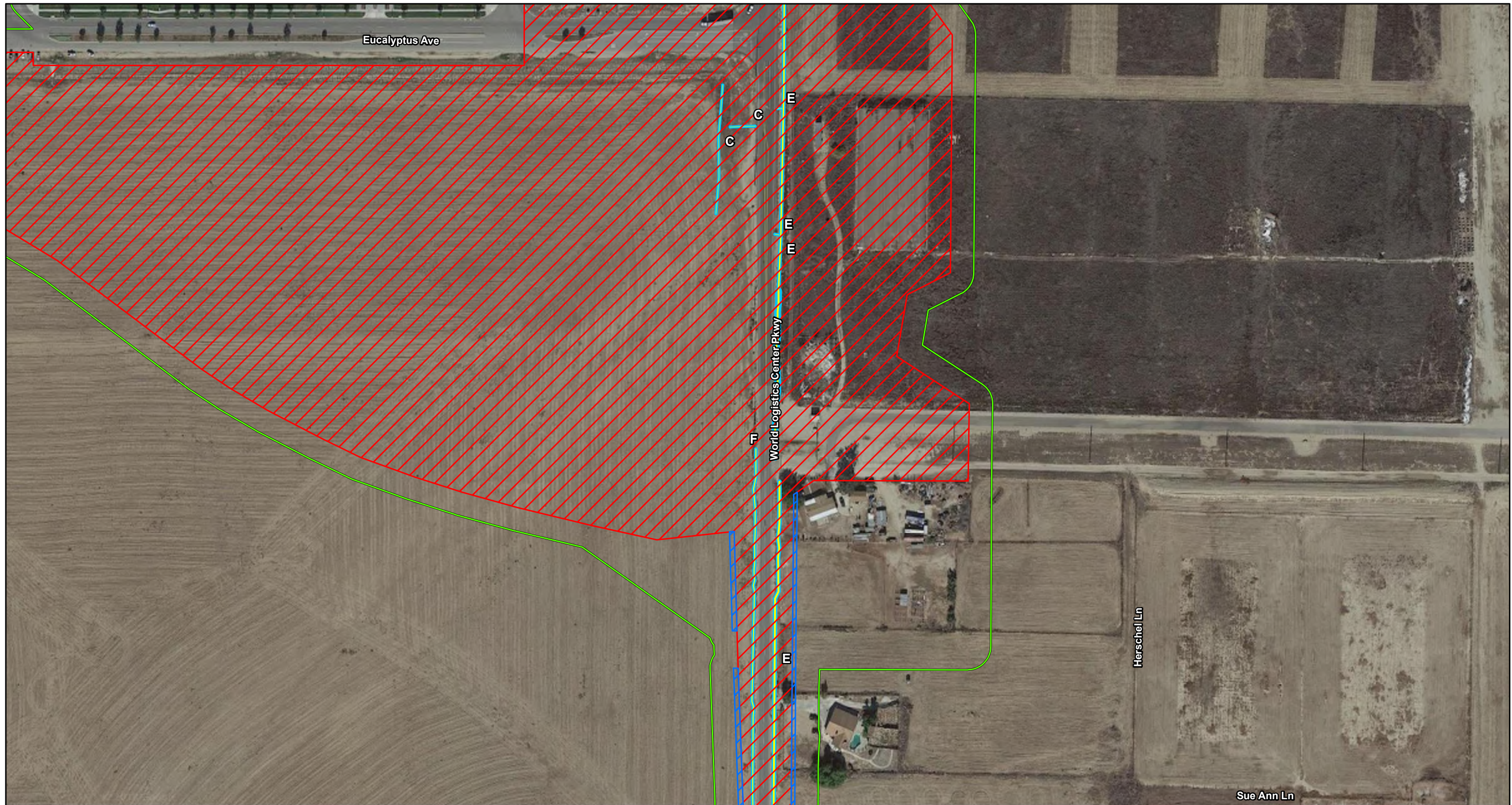
**SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
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Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

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Temporary

Photo Locations

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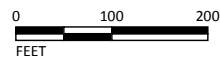
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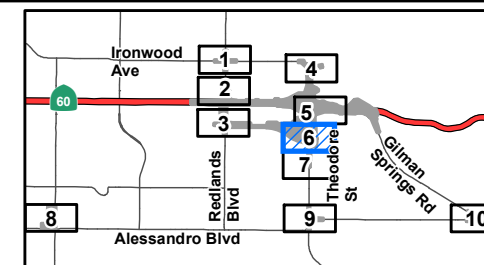


FIGURE 8

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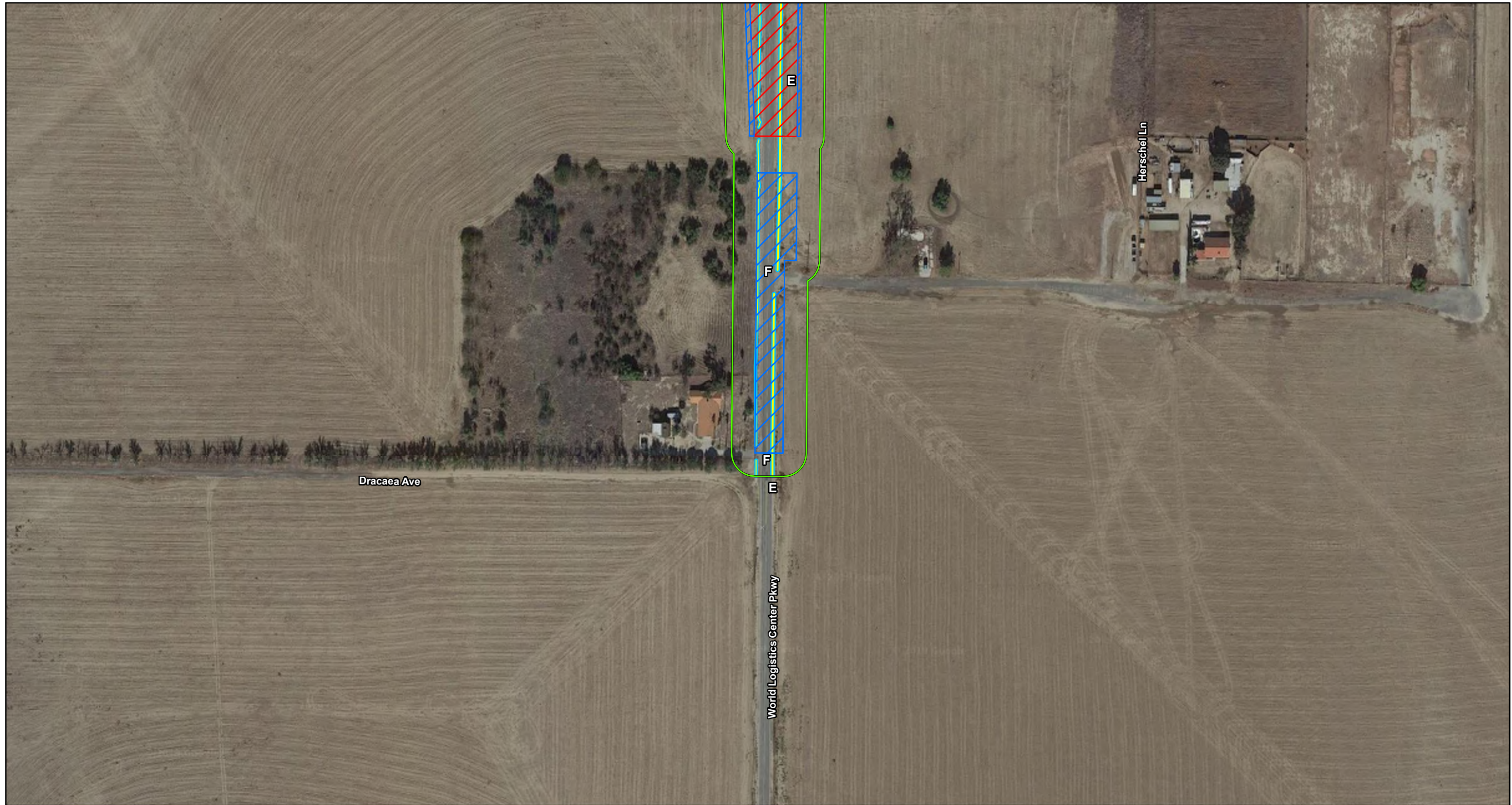
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
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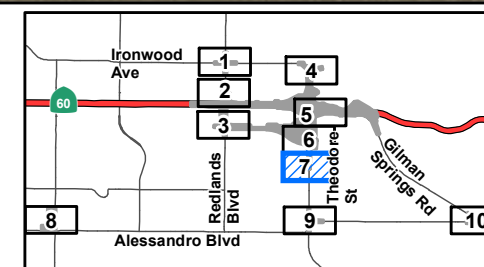


FIGURE 8

Sheet 7 of 10

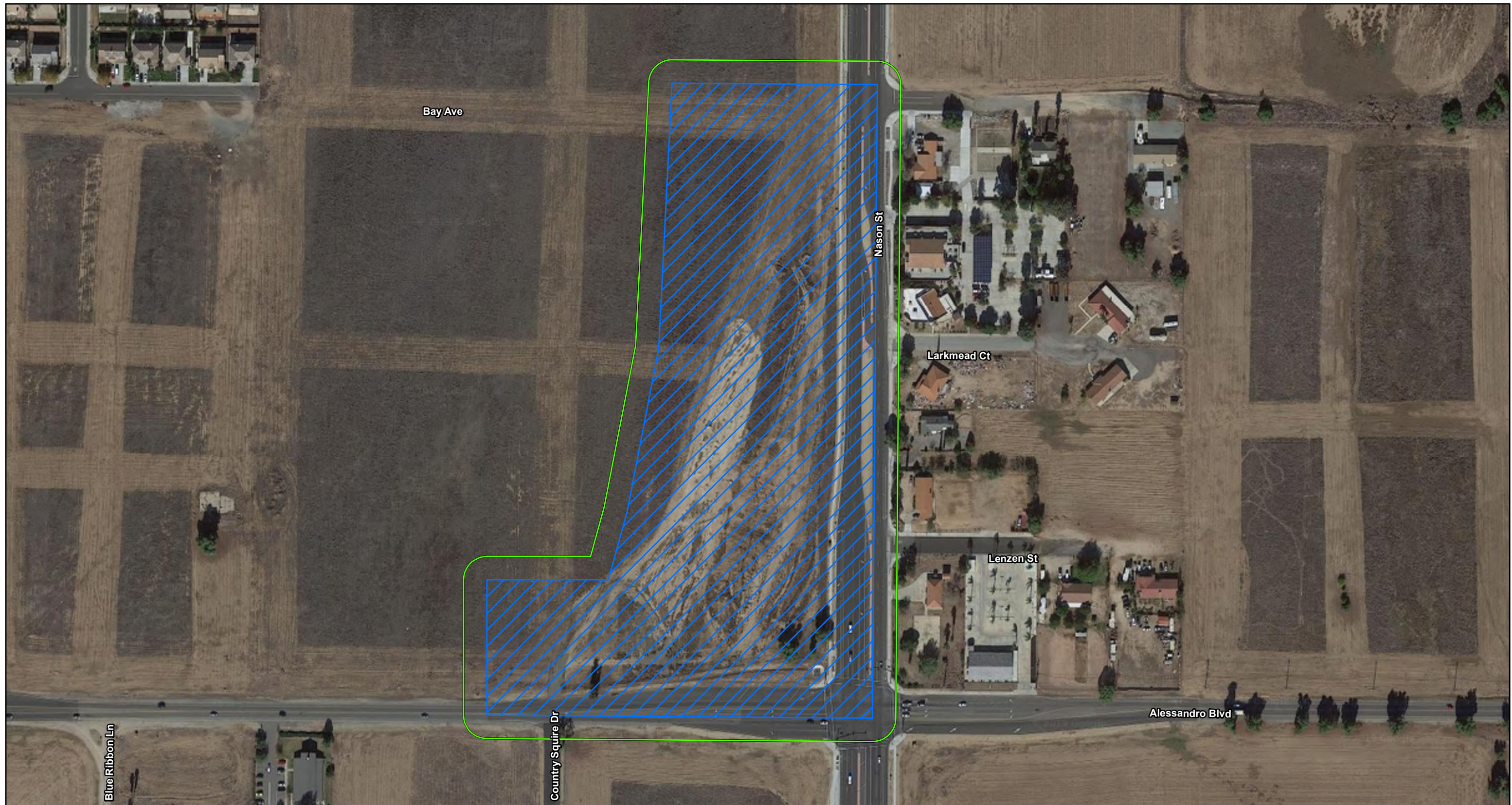
SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
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Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

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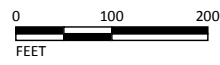
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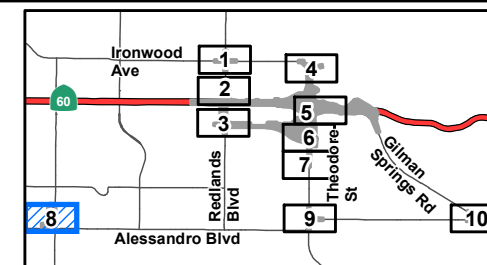


FIGURE 8

Sheet 8 of 10

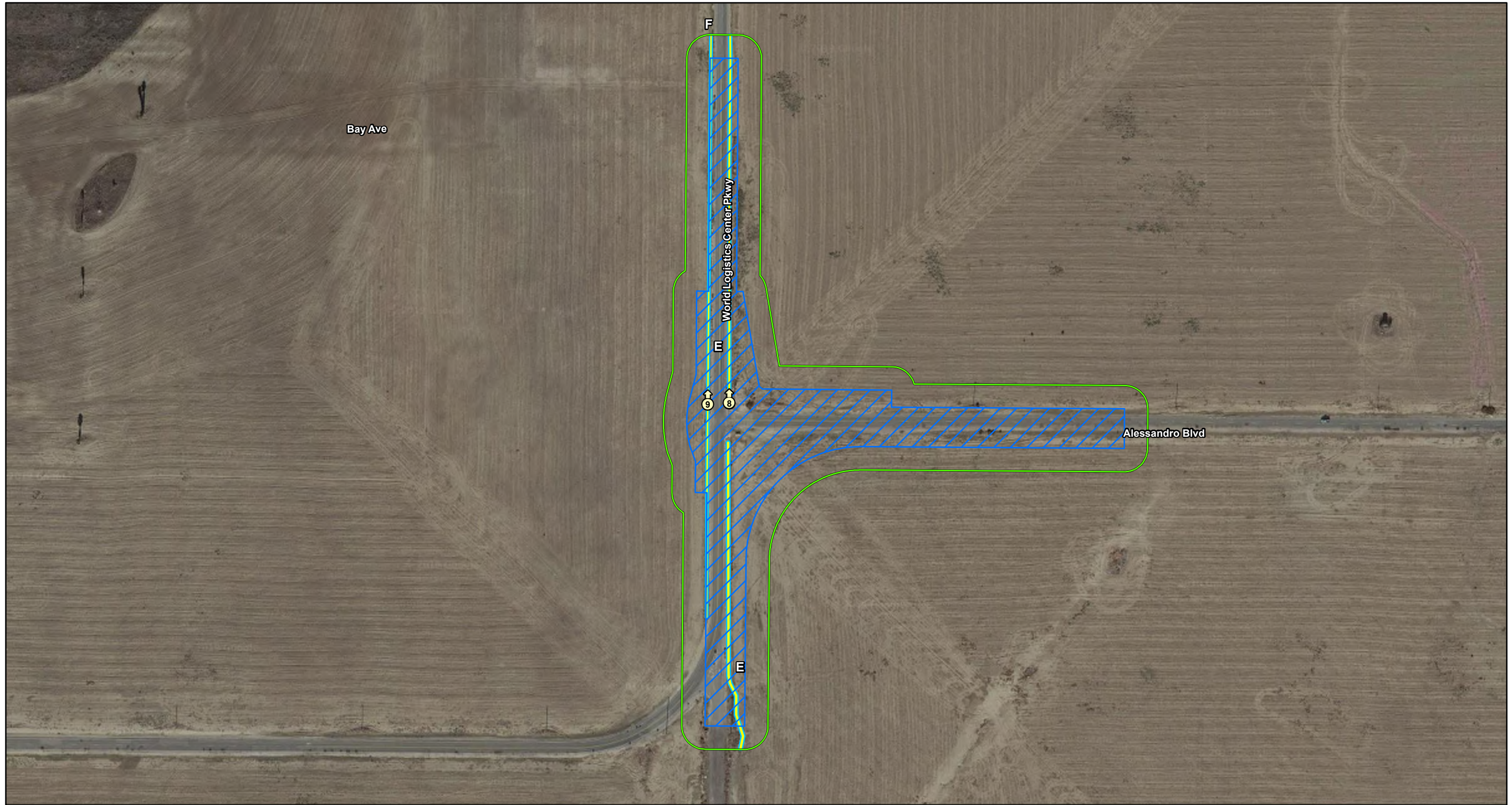
SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
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Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

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USACE

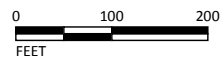
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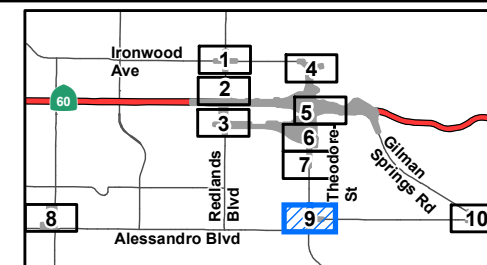


FIGURE 8

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SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 2a Impacts

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Biological Study Area (worst case footprint + 50 ft)

Design Variation 2a Impacts

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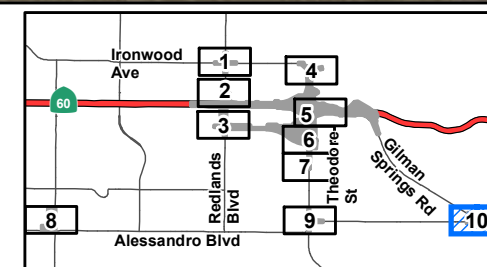


FIGURE 8

Sheet 10 of 10

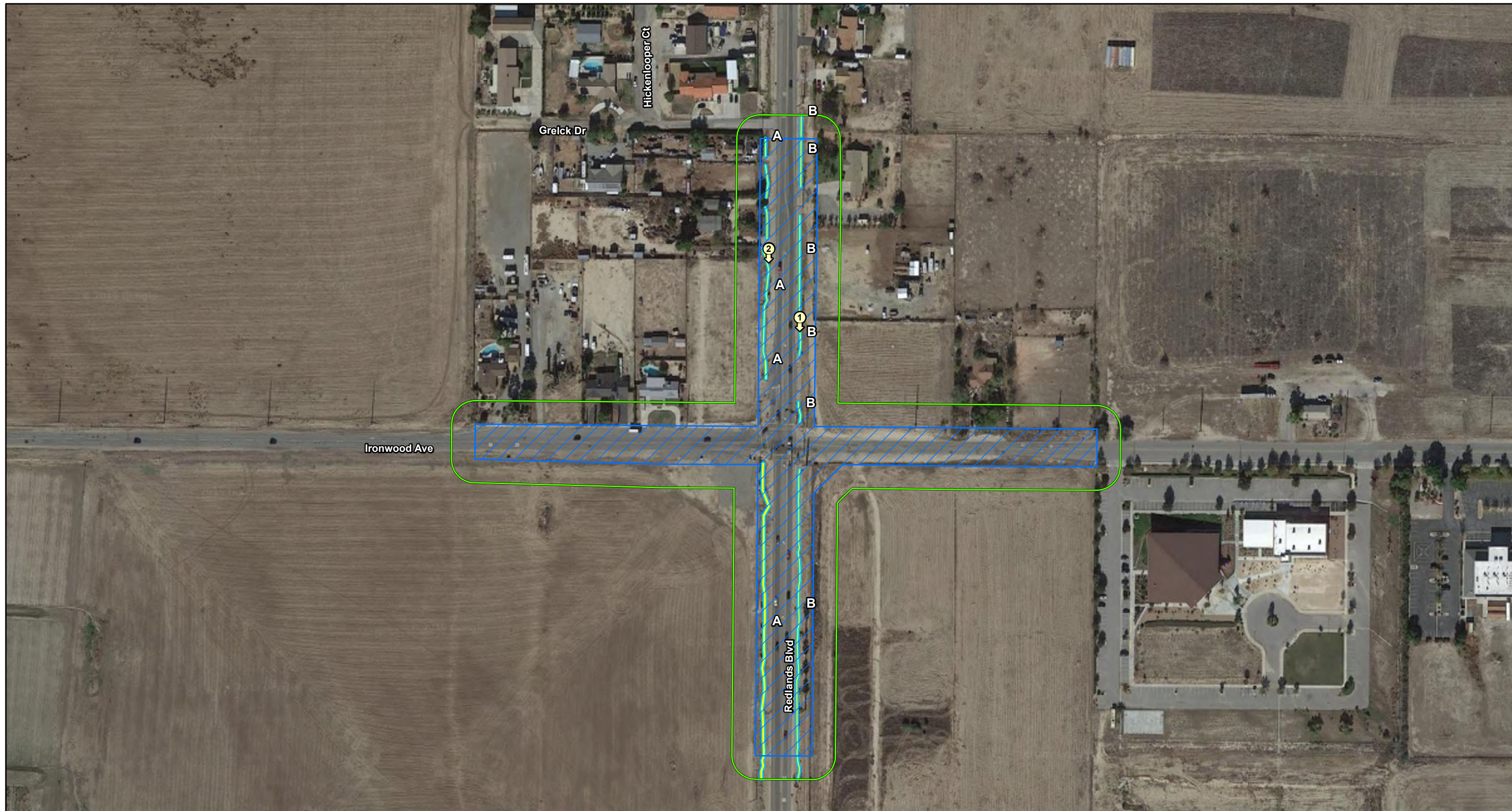
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 2a Impacts

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Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

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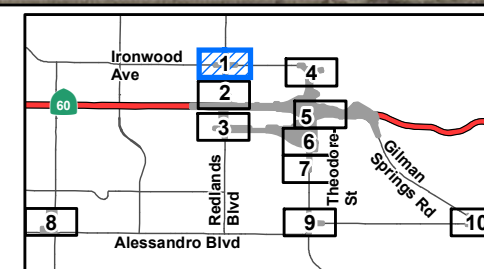


FIGURE 9

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SR-60/World Logistics Center Parkway Interchange Project

Potential Jurisdictional Features

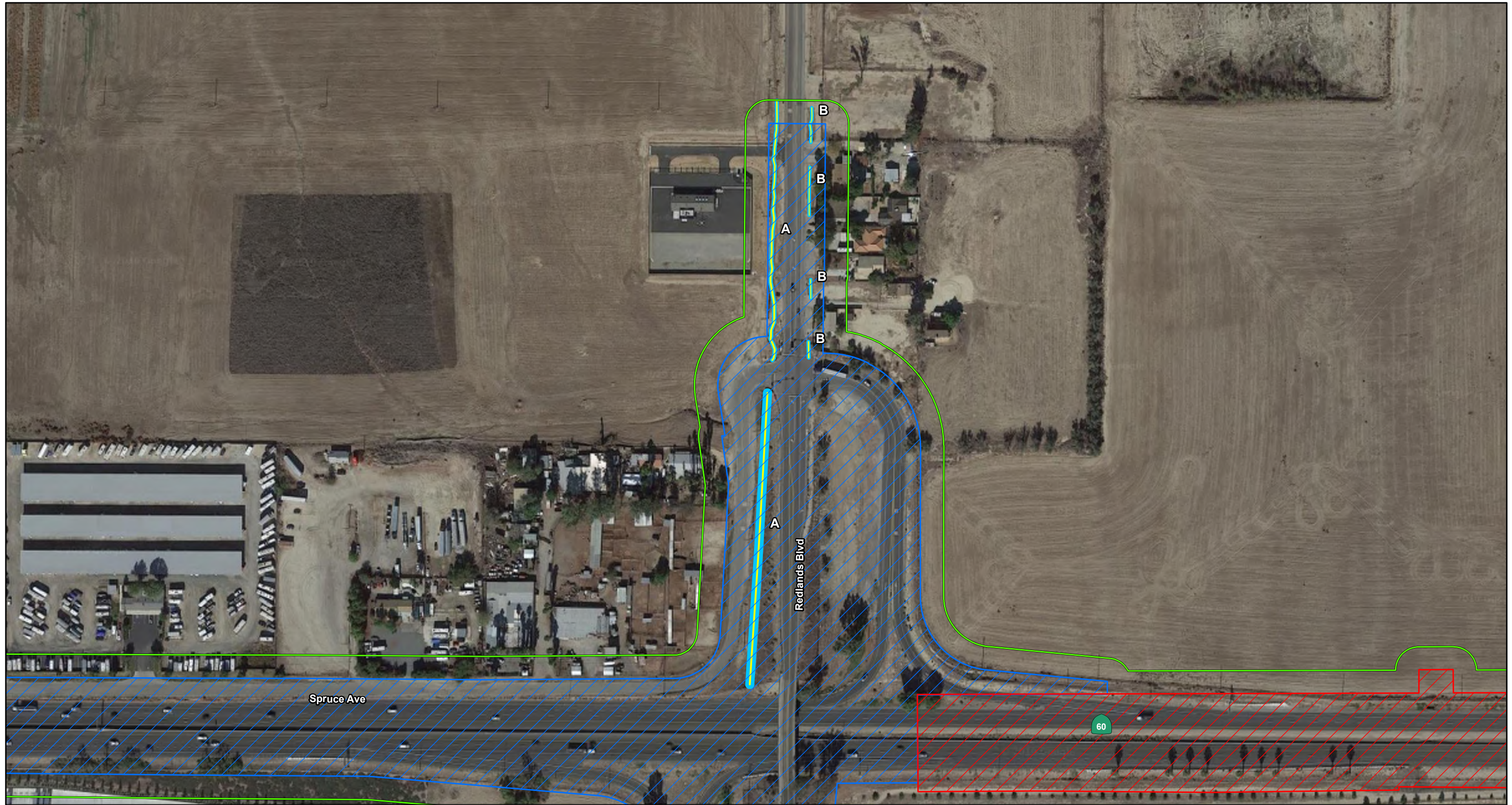
-Design Variation 6a Impacts

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

Permanent

Temporary

Photo Locations

USACE

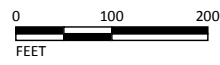
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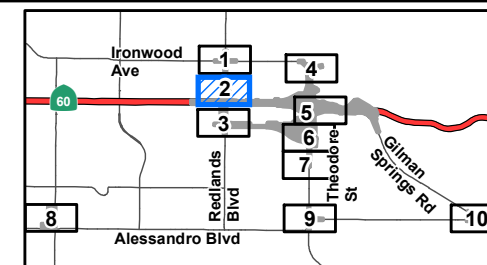


FIGURE 9

Sheet 2 of 10

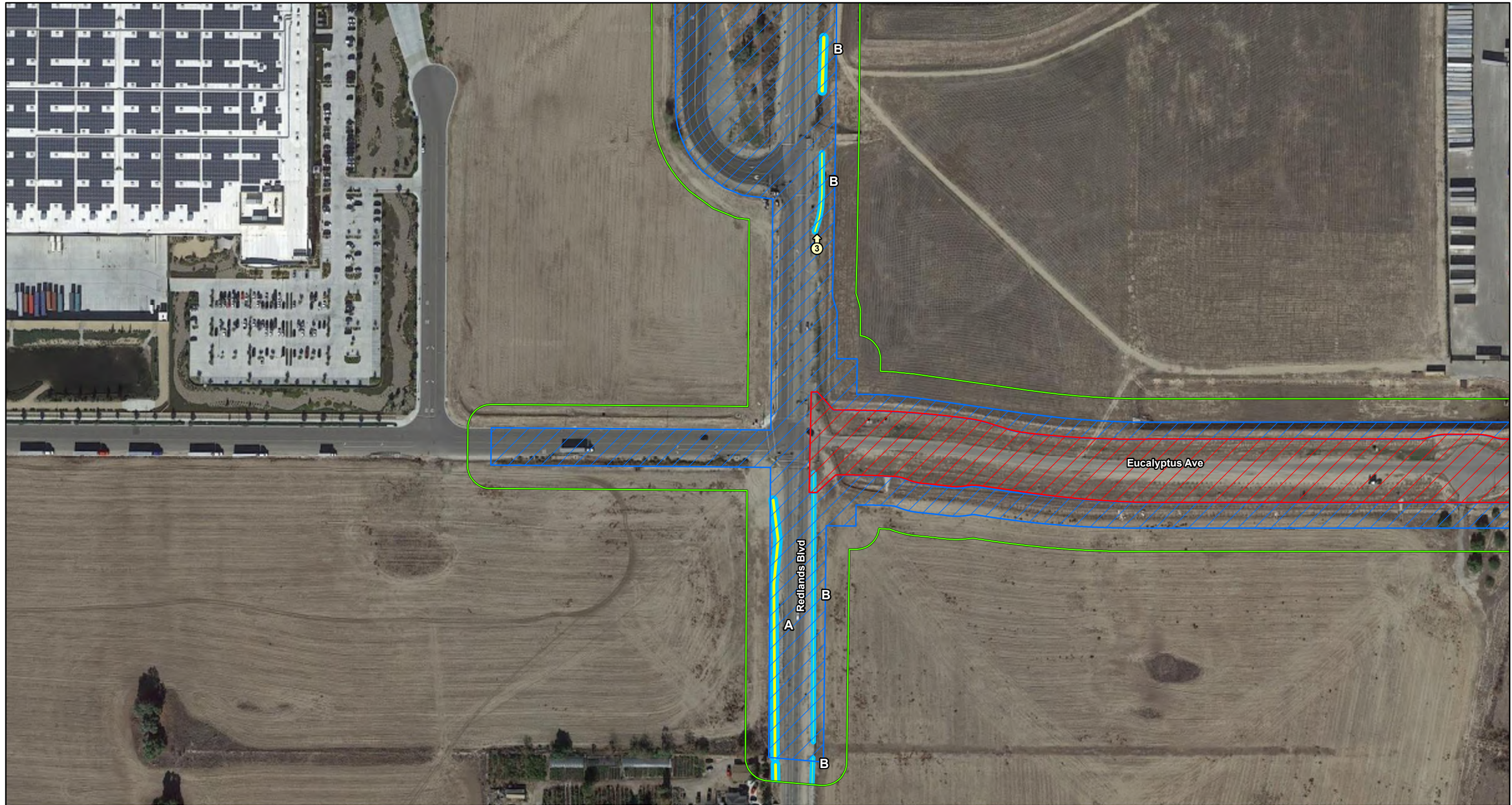
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

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Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

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Temporary

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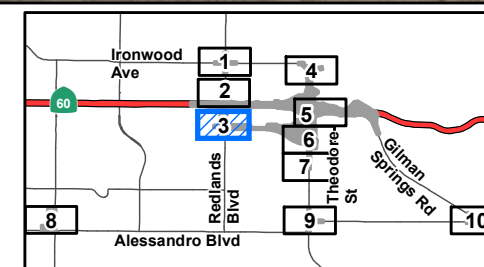


FIGURE 9

Sheet 3 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
-Design Variation 6a Impacts

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

Permanent

Temporary

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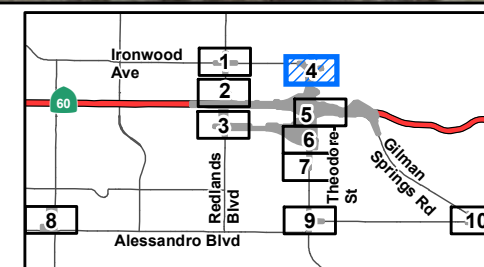


FIGURE 9

Sheet 4 of 10

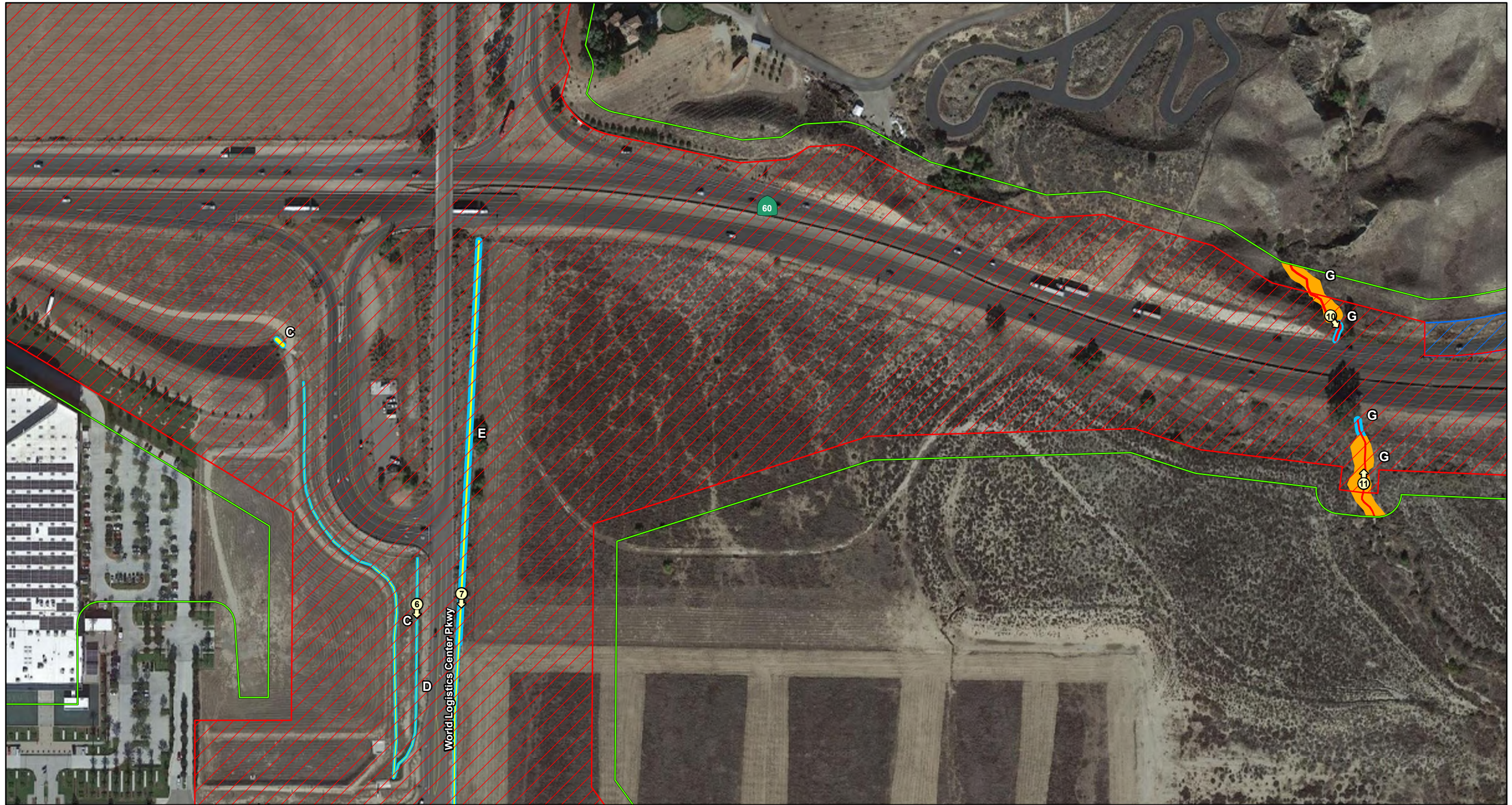
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109

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LEGEND

Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

Permanent

Temporary

G Photo Locations

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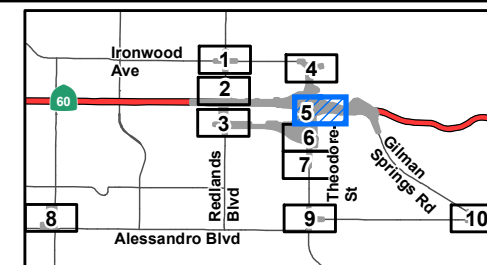


FIGURE 9

Sheet 5 of 10

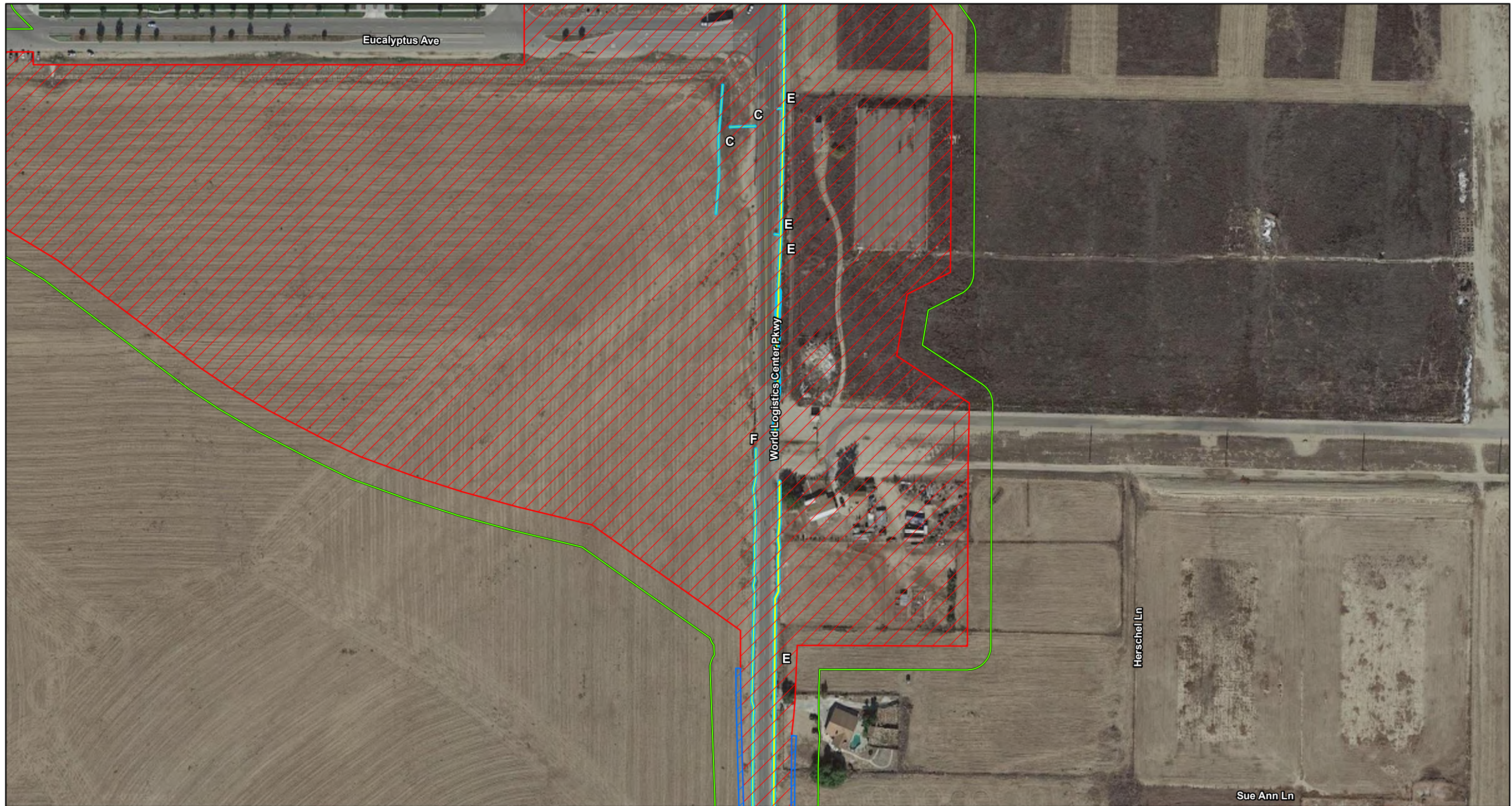
SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 6a Impacts

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Biological Study Area (worst case footprint + 50 ft)

Design Variation 6a Impacts

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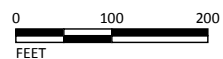
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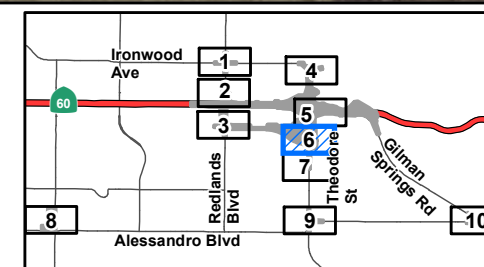


FIGURE 9

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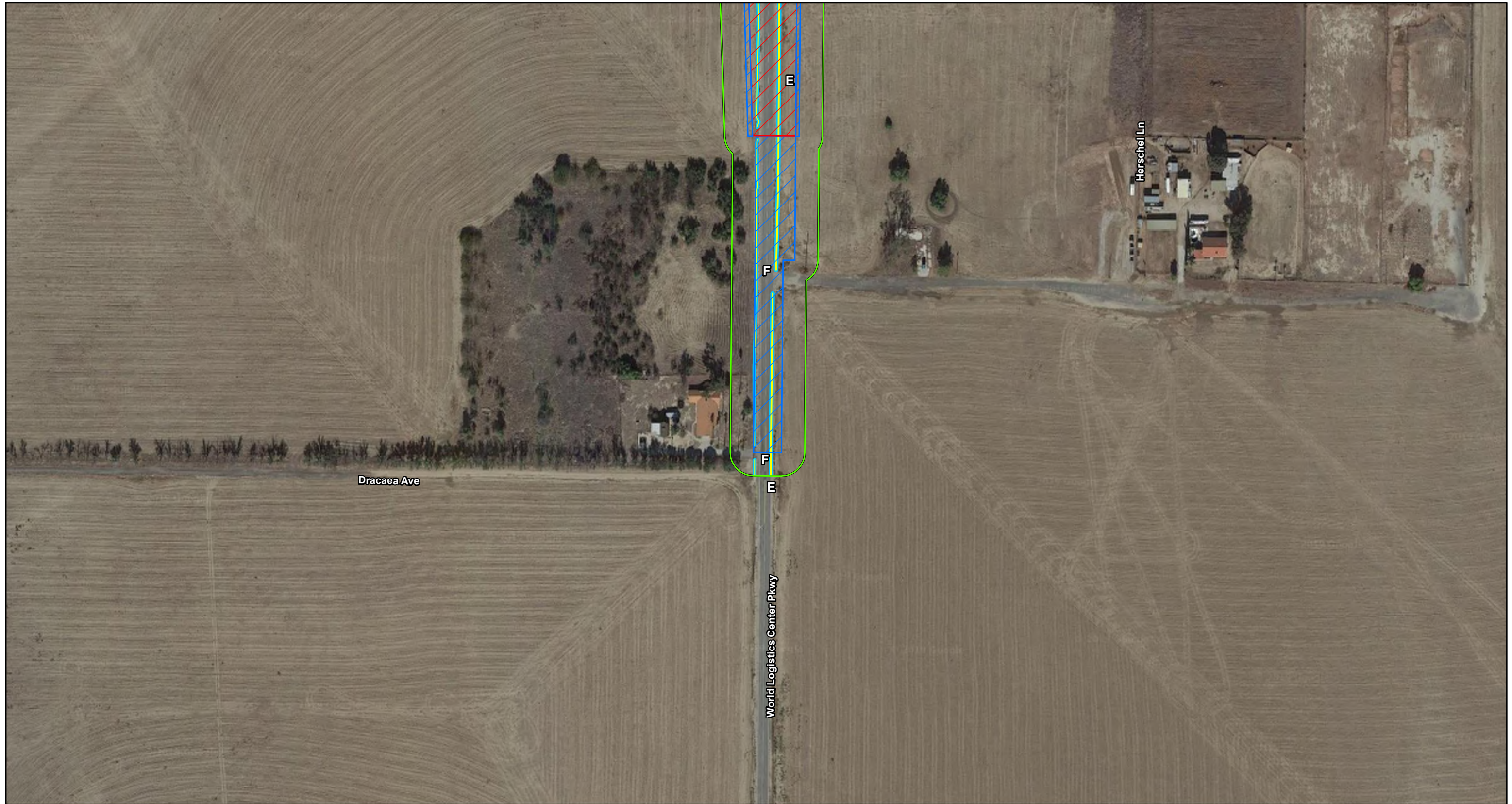
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Potential Jurisdictional Features
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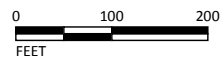
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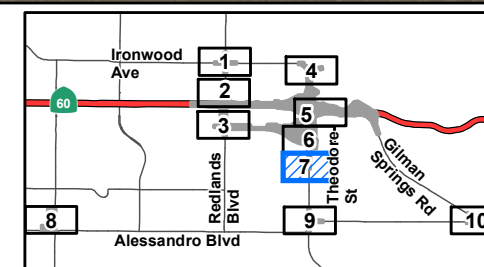


FIGURE 9

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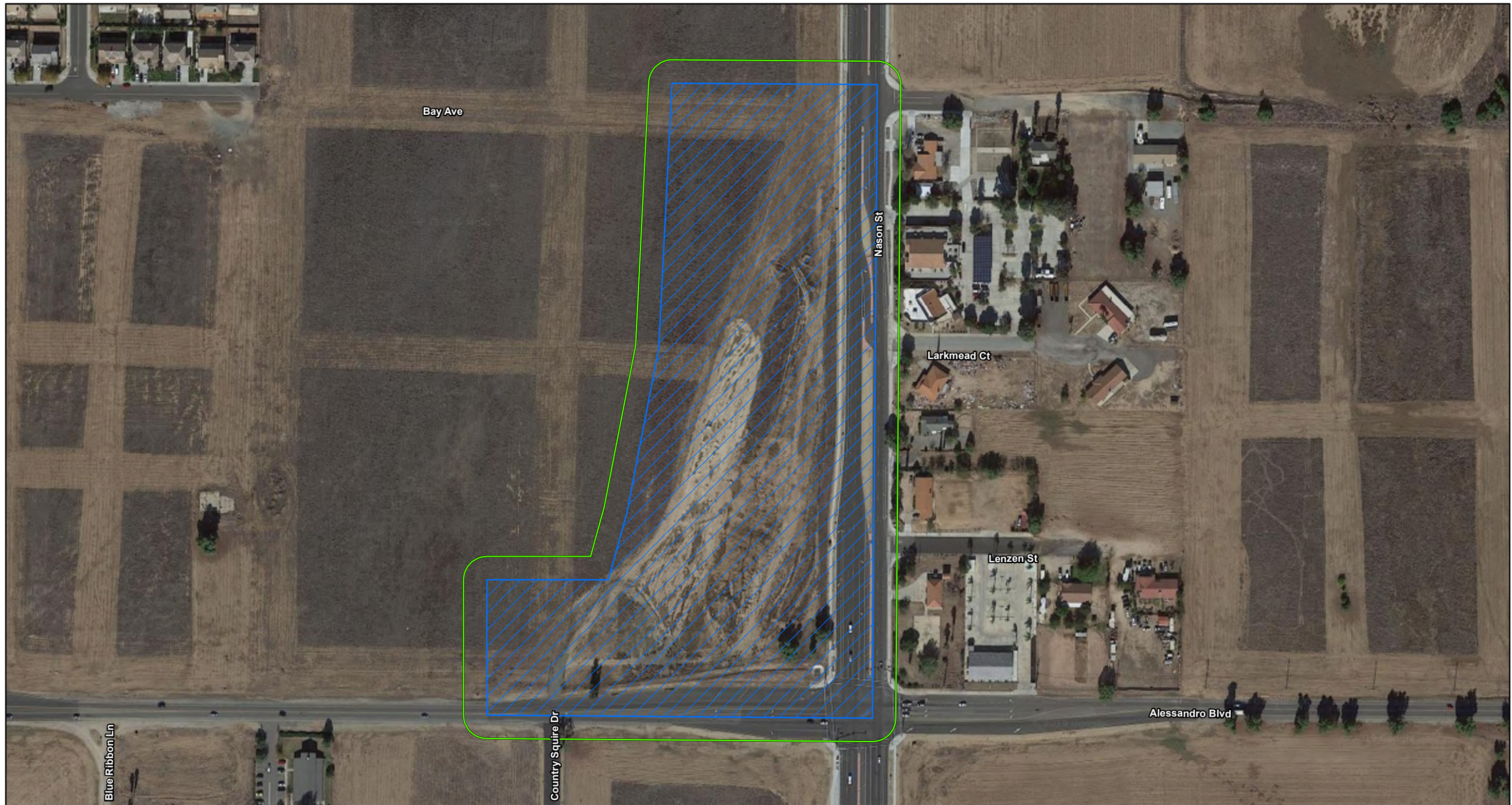
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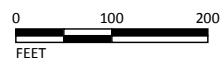
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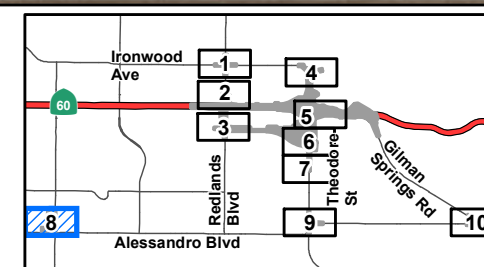


FIGURE 9

Sheet 8 of 10

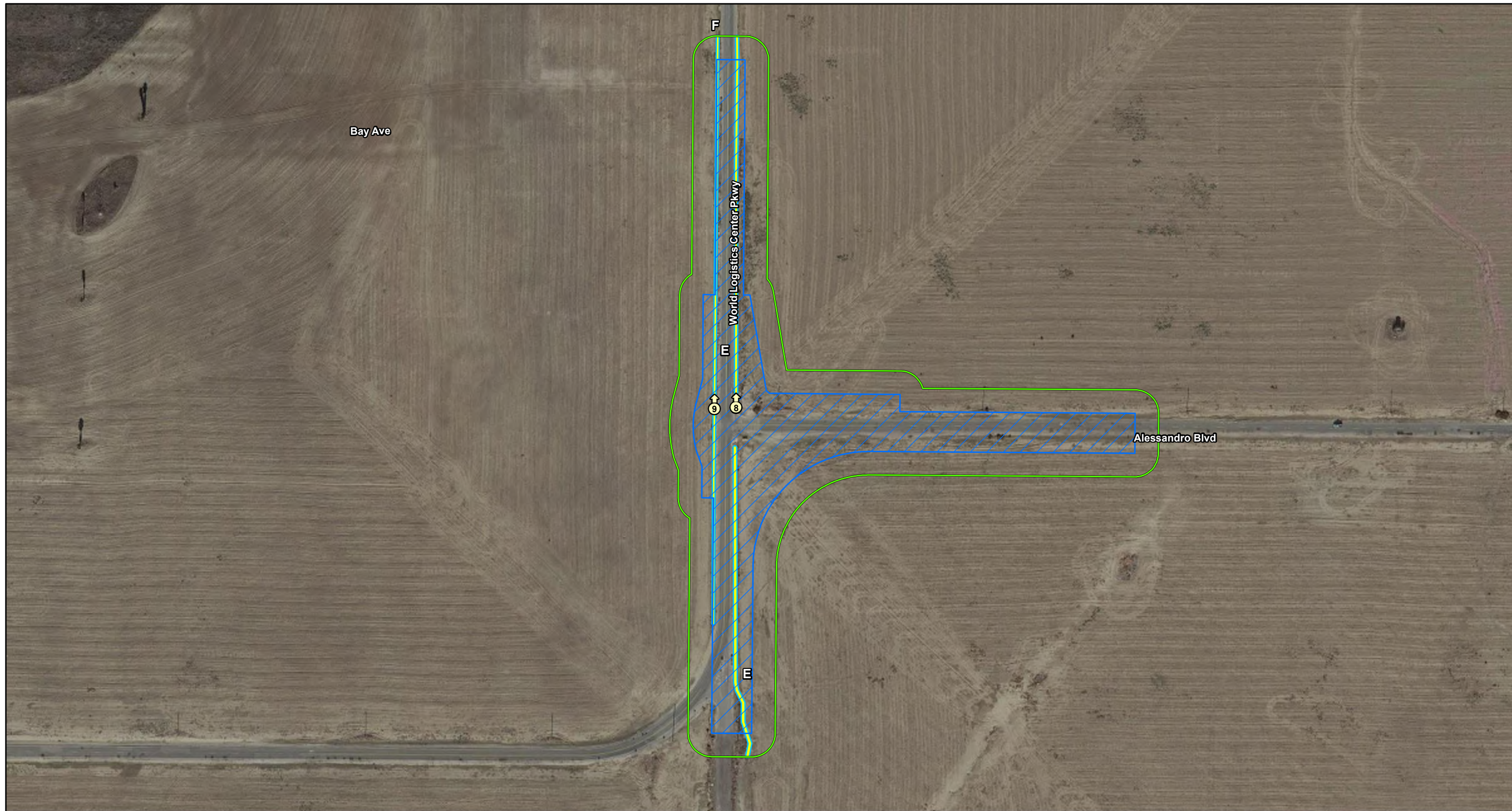
SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features
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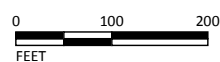
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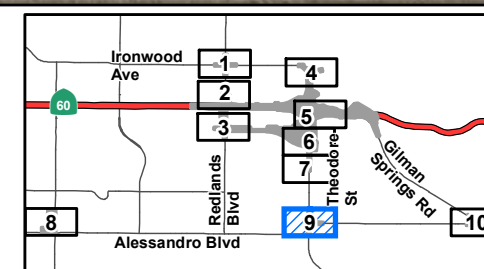


FIGURE 9

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SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 6a Impacts

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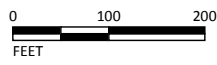
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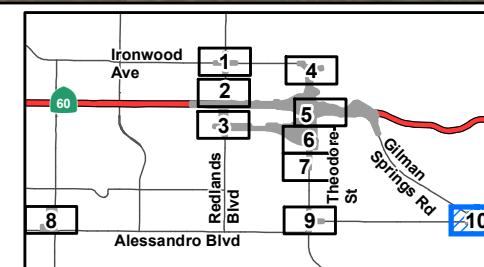


FIGURE 9

Sheet 10 of 10

SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features
 -Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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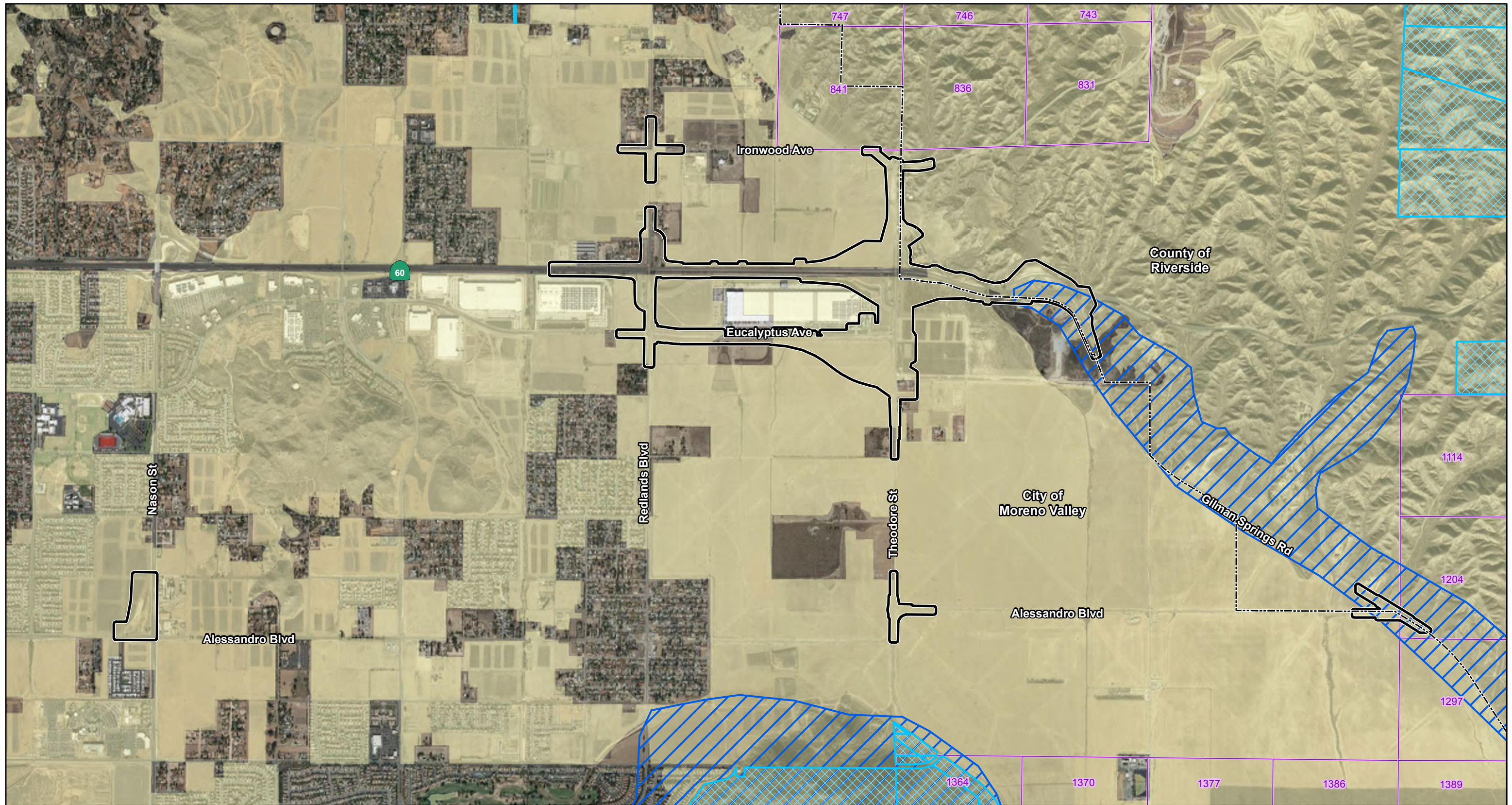
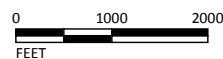


FIGURE 10

LEGEND

- Biological Study Area (BSA)
- Los Angeles Pocket Mouse Survey Area
- Public/Quasi-Public Preserve Lands
- Burrowing Owl Survey Area
- MSCHP Criteria Area/Criteria Cells
- City/County Boundary



SOURCE: Google (2018); Riverside County (2005); MSHCP (2003)

I:\RBF1301\GIS_Mod\MXD\Bio\NES\NES_ReserveAssembly.mxd (9/5/2019)

SR-60/World Logistics Center Parkway
 Interchange Project
 MSCHP Criteria Areas and Survey Areas
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109

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Appendix B – NMFS Species List

From: [Denise Woodard](#)
To: nmfswcrca.specieslist@noaa.gov
Cc: [Denise Woodard](#)
Subject: Caltrans District 8 on behalf of the Federal Highway Administration; EA 0M5900 Federal Project No. PN 0813000109 - State Route 60/World Logistics Center Parkway Project, City of Moreno Valley Riverside County, CA
Date: Thursday, May 30, 2019 1:25:30 PM

Dear NOAA~

I am requesting this list as a non-federal representative for the subject project.

Thank you,

Denise Woodard | Associate/Senior Biologist
[LSA](#) | 1500 Iowa Avenue, Suite 200
Riverside, CA 92507

951-781-9310 Tel
951-403-1701 Cell
[Website](#)

Quad Name **El Casco**

Quad Number **33117-H1**

ESA Anadromous Fish

- SONCC Coho ESU (T) -
- CCC Coho ESU (E) -
- CC Chinook Salmon ESU (T) -
- CVSR Chinook Salmon ESU (T) -
- SRWR Chinook Salmon ESU (E) -
- NC Steelhead DPS (T) -
- CCC Steelhead DPS (T) -
- SCCC Steelhead DPS (T) -
- SC Steelhead DPS (E) -
- CCV Steelhead DPS (T) -
- Eulachon (T) -
- sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

- SONCC Coho Critical Habitat -
- CCC Coho Critical Habitat -
- CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans

-

MMPA Pinnipeds –

Quad Name **El Casco**

Quad Number **33117-H1**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office

562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Redlands**

Quad Number **34117-A2**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office

562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **Yucaipa**

Quad Number **34117-A1**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -

MMPA Pinnipeds -

From: [NMFSWCRCA Specieslist - NOAA Service Account](#)
To: [Denise Woodard](#)
Subject: Re: Caltrans District 8 on behalf of the Federal Highway Administration; EA 0M5900 Federal Project No. PN 0813000109 - State Route 60/World Logistics Center Parkway Project, City of Moreno Valley Riverside County, CA
Date: Thursday, May 30, 2019 1:25:38 PM

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

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Appendix C – USFWS IPAC Letter



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Carlsbad Fish and Wildlife Office

2177 SALK AVENUE - SUITE 250

CARLSBAD, CA 92008

PHONE: (760)431-9440 FAX: (760)431-5901

URL: www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2015-SLI-0420

May 15, 2015

Event Code: 08ECAR00-2015-E-00799

Project Name: Stater Route 60 (SR60) Theodore Street Interchange Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Stater Route 60 (SR60) Theodore Street Interchange Project

Official Species List

Provided by:

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

Consultation Code: 08ECAR00-2015-SLI-0420

Event Code: 08ECAR00-2015-E-00799

Project Type: TRANSPORTATION

Project Name: Stater Route 60 (SR60) Theodore Street Interchange Project

Project Description: The City of Moreno Valley, in cooperation with the California Department of Transportation (Caltrans), District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/Theodore Street interchange. The majority of the project site is located in the City of Moreno Valley; however, the northeast quadrant of the site is located within unincorporated Riverside County (County) but within the City's Sphere of Influence.

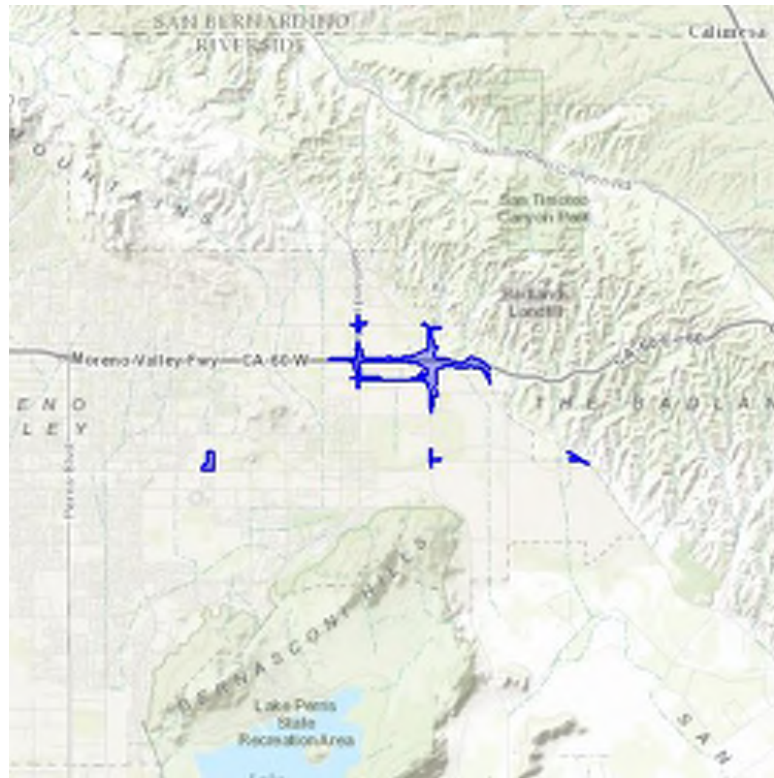
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your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



United States Department of Interior
Fish and Wildlife Service

Project name: Stater Route 60 (SR60) Theodore Street Interchange Project

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Riverside, CA



Endangered Species Act Species List

There are a total of 13 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Coastal California gnatcatcher <i>(Polioptila californica californica)</i> Population: Entire	Threatened	Final designated	
Least Bell's vireo <i>(Vireo bellii pusillus)</i> Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher <i>(Empidonax traillii extimus)</i> Population: Entire	Endangered	Final designated	
Crustaceans			
Riverside fairy shrimp <i>(Streptocephalus woottoni)</i> Population: Entire	Endangered	Final designated	
Vernal Pool fairy shrimp <i>(Branchinecta lynchi)</i> Population: Entire	Threatened	Final designated	
Flowering Plants			
Nevin's barberry <i>(Berberis nevinii)</i>	Endangered	Final designated	



United States Department of Interior
Fish and Wildlife Service

Project name: Stater Route 60 (SR60) Theodore Street Interchange Project

San Diego ambrosia (<i>Ambrosia pumila</i>)	Endangered	Final designated	
San Jacinto Valley crownscale (<i>Atriplex coronata var. notatior</i>)	Endangered		
Santa Ana River woolly-star (<i>Eriastrum densifolium ssp. sanctorum</i>)	Endangered		
Spreading navarretia (<i>Navarretia fossalis</i>)	Threatened	Final designated	
Thread-Leaved brodiaea (<i>Brodiaea flifolia</i>)	Threatened	Final designated	
Mammals			
San Bernardino Merriam's kangaroo rat (<i>Dipodomys merriami parvus</i>) Population: Entire	Endangered	Final designated	
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>) Population: Entire	Endangered		



United States Department of Interior
Fish and Wildlife Service

Project name: Stater Route 60 (SR60) Theodore Street Interchange Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of the Interior



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

In Reply Refer To:
Consultation Code: 08ECAR00-2019-SLI-0249
Event Code: 08ECAR00-2019-E-02357
Project Name: SR60/World Logistics Parkway Project

May 30, 2019

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-0249

Event Code: 08ECAR00-2019-E-02357

Project Name: SR60/World Logistics Parkway Project

Project Type: TRANSPORTATION

Project Description: The City of Moreno Valley, in cooperation with the California Department of Transportation, District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/ (WLC Pkwy) interchange.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/33.94639598192409N117.15673369296186W>



Counties: Riverside, CA

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat <i>Dipodomys merriami parvus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat <i>Dipodomys stephensi</i> (incl. <i>D. cascus</i>) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Endangered

Birds

NAME	STATUS
Coastal California Gnatcatcher <i>Polioptila californica californica</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Crustaceans

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

Flowering Plants

NAME	STATUS
Nevin's Barberry <i>Berberis nevinii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8025	Endangered
San Diego Ambrosia <i>Ambrosia pumila</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Jacinto Valley Crownscale <i>Atriplex coronata var. notatior</i> There is final critical habitat for this species. However, no <i>actual</i> acres or miles were designated due to exemptions and/or exclusions. See Federal Register publication for details. Species profile: https://ecos.fws.gov/ecp/species/4353	Endangered
Santa Ana River Woolly-star <i>Eriastrum densifolium ssp. sanctorum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6575	Endangered
Spreading Navarretia <i>Navarretia fossalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Thread-leaved Brodiaea <i>Brodiaea filifolia</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened

Critical habitats

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

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Appendix D – List of Plant and Animal Species Observed

MAGNOLIOPHYTA: MAGNOLIOPSIDA

Amaranthaceae

*Amaranthus albus**

Amaranthus blitoides

Anacardiaceae

Rhus ovata

*Schinus molle**

Asteraceae

Ambrosia psilostachya

Artemisia californica

Artemisia dracuncululus

Baccharis salicifolia

*Centaurea melitensis**

Corethrogyne filaginifolia

Encelia farinosa

Erigeron canadensis

Helianthus annuus

Heterotheca grandiflora

*Lactuca serriola**

Lepidospartum squamatum

*Oncosiphon piluliferum**

Pseudognaphalium californicum

Boraginaceae

Amsinckia intermedia

Pectocarya linearis

Brassicaceae

*Brassica tournefortii**

*Hirschfeldia incana**

*Raphanus sativus**

*Sisymbrium irio**

Caprifoliaceae

Sambucus nigra ssp. *caerulea*

Chenopodiaceae

Atriplex canescens

*Atriplex suberecta**

Chenopodium berlandieri

*Salsola tragus**

Convolvulaceae

*Convolvulus arvensis**

DICOT FLOWERING PLANTS

Amaranth family

Prostrate pigweed

Mat amaranth

Sumac family

Sugar bush

Peruvian peppertree

Sunflower family

Western ragweed

California sagebrush

Tarragon

Mule fat

Tocalote

California aster

Brittlebush

Canadian horseweed

Common sunflower

Telegraph weed

Prickly lettuce

Scalebroom

Stinknet

California rabbit-tobacco

Borage family

Common fiddleneck

Narrow-toothed pectocarya

Mustard family

Sahara mustard

Shortpod mustard

Wild radish

London rocket

Honeysuckle family

Blue elderberry

Saltbush family

Fourwing saltbush

Peregrine saltbush

Pitseed goosefoot

Russian thistle

Morning-glory family

Field bindweed

Euphorbiaceae*Croton californicus**Croton setigerus***Fabaceae***Parkinsonia aculeata***Robinia pseudoacacia****Geraniaceae***Erodium cicutarium****Lythraceae***Punica granatum****Malvaceae***Malva parviflora****Myrtaceae***Eucalyptus* sp.***Oleaceae***Olea europaea****Polygonaceae***Eriogonum fasciculatum**Polygonum aviculare****Salicaceae***Salix gooddingii***Solanaceae***Datura wrightii**Solanum elaeagnifolium****Tamaricaceae***Tamarix aphylla***Tamarix ramosissima****Zygophyllaceae***Tribulus terrestris****MAGNOLIOPHYTA: LILIOPSIDA****Poaceae***Avena* sp.**Bromus diandrus***Bromus madritensis* ssp. *rubens***Cynodon dactylon***Festuca myuros***Hordeum murinum***Schismus barbatus***Triticum aestivum****Spurge family**

California croton

Dove weed

Pea family

Mexican palo verde

Black locust

Geranium family

Redstem stork's bill

Loosestrife family

Pomegranate

Mallow family

Cheeseweed mallow

Myrtle family

Eucalyptus

Olive family

European olive

Buckwheat family

California buckwheat

Common knotweed

Willow family

Goodding's willow

Nightshade family*Sacred thorn-apple**Silverleaf nightshade***Tamarisk family**

Athel

Mediterranean tamarisk

Caltrop family

Puncture vine

MONOCOT FLOWERING PLANTS**Grass family**

Oat

Ripgut brome

Red brome

Bermuda grass

Rat-tail fescue

Mouse barley

Common Mediterranean grass

Wheat

REPTILIA

Phrynosomatidae

Uta stansburiana

AVES

Accipitridae

Buteo jamaicensis

Buteo regalis

Falconidae

Falco sparverius

Columbidae

Zenaida macroura

*Streptopelia decaocto**

Cuculidae

Geococcyx californianus

Tyrannidae

Sayornis nigricans

Sayornis saya

Tyrannus verticalis

Corvidae

Corvus corax

Alaudidae

Eremophila alpestris actia

Hirundinidae

Hirundo rustica

Troglodytidae

Thryomanes bewickii

Mimidae

Toxostoma redivivum

Sturnidae

*Sturnus vulgaris**

Emberizidae

Melospiza crissalis

Fringillidae

Carpodacus mexicanus

Carduelis psaltria

MAMMALIA

Leporidae

Lepus californicus

REPTILES

Phrynosomatid Lizards

Common side-blotched lizard

BIRDS

Kites, Hawks, and Eagles

Red-tailed hawk

Ferruginous hawk

Falcons

American kestrel

Pigeons and Doves

Mourning dove

Eurasian collared dove

Cuckoos and Roadrunners

Greater roadrunner

Tyrant Flycatchers

Black phoebe

Say's phoebe

Western kingbird

Crows and Ravens

Common raven

Larks

California horned lark

Swallows

Barn swallow

Wrens

Bewick's wren

Mockingbirds and Thrashers

California thrasher

Starlings

European starling

Emberizines

California towhee

Finches

House finch

Lesser goldfinch

MAMMALS

Rabbits and Hares

Black-tailed jackrabbit

Lepus californicus bennettii

Sylvilagus audubonii

Sciuridae

Spermophilus beecheyi

Geomyidae

Thomomys bottae

*Nonnative

San Diego black-tailed jackrabbit

Desert cottontail

Squirrels

California ground squirrel

Pocket Gophers

Botta's pocket gopher

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Appendix E – 2013 and 2015 Los Angeles Pocket Mouse Survey Results

August 23, 2013

Scott Osborn, Ph.D.
California Department of Fish and Wildlife
Wildlife Branch, Nongame Wildlife Program
1812 Ninth Street
Sacramento, California 95811

Susie Tharratt
U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Los Angeles Pocket Mouse Survey Results: SR-60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California; August 2013 (LSA Project Number RBF1301)

Dear Dr. Osborn and Ms. Tharratt:

This letter report documents the results of a protocol presence/absence survey for the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*; California Species of Special Concern) conducted by LSA Associates, Inc. (LSA). The survey was done in preparation for the SR-60/Theodore Street Interchange Project in the City of Moreno Valley.

No Los Angeles pocket mice were captured.

Study Area

The study area is centered on the State Route 60 x Gilman Springs Road interchange at the eastern border of the City of Moreno Valley, Riverside County, California. The survey was conducted within the project limits in those areas included in the Los Angeles Pocket Mouse Survey Area identified by the Western Riverside County Multiple Species Habitat Conservation Plan (Figure 1, Appendix A). The habitats surveyed included coastal sage scrub, annual grassland, and the grassland/scrub ecotone. Areas within the interchange cloverleaf were avoided.

Methods

LSA biologists Richard Erickson and Leo Simone conducted 5 nights of protocol trapping (August 4–9, 2013), pursuant to LSA's Federal Fish and Wildlife Permit TE-777965-10 (March 22, 2013–March 21, 2017) and a California Department of Fish and Wildlife attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals (November 27, 2012–January 31, 2017). LSA biologist Denise Woodard assisted. A total of 130 traps were set in one line as shown in Figure 1. Traps were baited with bird seed and wild oats. Trap checks occurred at midnight and at dawn. All animals were identified and released unharmed at their capture sites.

Results

No Los Angeles pocket mice were captured. There were 168 rodent captures involving three species. The San Diego pocket mouse (*Chaetodipus fallax fallax*; California Species of Special Concern) was by far the most common species. Complete capture results are shown in Table B-1, Appendix B.

California Native Species Field Survey Forms are provided in Appendix C.

If you have any questions or comments, please contact Leo Simone or me by phone at (949) 553-0666 or via email at leo.simone@lsa-assoc.com or richard.erickson@lsa-assoc.com.

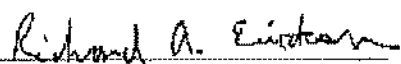

Sincerely,

LSA ASSOCIATES, INC.

Richard Erickson
Associate/Biologist

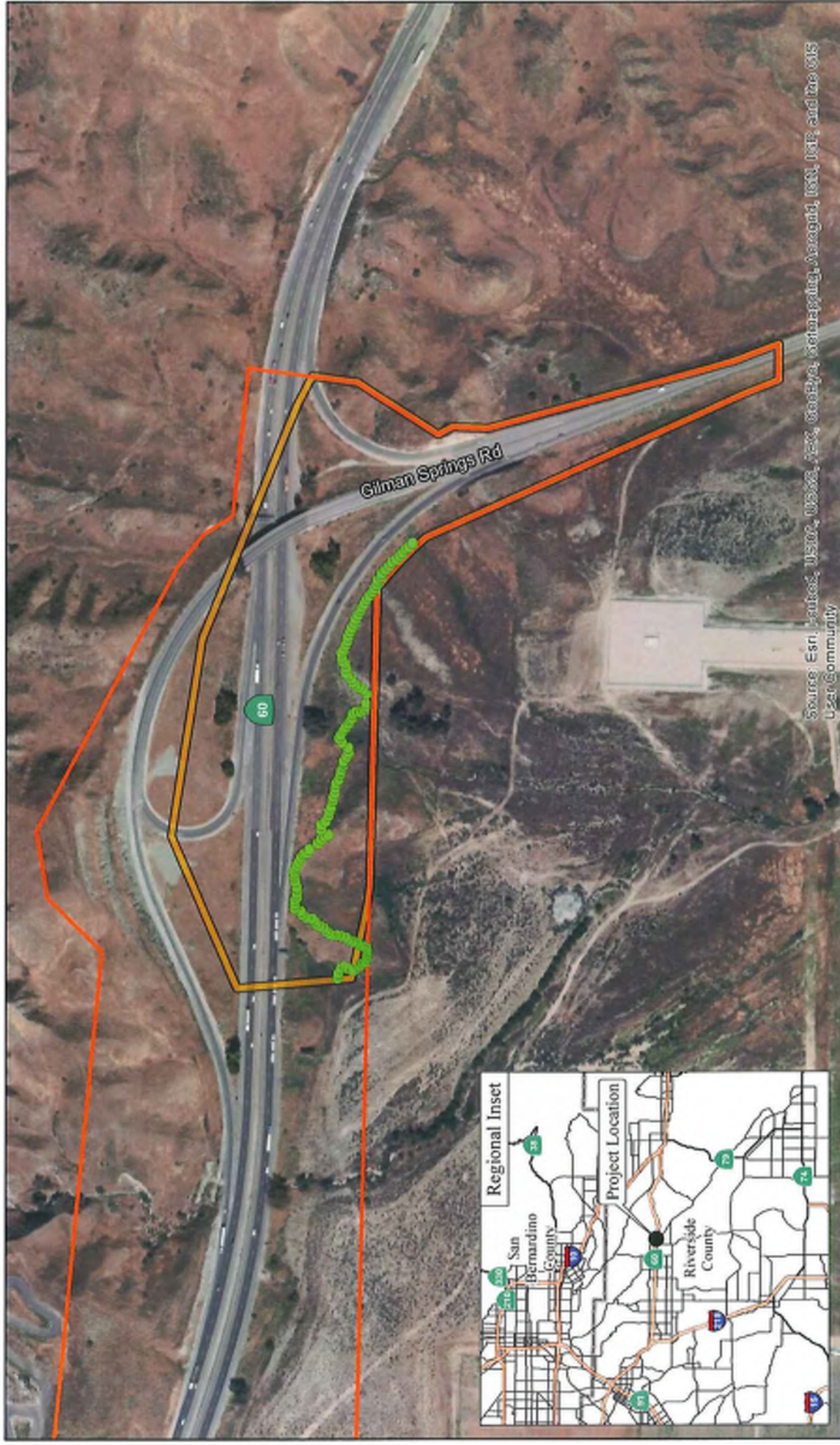
Attachments: Appendix A: Figure 1
Appendix B: Table B-1, Trapping Results
Appendix C: California Native Species Field Survey Forms

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

SURVEYOR:	PERMIT NUMBER:	DATE:
 RICHARD ERICKSON	TE-777965-10	AUGUST 23, 2013
 LEO SIMONE	TE-777965-10	AUGUST 23, 2013

APPENDIX A

FIGURE 1



LSA

LEGEND

- Project Limits
- Trap Locations
- MSHCP Mandatory Small Mammal Trapping Area



SOURCE: Microsoft (5/2010); LSA (8/4/2013); County of Riverside (2004)
 I:\RBF1501\GIS\Trapping_Locations.mxd (8/22/2013)

FIGURE 1

APPENDIX B

TABLE B-1, TRAPPING RESULTS

APPENDIX B
TABLE B-1, TRAPPING RESULTS

Table B-1: SR-60/Theodore Street Interchange Project, City of Moreno Valley Trapping Summary, August 2013

Date and Time	Trapping Results Session 7												Total		
	Aug 4 2300	Aug 4 0600	Aug 5 2300	Aug 5 0600	Aug 6 2300	Aug 6 0600	Aug 7 2300	Aug 7 0600	Aug 8 2300	Aug 8 0600	Aug 9 0600	130			
Number of Traps	130		130		130		130		130		130		130		650
Species															
San Diego pocket mouse	8	12	10	14	14	14	12	14	12	11	10				117
<i>Chaetodipus fallax fallax</i>															
San Diego desert woodrat		3	2	3	1	1	2	1	2	1	1				16
<i>Neotoma lepida intermedia</i>															
North American deer mouse	2	2	2	6	2	4	4	4	3	3	7				35
<i>Peromyscus maniculatus</i>															
Total Rodent Captures	10	17	14	23	17	19	18	15	17	15	18				168

APPENDIX C

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORMS

Mail to:
 California Natural Diversity Database
 California Dept. of Fish & Wildlife
 1807 13th Street, Suite 202
 Sacramento, CA 95811
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code _____ Quad Code _____
 Elm Code _____ Occ. No. _____
 EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 08/04-09/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Perognathus longimembris brevirostris
 Common Name: Los Angeles pocket mouse
 Species Found? Yes No not present?
 Total No. Individuals _____ Subsequent Visit? yes no
 Is this an existing NDDDB occurrence? _____ no unk.
 Collection? If yes: _____
 Number _____ Museum / Herbarium _____
 Reporter: Richard A. Erickson
 Address: LSA Associates, 20 Executive Park, Suite 200, Irvine, CA 92614
 E-mail Address: richard.erickson@LSA-assoc.com
 Phone: 949 553-0666

Plant Information
 Phenology: _____% vegetative _____% flowering _____% fruiting
Animal Information
 # adults # juveniles # larvae # egg masses # unknown
 wintering breeding nesting rookery burrow site other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
Moreno Valley
 County: Riverside Landowner / Mgr.: Caltrans?
 Quad Name: Sunnymead Elevation: 1760'
 T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): _____
 T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model _____
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy _____ meters/feet
 Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
 Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
 Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):
coastal sage scrub and annual grassland
 Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
 Immediate AND surrounding land use: highway and open space
 Visible disturbances: roadway
 Threats: roadway expansion
 Comments: _____

Determination: (check one or more, and fill in blanks)
 Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: personal experience
 Photographs: (check one or more) Slide Print Digital
 Plant / animal
 Habitat
 Diagnostic feature
 May we obtain duplicates at our expense? yes no

Mail to:
 California Natural Diversity Database
 California Dept. of Fish & Wildlife
 1807 13th Street, Suite 202
 Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code _____ Quad Code _____
 Elm Code _____ Occ. No. _____
 EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 08/09-09/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Chaetodipus fallax fallax
 Common Name: San Diego pocket mouse

Species Found? Yes No If not, why?
 Total No. Individuals ≥ 14 Subsequent Visit? yes no
 Is this an existing NDDDB occurrence? no unk. Yes, Occ. #
 Collection? If yes: _____
Number Museum / Herbarium

Reporter: Richard A. Erickson
 Address: LSA Associates, 20 Executive Park, Suite 200, Irvine, CA 92614
 E-mail Address: richard.erickson@lsa-assoc.com
 Phone: 949 553-0666

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

adults # juveniles _____ # larvae _____ # egg masses _____ # unknown _____
 wintering breeding nesting rookery burrow site other

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

Moreno Valley
 County: Riverside Landowner / Mgr.: Caltrans?
 Quad Name: Sunnymead Elevation: 1760'
 T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): _____
 T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model _____
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy _____ meters/feet
 Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
 Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):
coastal sage scrub and annual grassland

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
 Immediate AND surrounding land use: highway and open space
 Visible disturbances: roadway
 Threats: roadway expansion
 Comments: _____

Determination: (check one or more, and fill in blanks)

Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: personal experience

Photographs: (check one or more)

Plant / animal	Slide <input type="checkbox"/>	Print <input type="checkbox"/>	Digital <input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811

Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work (mm/dd/yyyy): 08/04-09/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Neotoma lepida intermedia
Common Name: San Diego desert woodrat
Species Found? Yes No If not, why? _____
Total No. Individuals ≥ 3 Subsequent Visit? yes no
Is this an existing NDDDB occurrence? no unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____
Reporter: Richard A. Erickson
Address: LSA Associates, 20 Executive Park, Suite 200, Irvine, CA 92614
E-mail Address: richard.erickson@LSA-assoc.com
Phone: 949 553-0666

Plant Information
Phenology: _____% vegetative _____% flowering _____% fruiting
Animal Information
X
adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown _____
 wintering breeding nesting rookery burrow site other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
Moreno Valley
County: Riverside Landowner / Mgr.: Caltrans?
Quad Name: Sunnymead Elevation: 1760'
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): _____
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model _____
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):
coastal sage scrub and annual grassland
Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
Immediate AND surrounding land use: highway and open space
Visible disturbances: roadway
Threats: roadway expansion
Comments: _____

Determination: (check one or more, and fill in blanks)
 Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: personal experience
Photographs: (check one or more) Slide Print Digital
Plant / animal
Habitat
Diagnostic feature
May we obtain duplicates at our expense? yes no

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LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD

FRESNO
PALM SPRINGS
PT. RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

August 4, 2015

Scott Osborn, Ph.D.
California Department of Fish and Wildlife
Wildlife Branch, Nongame Wildlife Program
1812 Ninth Street
Sacramento, CA 95811

Justin Garcia
California Department of Fish and Wildlife
Wildlife Branch, Nongame Wildlife Program
1812 Ninth Street
Sacramento, CA 95811

Subject: Los Angeles Pocket Mouse Survey Results: SR-60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California; July 2015
(LSA Project No. RBF1301)

Dear Dr. Osborn:

This letter report documents the results of a protocol presence/absence survey for the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*; California Species of Special Concern) conducted by LSA Associates, Inc. (LSA). The survey was done in preparation for the State Route 60 (SR-60)/Theodore Street Interchange Project (project) in the City of Moreno Valley.

No Los Angeles pocket mice were captured.

Study Area

The study area is centered on the intersection of Gilman Springs Road and Alessandro Boulevard east of the City of Moreno Valley in Riverside County, California. The survey was conducted within the project limits in those areas included in the Los Angeles Pocket Mouse Survey Area identified by the Western Riverside County Multiple Species Habitat Conservation Plan (Figure 1, Los Angeles Packet Mouse Survey, in Attachment A). The habitats surveyed included disturbed annual grassland and grassland/scrub ecotone.

Methods

LSA biologists Leo Simone and Claudia Bauer conducted five nights of protocol trapping (July 26–31, 2015), pursuant to LSA's California Department of Fish and Wildlife (CDFW) attachment to Scientific Collecting Permit No. SC-000777 providing Conditions for Research on Listed Mammals (November 27, 2012–January 31, 2017). A total of 100 traps were set in two lines as shown on Figure 1. Traps were baited with bird seed and wild oats. Trap checks occurred near midnight and at dawn. All animals were identified and released unharmed at their capture sites.

Results

No Los Angeles pocket mice were captured. There were 125 rodent captures involving four species. The North American deer mouse (*Peromyscus maniculatus*) was by far the most common species. Complete

capture results are shown in Table B-1, SR-60/Theodore Street Interchange Project, City of Moreno Valley Trapping Summary, July 2015, in Attachment B.

California Native Species Field Survey Forms are provided in Attachment C.

If you have any questions or comments, please contact me by phone at (949) 553-0666 or via email at leo.simone@lsa-assoc.com.

Sincerely,

LSA ASSOCIATES, INC.

Leo Simone
Associate/Biologist

Attachments: A: Figure 1, Los Angeles Pocket Mouse Survey
B: Table B-1, Trapping Results
C: California Native Species Field Survey Forms

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

SURVEYOR:	PERMIT NUMBER:	DATE:
_____ LEO SIMONE	_____ SC-5243	_____ AUGUST 4, 2015
_____ CLAUDIA BAUER	_____ SC-11394	_____ AUGUST 4, 2015

ATTACHMENT A

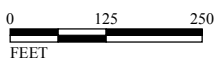
FIGURE 1, LOS ANGELES POCKET MOUSE SURVEY



FIGURE 1

LEGEND

- Trap Lines
- Biological Study Area



SOURCE: Bing Maps (2014)

F:\RBF1301\GIS\LAPM_GillmanSprings.mxd (8/3/2015)

SR-60 / Theodore Street Interchange
Los Angeles Pocket Mouse Protocol Trapping
 Trapline Locations

ATTACHMENT B

TABLE B-1, TRAPPING RESULTS

Table B-1: SR-60/Theodore Street Interchange Project, City of Moreno Valley Trapping Summary, July 2015

Trapping Results											
Date and Time	July 26 2300	July 27 0600	July 27 2300	July 28 0600	July 28 2300	July 29 0600	July 29 2300	July 30 0600	July 30 2300	July 31 0600	Total
Number of Traps	100		100		100		100		100		500
Species											
San Diego pocket mouse <i>Chaetodipus fallax fallax</i>			1	1	1	3	2	3	1	1	13
Western harvest mouse <i>Reithrodontomys megalotis</i>				1		2	2				5
North American deermouse <i>Peromyscus maniculatus</i>	9	14	7	12	9	15	11	19	4	4	104
House mouse <i>Mus musculus</i>					1		1		1		3
Total Rodent Captures	9	14	8	14	11	20	16	22	6	5	125

ATTACHMENT C

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Perognathus longimembris brevinasus*

Common Name: Los Angeles pocket mouse

Species Found? Yes No marginally suitable habitat
If not found, why? _____

Reporter: Leo Simone

Total No. Individuals: _____ Subsequent Visit? Yes No

Address: 20 Executive Park, Suite 200

Is this an existing NDDDB occurrence? _____
Yes, Occ. # _____ No Unk.

Irvine, CA 92614

Collection? If yes: _____
Number _____ Museum / Herbarium _____

E-mail Address: leo.simone@lsa-assoc.com

Phone: (949) 553-0666

Plant Information

Phenology:
% vegetative _____ % flowering _____ % fruiting _____

Animal Information

adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown _____
 wintering breeding nesting rookery burrow site lek other

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

County: Riverside Landowner / Mgr: Cal Trans

Quad Name: El Casco Elevation: 1620

T 3S R 2W Sec 9, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): Topo

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: _____

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)

Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Disturbed annual grassland/scrub ecotone

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: transportation, rural residential

Visible disturbances: grading/disking

Threats: transportation development

Comments: _____

Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: _____

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: Chaetodipus fallax fallax

Common Name: San Diego pocket mouse

Species Found? Yes No _____
If not found, why?

Total No. Individuals: 13 Subsequent Visit? Yes No

Is this an existing NDDDB occurrence? _____
Yes, Occ. # No Unk.

Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Leo Simone

Address: 20 Executive Park, Suite 200
Irvine, CA 92614

E-mail Address: leo.simone@lsa-assoc.com

Phone: (949) 553-0666

Plant Information

Phenology:
% vegetative _____ % flowering _____ % fruiting _____

Animal Information

13
adults # juveniles # larvae # egg masses # unknown
 wintering breeding nesting rookery burrow site lek other

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

County: Riverside Landowner / Mgr: Cal Trans

Quad Name: El Casco Elevation: 1620

T 3S R 2W Sec 9, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): Topo

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: _____

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 **OR** Geographic (Latitude & Longitude)

Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:

Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Disturbed annual grassland/scrub ecotone

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: transportation, rural residential

Visible disturbances: grading/disking

Threats: transportation development

Comments: _____

Determination: (check one or more, and fill in blanks)

- Keyed (cite reference): _____
- Compared with specimen housed at: _____
- Compared with photo / drawing in: _____
- By another person (name): _____
- Other: _____

Photographs: (check one or more)

	Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes no

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Appendix F – Jurisdictional Delineation

JURISDICTIONAL DELINEATION

**STATE ROUTE 60/WORLD LOGISTICS CENTER PARKWAY
INTERCHANGE PROJECT**

BETWEEN REDLANDS BOULEVARD AND GILMAN SPRINGS ROAD

MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

08-RIV-60-PM 20.0/22.0

EA 0M590

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- A: FIGURES
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- C: ANALYSIS OF FUNCTIONS AND VALUES OF WETLANDS AND OTHER WATERS

LIST OF ABBREVIATIONS AND ACRONYMS

1987 Manual	1987 Corps of Engineers Wetlands Delineation Manual
ac	acre/acres
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of Moreno Valley
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
ft	foot/feet
mi	mile/miles
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
OHWM	ordinary high-water mark
PM	Post Mile
Porter-Cologne Act	State Porter-Cologne Water Quality Control Act
Rapanos	<i>Rapanos v. United States and Carabell v. United States</i> (126 S. Ct. 2208)
Regional Supplement	<i>Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region</i>
RWQCB	Regional Water Quality Control Board
SR-60	State Route 60
SWANCC	<i>Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers</i> , No. 99-1178
TNWs	traditional navigable waters
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WLC Pkwy	World Logistics Center Parkway
WOTUS	waters of the United States

JURISDICTIONAL DELINEATION STATE ROUTE 60/WORLD LOGISTICS CENTER PARKWAY INTERCHANGE PROJECT

INTRODUCTION

The City of Moreno Valley (City), in cooperation with the California Department of Transportation (Caltrans) District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/World Logistics Center Parkway (WLC Pkwy) interchange. The majority of the project site is within Moreno Valley. The northeast quadrant of the site is within an unincorporated portion of Riverside County but is also within the City's Sphere of Influence. The purpose of the project is to alleviate existing and future traffic congestion at the SR-60/WLC Pkwy interchange ramps during peak hours, to improve traffic flow along the freeway and through the interchange, to improve safety by upgrading the geometry at the current interchange, and to provide standard vertical clearance for the WLC Pkwy overcrossing. The project area is along SR-60 in Moreno Valley, Riverside County, California. Figure 1 shows the regional location and project limits (all figures are included in Appendix A).

This report presents the results of a delineation of potential wetlands and waters subject to jurisdiction of the United States Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB) as part of the evaluation for potential permit requirements under Section 404 of the federal Clean Water Act (CWA), for Streambed Alteration Agreement processing under Section 1600 et seq. of the California Fish and Game Code, and certification under Section 401 of the CWA, respectively. This Jurisdictional Delineation is also an important source of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) information for the evaluation of potential impacts associated with the proposed interchange reconstruction along SR-60 from Post Mile (PM) 20.0 to PM 22.0.

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

BIOLOGICAL STUDY AREA

Within the study area, SR-60 currently has two mixed-flow lanes in each direction and an unpaved median. The project area consists entirely of developed areas comprising a variety of land uses, including transportation, residential, office/commercial, light industrial, agricultural, and undeveloped land.

As indicated on United States Geological Survey (USGS) *Sunnymead* and *El Casco, California* 7.5-minute topographic maps, elevations range from approximately 1,700 to 1,950 feet (ft) above mean sea level across the entire Biological Study Area (BSA). The topography is relatively flat in the western part of the BSA and hilly in the eastern part. Earthen and concrete-lined channels associated with tributaries of the San Jacinto River occur throughout the BSA.

The entire BSA is within the San Jacinto River Watershed, which has an overall size of 765 square miles. The climate is classified as Mediterranean (i.e., semi-arid climate with hot and dry summers and moderately mild and wet winters). The average annual precipitation for Moreno Valley is approximately 10 inches.¹

REGULATORY BACKGROUND

United States Army Corps of Engineers

The USACE regulates discharges of dredged or fill material into waters of the United States (WOTUS). These waters include wetland and nonwetland bodies of water that meet specific criteria. The USACE regulatory jurisdiction pursuant to Section 404 of the federal CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters [TNWs] used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations). For several decades, the operable definition of waters of the United States was provided at 33 Code of Federal Regulations (CFR) 328.3, but implementation of this definition has been shaped by the courts and subsequent guidance over the years, most substantially by the 2001 Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (SWANCC) and the 2006 Supreme Court decision 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. Based, in part, on the *Rapanos* decision, a new rule defining WOTUS was promulgated in the Federal Register on June 29, 2015 (USACE et al. 2015). Following a series of legal challenges and the current presidential administration’s attempt to delay the implementation of this rule, on August 16, 2018, the U.S. District Court for the District of South Carolina enjoined the delay of the WOTUS Rule implementation for failure to comply with the Administrative Procedure Act. This decision means that the 2015 WOTUS definition is in effect in 26 states where federal district court judges have not stayed it, including California. A summary of the currently operable definition of WOTUS is provided below:

Several categories of waters are defined as WOTUS directly by the Rule, without the need for a significant nexus evaluation:

- (i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (ii) All interstate waters, including interstate wetlands;
- (iii) The territorial seas;

¹ Current Weather for Southern California Communities. Website: <https://weathercurrents.com/>.

- (iv) All impoundments of waters otherwise identified as waters of the United States under this section;
- (v) All tributaries of waters identified in paragraphs (1)(i) through (iii) of this definition; tributary is further defined as a water that contributes flow, either directly or through another water to a water identified in paragraphs (i) through (iii) of this definition that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark;
- (vi) All waters adjacent to a water identified in paragraphs (i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters; the term adjacent means bordering, contiguous, or neighboring a water identified above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. Neighboring includes waters within 100 feet of the ordinary high water mark of these waters and within the 100-year floodplain but not more than 1,500 feet from the ordinary high water mark. Neighboring also includes waters within 1,500 feet of waters in paragraphs (i) through (iii), including the Great Lakes.

In addition to the waters defined as WOTUS by rule, above, two categories of waters can be considered WOTUS pursuant to a significant nexus evaluation and determination:

- (vii) Certain depressional wetlands where they are determined, on a case specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in this category are considered similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Waters identified in this paragraph shall not be combined with waters identified in paragraph (vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (vi), they are an adjacent water and no case-specific significant nexus analysis is required. The depressional wetlands that are specifically identified in this paragraph occur in various regions throughout the country. In California they include (D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.
- (viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (i) through (iii) of this definition. For waters determined to have a

significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi) of this definition, they are an adjacent water and no case-specific significant nexus analysis is required.

Finally, the 2015 WOTUS Rule specifies several categories of waters that are excluded from federal CWA jurisdiction, even if they otherwise meet the terms of paragraphs (iv) through (viii) above. The excluded waters are waste treatment systems, previously converted cropland, and ditches with ephemeral or intermittent flow that are not a relocated tributary or excavated in tributary, as well as ditches that do not flow into waters in categories (i) through (iii) above. However, a ditch with intermittent flow that drains wetlands and flows to waters in categories (i) through (iii) may not be excluded. Also excluded are artificial reflecting pools or swimming pools, ornamental waters, and incidental created depressions, provided these were created in dry land. Other excluded waters are erosional features that do not meet the definition of tributary, puddles, groundwater, storm water control features created in dry land, and wastewater recycling structures, basins, and distributary structures constructed in dry land.

The USACE typically considers any body of water displaying an ordinary high-water mark (OHWM) for designation as WOTUS, subject to the 2015 WOTUS Rule. USACE jurisdiction over nontidal WOTUS extends laterally to the OHWM or beyond the OHWM to the limit of any contiguous wetlands, if present. The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR 328.3). Jurisdiction typically extends upstream to the point where the OHWM is no longer perceptible.

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

Wetlands

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

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

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances

do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.

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 the OHWM and invasion of upland plant species into wetland areas. Conversely, extreme flooding may create physical evidence of high water well above what might be considered ordinary and may allow the temporary invasion of hydrophytic species into nonwetland areas. In the highly ephemeral systems typical of Southern California, these problems are encountered frequently. In these situations, professional judgment based on years of practical experience and extensive knowledge of local ecological conditions comes into play in delineating wetlands. The Regional Supplement provides additional guidance for difficult wetland situations.

Hydrophytic Vegetation

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

The delineation of hydrophytic vegetation is typically based on the most dominant species from each vegetative stratum (strata are considered separately); when more than 50 percent of these dominant species are hydrophytic (i.e., FAC, FACW, or OBL), the vegetation is considered hydrophytic. In particular, the USACE recommends the use of the “50/20” rule (also known as the dominance test) from the Regional Supplement for determining dominant species. Under this method, dominant species are the most abundant species that immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species composing 20 percent

Table A: Hydrophytic Vegetation

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

Source: *Corps of Engineers Wetlands Delineation Manual* (USACE 1987).

USACE = United States Army Corps of Engineers

or more of the total dominance measure for the stratum. In cases where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test, the prevalence index must be used. The prevalence index is a weighted average of all plant species within a sampling plot. The prevalence index is particularly useful when communities only have one or two dominants, where species are present at roughly equal coverage, or when strata differ greatly in total plant cover. In addition, USACE guidance provides that morphological adaptations may be considered when determining hydrophytic vegetation when indicators of hydric soil and wetland hydrology are present (USACE 2008). If the plant community passes either the dominance test or prevalence index after reconsideration of the indicator status of any plant species that exhibits morphological adaptations for life in wetlands, then the vegetation is considered hydrophytic.

Hydric Soils

Hydric soils¹ are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Soil Conservation Service 1994).² Soils are considered likely to meet the definition of a hydric soil when one or more of the following criteria are met:

1. All Histels except Folistels and Histosols except Folists;
2. Soils that are frequently ponded for a long duration or very long duration³ during the growing season; or
3. Soils that are frequently flooded for a long duration or very long duration during the growing season.

Hydric soils develop under conditions of saturation and inundation combined with microbial activity in the soil that causes a depletion of oxygen. While saturation may occur at any time of year,

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

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

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

microbial activity is limited to the growing season, when soil temperature is above biologic zero (the soil temperature at a depth of 50 centimeters (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 database and is updated annually.

The Regional Supplement has a number of field indicators that may be used to identify hydric soils. The Natural Resources Conservation Service¹ (NRCS) has also developed a number of field indicators that may demonstrate the presence of hydric soils. These indicators include hydrogen sulfide generation, the accumulation of organic matter, and the reduction, translocation, and/or accumulation of iron and other reducible elements. These processes result in soil characteristics that persist during both wet and dry periods. Separate indicators have been developed for sandy soils and for loamy and clayey soils.

Wetland Hydrology

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (USACE 1987). The wetland hydrology parameter is satisfied when the area exhibits at least one of the primary indicators or two or more secondary indicators shown on the Wetland Determination Data Form – Arid West Region (Appendix B) and identified in the Regional Supplement (USACE 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 that are commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

Deepwater Aquatic Habitat

Deepwater aquatic habitats are areas that are permanently inundated at mean annual water depths greater than 6.6 ft or permanently inundated areas greater than 6.6 ft in depth that do not support rooted-emergent or woody plant species.² Deepwater aquatic waters do not qualify as wetland waters due to the lack of hydrophytic terrestrial vegetation. Deepwater aquatic waters are recognized as having a high habitat value due to their use as a fish and wildlife resource and limited distribution in the arid west.

¹ Natural Resources Conservation Service. Website: <http://www.nrcs.usda.gov>, accessed December 2018.

² Areas with less than a 6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands.

California Department of Fish and Wildlife

The CDFW, through provisions of the California Fish and Game Code (Section 1600 et seq.), is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water.

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

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

The following concepts are also described in *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994):

Streams can include intermittent ephemeral streams, dry washes, canals, aqueducts, irrigation ditches if they support aquatic life, riparian vegetation, or seasonally stream-dependent terrestrial wildlife, such as amphibians.

Natural attributes or biological components of a stream include aquatic and riparian vegetation, and all aquatic animals, including fish, amphibians, reptiles, invertebrates, and terrestrial species, which derive benefits from the stream system.

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

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

An artificial waterway is considered natural if the landowners and the community regard the ditch as a natural drainage course under normal circumstances, as in having existed over 7 years (CDFG 1988, 1990). This would include the following treatment of artificial waterways:

¹ *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600–1607, California Fish and Game Code* (CDFG 1994).

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

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

Regional Water Quality Control Boards

The RWQCBs are responsible for the administration of Section 401 of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., WOTUS, including any wetlands). The RWQCB may also assert 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 consulting biologists Denise Woodard and Elizabeth Hohertz on September 4, and October 7, 2013; by Denise Woodard on April 1, 2015; and by Denise Woodard and Andrea Haller on October 4, 2018. The BSA was surveyed by vehicle and on foot for both federal and State jurisdictional areas.

To the best extent feasible, areas supporting species composition of the plant community that were potentially indicative of wetlands were evaluated according to routine wetland delineation procedures described in the Regional Supplement. A representative sample plot was selected and examined in the field in an area where wetland jurisdiction was in question or needed to be confirmed. The locations of the sample plot and the potential jurisdictional areas are shown on Figure 2 in Appendix A. At the sample plot, the dominant and subdominant plant species were identified and their wetland indicator status noted (Lichvar et al. 2016). A small pit (approximately 12–24 inches deep) was dug to examine soil characteristics and composition. Soil matrix colors were classified according to the Munsell Soil Color Charts (Munsell Color 2000). Hydrological conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators were also noted. General site characteristics were also noted throughout all potential jurisdictional areas. Standard data forms were completed for the sample plot. A copy of this data form is provided in Appendix B, Wetland Determination Data Forms.

Areas of potential jurisdiction were evaluated according to USACE and CDFW criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (scale, 1 inch = approximately 200 ft), which together show the entire BSA. Measurements 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 derived from the aerial photographs. The OHWM was determined through direct observation of indicators such as water staining, scouring, and shelving. The locations of the potential jurisdictional areas are shown on Figure 2. An analysis of the functions and values of each of the drainages is included in Appendix C.

RESULTS

All channelized storm water and drainage features from the BSA eventually convey flows into the San Jacinto River. The flows are conveyed into the San Jacinto River via Mystic Lake and a series of nearby reclamation ponds within the San Jacinto Wildlife Area. However, due to the climate in the region, flows from the Mystic Lake area are only sufficient to reach the San Jacinto River every 8–10 years.¹ Overflow from the Mystic Lake area drains into the San Jacinto River and into Canyon Lake (aka Railroad Canyon Reservoir). This typically only occurs in late winter and spring. The San Jacinto River continues beyond Canyon Lake until it conveys flows into Lake Elsinore. In rare cases, Lake Elsinore overflows into Temescal Creek. Temescal Creek conveys flows into the Santa Ana River, which then conveys flows into the Pacific Ocean, a TNW, thereby establishing a nexus to navigable waters, as defined by USACE guidance.

Drainage Feature Descriptions

Nine drainage features were identified within the BSA: Drainage Features A through I (as shown on Figures 2 and 3). Drainage Features A, B, C, D, E, and F are roadside ephemeral drainage features, lack the attributes of a natural drainage feature (including riparian habitat), and were excavated on dry land. During extraordinary rain events, these features convey nuisance and storm water from adjacent roads to nearby agricultural fields that eventually lead to Drainage Feature G. Drainage Features G, H, and I are natural ephemeral drainage features that likely contained flows historically, but only seasonally. Drainage Features G, H, and I eventually flow to the San Jacinto River via Mystic Lake, as described above. These nine drainage features are described further as follows:

- **Drainage Feature A:** Drainage Feature A is a man-made, earthen and concrete ephemeral ditch that transports roadway runoff; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature A conveys flows in a southerly direction on the west side of Redlands Boulevard. Outside of the BSA, Drainage Feature A continues along Redlands Boulevard (some portions with no evidence of an OHWM or streambed) until it conveys flows into the storm drain system at Dracaea Avenue, approximately 0.5 mile (mi) south of the BSA. The areas adjacent to this drainage are entirely covered by paved areas and fallow agricultural fields. Due to the lack of vegetation—including riparian vegetation—within the drainage and the presence of a concrete lining along a portion of it, this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, the drainage feature may be subject to CDFW regulatory authority. A qualitative assessment of the functions and values was

¹ Sewell, Scott (California Department of Fish and Wildlife). October 7, 2013. Personal Communication re: San Jacinto Wildlife Area.

conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.

- **Drainage Feature B:** Drainage Feature B is a man-made, earthen and concrete ephemeral ditch that transports roadway runoff; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature B conveys flows in a southerly direction on the east side of Redlands Boulevard. Outside of the BSA, Drainage Feature B continues along Redlands Boulevard (some portions with no evidence of an OHWM or streambed) until it flows into the storm drain system at Dracaea Avenue, approximately 0.5 mi south of the BSA. The areas adjacent to this drainage are entirely covered by paved areas and fallow agricultural fields. Due to the lack of vegetation—including riparian vegetation—within the drainage and the presence of a concrete lining along a portion of it, this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, this drainage feature may be subject to CDFW regulatory authority. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.
- **Drainage Feature C:** Drainage Feature C is a man-made, earthen ephemeral ditch that transports roadway runoff adjacent to the eastbound SR-60/WLC Pkwy off-ramp, west of WLC Pkwy and south of SR-60; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature C conveys flows in a southerly direction before entering a standpipe located at the northwest corner of WLC Pkwy and Eucalyptus Avenue. The underground pipe then transports flows beneath Eucalyptus Avenue before releasing them onto riprap and into a vacant field where it eventually seeps into the ground with no evidence of an OHWM or streambed. Drainage Feature C includes an approximately 60 ft corrugated metal gutter that conveys roadway runoff from the west side of WLC Pkwy into the drainage ditch. The areas adjacent to this drainage are entirely covered by paved areas and undeveloped ruderal areas. Due to the lack of vegetation within the drainage, including riparian vegetation, this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, this drainage feature may be subject to the regulatory authority of the CDFW. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.
- **Drainage Feature D:** Drainage Feature D is a man-made, earthen ephemeral ditch that transports roadway runoff along the west side of WLC Pkwy, north of Eucalyptus Avenue; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature D conveys flows southerly for approximately 480 linear feet before draining into Drainage Feature C. Due to the lack of vegetation—including riparian vegetation—within the drainage, this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, this drainage feature may be subject to CDFW's regulatory authority. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.

- **Drainage Feature E:** Drainage Feature E is a man-made, earthen and concrete ephemeral ditch that transports roadway runoff along the east side of WLC Pkwy; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature E includes two 10 ft long metal gutters along the east side of WLC Pkwy, directing roadway runoff into the drainage ditch. Drainage Feature E conveys flows southerly within the BSA and continues south outside the BSA along WLC Pkwy, which turns into Davis Road, and eventually drains into the Mystic Lake area. Due to the lack of vegetation within the drainage—including riparian vegetation—this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, the drainage feature may be subject to the CDFW’s regulatory authority. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.
- **Drainage Feature F:** Drainage Feature F is a man-made, earthen ephemeral ditch that transports roadway runoff along the west side of WLC Pkwy, south of Eucalyptus Avenue; therefore, it is excluded from USACE jurisdiction pursuant to the 2015 WOTUS Rule. Drainage Feature F conveys flows southerly within the BSA and continues south outside the BSA along WLC Pkwy, which turns into Davis Road, and eventually drains into the Mystic Lake area. Drainage Feature F is not hydrologically connected to Drainage Feature C. Due to the lack of vegetation—including riparian vegetation—within the drainage, this area was not classified as USACE wetlands or riparian habitat regulated by the CDFW. The CDFW does not typically regulate artificial channels or ditches, but based on the presence of bed and bank, the drainage feature may be subject to CDFW regulatory authority. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.
- **Drainage Feature G:** Drainage Feature G is a natural earthen drainage that shows evidence of an OHWM and streambed and banks. Drainage Feature G conveys flows in a southerly direction. It begins to the north, outside of the BSA, passing beneath SR-60 via two 4.5 ft diameter concrete pipes, then continues south outside of the BSA. The drainage is predominantly surrounded by upland vegetation (i.e., Riversidean sage scrub and ruderal vegetation), but a small patch of mule fat (*Baccharis salicifolia*) occurs along a bend in this drainage. Therefore, a sample plot was taken (SP1). (The Wetland Determination Data Form for SP1 is provided in Appendix B.) This area does not satisfy USACE wetland criteria; therefore, Drainage Feature G was not classified as wetland. However, mule fat is considered to be riparian habitat regulated by the CDFW, which will assert jurisdiction over this drainage as streambed and areas vegetated by mule fat. This drainage would be regulated by the USACE under the 2015 WOTUS Rule. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.
- **Drainage Feature H:** Drainage Feature H is a natural earthen drainage west of WLC Pkwy and a concrete-lined V-ditch east of WLC Pkwy. The V-ditch carries roadway runoff from Ironwood Avenue and conveys flows under WLC Pkwy via two 48-inch corrugated metal pipes onto agricultural lands. Drainage Feature H appears to receive flows primarily from the V-channel on Ironwood Avenue, but may also receive sheet flows during large storm events from a natural

drainage located outside the BSA, northeast of the intersection of WLC Pkwy and Ironwood Avenue. A review of historical aerials (NETRonline Historic Aerials 2018) and the USGS *Sunnymead, California* 7.5-minute quadrangle indicates Drainage Feature H carried flows from the drainage located outside the BSA. The earthen portion of the drainage is dominated by upland vegetation (i.e., ruderal vegetation) with the exception of a small patch of mule fat. This drainage would be regulated by the USACE under the 2015 WOTUS Rule. The CDFW will assert jurisdiction over this drainage as streambed and over the mule fat as riparian. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.

- Drainage Feature I:** Drainage Feature I was perceptible only as a roadside drainage ditch during the field survey. However, based on aerial photograph review (Google Earth 2018) and review of the USGS *El Casco, California* 7.5-minute quadrangle, this drainage also appears to carry flows from a natural drainage stemming from the nearby foothills of The Badlands. Drainage Feature I conveys flows southwesterly, and an OHWM was only perceptible in the immediate area on either side of the approximately 4x4 ft concrete box culvert at Gilman Springs Road. The drainage is surrounded by agricultural lands and upland vegetation (i.e., ruderal vegetation). Due to the lack of riparian vegetation within the drainage, this area was not classified as USACE wetland or riparian habitat regulated by the CDFW. This drainage would be regulated by the USACE under the 2015 WOTUS Rule. Due to the presence of streambed and bank, the CDFW will assert jurisdiction over this drainage as streambed. A qualitative assessment of the functions and values was conducted (see Appendix C), and this drainage feature is considered to have overall low functions and values.

Tables B, C, and D provide the lengths and areas of each potential USACE nonjurisdictional, USACE jurisdictional, and CDFW jurisdictional drainage feature within the BSA.

Table B: Total Potential USACE Nonjurisdictional Drainage Feature Lengths and Areas within the BSA

Drainage Feature	Length (linear feet)	Potential USACE Nonjurisdictional Nonwetland Area (acres)
A	2,441.37	0.271
B	2,114.20	0.110
C	814.86	0.044
D	480.24	0.011
E	3,811.20	0.478
F	2,707.28	0.165
Total	12,369.15	1.079

Source: Compiled by LSA Associates, Inc. (2018).
USACE = United States Army Corps of Engineers

Table C: Total Potential USACE Jurisdictional Drainage Feature Lengths and Areas within the BSA

Drainage Feature	Length (linear feet)	Potential USACE Jurisdictional Nonwetland Area (acres)
G	292.93	0.035
H	662.71	0.049
I	340.39	0.081
Total	1,296.03	0.165

Source: Compiled by LSA Associates, Inc. (2018).
USACE = United States Army Corps of Engineers

Table D: Total Potential CDFW Jurisdictional Drainage Feature Lengths and Areas within the BSA

Drainage Feature	Length (linear feet)	Potential CDFW Jurisdictional Streambed/Riparian (acres)
A	2,441.37	0.545
B	2,114.20	0.228
C	814.86	0.044
D	480.24	0.011
E	3,811.20	0.641
F	2,707.28	0.165
G	292.93	0.293
H	662.71	0.089
I	340.39	0.081
Total	13,665.18	2.097

Source: Compiled by LSA Associates, Inc. (2018).
CDFW = California Department of Fish and Wildlife

CONCLUSIONS

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

United States Army Corps of Engineers Jurisdiction

Drainage features A through F total 1.079 acres (ac) in the BSA and are considered roadside ephemeral drainage ditches that are not regulated under the 2015 WOTUS Rule. Drainage features G, H, and I are natural drainage features that eventually flow into the San Jacinto River. The Mystic Lake area flows into the San Jacinto River; however, due to the climate in the region, flows from the Mystic Lake area are only sufficient to reach the San Jacinto River every 8–10 years.¹ Overflow from Mystic Lake continues along the San Jacinto River and into Canyon Lake (aka Railroad Canyon Reservoir). This typically only occurs in late winter and spring. The San Jacinto River continues

¹ Sewell, Scott (California Department of Fish and Wildlife). October 7, 2013. Personal Communication re: San Jacinto Wildlife Area.

beyond Canyon Lake until it flows into Lake Elsinore. In rare cases, Lake Elsinore overflows into Temescal Creek. Temescal Creek flows into the Santa Ana River, which then flows into the Pacific Ocean (a TNW), thereby establishing a nexus to navigable waters, as defined by USACE guidance. As shown in Table C, the total acreage of potential USACE jurisdictional nonwetland waters for drainage features G, H, and I within the BSA is 0.165 ac. There were no areas in the BSA identified as USACE jurisdictional wetland waters.

California Department of Fish and Wildlife Jurisdiction

Due to the presence of streambed and bank, all the drainage features within the BSA may be subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. In addition, streambed banks extending beyond the limits of USACE jurisdiction (e.g., riparian habitat) are considered subject to CDFW jurisdiction. There were no areas within the BSA where riparian vegetation, potentially considered subject to CDFW jurisdiction, extended beyond the streambed banks. As shown in Table D, the total potential CDFW jurisdictional streambed/riparian within the BSA is 2.097 ac.

Regional Water Quality Control Board Jurisdiction

Because there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of WOTUS (OHWM); it would be measured by USACE methods, even in ditches that are not subject to USACE jurisdiction. Therefore, RWQCB jurisdiction includes both USACE nonjurisdictional and jurisdictional waters (Tables B and C), which total 1.244 ac.

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APPENDIX A

FIGURES

Figure 1: Project Location and Vicinity (1 page)

Figure 2: Potential Jurisdictional Features (1 page)

Figure 3: Jurisdictional Delineation Site Photographs (4 pages)

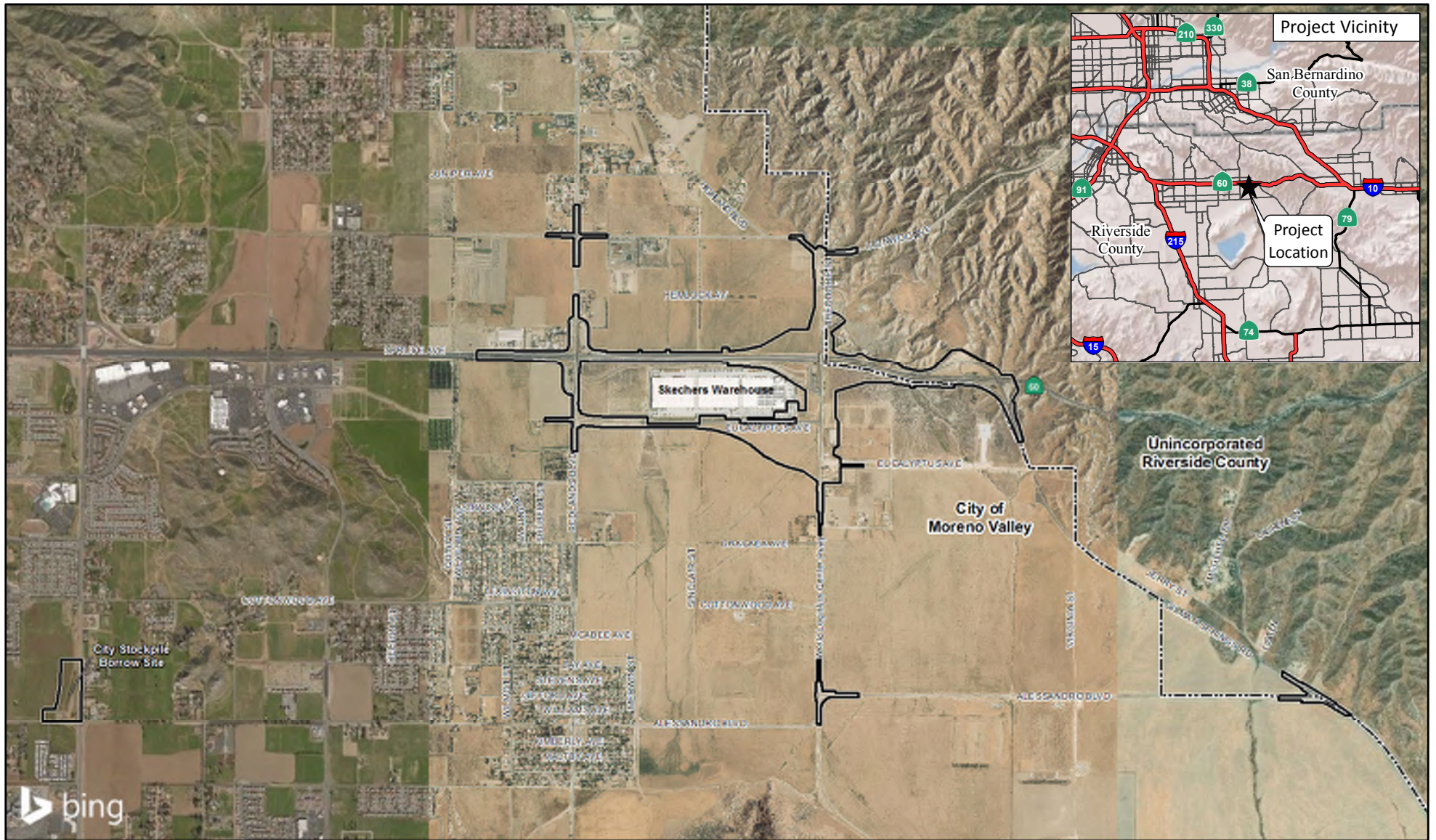
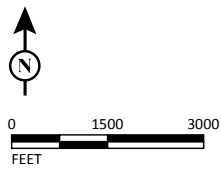


FIGURE 1

LEGEND

- Project Area
- City Boundary

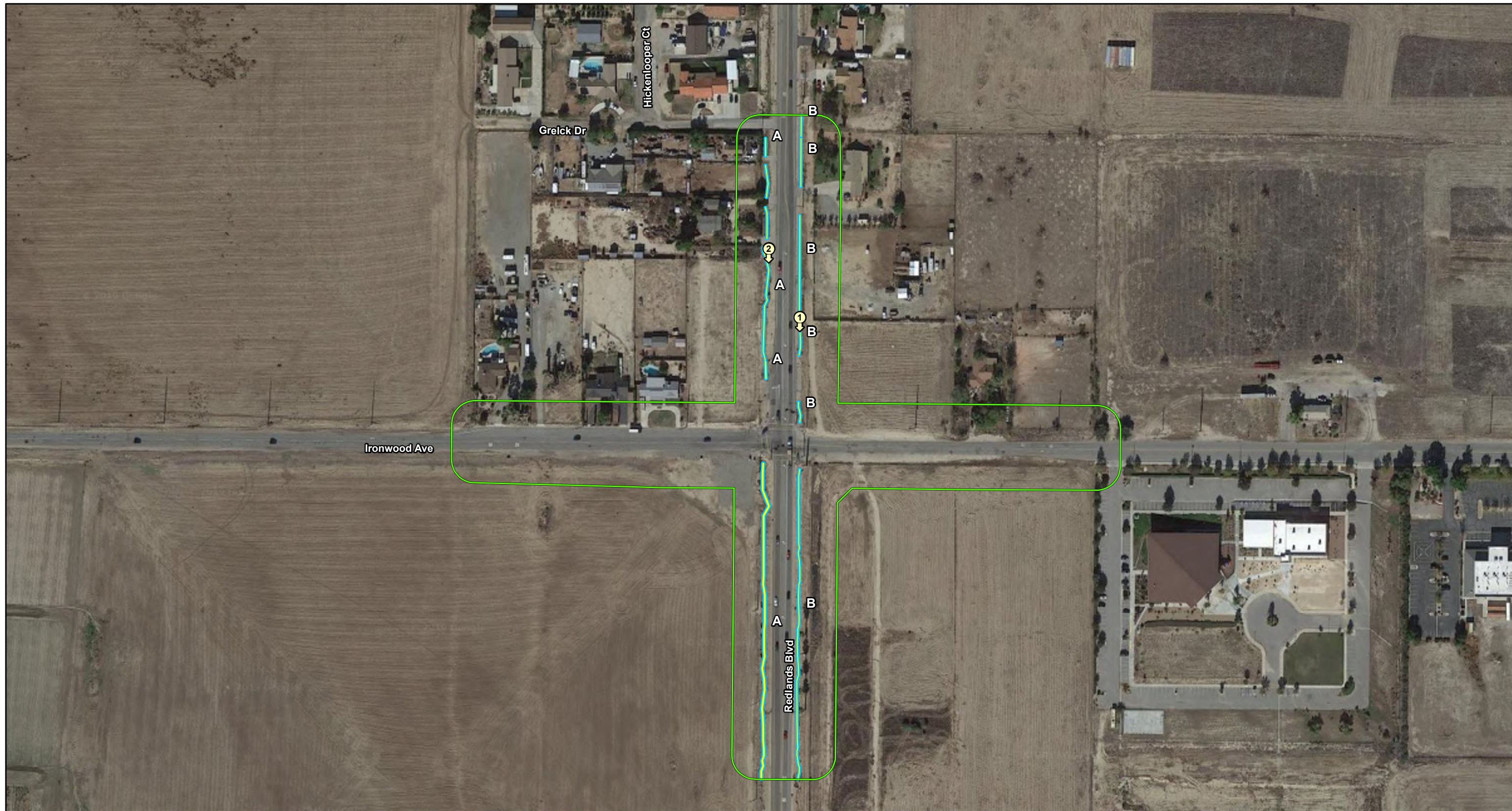


SOURCE: Bing (2016); MBI (9/2018); ESRI (07/2012)

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*SR-60/World Logistics Center Parkway
Interchange Project*
Project Location and Vicinity

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Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

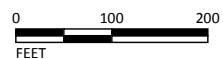
Jurisdictional Waters (0.165 ac)

Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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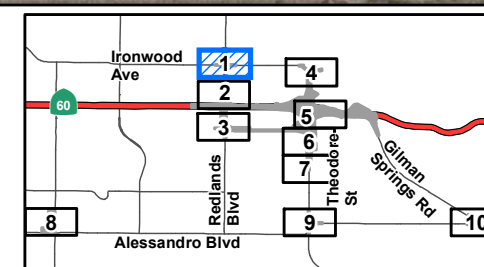
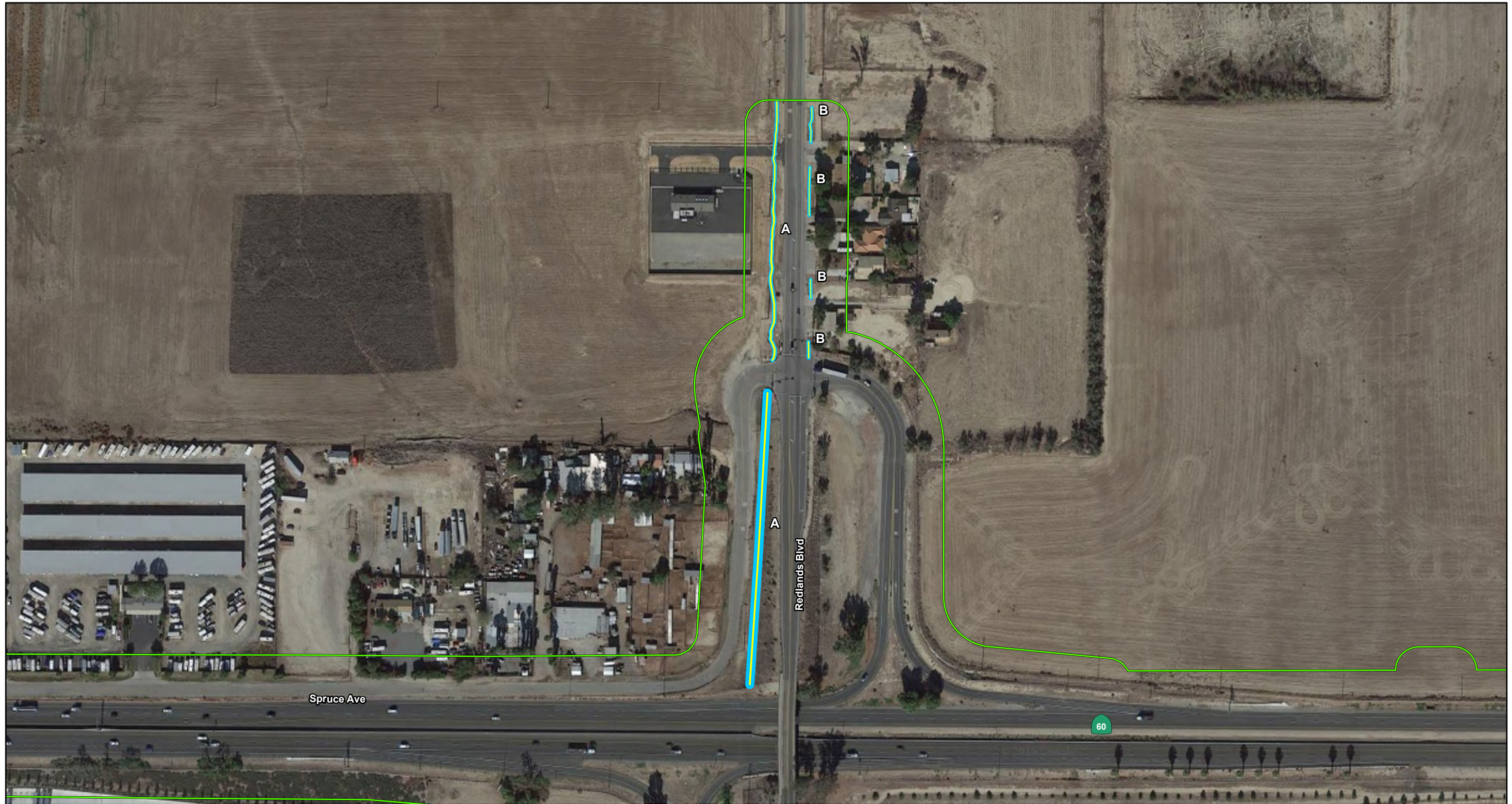


FIGURE 2
Sheet 1 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

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Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

Jurisdictional Waters (0.165 ac)

Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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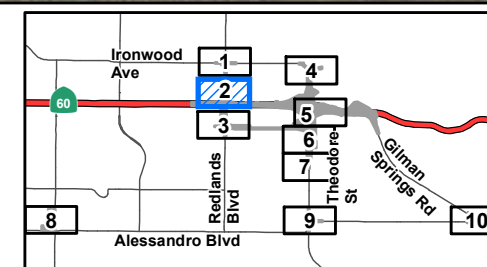


FIGURE 2

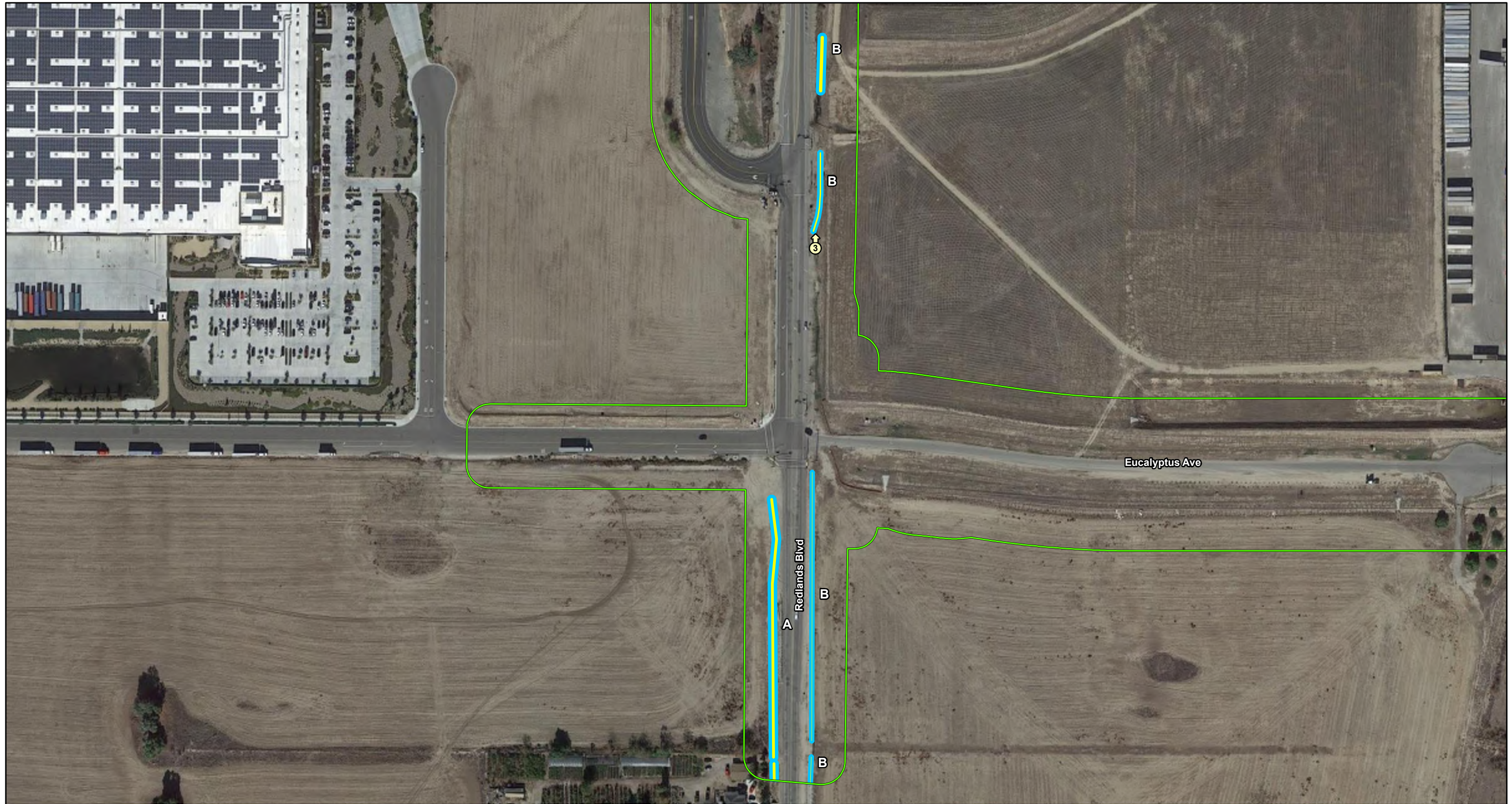
Sheet 2 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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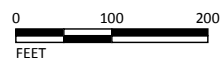
- Biological Study Area (BSA)
- Photo Locations

USACE

- Jurisdictional Waters (0.165 ac)
- Non-Jurisdictional Waters (1.079 ac)

CDFW

- Streambed (1.796 ac)
- Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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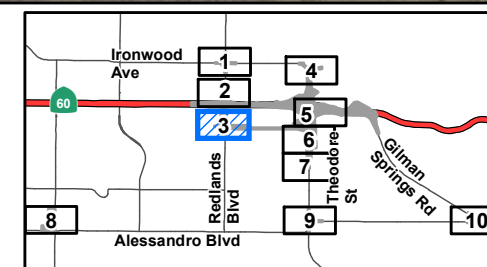


FIGURE 2
Sheet 3 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

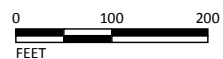
Jurisdictional Waters (0.165 ac)

Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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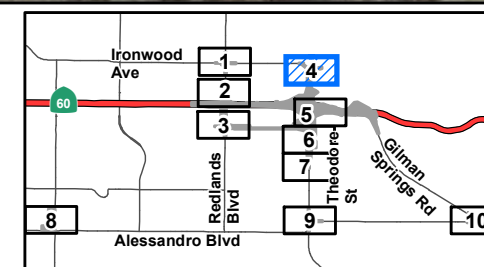


FIGURE 2

Sheet 4 of 10

SR-60/World Logistics Center Parkway Interchange Project
Potential Jurisdictional Features

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LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

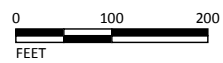
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Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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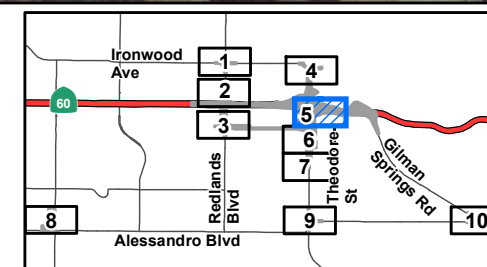
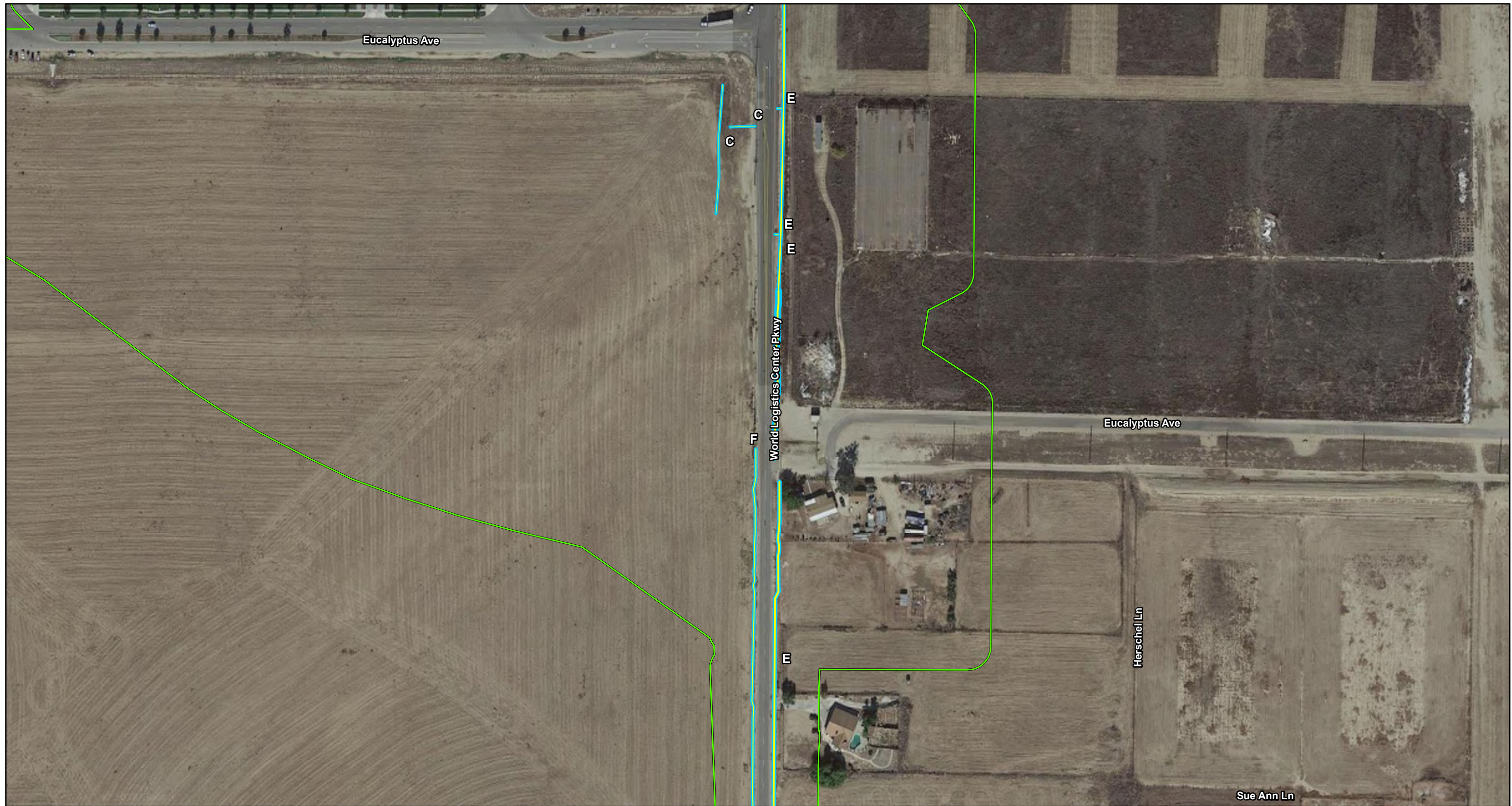


FIGURE 2
Sheet 5 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

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Project No. 0813000109



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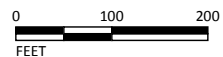
- Biological Study Area (BSA)
- Photo Locations

USACE

- Jurisdictional Waters (0.165 ac)
- Non-Jurisdictional Waters (1.079 ac)

CDFW

- Streambed (1.796 ac)
- Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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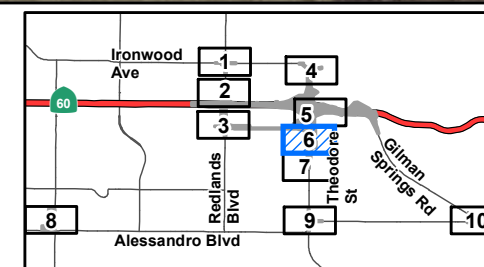
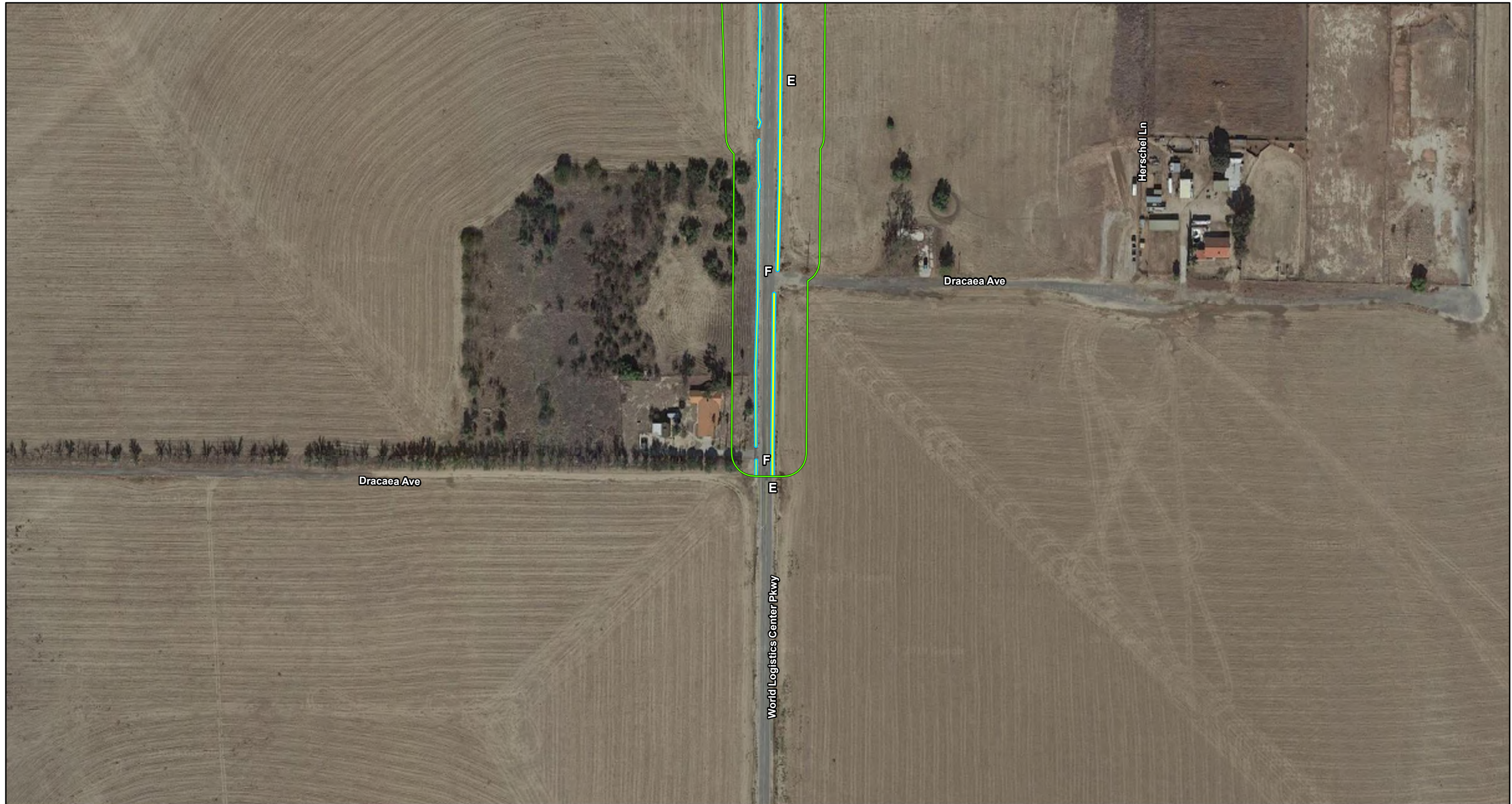


FIGURE 2
Sheet 6 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

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EA No. 0M590
Project No. 0813000109



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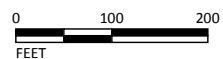
- Biological Study Area (BSA)
- Photo Locations

USACE

- Jurisdictional Waters (0.165 ac)
- Non-Jurisdictional Waters (1.079 ac)

CDFW

- Streambed (1.796 ac)
- Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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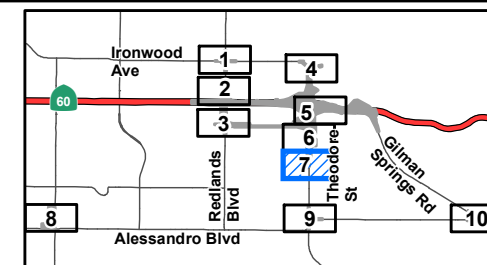


FIGURE 2
Sheet 7 of 10

*SR-60/World Logistics Center Parkway
Interchange Project*
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

Jurisdictional Waters (0.165 ac)

Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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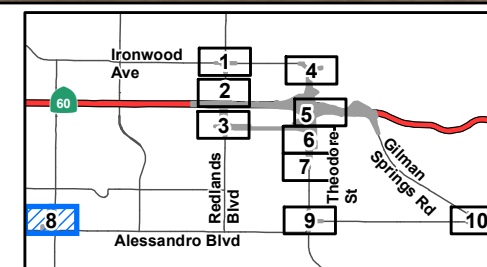


FIGURE 2

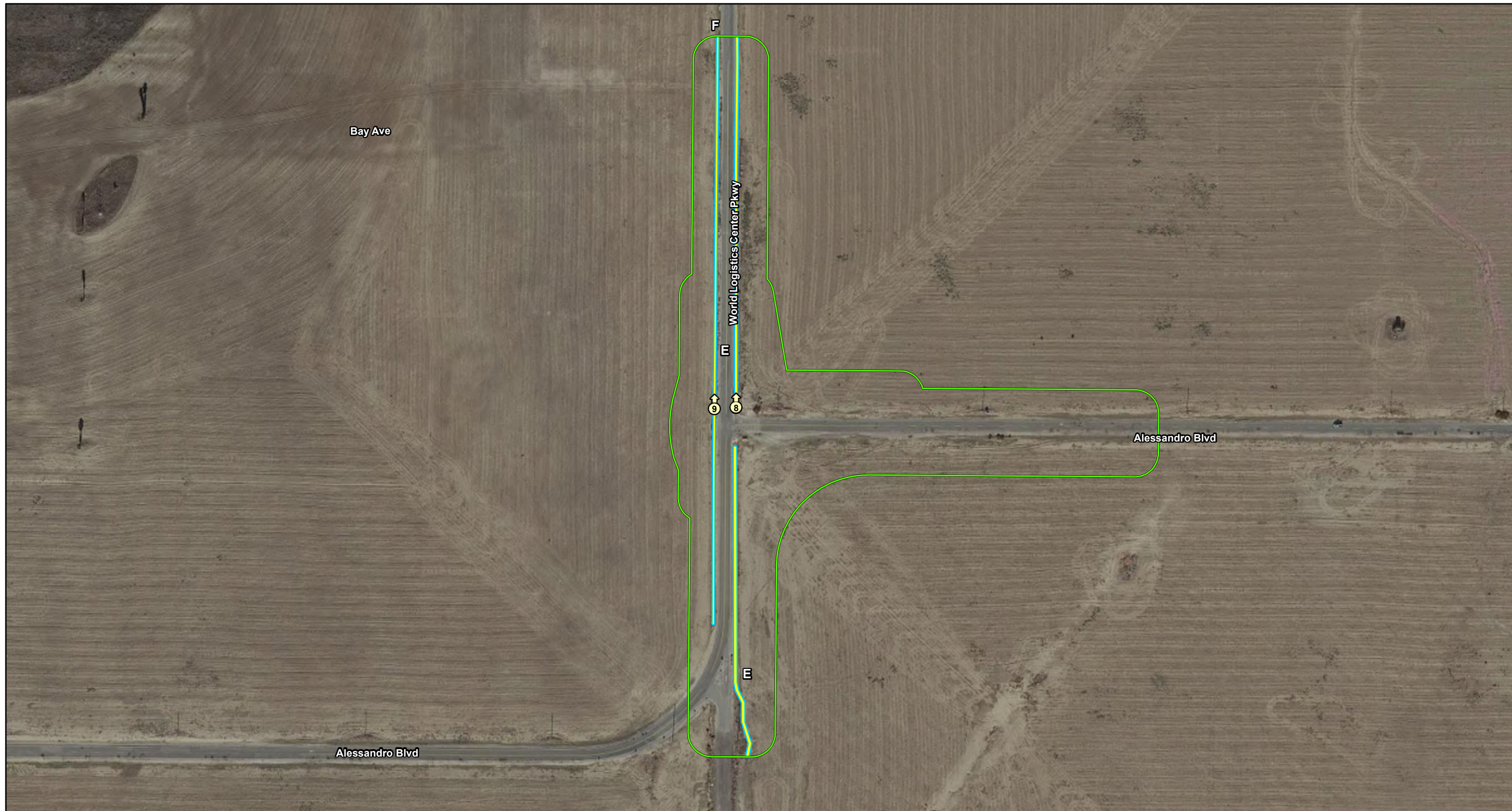
Sheet 8 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0

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Project No. 0813000109



LEGEND

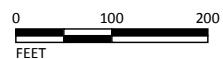
- Biological Study Area (BSA)
- Photo Locations

USACE

- Jurisdictional Waters (0.165 ac)
- Non-Jurisdictional Waters (1.079 ac)

CDFW

- Streambed (1.796 ac)
- Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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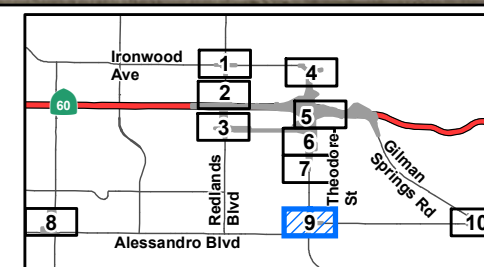


FIGURE 2
Sheet 9 of 10

*SR-60/World Logistics Center Parkway
Interchange Project*
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Photo Locations

USACE

Jurisdictional Waters (0.165 ac)

Non-Jurisdictional Waters (1.079 ac)

CDFW

Streambed (1.796 ac)

Streambed/Riparian (0.301 ac)



SOURCE: Google (2018); RBF (2018)

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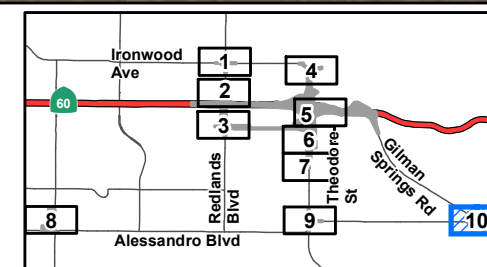


FIGURE 2

Sheet 10 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Potential Jurisdictional Features

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



1. View of Drainage Feature B, northeast of the intersection of Redlands Boulevard and Ironwood Avenue. Photograph taken (April 6, 2015)



2. View of Drainage Feature A, northwest of the intersection of Redlands Boulevard and Ironwood Avenue. Photograph taken (April 6, 2015)



3. View of Drainage Feature B near the Redlands Boulevard on-ramp where it is a trapezoidal concrete lined channel. Photograph taken (April 1, 2015)



4. View of Drainage Feature H where it drains under Theodore Street to the west. This drainage is primarily a concrete lined v-ditch paralleling Ironwood Avenue. Photograph taken (April 1, 2015)

FIGURE 3
(Page 1 of 4)

*State Route 60 (SR-60) / World Logistics Center
Parkway Interchange Project*
Jurisdictional Delineation Site Photographs

08-RIV-60 PM 20.0/22.0
EA# 0M590 PN 0813000109



5. View of Drainage Feature H where it drains southeasterly through agricultural lands. Photograph taken (April 6, 2015)



6. View of Drainage Features C and D southwest of the World Logistics Center Parkway eastbound on-off ramps. Photograph taken (September 4, 2015)



7. View of Drainage Feature E southeast of the World Logistics Center Parkway eastbound on-off ramps showing a metal gutter feature on the right (west) side. Photograph taken (September 4, 2015)



8. View of Drainage Feature E northeast of the intersection of World Logistics Center Parkway and Alessandro Boulevard. Photograph taken (April 1, 2015)

FIGURE 3
(Page 2 of 4)

State Route 60 (SR-60) / World Logistics Center Parkway Interchange Project
Jurisdictional Delineation Site Photographs

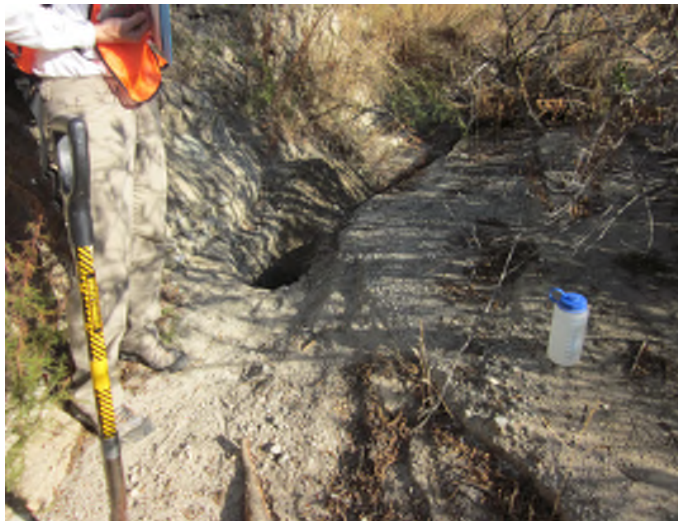
08-RIV-60 PM 20.0/22.0
EA# 0M590 PN 0813000109



9. View of Drainage Feature F northwest of the intersection of World Logistics Center Parkway and Alessandro Boulevard. Photograph taken (April 1, 2015)



10. View of Drainage Feature G and its concrete culvert at SR-60. Photograph taken (October 7, 2013)



11. View of sample plot location within Drainage Feature G. Photograph taken (September 4, 2013)

FIGURE 3
(Page 3 of 4)

*State Route 60 (SR-60) / World Logistics Center
Parkway Interchange Project*
Jurisdictional Delineation Site Photographs

08-RIV-60 PM 20.0/22.0
EA# 0M590 PN 0813000109



12. View of Drainage Feature I on the east side of Gilman Springs Road where it is filled with vegetative debris at the culvert entrance. Photograph taken (April 1, 2015)



13. View of Drainage Feature I and the concrete box culvert on the westerly side of Gilman Springs Road. Photograph taken (April 1, 2015)

FIGURE 3
(Page 4 of 4)

*State Route 60 (SR-60) / World Logistics Center
Parkway Interchange Project*
Jurisdictional Delineation Site Photographs

08-RIV-60 PM 20.0/22.0
EA# 0M590 PN 0813000109

APPENDIX B

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR-60/Theodore City/County: Morano Valley, Riv. Cnty Sampling Date: 9/4/13
 Applicant/Owner: Caltrans State: CA Sampling Point: SP1
 Investigator(s): Woodward & Hehertz Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): drainage Local relief (concave, convex, none): _____ Slope (%): 0/35
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>~33%</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>~10 x 5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Baccharis salicifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Eriogonum fasciculatum</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	OBL species <u>0</u> x 1 = <u>0</u>
3. <u>Salvia mellifera</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	FACW species <u>0</u> x 2 = <u>0</u>
4. _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5. _____	_____	_____	_____	FACU species <u>0</u> x 4 = <u>0</u>
<u>21</u> = Total Cover				UPL species <u>14</u> x 5 = <u>70</u>
				Column Totals: <u>29</u> (A) <u>115</u> (B)
				Prevalence Index = B/A = <u>3.97</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Artemisia dracunculoides</u>	<u>5</u>	<u>Y</u>	<u>UPL</u>	___ Dominance Test is >50%
2. <u>Bromus madritensis ssp. rubens</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	___ Prevalence Index is ≤3.0 ¹
3. <u>Hirschfeldia incana</u>	<u>1</u>	<u>N</u>	<u>UPL</u>	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Centaurea melitensis</u>	<u><1</u>	<u>N</u>	<u>UPL</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>8</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Footnote:
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum <u>71</u> % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				
Remarks:				

APPENDIX C

ANALYSIS OF FUNCTIONS AND VALUES OF WETLANDS AND OTHER WATERS

ANALYSIS OF FUNCTIONS AND VALUES OF WETLANDS AND OTHER WATERS

The following is a qualitative assessment of the functions and values attributable to the identified potential jurisdictional waters in the BSA. All waters have some degree of functionality, and no single wetland can perform all of the functions considered below. The following functions are analyzed at low, moderate, or high value levels. Each drainage in the BSA is analyzed in Table C-1 (following) based on the criteria outlined below.

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

Because all the drainages within the BSA are at least partially earthen, some soil saturation occurs. Therefore; they all have a low to moderate hydrologic regime value.

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

With the exception of Drainage Features C and D, all the drainages in the BSA have a low to moderate flood storage and flood flow modification value. Drainage Features C and D have low values because they flow into a vacant field.

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

Because all the drainages in the BSA have little or no vegetation, they all have a low sediment retention value.

Nutrient Retention and Transformation. Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover, in which nutrients are released for uptake by plants

downstream. Wetland systems in general are much more productive with regard to nutrients than upland habitats. The regular availability of water associated with the wetland or stream may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be utilized by a variety of aquatic and terrestrial wildlife downstream.

Because the majority of the drainages in the BSA are channelized and devoid of vegetation, and the natural drainage features that are present are vegetated by upland vegetation, the nutrient retention and transformation for all drainages within the BSA is considered low.

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

Because all the drainages in the BSA have little or no vegetation, they all have a low toxicant trapping value.

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

The drainages in the BSA may provide some value for recreational uses such as walking and birding, but because the majority of these drainage features are channelized and near major roads and freeways, all the drainages in the BSA are considered to have a low social significance value.

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

Because all the drainages in the BSA have little or no vegetation or ponding, they all have a low wildlife habitat value.

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

Because all of the drainages in the BSA are ephemeral, they all have a low aquatic habitat value.

Table C-1: Functions and Values of Drainages within the Biological Study Area

Drainage	Hydrologic Regime	Flood Storage and Flood Flow Modification	Sediment Retention	Nutrient Retention and Transformation	Toxicant Trapping	Social Significance	Wildlife Habitat	Aquatic Habitat
A	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
B	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
C	Low to Moderate	Low	Low	Low	Low	Low	Low	Low
D	Low to Moderate	Low	Low	Low	Low	Low	Low	Low
E	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
F	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
G	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
H	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low
I	Low to Moderate	Low to Moderate	Low	Low	Low	Low	Low	Low

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Appendix G – MSHCP Consistency Assessment

**WESTERN RIVERSIDE COUNTY
MULTIPLE SPECIES HABITAT CONSERVATION
PLAN CONSISTENCY ASSESSMENT**

**STATE ROUTE 60/WORLD LOGISTICS CENTER PARKWAY
INTERCHANGE PROJECT**

MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

September 2019

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APPENDIX

A: FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

ac	acre/acres
amsl	above mean sea level
BMPs	best management practices
BSA	biological study area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Moreno Valley
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSS	coastal sage scrub
cy	cubic yard/yards
DBESP	Determination of Biologically Superior or Equivalent Preservation
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FESA	Federal Endangered Species Act
ft	foot/feet
GIS	geographic information systems
HCP	Habitat Conservation Plan
IPaC	Information Planning and Conservation System
LAPM	Los Angeles pocket mouse
LOS	level of service
MBTA	Migratory Bird Treaty Act
mi	mile/miles
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System

OHW	ordinary high water mark
project	State Route 67/World Logistics Center Parkway Interchange Project
RCA	Western Riverside County Regional Conservation Authority
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SR-60	State Route 60
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WLC Pkwy	World Logistics Center Parkway

INTRODUCTION

The City of Moreno Valley (City), in cooperation with the California Department of Transportation (Caltrans) District 8, proposes to reconstruct and improve the State Route 60 (SR-60)/World Logistics Center Parkway (WLC Pkwy) Interchange Project (project). The majority of the project site is within Moreno Valley. The northeast quadrant of the site is in unincorporated Riverside County but still within the City's Sphere of Influence. Figure 1 shows the regional location and project limits (all figures are included in Appendix A).

This report analyzes consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) for two Build Alternatives (Alternatives 2 and 6) and two Design Variations (Design Variations 2a and 6a).

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

As a Permittee to the MSHCP, the City must ensure that the project complies with the provisions of the MSHCP. The project is subject to the following:

- Section 6.1.2: Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools
- Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface
- Section 6.3.2: Additional Survey Needs and Procedures.
- Section 7.3.5: Planned Roads Within the Criteria Area
- Section 7.5.1: Guidelines for the Siting and Design of Planned Roads Within the Criteria Area and Public/Quasi-Public Lands.
- Section 7.5.2: Guidelines for Construction of Wildlife Crossings.
- Section 7.5.3: Construction Guidelines.
- Appendix C: Standard Best Management Practices.

PROJECT PURPOSE AND NEED

The purpose of the proposed project is to:

1. Provide increased interchange capacity, reduce congestion, and improve traffic operations to support the forecast travel demand for the 2045 design year;
2. Improve existing and projected interchange geometric deficiencies; and
3. Accommodate a multimodal facility that has harmony with the community and preserves the values of the area.

Need

The proposed project is needed for the following reasons:

1. According to the demographics and growth forecast prepared for the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), between 2012 and 2040, Riverside County's population is expected to increase by 41 percent, job growth is anticipated to increase by 90 percent, and the number of households are anticipated to increase by 51 percent. For Moreno Valley specifically, between 2012–2040, population is anticipated to increase by 30 percent, household jobs are anticipated to increase by 165 percent, and the number of households are anticipated to increase by 41 percent. Without improvements, in the year 2045, the eastbound and westbound on- and off-ramps are anticipated to operate at unacceptable levels of service (LOS) (LOS E in the a.m. peak hour and LOS F in the p.m. peak hour, respectively) and the ramp intersections with WLC Pkwy are anticipated to operate at LOS F for both the a.m. and p.m. peak hours. The westbound mainline segment on SR-60 between WLC Pkwy and Redlands Boulevard is anticipated to operate at LOS E during the a.m. peak hour. The Theodore Street intersections with Ironwood Avenue, the SR-60 westbound and eastbound ramps, and Eucalyptus Avenue are forecast to operate at LOS F in the p.m. peak hour.
2. The overpass bridge at the interchange was hit by a truck in January 2015 and a costly emergency repair project was required, so there is a need to bring vertical clearance up to current standards. In addition, the WLC Pkwy overcrossing is geometrically deficient and needs additional capacity to accommodate projected future travel volumes.
3. This project will fulfill the need to accommodate the movement of people using multiple modes of transportation by community-based design, taking into consideration the natural environment, social environment, transportation behavior, cultural characteristics and economic environment.

PROJECT DESCRIPTION

Although the City's General Plan Circulation Element designates WLC Pkwy as a Minor Arterial (two lanes in each direction), existing WLC Pkwy through the project limits is one travel lane in each direction, including on the overcrossing over SR-60. Existing SR-60 between Redlands Boulevard and

Gilman Springs Road is two mixed-flow travel lanes in each direction. The proposed project would construct modifications to the existing SR-60/WLC Pkwy interchange from Post Mile 20.0 to Post Mile 22.0 on SR-60, a distance of 2 miles (mi). Major improvements to the interchange will include:

1. Reconstruction of the westbound and eastbound on- and off-ramps to SR-60;
2. Replacement of the existing WLC Pkwy overcrossing with an expanded four-lane overcrossing (two through lanes in each direction) with a minimum 16.5-foot (ft) vertical clearance between the eastbound and westbound SR-60 ramps and reconstruction of WLC Pkwy between the southern limits of the project and the eastbound SR-60 ramps; and
3. Construct three lanes in each direction on WLC Pkwy between the eastbound SR-60 ramps and Eucalyptus Avenue west (Eucalyptus Avenue west of WLC Pkwy); construct two lanes each direction but grade for three lanes each direction on WLC Pkwy between Eucalyptus Avenue west and Eucalyptus Avenue east (Eucalyptus Avenue east of WLC Pkwy). South of Eucalyptus Avenue east, WLC Pkwy would narrow to one lane in each direction.

The proposed improvements to the on- and off-ramps would extend west and east of the proposed overcrossing on SR-60 for proposed auxiliary lanes in each direction. The proposed improvements to Theodore Street/WLC Pkwy would extend north of SR-60 to Ironwood Avenue and south of SR-60 to south of Eucalyptus Avenue. Project construction is anticipated to begin in early 2022 and be completed in winter 2023, contingent upon full funding of all phases.

An existing Caltrans paved material transfer area in the southwest quadrant of the existing SR-60/WLC Pkwy interchange, within the existing eastbound loop on-ramp, is currently used as a temporary site for the transfer of street-sweeping materials. The existing paved material transfer area will be relocated to the SR-60/Gilman Springs interchange area as part of the proposed project.

Three alternatives and two design variations will be evaluated in the environmental document for the proposed project: Alternative 1 (No Build Alternative [no project]), Alternative 2 (Modified Partial Cloverleaf), Alternative 6 (Modified Partial Cloverleaf with Roundabout Intersections), Alternative 2 with Design Variation 2a, and Alternative 6 with Design Variation 6a. The Design Variations for each Build Alternative are similar and would realign Eucalyptus Avenue to join WLC Pkwy approximately 900 ft south of the existing Eucalyptus Avenue/WLC Pkwy intersection. Both Build Alternatives and Design Variations would require full right-of-way acquisitions. Design Variation 6a would require the same amount of acquisitions with an additional full acquisition in the southeast quadrant of the interchange that would result in one residential displacement. There would be partial right-of-way acquisitions within all four quadrants of the interchange.

During the construction phase of the proposed project, removal of the existing overcrossing and construction of the new overcrossing and ramps would interfere with access to SR-60 at WLC Pkwy. The WLC Pkwy overcrossing is being evaluated for closure during construction of the proposed project. Therefore, if not done prior to this project, Eucalyptus Avenue would be extended and improved for approximately 5,100 ft between WLC Pkwy and Redlands Boulevard to provide a detour route to SR-60. The improvements to Eucalyptus Avenue would be constructed early in the construction schedule, prior to the closure of the WLC Pkwy overcrossing. North of the freeway,

access to SR-60 during construction would be provided via Ironwood Avenue and Redlands Boulevard. South of the freeway, access to SR-60 would be provided via Alessandro Boulevard and Gilman Springs Road and via Eucalyptus Avenue and Redlands Boulevard. Additional intersection improvements are proposed along the detour routes to facilitate vehicle movement. As a result, widening is proposed at the Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road intersections. Consequently, signal modifications are proposed at the Redlands Boulevard/Ironwood Avenue and Redlands Boulevard/Eucalyptus Avenue intersections. A new signal would be installed at the Gilman Springs Road/Alessandro Boulevard intersection due to the high through movements on Gilman Springs Road conflicting with left turns to and from Alessandro Boulevard. The improvements required for the detour routes also include utility adjustments and/or relocations at Redlands Boulevard/Ironwood Avenue, WLC Pkwy/Alessandro Boulevard, and Alessandro Boulevard/Gilman Springs Road.

Project construction would also involve the import of soils to the project site from a borrow site. One borrow site, the City Stockpile, is at the northwest corner of the intersection of Alessandro Boulevard/Nason Street, approximately 2.3 mi from the western boundary of the project site. Approximately 50,000 cubic yards (cy) of import material will be imported to the project from the City Stockpile borrow site. The City Stockpile will be environmentally cleared with this project. Additional fill material beyond the 50,000 cy will be necessary for the project and will come from another site(s) to be determined during future phases of the project.

Figure 2 shows the project geometrics for Alternatives 2 and 6, and Figure 3 shows the project geometrics for Design Variations 2a and 6a.

MSHCP FEES

Section 12.2.2 of the MSHCP Implementing Agreement requires MSHCP Permittee regional infrastructure projects to contribute funding to MSHCP implementation. The Western Riverside County Regional Conservation Authority (RCA) Board of Directors adopted a policy regarding public project funding contributions to the MSHCP that requires City and County of Riverside roadways covered by the MSHCP to contribute 5 percent of project construction costs of any new or capacity enhancing/widening project, excluding Transportation Uniform Mitigation Fee and Measure A sales tax fund sources. Also, contingent on approval of Federal Highway Administration, any federally funded portion of the project's construction would be subject to the MSHCP fee contribution. The 5 percent contribution, like the Local Development Mitigation Fee payment by private projects, is a requirement of MSHCP participation.

METHODS

LITERATURE SEARCH

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 biological study area (BSA). Federal and State lists of sensitive species were examined. Current and historical aerial photographs were also reviewed in Google Earth (2018) and NETRonline Historic Aerials.¹ Current database records reviewed included the following:

- CDFW, California Natural Diversity Database (CNDDDB). 2019. Rarefind 5 (version 5.2.14). Website: <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data> (accessed May 30, 2019). United States Geological Survey (USGS) California 7.5-minute topographic quadrangle maps searched: *Sunnymead, El Casco, Lakeview, Perris, Redlands, and Yucaipa*.
- California Native Plant Society (CNPS). 2019. Electronic Inventory of Rare and Endangered Plants (online edition, v8-03 0.45). Website: <http://www.cnps.org/inventory> (accessed May 30, 2019). USGS California 7.5-minute topographic quadrangle maps searched: *Sunnymead, El Casco, Lake View, Perris, Redlands, and Yucaipa*.
- MSHCP. 2003. Volume 1, The Plan, Parts 1 and 2.
- National Marine Fisheries Service (NMFS). 2019. California Species List Tool. Website: http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html (accessed May 30, 2019).
- USFWS. 2019. Information Planning and Conservation System (IPaC). Website: <http://www.ecos.fws.gov> (accessed May 30, 2019).

FIELD REVIEWS

Initial on-site field investigations were conducted in 2013, 2015, and 2018 to identify vegetation communities, habitats for special-status species, potential jurisdictional waters, and other biological resource issues. Based on the literature review and initial field investigations, focused field surveys were completed for the following:

- Fairy shrimp habitat assessment
- Burrowing owl (*Athene cunicularia*) habitat assessment and focused survey
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) (LAPM) focused survey
- Bat habitat assessment
- Jurisdictional Delineation

Survey methods for these studies are described in the Personnel and Survey Dates section below.

¹ NETRonline Historic Aerials, <https://www.historicaerials.com>.

PERSONNEL AND SURVEY DATES

Table A lists the survey data, including survey type, date(s), and qualified biologist(s) for the various surveys performed within the BSA. Table A is followed by a detailed discussion of the methods used for these surveys.

Table A: Survey Data

Survey Type	Date(s)	Biologist(s)
Fairy Shrimp	August 5, 2013	Stanley Spencer
Burrowing Owl	August 26 and 27, 2013; April 1, 2015; September 19, 2018	Stanley Spencer, Denise Woodard; Andrea Haller
Los Angeles Pocket Mouse	August 4, 5, 6, 7, 8 and 9, 2013.	Richard Erickson, Leo Simone, Denise Woodard
	July 26, 27, 28, 29, and 31, 2015	Leo Simone, Claudia Bauer
Bats	August 5, 2013; and April 1, 2015	Jill Carpenter, Stanley Spencer, Denise Woodard
Jurisdictional Delineation	September 4 and October 7, 2013; April 1, 2015; and October 4, 2018	Denise Woodard, Elizabeth Hohertz; Andrea Haller

Source: Compiled by LSA Associates, Inc. (2018).

Fairy Shrimp

A habitat assessment for fairy shrimp was conducted within the BSA by USFWS permitted (USFWS Permit TE-777965-10) fairy shrimp biologist Stan Spencer on August 5, 2013.

Burrowing Owl

The focused burrowing owl survey was conducted in accordance with the MSHCP accepted protocol, *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (Riverside County Environmental Programs Department, March 2006). The burrow survey was conducted on August 26 and 27, 2013, by biologist Stanley Spencer, and on April 1, 2015 by biologist Denise Woodard. A habitat assessment was conducted on September 19, 2018 by biologist Andrea Haller for Design Variations 2a and 6a. The surveys were conducted by walking throughout the project site. Transect spacing averaged 70 ft, which allowed for 100 percent visual coverage of the ground surface. Potential habitat was examined for burrowing owl and owl sign (e.g., feathers, pellets, whitewash, and prey remnants). Potential habitat within 500 ft of the site was surveyed using binoculars.

Los Angeles Pocket Mouse

SR-60/Gilman Springs Road MSHCP Survey Area

Biologists Richard Erickson and Leo Simone conducted five nights of protocol trapping (August 4 through 9, 2013), pursuant to LSA's USFWS Permit TE-777965-10 and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals. Ms. Woodard assisted. The survey was conducted according to the MSHCP Biological Monitoring Program, Small Mammal Trappings Standard Operating Procedures and LAPM Project-Specific Procedures, the currently accepted protocol for Los Angeles pocket mouse (LAPM). A total of 130

traps were set in one line and baited with birdseed and wild oats. Trap checks occurred at midnight and at dawn. All animals were identified and released, unharmed, at their capture sites.

Gilman Springs Road/Alessandro Boulevard MSHCP Survey Area

Biologists Leo Simone and Claudia Bauer conducted five nights of protocol trapping (July 26–31, 2015), pursuant to LSA’s CDFW attachment to Scientific Collecting Permit No. SC-000777 providing Conditions for Research on Listed Mammals (November 27, 2012– January 31, 2017). A total of 100 traps were set in two lines. Traps were baited with bird seed and wild oats. Trap checks occurred near midnight and at dawn. All animals were identified and released unharmed at their capture sites.

Bats

A daytime bat habitat assessment was conducted on August 5, 2013, by bat specialist Jill Carpenter and Dr. Spencer, and by Ms. Woodard on April 1, 2015. Potential roosting sites within the project footprint and immediate surrounding areas were first identified by reviewing aerial map imagery and project design plans to locate bridges and culvert structures greater than 3 ft in height or diameter. These structures were then visited on foot and examined for suitable roosting habitat, such as crevices or cavities, as well as for the presence of bats or bat sign (e.g., guano, urine staining, or vocalizations) that may indicate use by bats. Any suitable roosting features observed were evaluated for potential use as day- and/or night-roosting habitat based on the quality of the structural feature(s) present and the proximity of the structure to water or to vegetated areas that may provide foraging habitat; these factors increase the desirability of a given structure as a potential roost site. Locations containing suitable day-roosting habitat were also assessed for potential use as maternity roost sites, based on indications that the observed roost feature supports or may support a large congregation of bats, or that bats are present in the structure during the maternity season (April 1–August 31). To facilitate the assessment of maternity roosting potential, this survey was performed in the summer, when a maternity colony would be present and detectable.

Jurisdictional Delineation

The fieldwork for this evaluation was conducted by consulting biologists Ms. Woodard and Elizabeth Hohertz on September 4 and October 7, 2013, by Ms. Woodard on April 1, 2015, and by Ms. Woodard and Ms. Haller on October 4, 2018. The BSA was surveyed by vehicle and on foot for both Federal and State jurisdictional areas according to currently accepted Federal and State regulations and guidelines.

ENVIRONMENTAL SETTING

BIOLOGICAL STUDY AREA

The BSA was created to encompass the proposed project footprint (Alternatives 2 and 6 and Design Variations 2a and 6a) and adjacent habitats within 50 feet of the project footprint. The BSA spans approximately 3.5 mi in Moreno Valley and parts of unincorporated Riverside County. The BSA is north of Lake Perris and the San Jacinto Wildlife Area/Mystic Lake area and south of the foothills of The Badlands along SR-60. The BSA is primarily developed with existing roadway infrastructure and associated ornamental vegetation. Vegetation in the BSA includes ruderal/agricultural, nonnative grassland, saltbush scrub, coastal sage scrub, and riparian scrub. Surrounding land uses consist of undeveloped open space and developed areas including transportation corridors and residential and commercial/industrial development. Details of the biological and physical conditions within the BSA are discussed below.

TOPOGRAPHY AND SOILS

The BSA is north of Lake Perris and the San Jacinto Wildlife Area/Mystic Lake area, and south of the foothills of The Badlands. The topography slopes gently to the south, with elevations ranging from 1,600 ft above mean sea level (amsl) to 1,950 ft amsl. Soils within the BSA, as mapped by the Natural Resource Conservation Service Online Web Soil Survey¹ are included in Table B and shown on Figure 4.

Table B: Soils Within the BSA

Soil Type	Slope Percentage
Badland	None
Metz loamy sand, channeled	0 to 15
Metz gravelly sandy loam	2 to 15
San Emigdio fine sandy loam	2 to 8
San Emigdio loam	2 to 8

Source: Natural Resource Conservation Service Online Web Soil Survey.

BSA = Biological Study Area

Several drainage features are present within the BSA. They consist primarily of channelized storm water drainages that eventually convey flows into the San Jacinto River. The flows are conveyed into the San Jacinto River via Mystic Lake and a series of nearby reclamation ponds within the San Jacinto Wildlife Area.

VEGETATION

Vegetation within the BSA has been affected by agriculture and commercial and residential development. The BSA contains six vegetation communities: Ornamental/Developed, Ruderal/

¹ Natural Resource Conservation Service Online Web Soil Survey, <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

Agriculture, Non-Native Grassland, Saltbush Scrub, Coastal Sage Scrub, and Riparian Scrub, as described below. Figure 5 shows vegetation and land use.

- **Ornamental/Developed:** Ornamental species common within the community include Peruvian pepper tree (*Schinus molle*), tamarisk (*Tamarix aphylla*), European olive (*Olea europaea*), and eucalyptus (*Eucalyptus* spp.). Developed areas within the BSA include residential and commercial development and transportation corridors. This is the dominant land use within the BSA.
- **Ruderal/Agriculture:** Ruderal/agricultural areas are present throughout the BSA, mostly adjacent to the existing SR-60 alignment and other roads. These areas have been subject to repeated disturbance by disking and agricultural use. Dominant species include stinknet (*Oncosiphon piluliferum*), common Mediterranean grass (*Schismus barbatus*), shortpod mustard (*Hirschfeldia incana*), Russian-thistle (*Salsola tragus*), riggut brome (*Bromus diandrus*), and red brome (*Bromus madritensis*).
- **Non-Native Grassland:** Non-native grassland is present in small patches adjacent to developed areas. Dominant species include red brome, riggut brome, common Mediterranean grass, and redstem filaree (*Erodium cicutarium*). The area of nonnative grassland on the southeast quadrant of WLC Pkwy and SR-60 contains scattered mule fat (*Baccharis salicifolia*) but is not different enough from the rest of the non-native grassland within the BSA to be mapped as a separate community.
- **Saltbush Scrub:** Saltbush scrub occurs in small, scattered patches north of the intersection of SR-60/WLC Pkwy and in the eastern portion of the BSA. This community is dominated by fourwing saltbush (*Atriplex canescens*) and sprawling saltbush (*Atriplex suberecta*).
- **Coastal Sage Scrub:** Coastal sage scrub (CSS) is present primarily on cut slopes adjacent to SR-60 and Gilman Springs Road at the eastern end of the BSA. This plant community is composed predominantly of California sagebrush (*Artemisia californica*), brittlebush (*Encelia farinosa*), and California buckwheat (*Eriogonum fasciculatum*).
- **Riparian Scrub:** Riparian scrub is mapped in two small areas within the BSA, both of which are associated with drainages. Dominant plants within the riparian scrub communities include mule fat and fourwing saltbush.

RESULTS AND FINDINGS

VEGETATION COMMUNITIES AND LAND COVERS

The BSA contains six vegetation and land use types: Ornamental/Developed, Ruderal/Agriculture, Non-Native Grassland, Saltbush Scrub, Coastal Sage Scrub, and Riparian Scrub. The dominant vegetation type in the BSA is Ruderal/Agricultural. Impacts to vegetation and land use were calculated using geographic information systems (GIS) software based on current design plans for Alternatives 2 and 6 and Design Variations 2a and 6a. Table C provides the temporary and permanent effect to vegetation and land use within the BSA for Alternatives 2 and 6, and Table D provides the temporary and permanent effect to vegetation and land use within the BSA for Design Variations 2a and 6a.

Table C: Acreage of Impacts to Vegetation and Land Use for Alternatives 2 and 6

Vegetation and Land Use Type	Total in BSA	Alternative 2		Alternative 6	
		Temporary Impact	Permanent Impact	Temporary Impact	Permanent Impact
Ornamental/Developed	111.58	43.02	38.96	43.00	38.98
Ruderal/Agriculture	215.00	63.62	68.47	63.15	68.93
Non-Native Grassland	25.62	6.40	10.54	6.40	10.54
Saltbush Scrub	1.50	0.00	1.39	0.00	1.39
Coastal Sage Scrub	10.87	0.26	7.33	0.26	7.33
Riparian Scrub	0.34	0.03	0.19	0.03	0.19
GRAND TOTAL	364.91	113.33	126.88	112.84	127.36

Source: Compiled by LSA Associates, Inc. (2018).
BSA = biological study area

Table D: Acreage of Impacts to Vegetation and Land Use for Design Variations 2a and 6a

Vegetation and Land Use Type	Total in BSA	Alternative 2a		Alternative 6a	
		Temporary Impact	Permanent Impact	Temporary Impact	Permanent Impact
Ornamental/Developed	111.58	40.38	42.02	40.41	43.84
Ruderal/Agriculture	215.00	58.71	100.06	58.29	102.41
Non-Native Grassland	25.62	6.40	10.54	6.40	10.54
Saltbush Scrub	1.50	0.00	1.39	0.00	1.39
Coastal Sage Scrub	10.87	0.26	7.33	0.26	7.33
Riparian Scrub	0.34	0.03	0.19	0.03	0.19
GRAND TOTAL	364.91	105.78	161.53	105.39	165.70

Source: Compiled by LSA Associates, Inc. (2018).
BSA = biological study area

MSHCP SECTION 6.1.2: RIPARIAN/RIVERINE AND VERNAL POOLS RESOURCES

Vernal Pools Resources

Vernal pools are depressions in areas where a hard underground layer prevents rainwater from draining into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates until the pools become completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. Soils in depressions suitable for fairy shrimp typically contain higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric soils. Hydric soils form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop.

The fairy shrimp habitat assessment found no evidence of vernal pools or other depressional features that would provide habitat for fairy shrimp species within the BSA. The soils within the study area are mapped as loams, loamy sands, and sandy loams that have higher percolation rates than the silt and clay soils typically associated with vernal pool features. No standing water or other sign of features that pond water (e.g., mud cracks and tire ruts) were found. Therefore, because the study area lacks features associated with fairy shrimp habitat, fairy shrimp and its habitat are considered absent from the study area.

Riparian/Riverine Resources

Section 6.1.2 of the MSHCP describes the process through which the protection of riparian/riverine areas and vernal pools is intended to occur within the MSHCP. The MSHCP describes Riparian/Riverine Areas as lands that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or that depend upon soil moisture from a nearby fresh water source; or areas with freshwater flow during all or a portion of the year. MSHCP Section 6.1.2 also states that areas demonstrating riparian/riverine/vernal pools characteristics, which are artificially created, are not considered to meet the definition of riparian/riverine/vernal pools resources regulated under the MSHCP.

Nine drainage features, Drainage Features A through I, were identified within the BSA (Figures 6–9) and are discussed below.

- **Drainage Feature A:** Drainage Feature A is an artificially created earthen and concrete ditch that transports roadway runoff. Drainage Feature A conveys flows into the storm drain system at Dracaea Avenue, approximately 0.5 mi south of the BSA. The areas adjacent to this drainage are entirely covered by paved areas and fallow agricultural fields. Because this drainage feature lacks riparian vegetation, does not provide wildlife habitat, and is not a naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.
- **Drainage Feature B:** Drainage Feature B is an artificially created earthen and concrete ditch that transports roadway runoff. Drainage Feature B conveys flows into the storm drain system at Dracaea Avenue, approximately 0.5 mi south of the BSA. The areas adjacent to this drainage are entirely covered by paved areas and fallow agricultural fields. Because this drainage feature

lacks riparian vegetation, does not provide wildlife habitat, and is not a historical naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.

- **Drainage Feature C:** Drainage Feature C is an artificially created earthen ditch that transports roadway runoff. Drainage Feature C conveys flows into a standpipe located at the northwest corner of WLC Pkwy and Eucalyptus Avenue. The underground pipe then transports flows beneath Eucalyptus Avenue before releasing them in a vacant field, where they eventually seep into the ground, with no evidence of an ordinary high water mark (OHWM) or streambed. The areas adjacent to this drainage are entirely covered by paved areas and undeveloped areas. Because this drainage feature lacks riparian vegetation, does not provide wildlife habitat, and is not a historical naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.
- **Drainage Feature D:** Drainage Feature D is an artificially created earthen ditch that transports roadway runoff. It conveys flows in a southerly direction for approximately 480 linear feet before draining into Drainage Feature C. Since this drainage feature lacks riparian vegetation, does not provide wildlife habitat, and is not a historical naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.
- **Drainage Feature E:** Drainage Feature E is an artificially created earthen and concrete ditch that transports roadway runoff along the east side of WLC Pkwy. Drainage Feature E conveys flows in a southerly direction within the BSA and continues south outside the BSA along WLC Pkwy, which turns into Davis Road, and eventually drains into the Mystic Lake area. Because this drainage feature lacks riparian vegetation, does not provide wildlife habitat, and is not a historical naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.
- **Drainage Feature F:** Drainage Feature F is an artificially created earthen ditch that transports roadway runoff along the west side of WLC Pkwy, south of Eucalyptus Avenue. Drainage Feature F conveys flows in a southerly direction within the BSA; it continues south outside the BSA along WLC Pkwy, which turns into Davis Road and eventually drains into the Mystic Lake area. Because this drainage feature lacks riparian vegetation, does not provide wildlife habitat, and is not a historical naturally occurring feature, it is not considered a riparian/riverine resource under the MSHCP.
- **Drainage Feature G:** Drainage Feature G is a natural earthen drainage that shows evidence of an OHWM and a streambed and banks. Drainage Feature G conveys flows in a southerly direction. The drainage is surrounded predominantly by upland vegetation (i.e., CSS and ruderal vegetation). However, a small patch of mule fat occurs along a bend in this drainage. Because this is a historically occurring natural drainage that contains a small amount of riparian vegetation, Drainage Feature G is considered a riparian/riverine resource. There is a total of 0.293 acre (ac) of riparian/riverine areas associated with Drainage Feature G.
- **Drainage Feature H:** Drainage Feature H is a natural earthen drainage west of Theodore Street and a concrete-lined V-ditch west of Theodore Street. The V-ditch carries roadway runoff from

Ironwood Avenue and conveys flows under Theodore Street via two 48-inch-diameter corrugated metal pipes onto agricultural lands. Drainage Feature H appears to receive flows primarily from the V-channel on Ironwood Avenue, but it may also receive sheet flows during large storm events from a natural drainage located outside the BSA, northeast of intersection of Theodore Street/Ironwood Avenue. A review of historic aeriels and the United States Geological Survey (USGS) *Sunnymead, California* 7.5-minute quadrangle indicates Drainage Feature H historically carried flows from the drainage located outside the BSA. The earthen portion of the drainage is dominated by upland vegetation (i.e., ruderal vegetation) with the exception of a small patch of mule fat. There is a total of 0.089 ac of riparian/riverine areas associated with Drainage Feature H.

- Drainage Feature I:** Drainage Feature I was perceptible only as a roadside drainage ditch during the field survey. However, based on aerial photograph review (Google Earth 2018) and review of the USGS *El Casco, California* 7.5-minute quadrangle, this drainage also appears to carry flows from a natural drainage stemming from the nearby foothills of The Badlands. Drainage Feature I conveys flows in a southwesterly direction, and an OHWM was only perceptible in the immediate area, on either side of the approximately 4 x 4 ft concrete box culvert at Gilman Springs Road. The drainage is surrounded by agricultural lands and upland vegetation (i.e., ruderal vegetation). There is a total of 0.081 ac of riverine habitat associated with Drainage Feature I.

Impacts to riparian/riverine areas affected by Alternatives 2 and 6, and Design Variations 2a and 6a are summarized in Tables E and F, and shown on Figures 5 through 8.

Table E: Effects to Potential MSHCP Riverine Areas by Alternative

Drainage ID	Riverine Areas (acres)							
	Alternative 2		Alternative 6		Design Variation 2a		Design Variation 6a	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
A	0.520	—	0.520	—	0.520	—	0.520	—
B	0.209	0.006	0.209	0.006	0.209	0.006	0.209	0.006
C	0.005	0.040	0.005	0.040	—	0.044	—	0.044
D	—	0.011	—	0.011	—	0.011	—	0.011
E	0.204	0.421	0.189	0.436	0.189	0.429	0.189	0.436
F	0.107	0.044	0.101	0.050	0.101	0.047	0.101	0.050
G	—	0.019	—	0.019	—	0.019	—	0.019
H	0.046	0.008	0.046	0.008	0.046	0.008	0.046	0.008
I	0.068	—	0.068	—	0.068	—	0.068	—
Total	1.159	0.549	1.138	0.570	1.133	0.564	1.133	0.574

Source: Compiled by LSA Associates, Inc. (2019).

MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan

Table F: Effects to Potential MSHCP Riparian/Riverine Areas by Alternative

Drainage ID	Riparian/Riverine Areas (acres)							
	Alternative 2		Alternative 6		Design Variation 2a		Design Variation 6a	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
G	—	0.163	—	0.163	—	0.163	—	0.163
H	0.026	—	0.026	—	0.026	—	0.026	—
Total	0.026	0.163	0.026	0.163	0.026	0.163	0.026	0.163

Source: Compiled by LSA Associates, Inc. (2019).

MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan

As shown in Table E, the project would affect riverine features as follows: 1.159 ac of temporary effects and 0.549 ac of permanent effects from Alternative 2, 1.138 ac of temporary effects and 0.570 ac of permanent effects from Alternative 6, 1.133 ac of temporary effects and 0.564 ac of permanent effects from Design Variation 2a, and 1.133 ac of temporary effects and 0.574 ac of permanent effects from Design Variation 6a. As shown in Table F, Alternatives 2 and 6 and Design Variations 2a and 6a would each result in 0.026 ac of temporary effects and 0.163 ac of permanent effects to riparian/riverine features.

Functions and Values of Riparian/Riverine Resources

Temporary and permanent impacts as shown in Table E will result from disturbance and/or removal of existing vegetation. Permanent impacts would include the complete removal of, or encroachment into, existing vegetation and fill material (e.g., dirt for grading activities and concrete and steel for bridge columns). Temporary impacts will include incidental disturbances within construction areas and equipment staging areas.

As required in MSHCP Section 6.1.2, the following is a discussion of the functions and values (hydrologic regime, flood storage and flood flow modification, sediment trapping and transport, nutrient retention and transformation, toxicant trapping, public use, wildlife habitat, and aquatic habitat) for the MSHCP riverine areas within the BSA.

Hydrologic Regime

Hydrologic regime is the distribution, over time, of water in a watershed and is affected by precipitation, evaporation, soil moisture, groundwater storage, surface storage, and runoff.

Part of a hydrologic regime that could be affected by the proposed project is groundwater storage (the ability of a wetland or stream to absorb and store water belowground), which is dependent on soil composition and the timing of flood events. For example, soils composed of clay have smaller pore size than sandy soils; thus, less water can be stored in the smaller pore space between the clay particles. This slows the rate at which water is absorbed and released; therefore, clay soil has a lower storage capacity in terms of volume but can retain water for a longer period of time than sandy soil. Conversely, soils composed of sand have greater storage capacity, but water can percolate or drain through them quickly unless blocked by layers of clay. The storage of groundwater is maximized when porous, sandy soils are underlain by low-permeability clays. The

storage of water belowground allows for the fluctuation between anaerobic and aerobic conditions that provide the environmental conditions necessary for microbial cycling.

Riparian/riverine resources within the project site receive flows from surrounding uplands and developed areas. Drainages within the BSA provide a low value of groundwater discharge and recharge, as most are already modified with concrete linings. Temporary and permanent impacts to natural earthen drainages are small (see Table E) and will not substantially affect the overall hydrologic regime within the BSA.

Flood Storage and Flood Flow Modification

This function is the ability of a wetland or stream to take in surface water and attenuate peak flows during major storm events, as well as peak domestic flows, and thereby prevent or reduce flooding. This is dependent on the size of the wetland or stream, the amount of water it can hold, and its location in the watershed. For instance, larger wetlands or streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the wetland or stream may also affect flood storage by dissipating the energy of flows during flood events.

The sparse riparian vegetation and upland vegetation in drainages found within the BSA may slow down flows slightly during periods of flooding, minimally absorb wave energy to reduce erosion, and assist in the process of sediment deposition. There are no wetlands outside the drainage channels that would provide overbank flood storage. Flood storage for all of the drainages within the BSA is considered to be of low value because the drainages lack dense riparian vegetation.

Sediment Trapping and Transport

Sediment removal from flowing water keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. The vegetation, shape, and configuration of a wetland or stream affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function is demonstrated when the turbidity of the incoming water is greater than that of the outgoing water.

Drainages in the BSA are sparsely vegetated and do not provide sediment retention. The sediment retention capabilities of drainages in the BSA would not be affected by the proposed project.

Nutrient Retention and Transformation

Nutrient cycling consists of two variables: (1) uptake of nutrients by plants, and (2) detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive in nutrient cycling than upland habitats. The regular availability of water associated with the wetland or stream may cause growth of plants (nutrient uptake) and associated detritivores, and generates nutrients that can be used by a variety of aquatic and

terrestrial wildlife downstream. This function refers to the effectiveness of the wetland or other water in retaining and/or transforming inorganic phosphorus and/or nitrogen into their organic forms or to transform (remove) nitrogen in its gaseous form.

Nutrient retention and transformation for the drainages found within the BSA provide low value to biological resources downstream due to the lack of substantial riparian vegetation. The nutrient production for all drainages found within the BSA is not expected to be substantial.

Toxicant Trapping

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

Toxicant trapping for the drainages found within the BSA provides low value to biological resources downstream due to the lack of substantial riparian vegetation. The nutrient production for all drainages found within the BSA is not expected to be substantial.

Public Use

This is a measure of the probability that a wetland or stream would be used by the public because of its natural features, economic value, official status, and/or location. This includes being used by the public for recreational uses, such as boating, fishing, birding, walking, and other passive recreational activities. In addition, a wetland or stream that is used as an outdoor classroom, provides a location for scientific study, or is near a nature center would have higher social significance and standing.

Drainages within the BSA consist of small, largely unvegetated features that do not provide recreational or educational value.

Wildlife Habitat

General habitat suitability is the ability of a wetland or stream to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As diversity of plant communities increases along with connectivity with other habitats, so does potential wildlife diversity (Tews et al. 2004). In addition, a variety of open water, intermittent ponding, and perennial ponding is also an important habitat element for wildlife. Both resident and migrating species are considered in this function.

Only low-quality habitat value for wildlife is present within those drainages that are erosional features and sparsely vegetated. Riparian vegetation areas within Drainage Features G and H are small and isolated and therefore provide minimal wildlife habitat value.

Aquatic Habitat

The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of

aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

Because the drainage channels within the study area are ephemeral and percolate water quickly, the BSA contains no habitat for aquatic resources.

Species Associated with Riparian/Riverine Areas and Vernal Pools

The MSHCP species associated with riparian/riverine areas and vernal pools, as listed in Section 6.1.2, were assessed for the potential to occur within the BSA in the *Natural Environment Study* (LSA 2018) prepared for the project. The project does not provide suitable habitat to support MSHCP protected riparian species, including the federally/State listed least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax trailii extimus*). As detailed above, the project site does not contain suitable habitat vernal pool resources for fairy shrimp. Therefore, the project will not affect species protected under MSHCP Section 6.1.2.

Riparian/Riverine Avoidance, Minimization and Mitigation Measures

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

- Prior to clearing or construction, highly visible barriers (e.g., orange construction fencing) will be installed along the boundaries of the project footprint. All construction equipment should be operated in a manner to prevent accidental damage to areas outside the project footprint. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the project boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.
- All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from riparian/riverine areas.
- A weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would be employed should an invasion occur.
- A biologist will monitor construction for the duration of the project construction to ensure that vegetation removal, best management practices (BMPs), and all avoidance and minimization measures are properly constructed and followed.
- Riparian/riverine areas temporarily affected by the project will be re-contoured to their original grades.

Because the project cannot avoid impacts to riparian/riverine areas, a Determination of Biologically Superior or Equivalent Preservation (DBESP) analysis will be required to mitigate for any impacts to

riverine areas. The DBESP will be prepared once the preferred alternative has been selected. At a minimum, compensation for riverine impacts in the DBESP will include one or a combination of the following: on-site restoration, on-site habitat enhancement, off-site participation in an in-lieu fee program, and/or purchase of credits from a mitigation bank for habitat creation. Mitigation in the DBESP will be equivalent or superior to that which would occur if impacts to the riverine resources were avoided.

MSHCP SECTION 6.1.4: GUIDELINES PERTAINING TO THE URBAN/WILDLANDS INTERFACE

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

- **Drainage:** Proposed developments in proximity to the MSHCP Conservation Area shall incorporate measures, including measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way compared with existing conditions. In particular, measures shall be put in place to avoid the discharge of untreated surface runoff from developed and paved areas into the MSHCP Conservation Area. Storm water improvements shall be designed to prevent or reduce the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm biological resources or ecosystem processes within the MSHCP Conservation Area.
- **Toxics:** Land uses in proximity to the MSHCP Conservation Area that are potentially toxic or may adversely affect wildlife species, habitat, and water quality include the use of chemicals and fertilizers for agricultural, commercial, and residential uses, and petroleum product runoff from paved surfaces. The project is not anticipated to substantially increase these potential toxicants. As discussed above, any storm water improvements will be designed to prevent or reduce toxic loads.
- **Lighting:** Night lighting shall be directed away from the MSHCP Conservation Area to protect species within the Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in the MSHCP Conservation Area is not increased.
- **Noise:** Proposed noise-generating activities and land uses potentially affecting the MSHCP Conservation Area shall be minimized by incorporating setbacks, berms, walls or other noise reduction methods per applicable guidelines related to residential noise standards.
- **Invasive Species:** Any proposed landscaping adjacent to the MSHCP Conservation Area shall not be composed of invasive, nonnative plants listed in Table 6-2 of the MSHCP.
- **Barriers:** The project will incorporate barriers along the edges of the project site to minimize undirected public access, illegal trespass, off-road vehicle traffic, domestic animal predation, and dumping in the MSHCP Conservation Area. Boundary barriers may include rocks/boulders, fencing, and walls with RCA Wildlife Area signage.

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

MSHCP SECTION 6.3.2: ADDITIONAL SURVEY NEEDS AND PROCEDURES

The BSA is within the MSHCP Additional Survey Needs and Procedures survey area for burrowing owl and LAPM (Figure 10). The results of focused studies and project-related effects to the burrowing owl and LAPM are discussed below.

Burrowing Owl

The BSA provides potentially suitable habitat for burrowing owl, a special-status species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code that is found in open dry grasslands, agricultural and range lands, and desert habitats. They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. They nest in abandoned burrows of ground squirrels or other fossorial animals, in pipes, under piles of rock or debris, and in other similar features.

The portions of the BSA vegetated by nonnative grasslands and ruderal/agricultural fields were found to contain suitable habitat for the burrowing owl. Burrowing owl was not detected during habitat assessments and focused surveys conducted within the BSA. No burrowing owls or their sign (e.g., whitewash, pellets, scat, tracks, and/or feathers) were observed. In addition, no features potentially occupied by burrowing owls were observed.

Although burrowing owl was determined to be absent, the BSA contains suitable habitat for burrowing owl, and the burrowing owl is a highly mobile species with the potential to move onto the project site prior to construction. Therefore, per the MSHCP burrowing owl survey guidelines, a preconstruction survey for this species will be required within 30 days prior to ground disturbance to ensure the burrowing owl is not affected by the project.

Los Angeles Pocket Mouse

In August 2013 and July 2015, focused surveys were conducted for LAPM within selected areas of suitable habitat at the intersections of SR-60/Gilman Springs Road and Gilman Springs Road/Alessandro Boulevard. The trapping sessions were conducted in CSS, non-native grassland and CSS/non-native grassland ecotone.

During the 2013 trapping session at the intersection of SR-60/Gilman Springs Road, there were 168 rodent captures involving three species, but no LAPM captures. Complete capture results are included in the August 23, 2013, letter report entitled Los Angeles Pocket Mouse Survey Results: SR 60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California (LSA 2013).

During the 2015 trapping session at the intersection of Gilman Hot Springs Road/Alessandro Boulevard, there were 125 rodent captures involving four species, but no LAPM captures. Complete

capture results are included in the August 4, 2015, letter report entitled Los Angeles Pocket Mouse Survey Results: SR-60/Theodore Street Interchange Project, City of Moreno Valley, Riverside County, California (LSA 2015).

The northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), an MSHCP covered species, was captured during the 2013 and 2015 trapping sessions. A total of 117 northwestern San Diego pocket mice were captured, out of a total of 650 rodent captures, during the 2013 trapping session. A total of 13 northwestern San Diego pocket mice were captured, out of a total of 500 rodent captures, during the 2015 trapping session. Avoidance and minimization measures to be implemented for potential project effects to the northwestern San Diego pocket mouse are detailed below.

Additional Species Observed or Expected to Occur within the Study Area

The BSA provides nesting habitat for migratory birds, including special-status bird species (i.e., coastal California gnatcatcher (*Polioptila californica californica*)). One special-status mammal species, northwestern San Diego pocket mouse, was found to be present in the BSA. The BSA also provides habitat for Stephens' kangaroo rat (*Dipodomys stephensi*) and bats. Avoidance and minimization measures will be implemented for these species as detailed below.

Coastal California Gnatcatcher

The BSA contains potentially suitable habitat for the California gnatcatcher. The project will temporarily affect 0.26 ac and permanently affect 7.33 ac of CSS that is considered to be potentially suitable habitat for coastal California gnatcatcher.

To avoid potential effects to the coastal California gnatcatcher, vegetation clearing and preliminary ground-disturbing work in CSS habitat will be completed outside the bird breeding season (typically set as February 15 through August 31), or a preconstruction nesting bird survey will be conducted. In addition, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the CSS plant community adjacent to the project footprint to designate Environmentally Sensitive Areas (ESAs) to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in a manner to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Migratory/Nesting Birds

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

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

- In the event that vegetation removal cannot be conducted outside the bird breeding season, focused surveys will be conducted by a qualified biologist within 3 days prior to vegetation removal activities. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. The buffer may be up to 500 ft in diameter, depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.
- Nesting bird habitat within the BSA will be resurveyed during the general bird breeding season if there is a lapse in construction activities longer than 7 days.

Northwestern San Diego Pocket Mouse

Prior to ground-disturbing activities or construction, highly visible barriers (such as orange construction fencing) will be installed around the CSS and nonnative grassland plant communities to designate ESAs to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in such a manner to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Stephens' Kangaroo Rat

The proposed project is within the boundary of the Habitat Conservation Plan (HCP) for the Stephens' kangaroo rat in Western Riverside County, California (Riverside County Habitat Conservation Agency 1996). The proposed project is located within the fee boundary of the HCP, but is not located within an HCP Core Reserve. The HCP for Stephens' kangaroo rat provides full mitigation for impacts under the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), the California Endangered Species Act (CESA), and the Federal Endangered Species Act (FESA).

The BSA contains potentially suitable habitat for Stephens' kangaroo rat in the form of CSS and where CSS interfaces with non-native grasslands and ruderal/agricultural lands. The project will temporarily affect 0.26 ac and permanently affect 7.33 ac of CSS, as well as adjacent non-native grasslands and agricultural lands considered to be potentially suitable habitat for Stephens' kangaroo rat.

Prior to ground-disturbing activities or construction, highly visible barriers (e.g., orange construction fencing) will be installed around the CSS plant community and around areas where CSS interfaces with non-native grasslands and agricultural lands adjacent to the project footprint to designate ESAs to be avoided. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies,

will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.

Bats

The following will be implemented to avoid and minimize any potential effects to roosting bats:

- To ensure that no bats begin roosting in the WLC Pkwy overcrossing structure or other bridge structures to be affected by the proposed project prior to or during construction activities, a humane eviction/exclusion should be conducted by a qualified bat biologist in the fall (September or October) preceding construction at the structure(s), to prevent potential direct impacts to bats.
- During installation of the humane eviction/exclusion devices, each potentially suitable roost crevice will be closely inspected using flashlights and/or a fiber-optic scope for the presence of day-roosting bats. At crevices where the absence of bats can be confirmed, the crevices may be immediately sealed with exclusionary material. At crevices where bats are visibly roosting or where their absence cannot be confirmed, humane eviction devices (i.e., one-way doors), that will allow the bats to exit the roosting crevice but will prevent them from returning, will be installed. All aspects of the humane eviction/exclusion of bats from structures should be directly supervised and monitored by a qualified bat biologist approved by the CDFW. This qualified bat biologist will determine the specific type of humane eviction devices and exclusionary material that will be used within the crevices. These devices shall remain in place for the duration of construction work at that structure.
- Prior to conducting a humane eviction/exclusion, nighttime preconstruction surveys that include acoustic monitoring may be conducted by a qualified bat biologist to verify the presence of bats and to determine what species, if any, inhabit the structure. These surveys should include exit counts to ascertain the approximate number of bats using the potential roost site. Nighttime surveys should be performed between June 1 and August 15, when maternity colonies have formed but before they begin to disperse, to confirm whether a maternity colony is roosting at any of the structures in the project area. The nighttime survey should also be conducted no later than the summer at least 1 year prior to construction to allow adequate time for coordination and planning between biologists and engineers should a maternity colony or other grouping of bats be discovered, and to implement any appropriate strategies necessary to minimize negative effects to roosting bats.
- Palm trees suitable for use by western yellow bats (*Lasiurus xanthinus*) that roost in the untrimmed fronds of palm trees, occur in the project area. If palm tree removal or palm frond trimming is necessary for project construction, this activity should be conducted outside of the bat maternity season (April 1–August 31); this time period coincides with the clearing and grubbing restrictions typically associated with bird nesting season. If palm tree removal or trimming is conducted outside the bat maternity and bird nesting season as recommended, impacts to flightless young would be avoided.

Because the project is not anticipated to directly or indirectly affect Culvert F, no negative effects to bat roosting habitat in this culvert will occur.

MSHCP SECTION 7.3.5: PLANNED ROADS WITHIN THE CRITERIA AREA

The BSA is within the Reche Canyon/Badlands Area Plan of the MSHCP and the project is a covered activity under MSHCP Section 7.3.5: Planned Roads within the Criteria Area. A small portion of the BSA, southeast of the intersection of Gilman Springs Road/Alessandro Boulevard, is within Criteria Cell 1204. The portion of the project at the intersection of Theodore Street/Ironwood Avenue is adjacent to Proposed Core 3. Figure 10 shows the MSHCP Criteria Cells.

The portion of the BSA within Criteria Cell 1204 is a part of Cell Group X, Subunit 3, of the Reche Canyon/Badlands Area Plan. According to the MSHCP, conservation within this Cell Group will contribute to assembly of Proposed Core 3 and will focus on chaparral, CSS, and grassland habitat. Areas conserved within this Cell Group will be connected to chaparral and CSS habitat proposed for conservation in Cell Groups C' to the east and V' to the northeast, and to chaparral and grassland habitat proposed for conservation in Cell Group E' to the south. Conservation within this Cell Group will range from 65 to 75 percent of the Cell Group, focusing in the northeastern portion of the Cell Group.

The proposed improvement at Gilman Springs Road/Alessandro Boulevard will be a temporary roadway widening for a detour route to facilitate vehicle movement. Other proposed improvements include a new signal at this intersection due to the high through movements on Gilman Springs Road conflicting with left turns to and from Alessandro Boulevard, and utility adjustments and/or relocations. Vegetation at the intersection of Gilman Springs Road/Alessandro Boulevard consists of ruderal/agriculture and ornamental/developed areas. The project will result in 1.6 ac of temporary effects to Criteria Cell 1204, as shown on Figure 11. This portion of the project will be subject to Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface, as detailed in Section 4.3 above.

A portion of the BSA is adjacent to Proposed Core 3. According to the MSHCP, Proposed Core 3 connects to several proposed and existing Cores and Linkages and also functions as a Linkage, connecting the San Bernardino National Forest within San Bernardino County and other conserved areas to the north of the Proposed Core 3. Proposed Core 3 provides important "live-in" and movement habitat for the least Bell's vireo, loggerhead shrike (*Lanius ludovicianus*), cactus wren (*Campylorhynchus brunneicapillus*), Stephens' kangaroo rat (*Dipodomys stephensi*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and mountain lion (*Puma concolor*). This portion of the project will be subject to Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface as detailed above under the heading "MSHCP Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface".

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

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

- **Section 7.5.3:** Construction Guidelines
- **Appendix C:** Standard Best Management Practices

These guidelines and BMPs are detailed in the following sections.

MSHCP SECTION 7.5.1: GUIDELINES FOR THE SITING AND DESIGN OF PLANNED ROADS WITHIN THE CRITERIA AREA AND PUBLIC/QUASI-PUBLIC LANDS, AND SECTION 7.5.2: GUIDELINES FOR CONSTRUCTION OF WILDLIFE CROSSINGS

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

Section 7.5.2 contains guidelines for roads that have the potential to result in impediments to wildlife movement. They include both general considerations and specific design guidelines for the construction of wildlife crossings where appropriate. The BSA encompasses existing transportation corridors, the majority of which are outside MSHCP Criteria Area (see Figure 10), and is not in an area identified as a corridor or linkage in the MSHCP. The proposed improvements at Gilman Springs Road/Alessandro Boulevard within Criteria Cell 1204 will be temporary and relatively small (1.6 ac). SR-60 is considered to be an existing barrier to wildlife movement to the north and the south of the freeway. Regional wildlife movement east and west through the BSA is restricted by dense development in the City of Moreno Valley to the west of the BSA. The current WLC Pkwy overcrossing at SR-60 serves as a vehicular route over SR-60 and does not support wildlife movement.

Because the proposed project is within an existing transportation corridor and is not identified as a wildlife corridor or linkage in the MSHCP, the Section 7.5.2 guidelines are not applicable to the proposed project. However, the project will avoid and minimize impacts to special-status species and habitats protected under the MSHCP, through implementation of avoidance and minimization measures as well as implementation of Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, as detailed in above under the heading “MSHCP Section 6.1.4: Guidelines Pertaining to the Urban/Wildlands Interface”. Further minimization measures will include Section 7.5.3, Construction Guidelines, and Section 7.5.2, Guidelines for Construction of Wildlife Crossings, and Standard Best Management Practices found in Appendix C of the MSHCP, as detailed below.

MSHCP SECTION 7.5.3: CONSTRUCTION GUIDELINES

The following guidelines will be applied, as applicable, to the project (see Figures 2 and 3) to reduce impacts to species and habitat as construction occurs:

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

2. Timing of construction activities will consider seasonal requirements for breeding birds and migratory nonresident species. Habitat clearing will be avoided during species' active breeding season, typically set as February 15 through August 31.
3. Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
4. Short-term stream diversions, if needed, will be accomplished by the use of sandbags or other methods that will result in minimal instream impacts. Short-term diversions will consider effects on wildlife.
5. Silt fencing or other sediment-trapping materials will be installed at the downstream end of construction activities to minimize the transport of sediments off site.
6. Settling ponds where sediment is collected will be cleaned in a manner that prevents sediment from reentering the stream or damaging/disturbing adjacent areas. Sediment from settling ponds will be removed to a location where it cannot reenter the stream or surrounding drainage area. Care will be exercised during removal of silt fencing to minimize the release of debris or sediment into streams.
7. No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
8. The footprint of disturbance will be minimized to the maximum extent feasible. Access to sites will occur on preexisting access routes to the greatest extent possible.
9. Equipment storage, fueling, and staging areas will be sited on nonsensitive upland habitat types with minimal risk of direct discharge into riparian areas or other sensitive habitat types.
10. The limits of disturbance, including the upstream, downstream and lateral extents, will be clearly defined and marked in the field. Monitoring personnel will review the limits of disturbance prior to initiation of construction activities.
11. During construction, the placement of equipment within the stream or on adjacent banks or adjacent upland habitats occupied by Covered Species that are outside of the project footprint will be avoided.
12. Exotic species removed during construction will be properly handled to prevent sprouting or regrowth.
13. Training of construction personnel will be provided.
14. Ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices.

15. When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub vegetation, appropriate firefighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
16. Active construction areas shall be watered regularly to control dust and minimize impacts to adjacent vegetation.
17. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances shall occur only in designated areas within the proposed grading limits of the project site. These designated areas shall be clearly marked and located in such a manner to contain runoff.
18. Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

MSHCP APPENDIX C: STANDARD BEST MANAGEMENT PRACTICES

The proposed project will comply with MSHCP Volume 1, Appendix C, Standard Best Management Practices. The following conditions shall be applied to the project so impacts are reduced to species as construction occurs. Compliance with these conditions is required by the City and the County of Riverside as Permittees per the Implementing Agreement Section 13.7 (A).

1. A qualified biologist shall conduct a training session for project personnel prior to grading. The training shall include a description of species of concern and their habitats, the general provisions of the Federal Endangered Species Act (FESA) and the MSHCP, the need to adhere to the provisions of the FESA and the MSHCP, the penalties associated with violating the provisions of the FESA, the general measures being implemented to conserve species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.
2. Water pollution and erosion control plans shall be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements.
3. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.
4. The upstream and downstream limits of the project's disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.

5. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.
6. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian bird species identified in MSHCP Global Species Objective No. 7.
7. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal in stream impacts. Silt fencing or other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences to prevent debris or sediment from returning to the stream.
8. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials shall be reported to appropriate entities including but not limited to the City of Moreno Valley, the USFWS, the CDFW, and the RWQCB, and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.
9. Erodible fill material shall not be deposited into watercourses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.
10. The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.
11. The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.
12. Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.
13. To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).
14. Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimum area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow

screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.

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

CONCLUSION

The BSA is within the MSHCP Reche Canyon/Badlands Area Plan and is within Criteria Cell 1204; therefore, the project will comply with applicable measures identified in Section 6.1.4, Urban/Wildlands Interface Guidelines; Section 7.5.1, Guidelines for the Siting and Design of Planned Roads Within Criteria Areas and Public/Quasi-Public Lands; Section 7.5.2, Guidelines for Construction of Wildlife Crossings; Section 7.5.3, Construction Guidelines; and the Standard Best Management Practices in Appendix C of the MSHCP.

The project will have effects to Section 6.1.4 riparian/riverine resources. A DBESP will be prepared to address project effects to and appropriate mitigation for riparian/riverine resources.

MSHCP Section 6.3.2, Additional Survey Needs and Procedures, species (burrowing owl and LAPM) were found to be absent from the BSA and avoidance and minimization measures will be implemented to ensure these two species will not be affected by the proposed project. In addition, the project will avoid and will minimize project effects to other special-status and protected species, including coastal California gnatcatcher, migratory birds, San Diego pocket mouse, Stephens' kangaroo rat, and bats.

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

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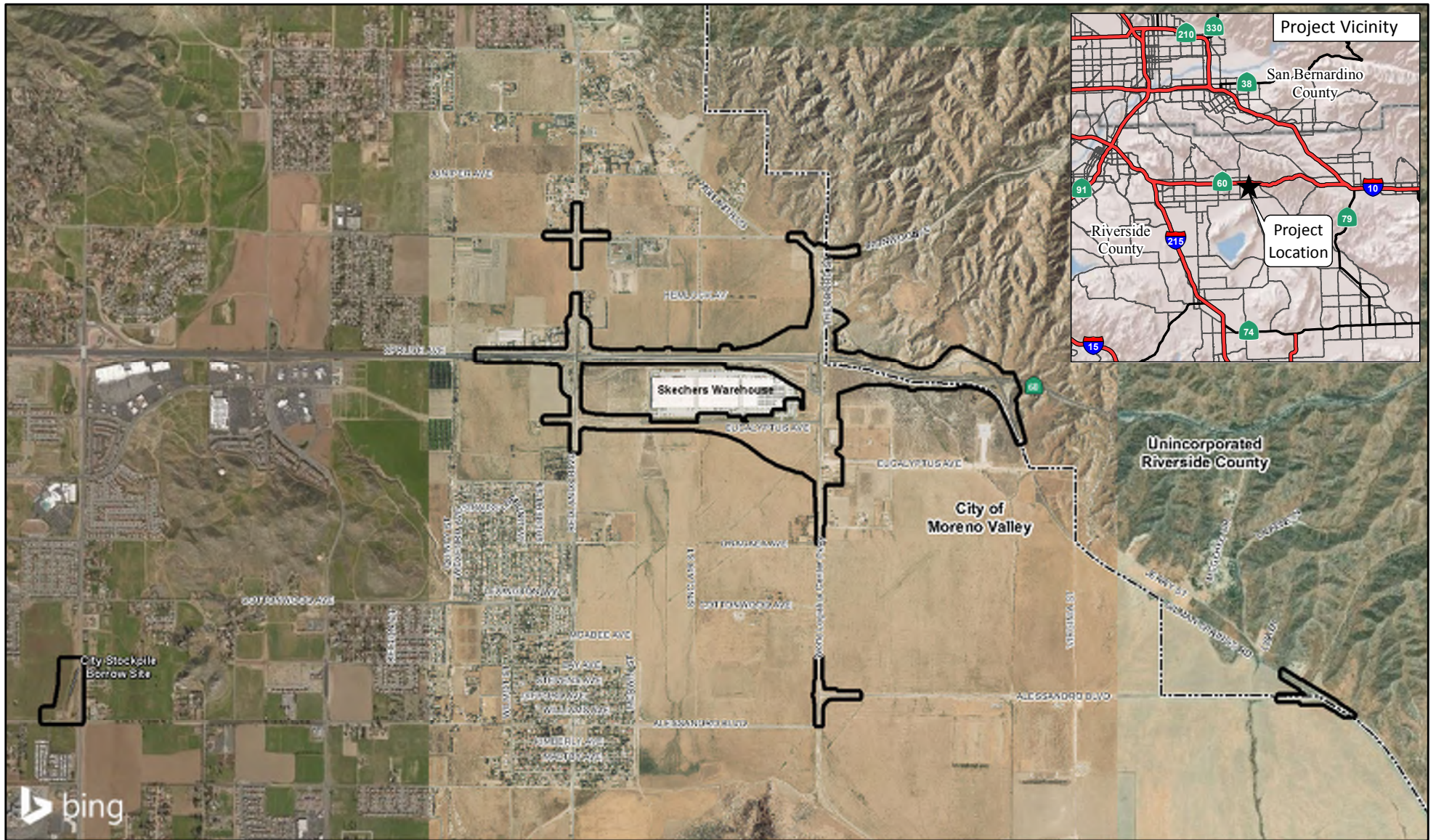
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
APPENDIX A

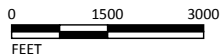
FIGURES

- Figure 1: Project Location and Vicinity
- Figure 2: Alternatives 2 and 6 Geometrics
- Figure 3: Design Variations 2a and 6a Geometrics
- Figure 4: Soils
- Figure 5: Vegetation and Land Use Map
- Figure 6: Potential Jurisdictional Features – Alternative 2 Impacts
- Figure 7: Potential Jurisdictional Features – Alternative 6 Impacts
- Figure 8: Potential Jurisdictional Features – Design Variation 2a Impacts
- Figure 9: Potential Jurisdictional Features – Design Variation 6a Impacts
- Figure 10: MSHCP Criteria Areas and Survey Areas
- Figure 11: MSHCP Criteria Area Impacts



LEGEND

-  Project Area
-  City Boundary



SOURCE: Bing (2015); MBI (9/2018); ESRI (07/2012)

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FIGURE 1

*SR-60/World Logistics Center Parkway
Interchange Project*
Project Location and Vicinity

08-RIV-60 PM 20.0/22.0

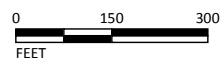
EA No. 0M590

Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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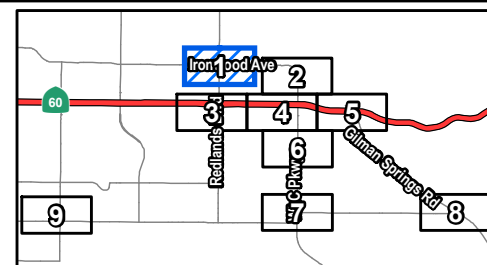
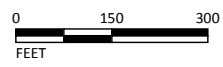


FIGURE 2
 Sheet 1 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Alternatives 2 and 6
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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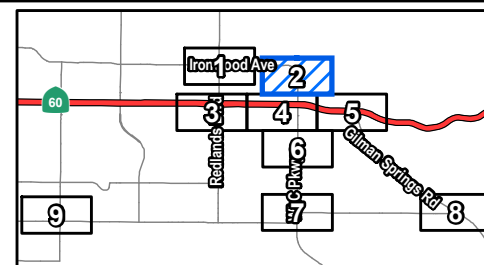
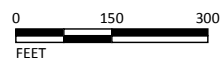


FIGURE 2
 Sheet 2 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Alternatives 2 and 6
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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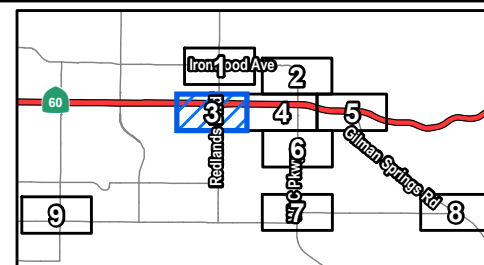
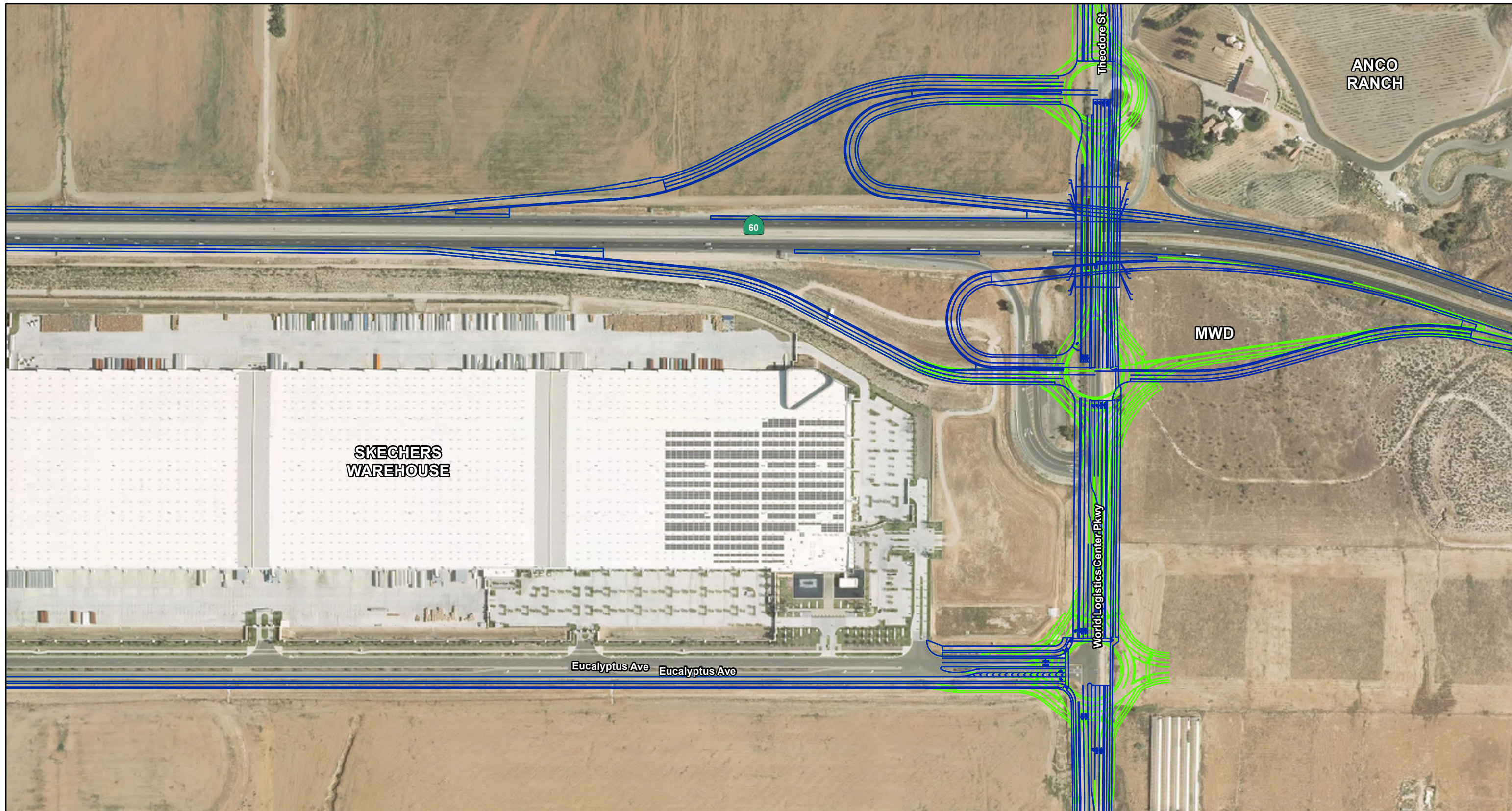


FIGURE 2
 Sheet 3 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Alternatives 2 and 6
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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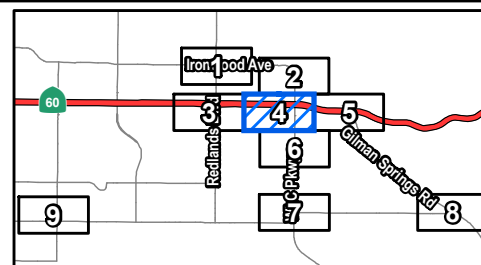
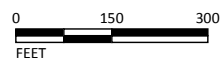


FIGURE 2
Sheet 4 of 9
SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6
Geometrics
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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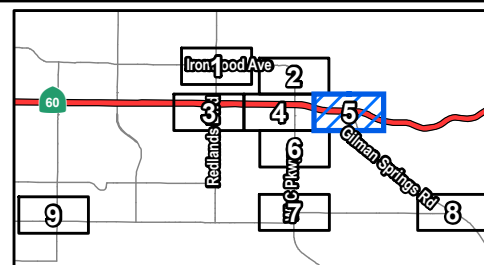


FIGURE 2

Sheet 5 of 9

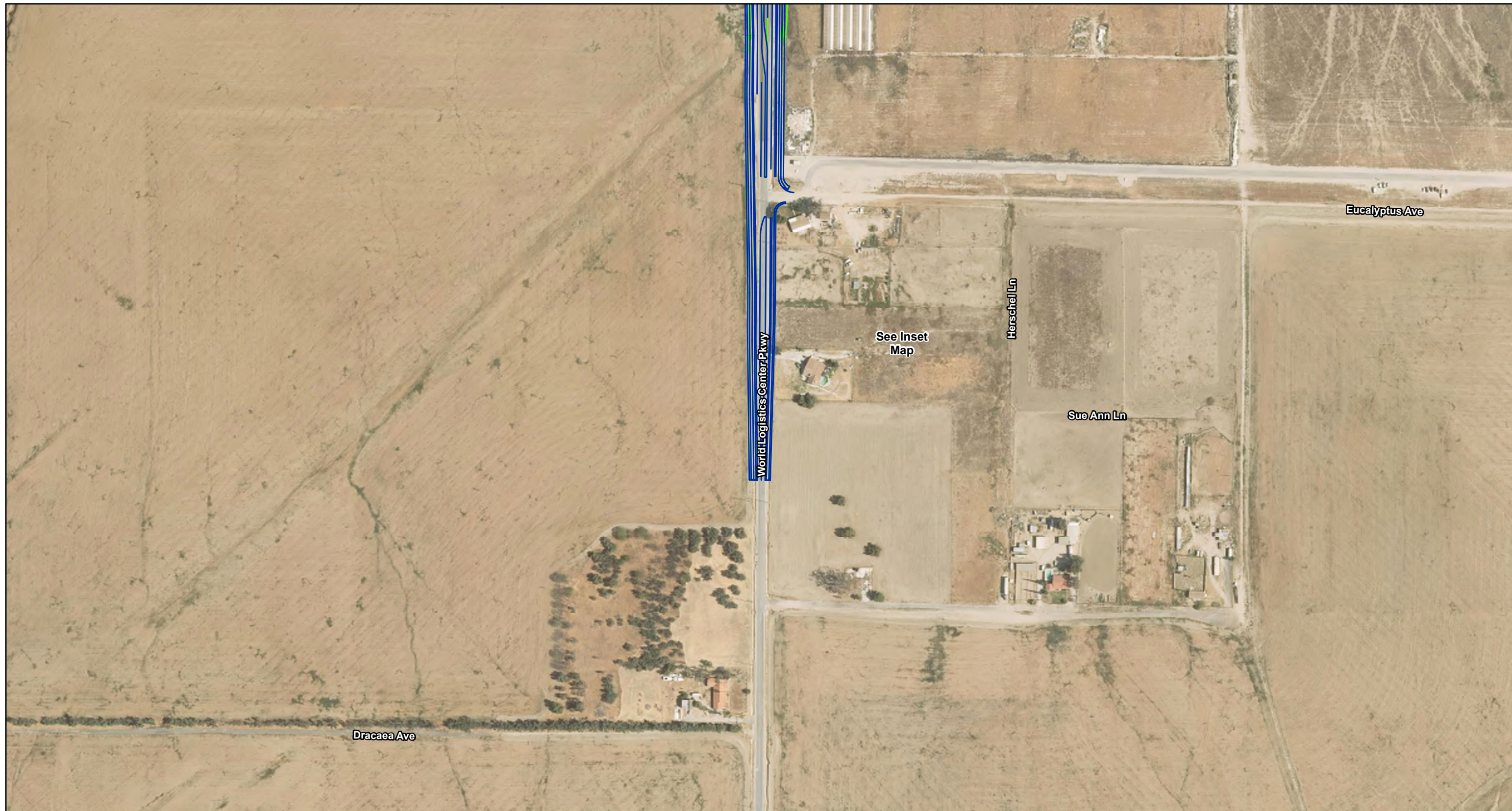
SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

08-RIV-60 PM 20.0/22.0

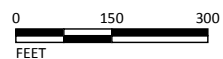
EA No. 0M590

Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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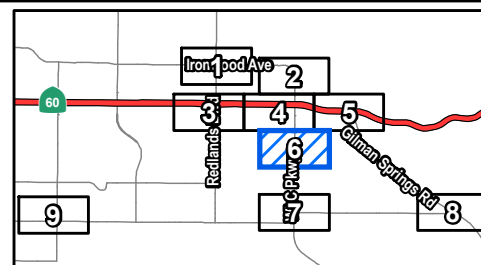


FIGURE 2

Sheet 6 of 9

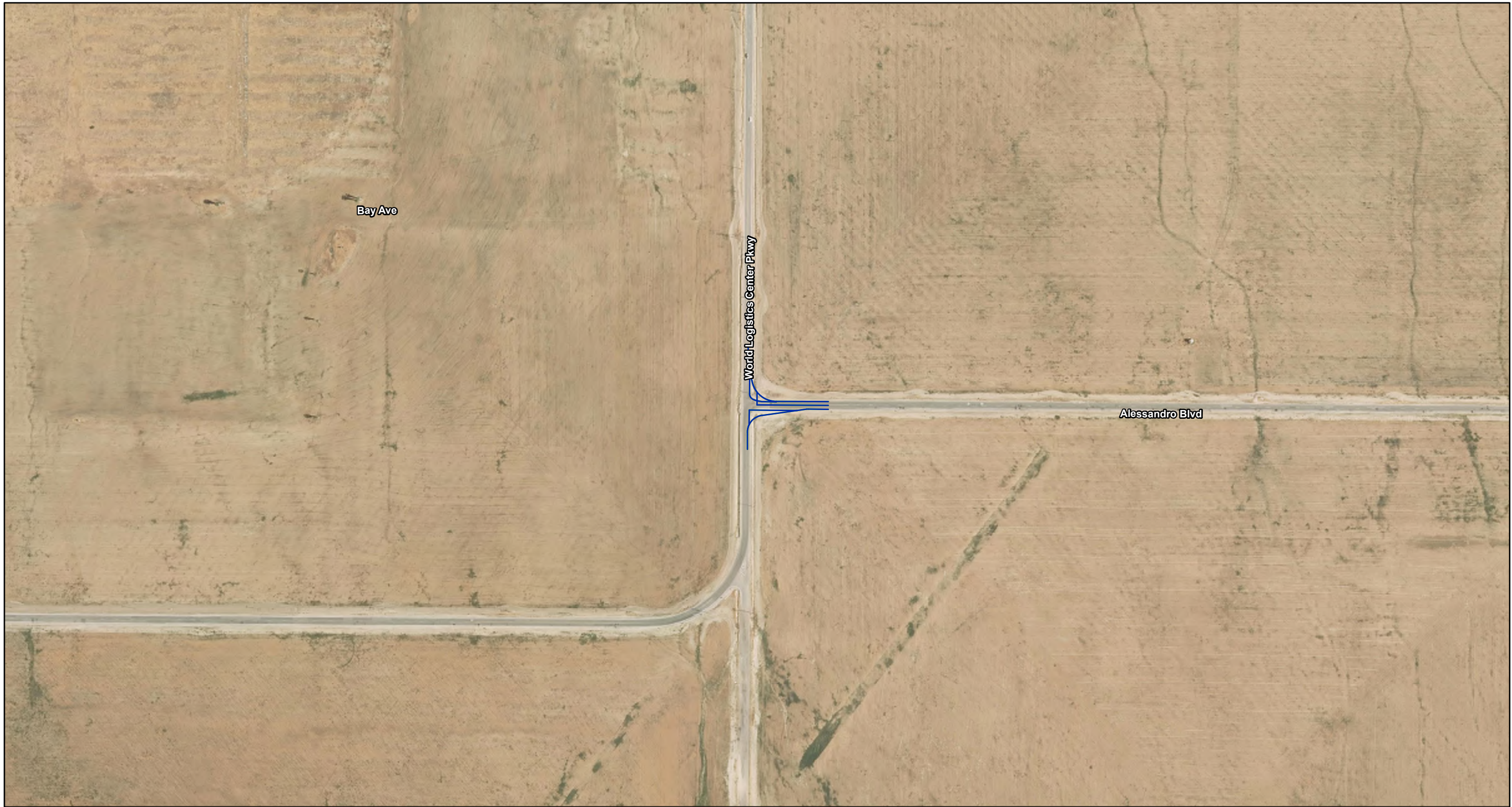
SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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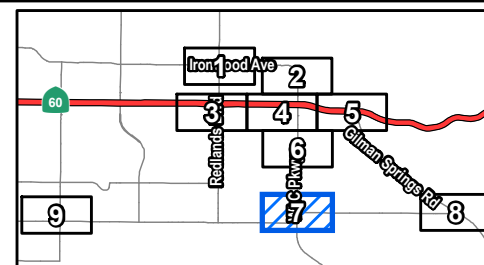
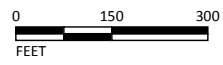


FIGURE 2
 Sheet 7 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Alternatives 2 and 6
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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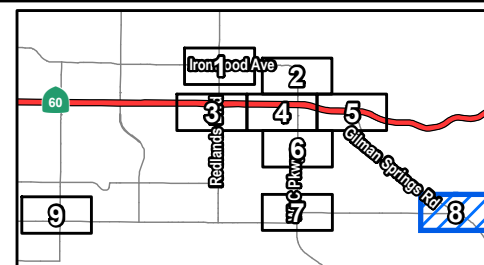


FIGURE 2

Sheet 8 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Alternative 2 Proposed Improvements
- Alternative 6 Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014); ESRI (2013); MBI (2018)

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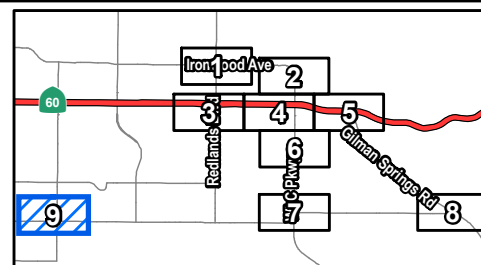


FIGURE 2
Sheet 9 of 9
SR-60/World Logistics Center Parkway
Interchange Project
Alternatives 2 and 6
Geometrics
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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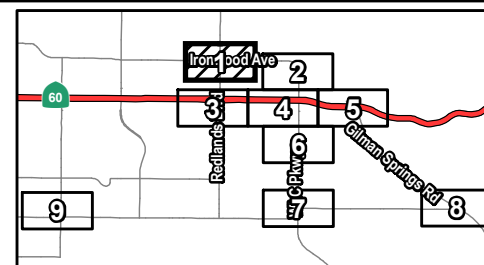


FIGURE 3
Sheet 1 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

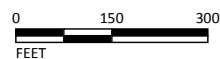
EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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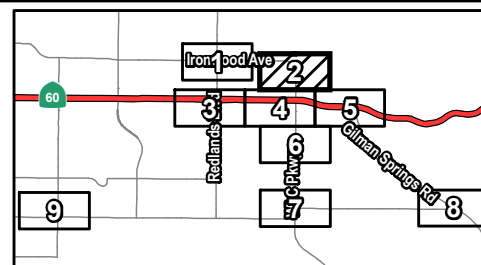


FIGURE 3
Sheet 2 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

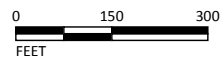
EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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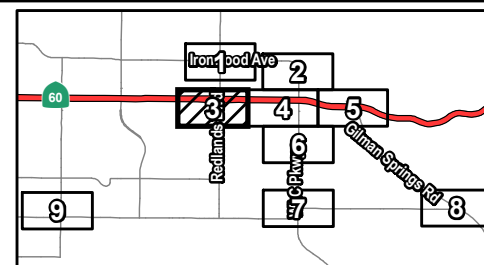


FIGURE 3
Sheet 3 of 9

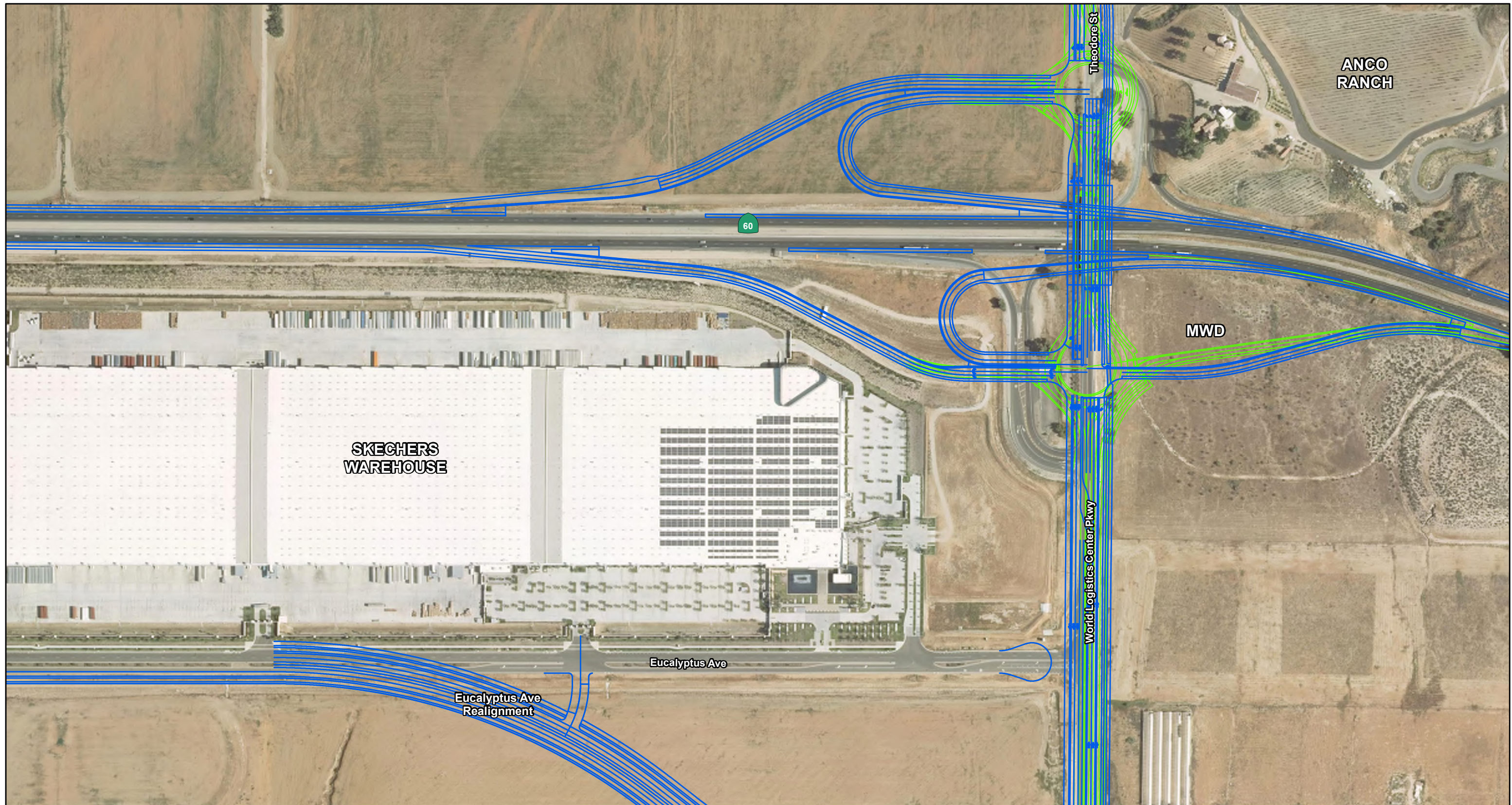
SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

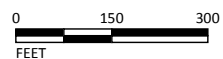
EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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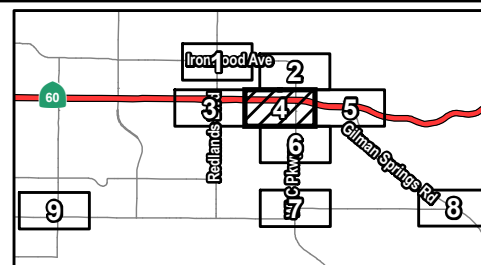


FIGURE 3
 Sheet 4 of 9
 SR-60/World Logistics Center Parkway
 Interchange Project
 Design Variations 2a and 6a
 Geometrics
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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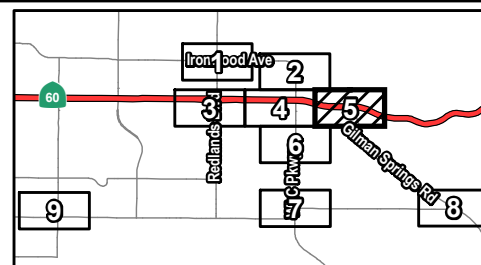


FIGURE 3
Sheet 5 of 9

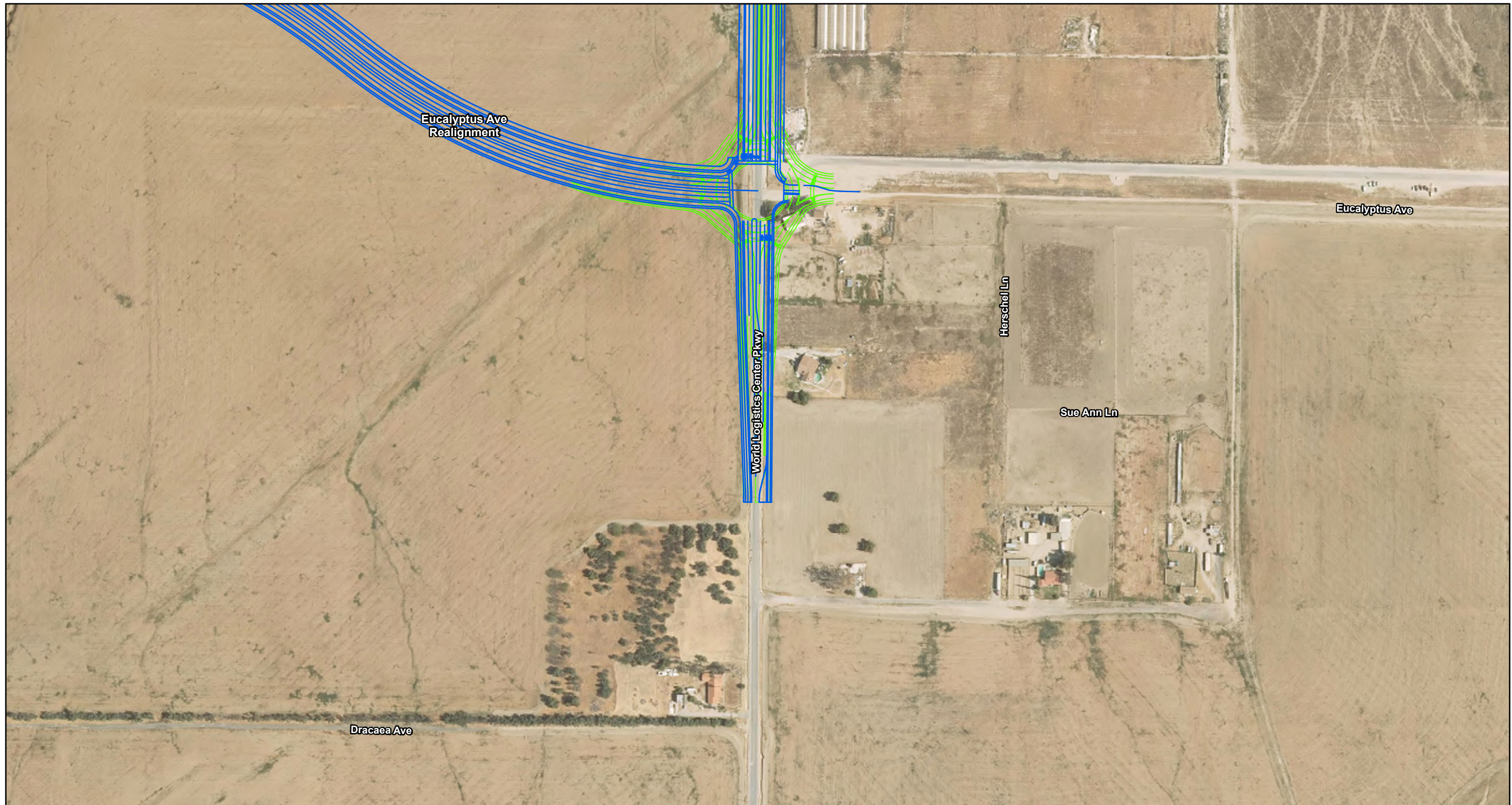
SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

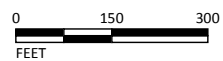
EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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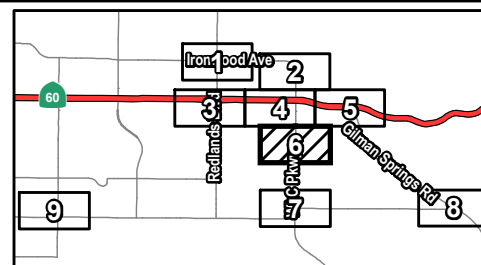


FIGURE 3
Sheet 6 of 9

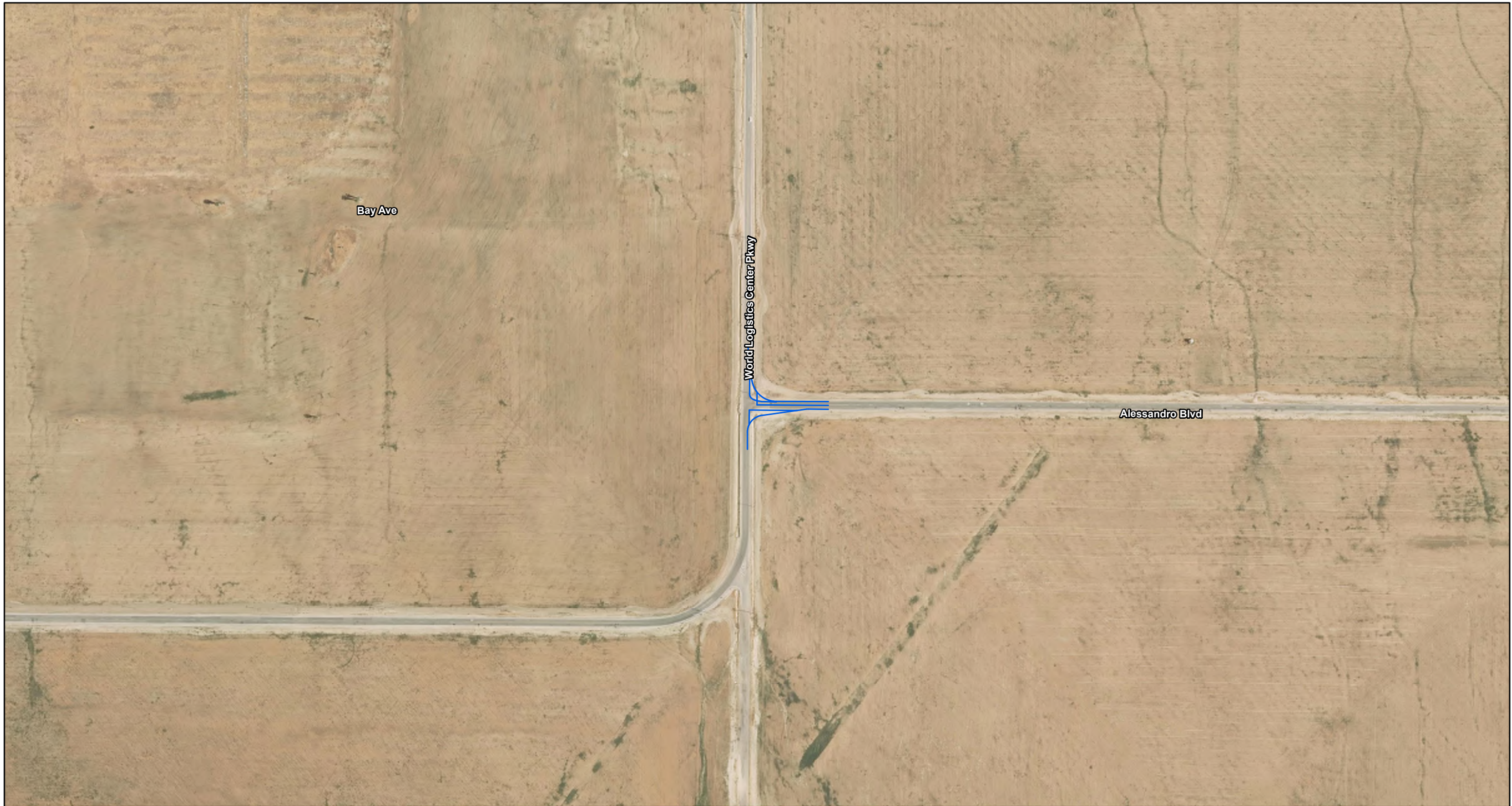
SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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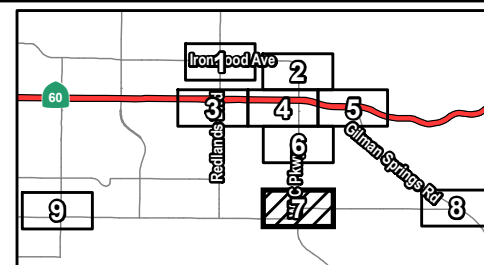


FIGURE 3
Sheet 7 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

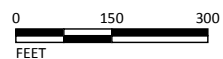
EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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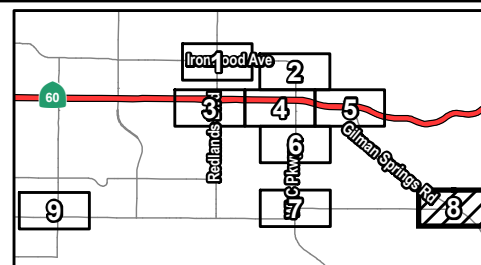


FIGURE 3
Sheet 8 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Design Variation 2a Proposed Improvements
- Design Variation 6a Proposed Improvements



0 150 300
FEET

SOURCE: Aerial - RBF (11/2014), Google (2018); ESRI (2013); MBI (2018)

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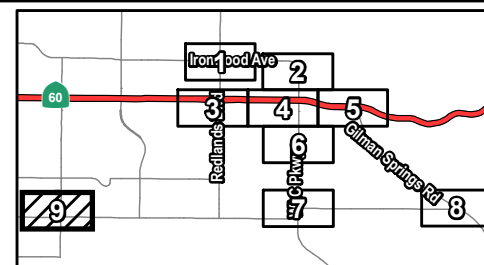


FIGURE 3
Sheet 9 of 9

SR-60/World Logistics Center Parkway
Interchange Project
Design Variations 2a and 6a

Geometrics

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

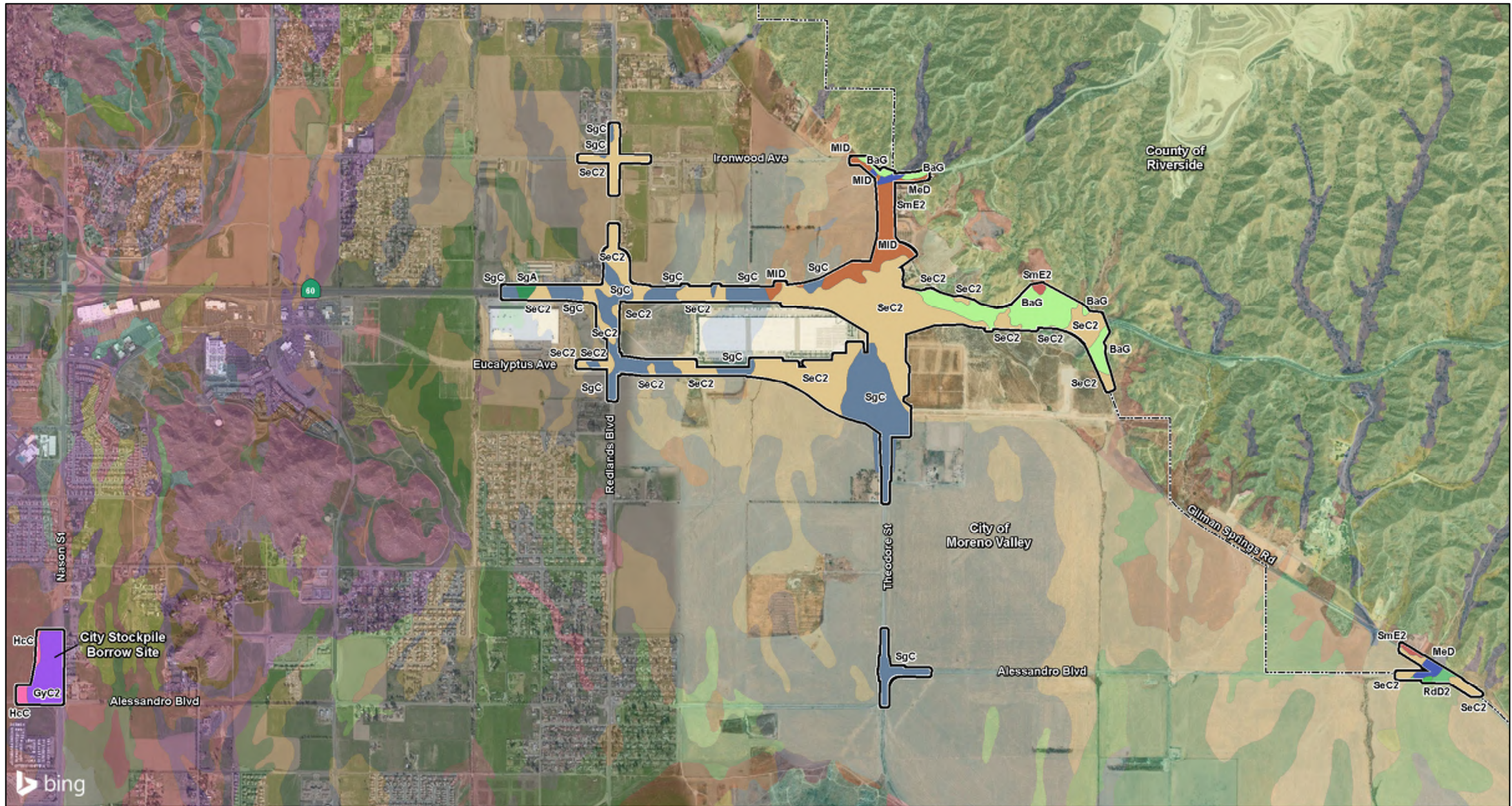


FIGURE 4

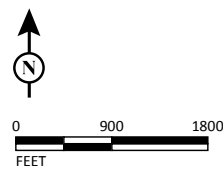
LEGEND

- Biological Study Area (BSA)
- Detour Routes
- City/County Boundary

Soils within BSA

- BaG - Badland
- GYC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
- HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
- MdC - Metz loamy sand, 2 to 8 percent slopes
- MeD - Metz loamy sand, channeled, 0 to 15 percent slopes

- MID - Metz gravelly sandy loam, 2 to 15 percent slopes
- RdD2 - Ramona sandy loam, moderately deep, 8 to 15 percent slopes, eroded
- SeC2 - San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded
- SgA - San Emigdio loam, 0 to 2 percent slopes
- SgC - San Emigdio loam, 2 to 8 percent slopes
- SmE2 - San Timoteo loam, 8 to 25 percent slopes, eroded



SOURCE: RBF (9/30/2014); ESRI (07/2012)

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SR-60/World Logistics Center Parkway Interchange Project

Soils

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



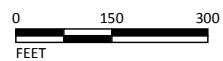
LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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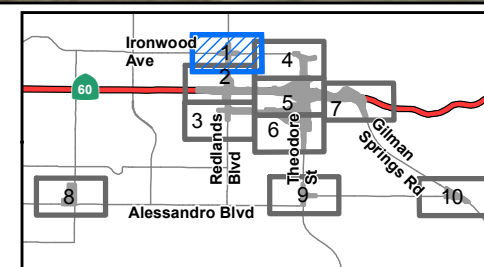
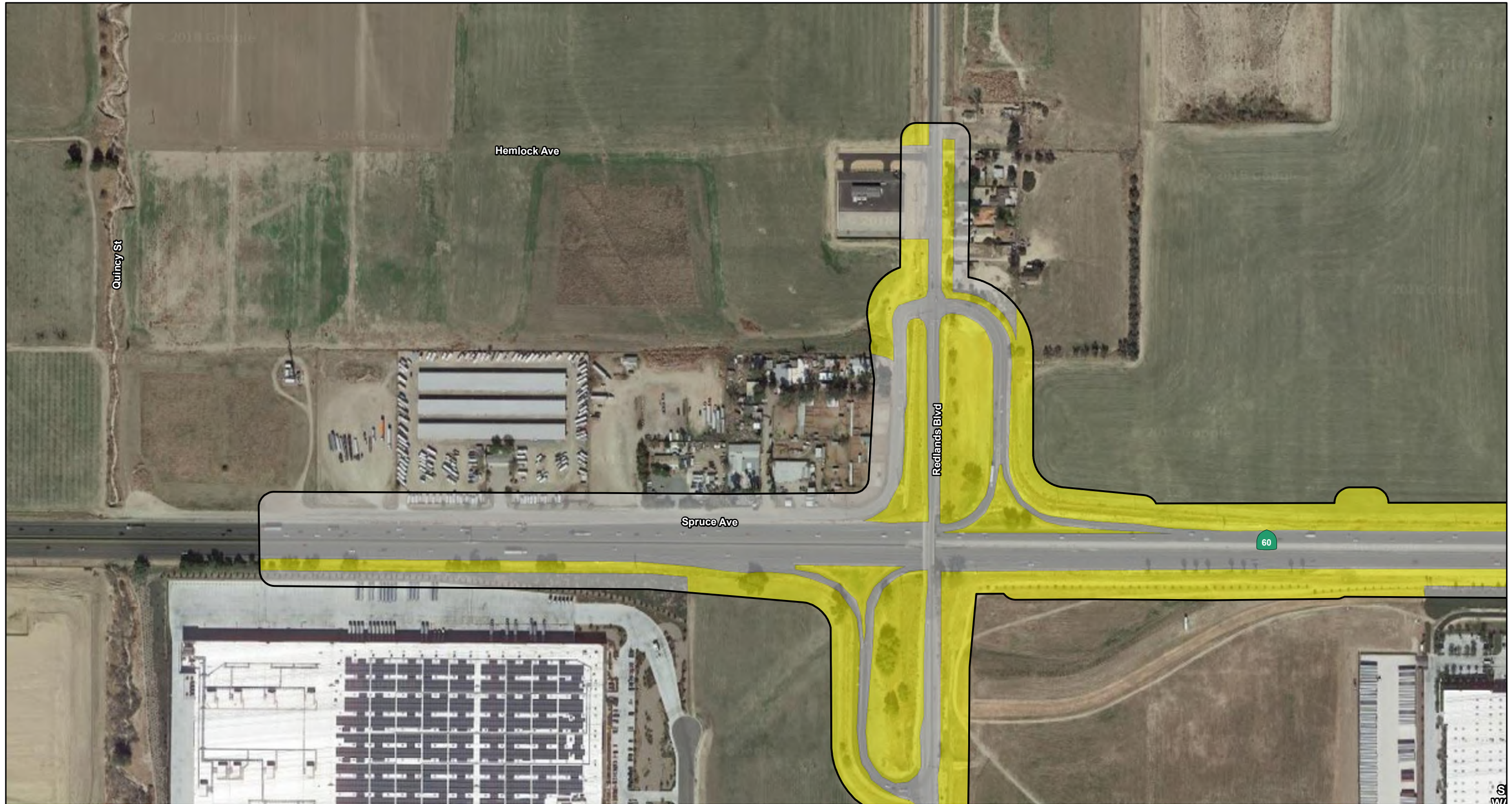


FIGURE 5
Sheet 1 of 10

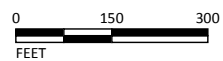
SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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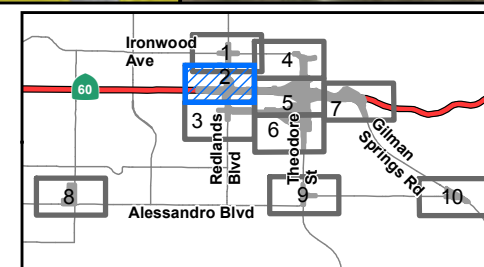


FIGURE 5
Sheet 2 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0

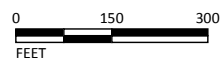
EA No. 0M590

Project No. 0813000109



LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

I:\RBF1301\GIS_Mod\MXD\Bio\MSHCP\Vegetation.mxd (1/16/2019)

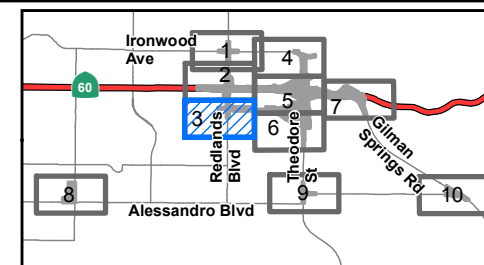


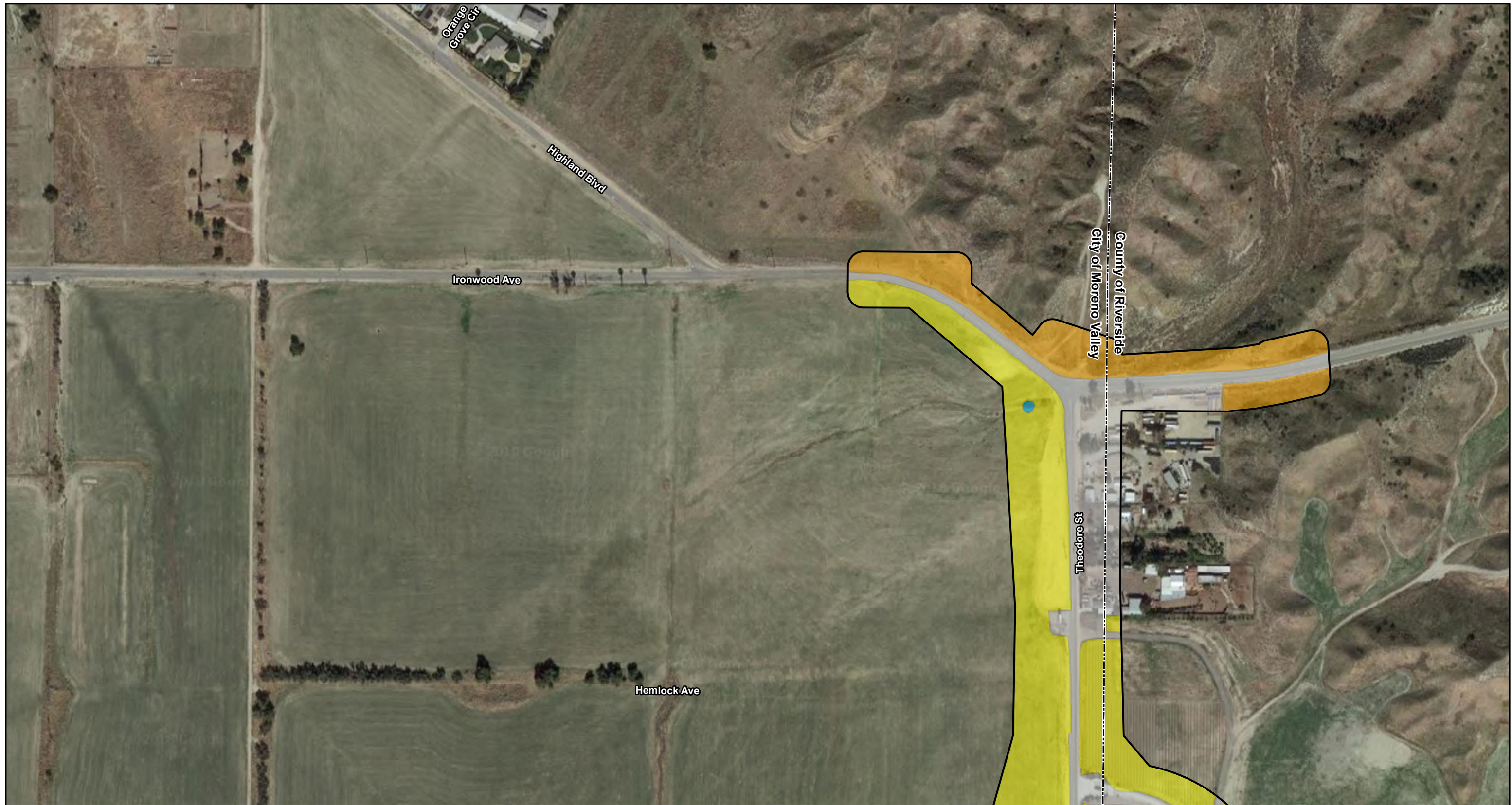
FIGURE 5
Sheet 3 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0

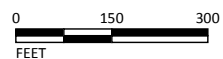
EA No. 0M590

Project No. 0813000109



LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Coastal Sage Scrub | Riparian Scrub |
| City/County Boundary | Non-native Grassland | Ruderal/Agriculture |
| | Ornamental/Developed | Saltbush Scrub |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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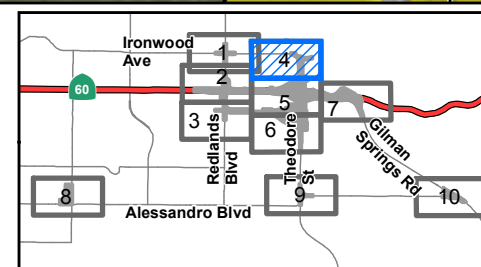
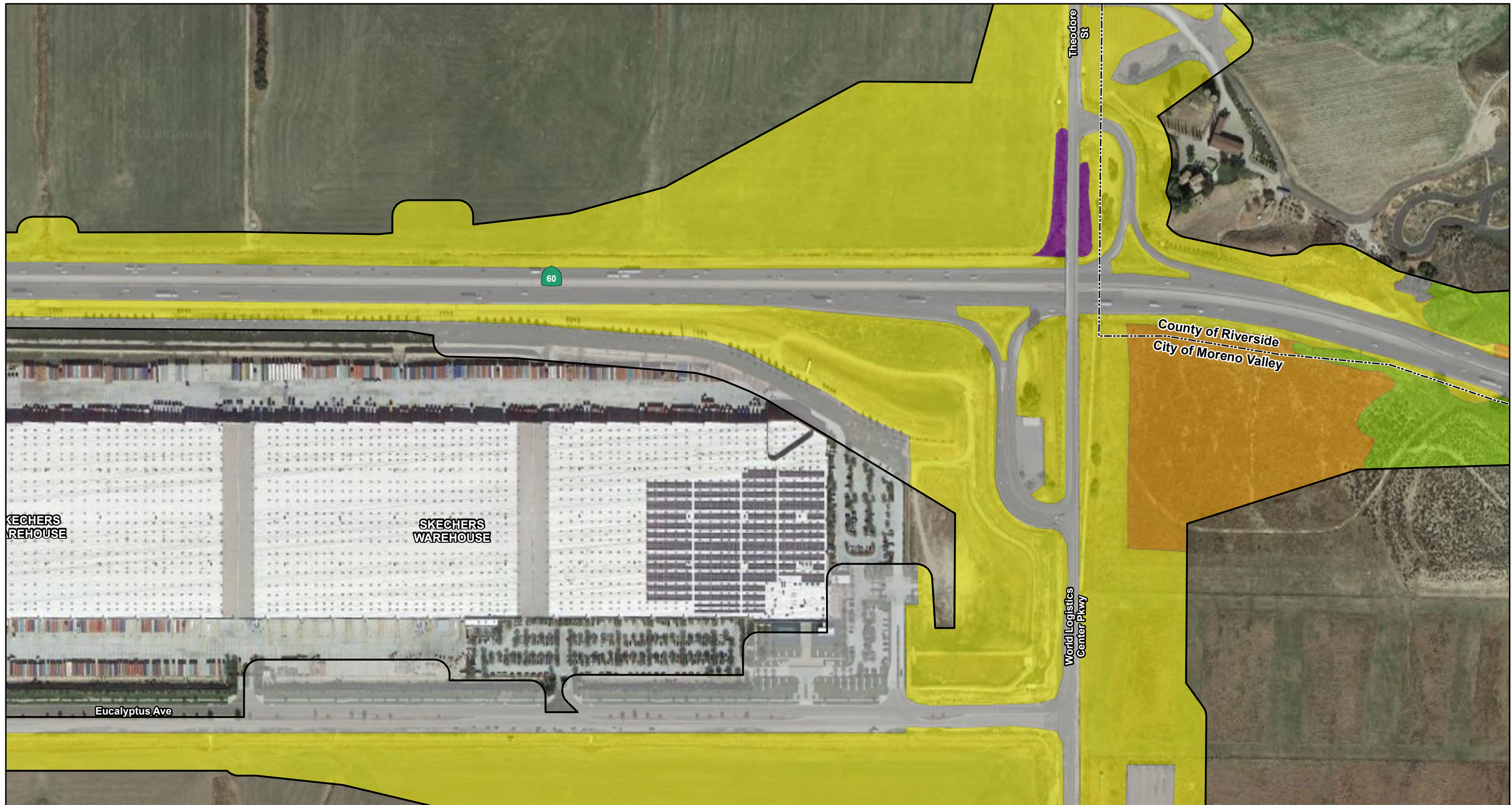


FIGURE 5
Sheet 4 of 10

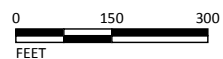
SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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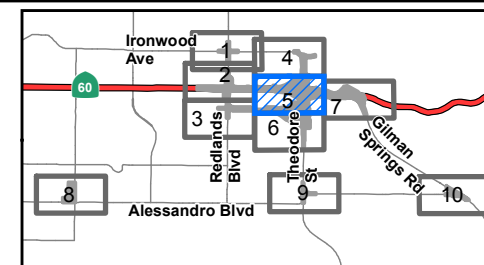
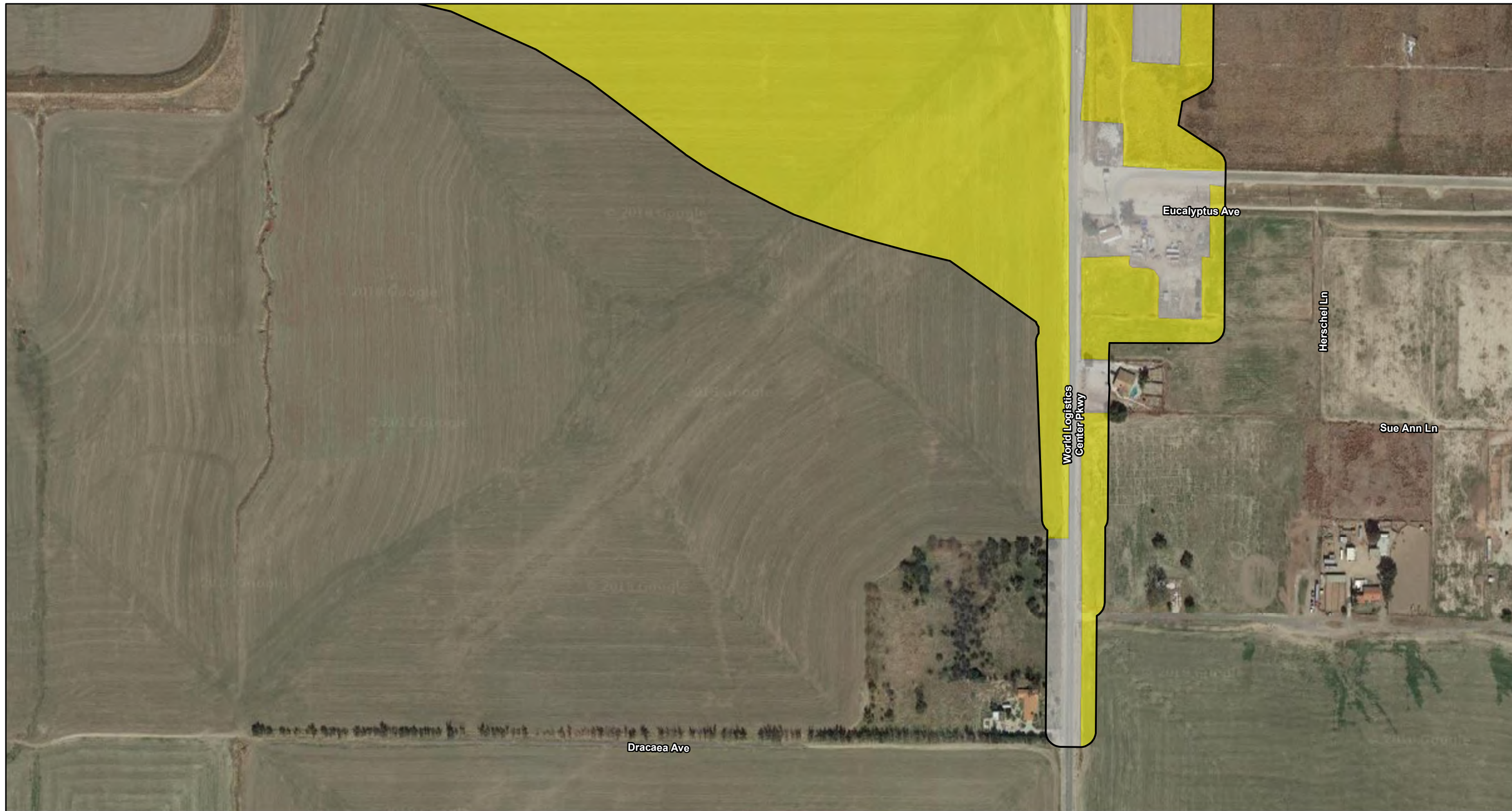


FIGURE 5
Sheet 5 of 10

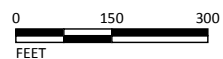
SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- | | | |
|-----------------------|----------------------|---------------------|
| Biological Study Area | Vegetation | Riparian Scrub |
| City/County Boundary | Coastal Sage Scrub | Ruderal/Agriculture |
| | Non-native Grassland | Saltbush Scrub |
| | Ornamental/Developed | |



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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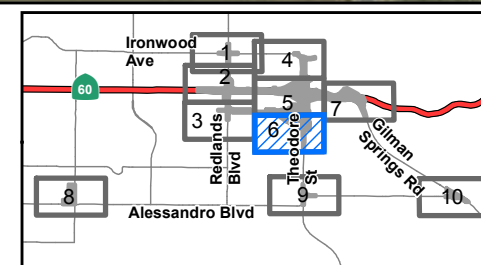


FIGURE 5
Sheet 6 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed
- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub

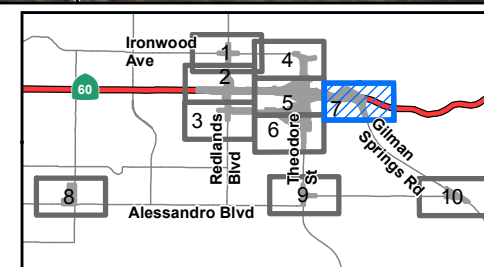


FIGURE 5
Sheet 7 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

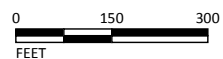
- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

Riparian Scrub

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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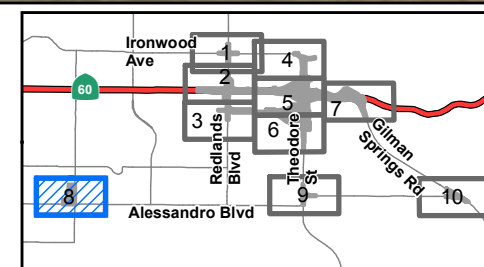
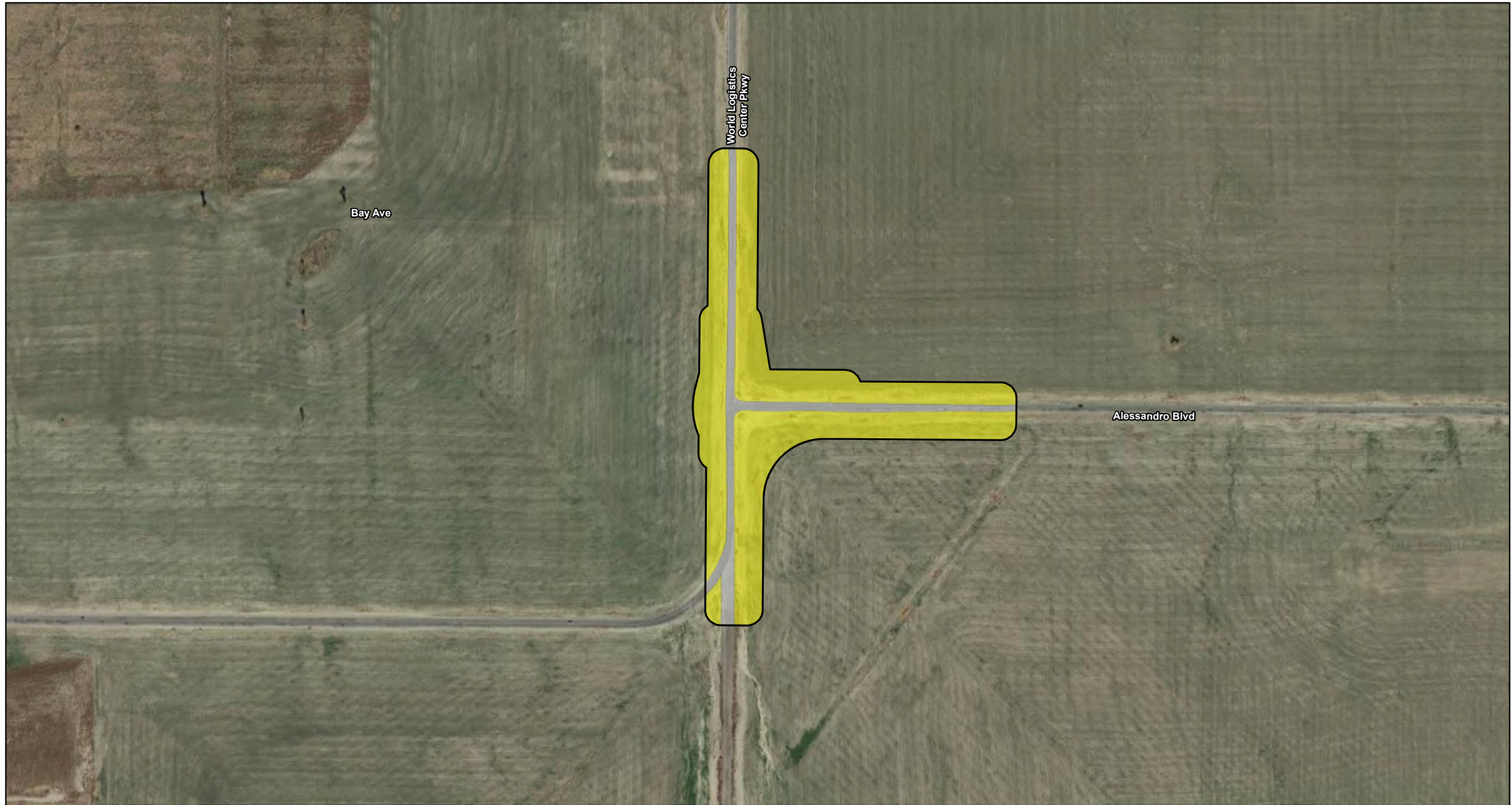




FIGURE 5
Sheet 8 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map




08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109






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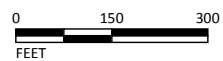
-  Biological Study Area
-  City/County Boundary

Vegetation

-  Coastal Sage Scrub
-  Non-native Grassland
-  Ornamental/Developed

Riparian Scrub

-  Riparian Scrub
-  Ruderal/Agriculture
-  Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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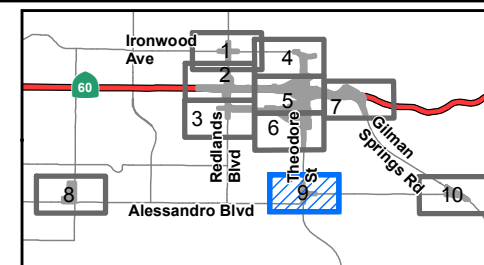


FIGURE 5
Sheet 9 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

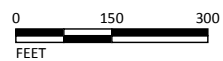
- Biological Study Area
- City/County Boundary

Vegetation

- Coastal Sage Scrub
- Non-native Grassland
- Ornamental/Developed

Riparian Scrub

- Riparian Scrub
- Ruderal/Agriculture
- Saltbush Scrub



SOURCE: Aerial - RBF (9/30/2014; 2015); ESRI (2012); MBI (11/2018)

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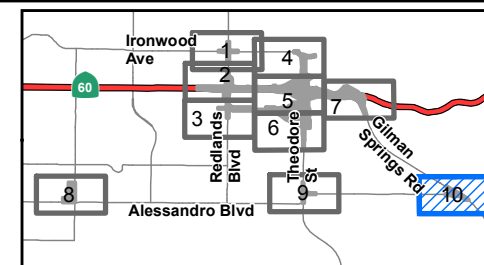
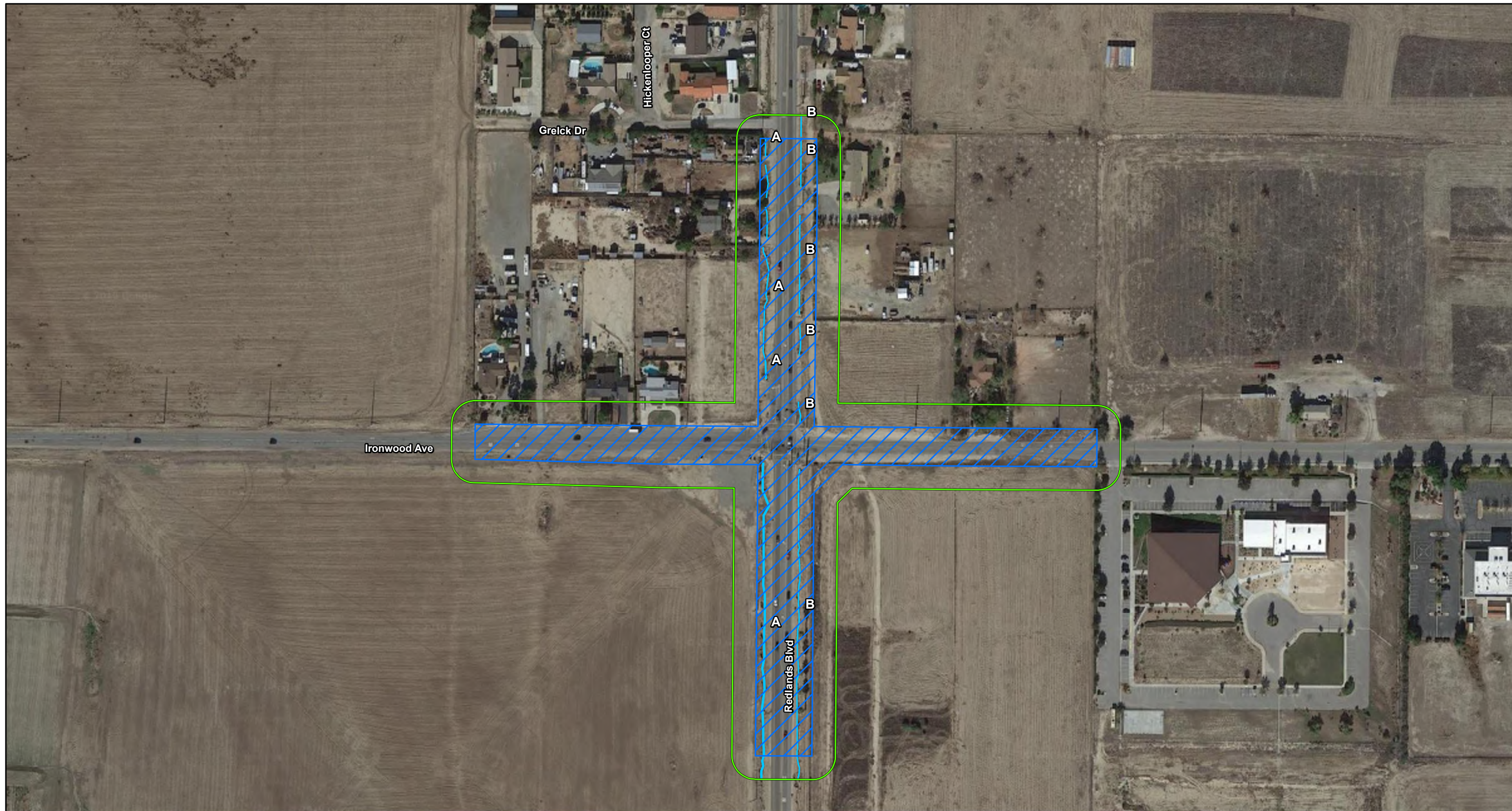


FIGURE 5
Sheet 10 of 10

SR-60 /World Logistics Center Parkway
Interchange Project
Vegetation and Land Use Map

08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

Riverine (permanent = 0.549 ac, temporary = 1.159 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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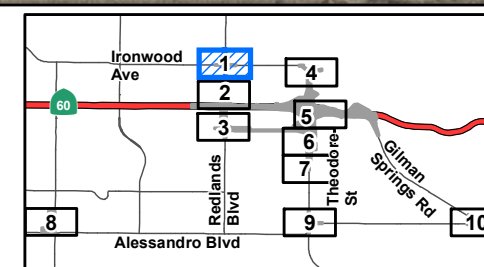


FIGURE 6

Sheet 1 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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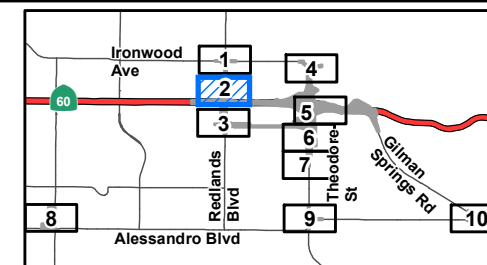
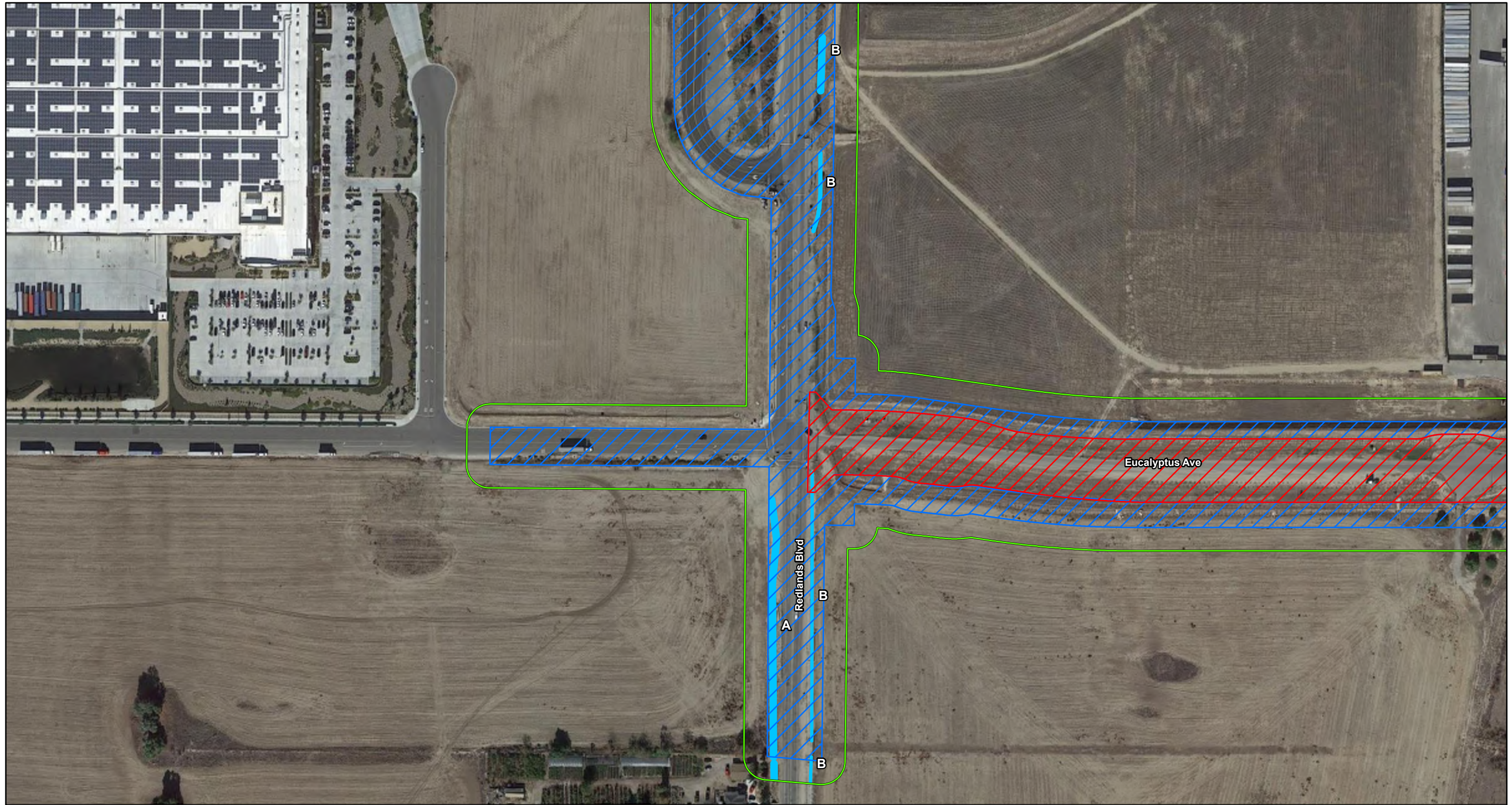


FIGURE 6

Sheet 2 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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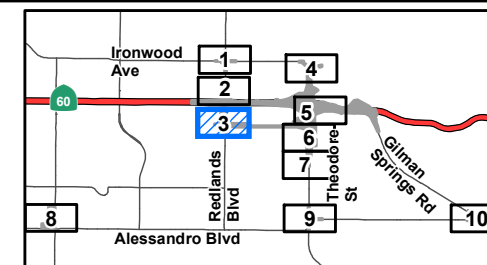


FIGURE 6
 Sheet 3 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Alternative 2 Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

Riverine (permanent = 0.549 ac, temporary = 1.159 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

Permanent

Temporary



0 100 200
FEET

SOURCE: Google (2018); RBF (2018)

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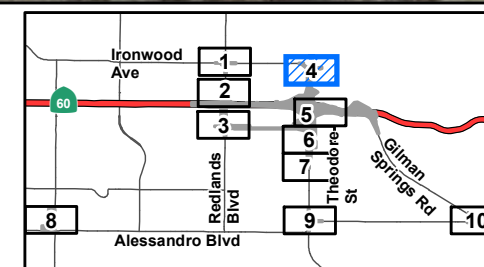


FIGURE 6

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SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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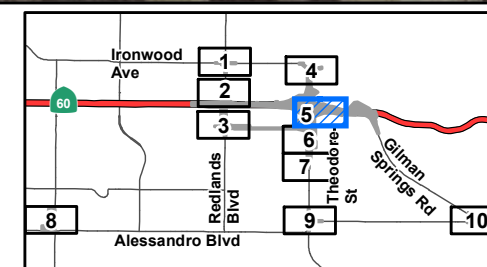


FIGURE 6

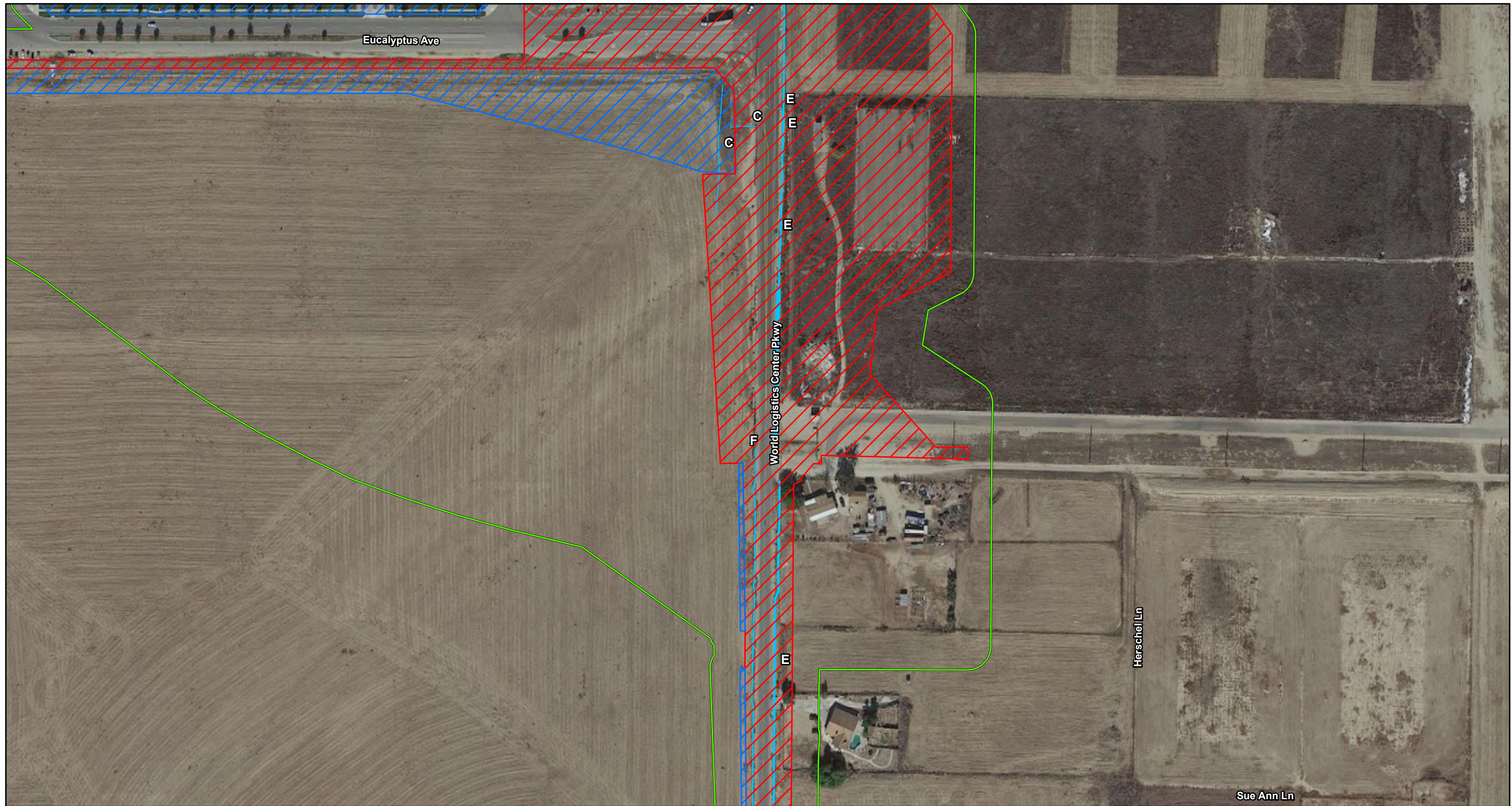
Sheet 5 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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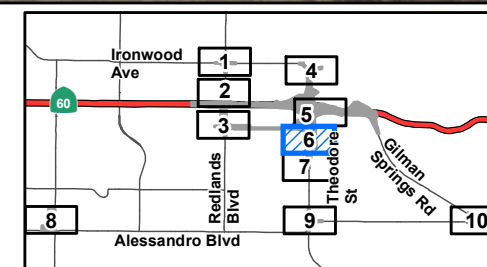
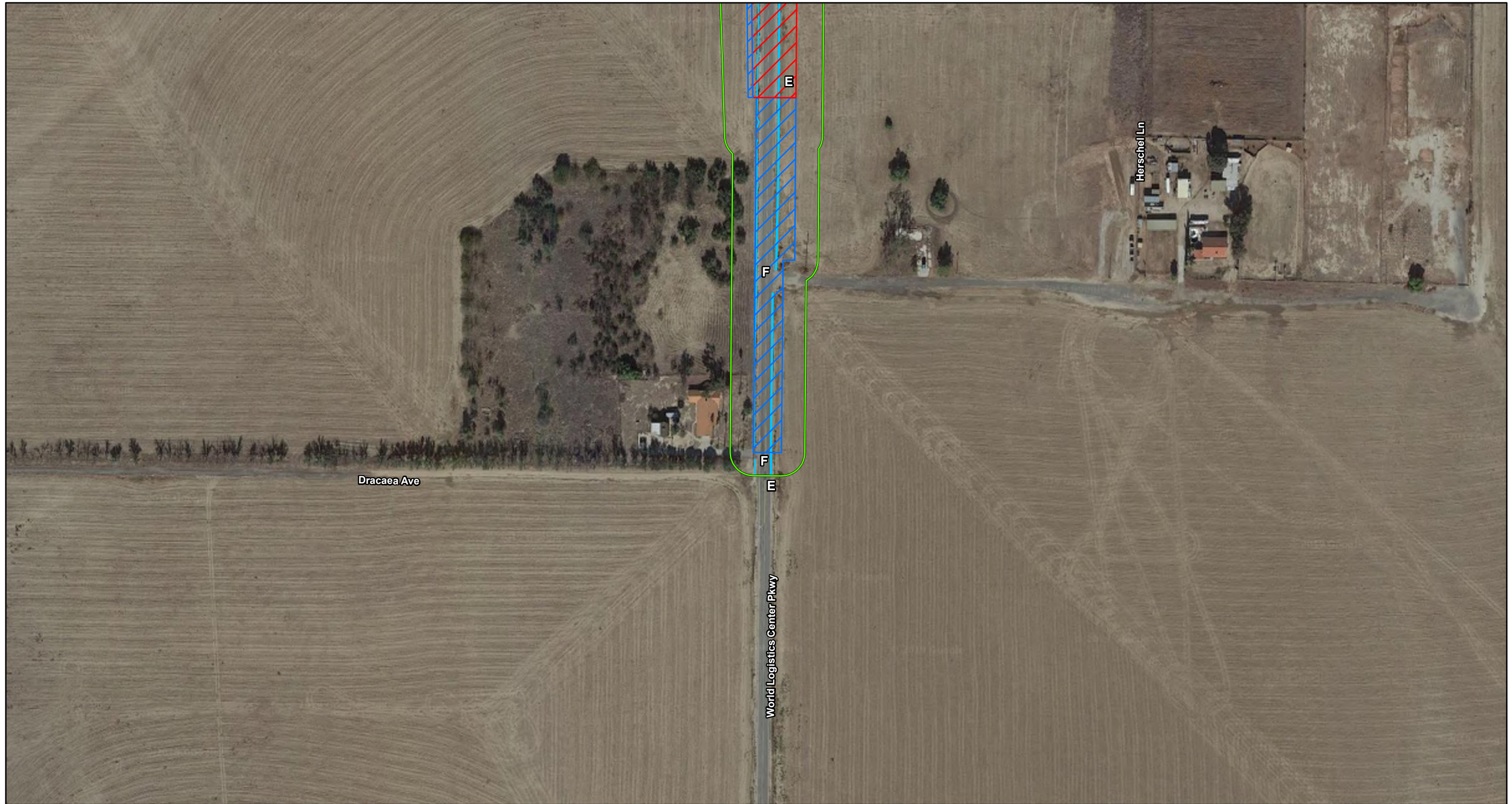


FIGURE 6

Sheet 6 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

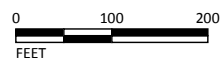
Riverine (permanent = 0.549 ac, temporary = 1.159 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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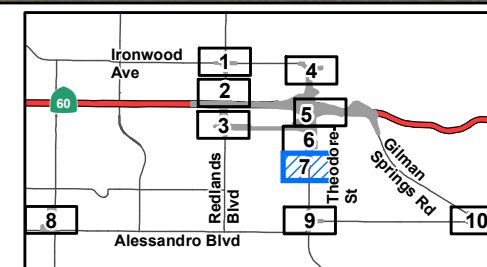


FIGURE 6

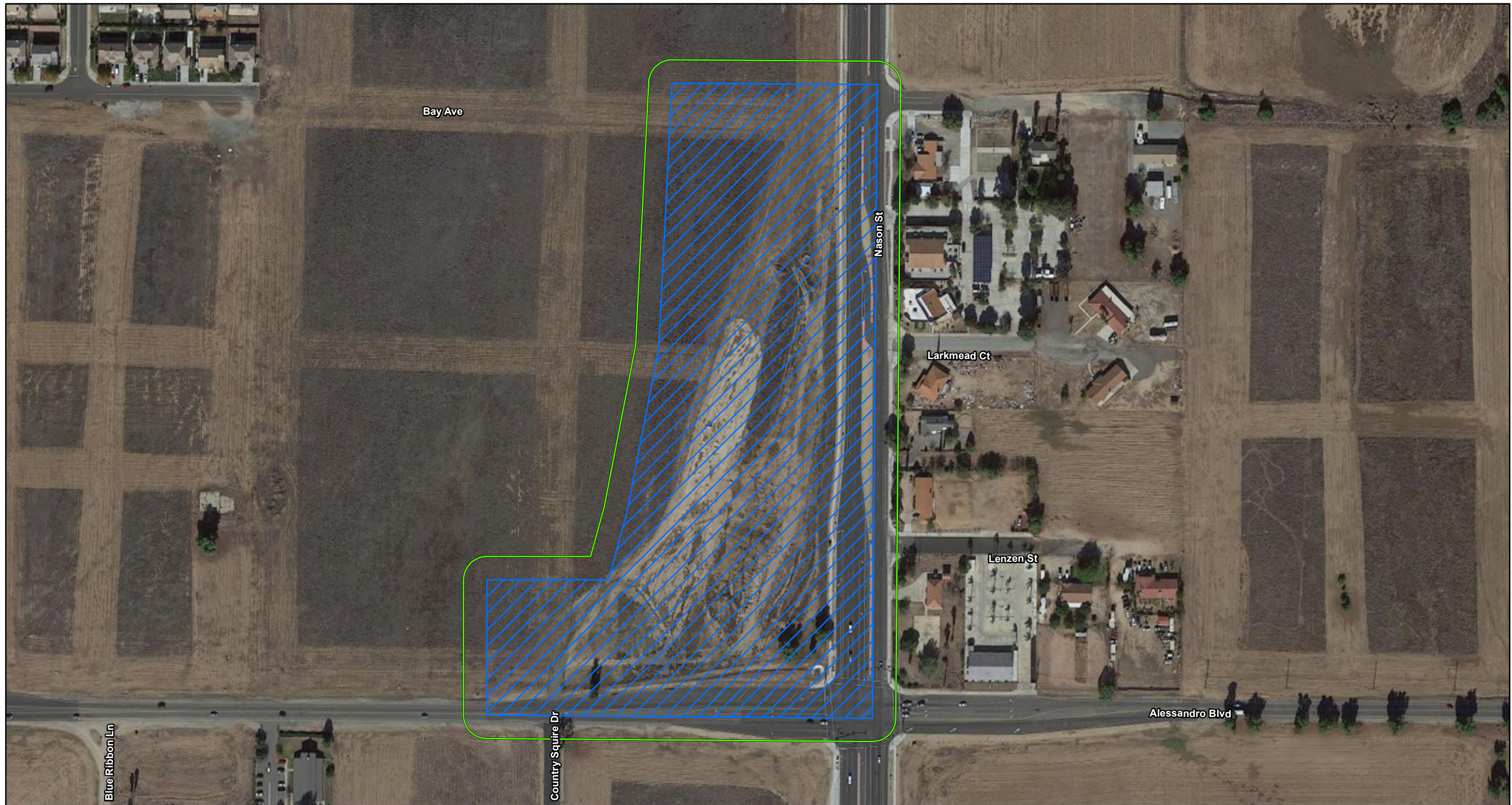
Sheet 7 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

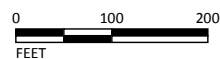
Riverine (permanent = 0.549 ac, temporary = 1.159 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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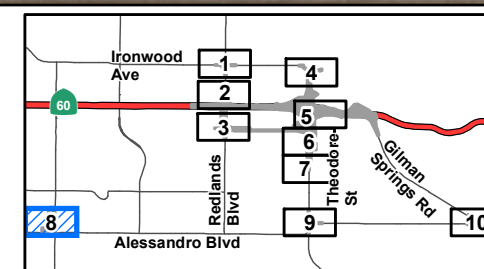


FIGURE 6

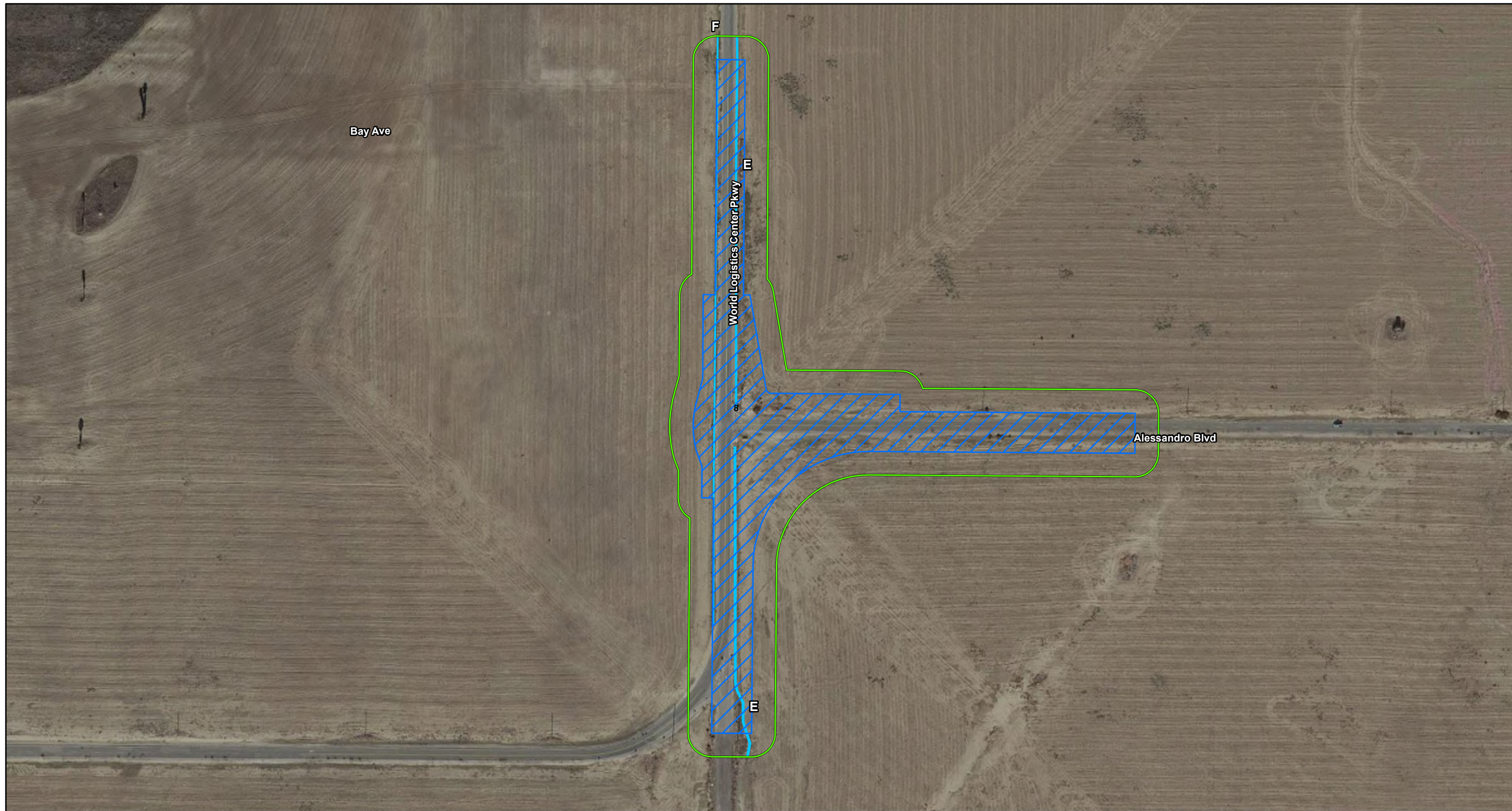
Sheet 8 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

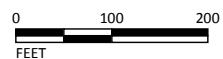


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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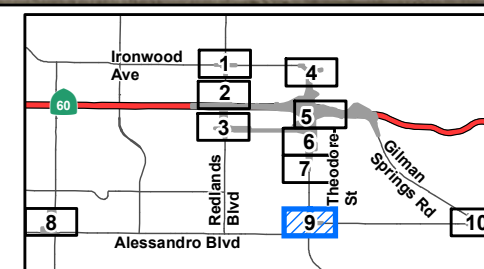


FIGURE 6

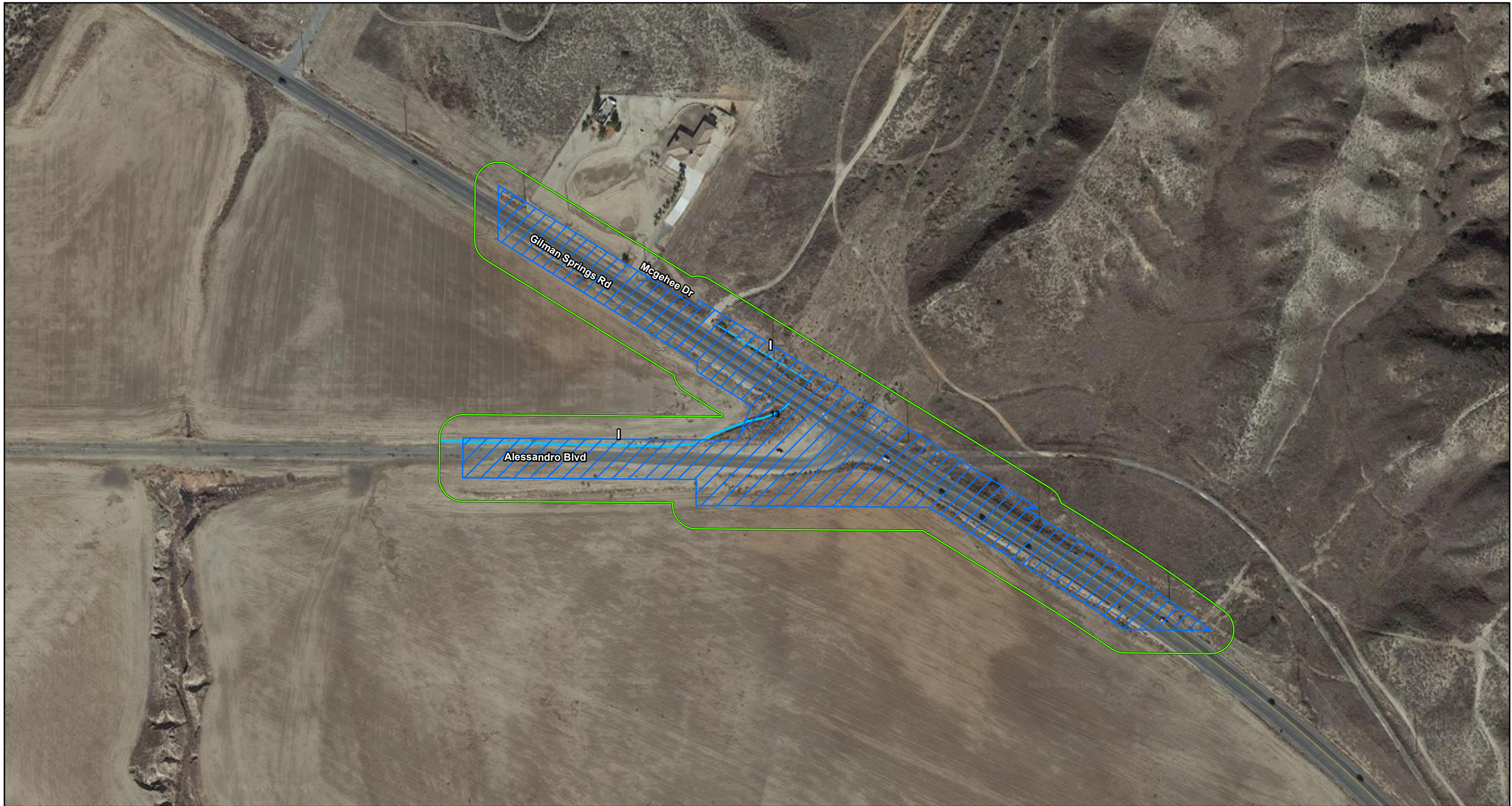
Sheet 9 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

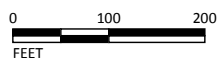


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.549 ac, temporary = 1.159 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 2 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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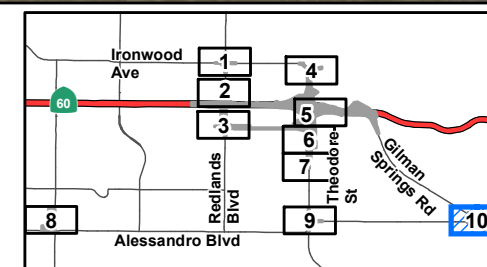
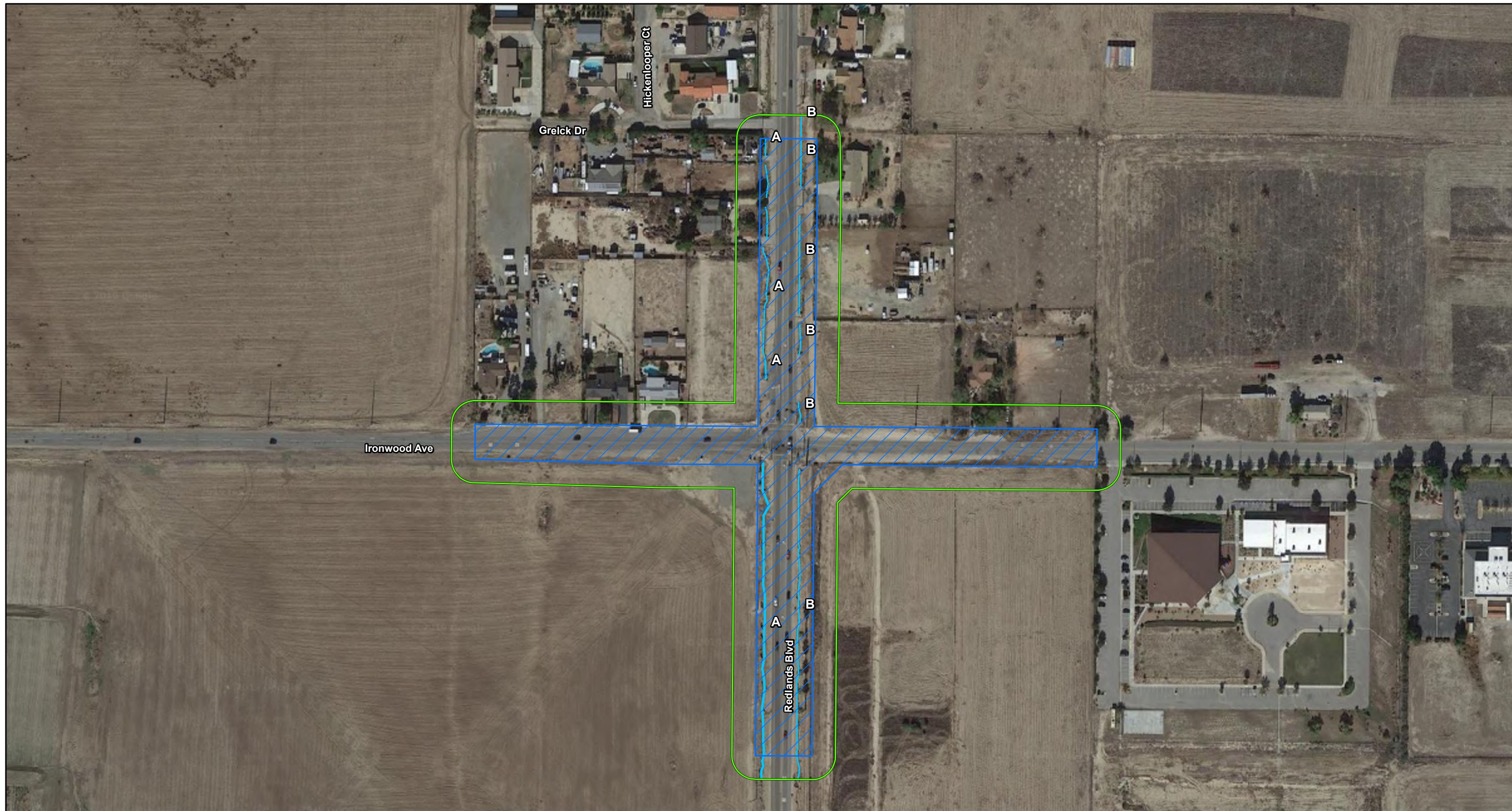


FIGURE 6

Sheet 10 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 2 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

 Biological Study Area (BSA)

Riverine/Riparian Features

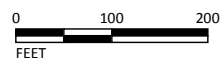
 Riverine (permanent = 0.570 ac, temporary = 1.138 ac)

 Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 6 Impacts

 Permanent

 Temporary



SOURCE: Google (2018); RBF (2018)

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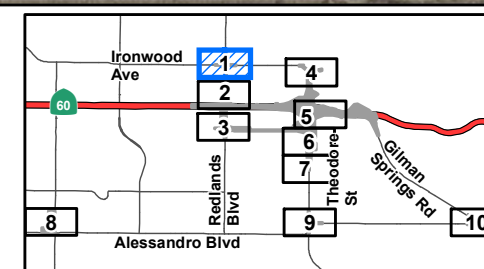


FIGURE 7

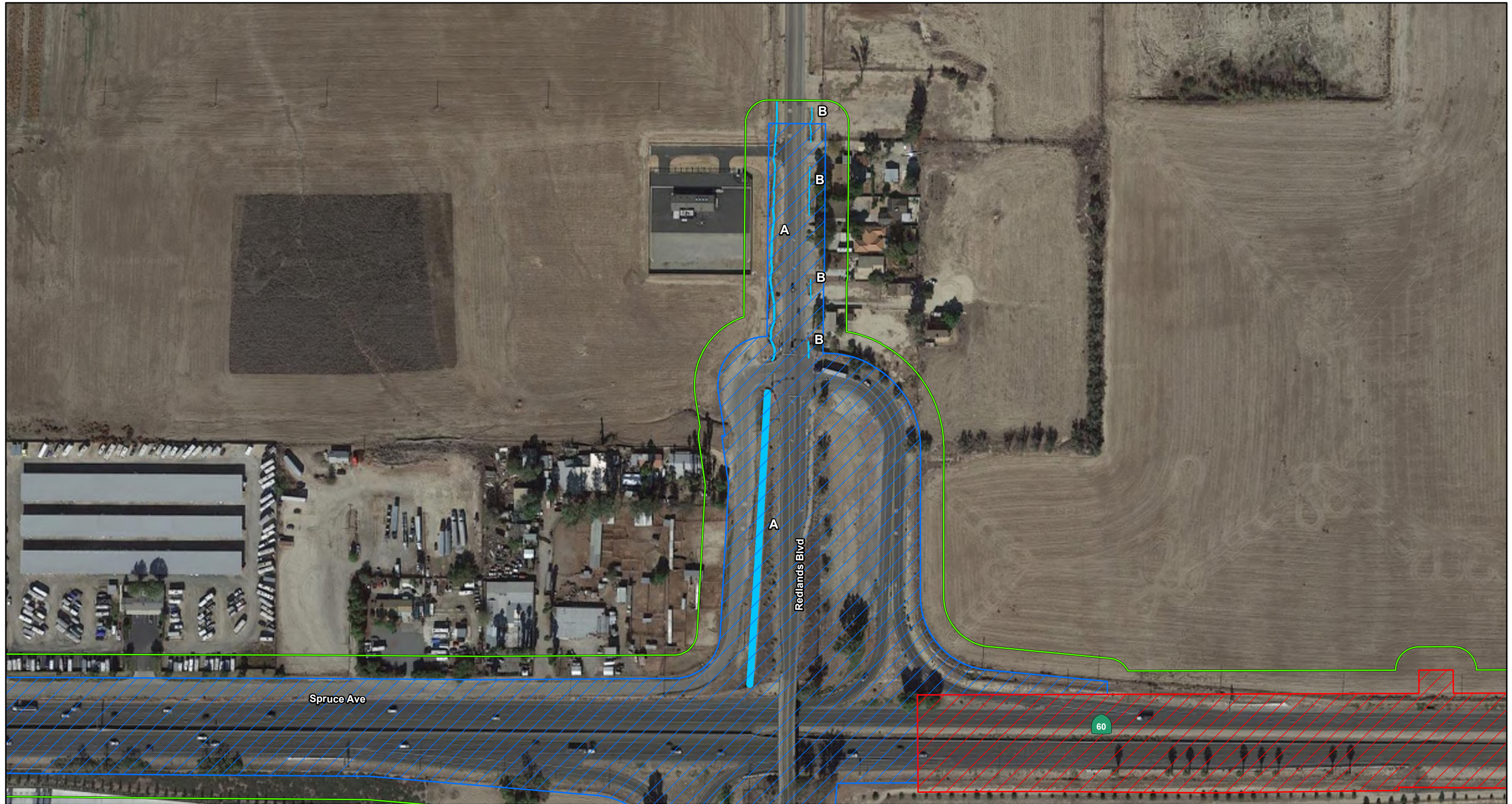
Sheet 1 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

Riverine (permanent = 0.570 ac, temporary = 1.138 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Alternative 6 Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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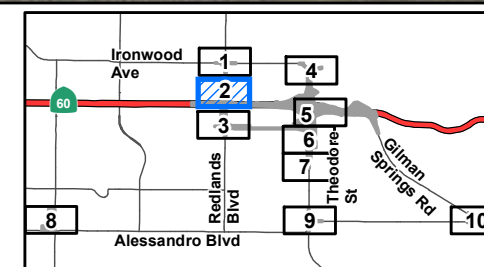


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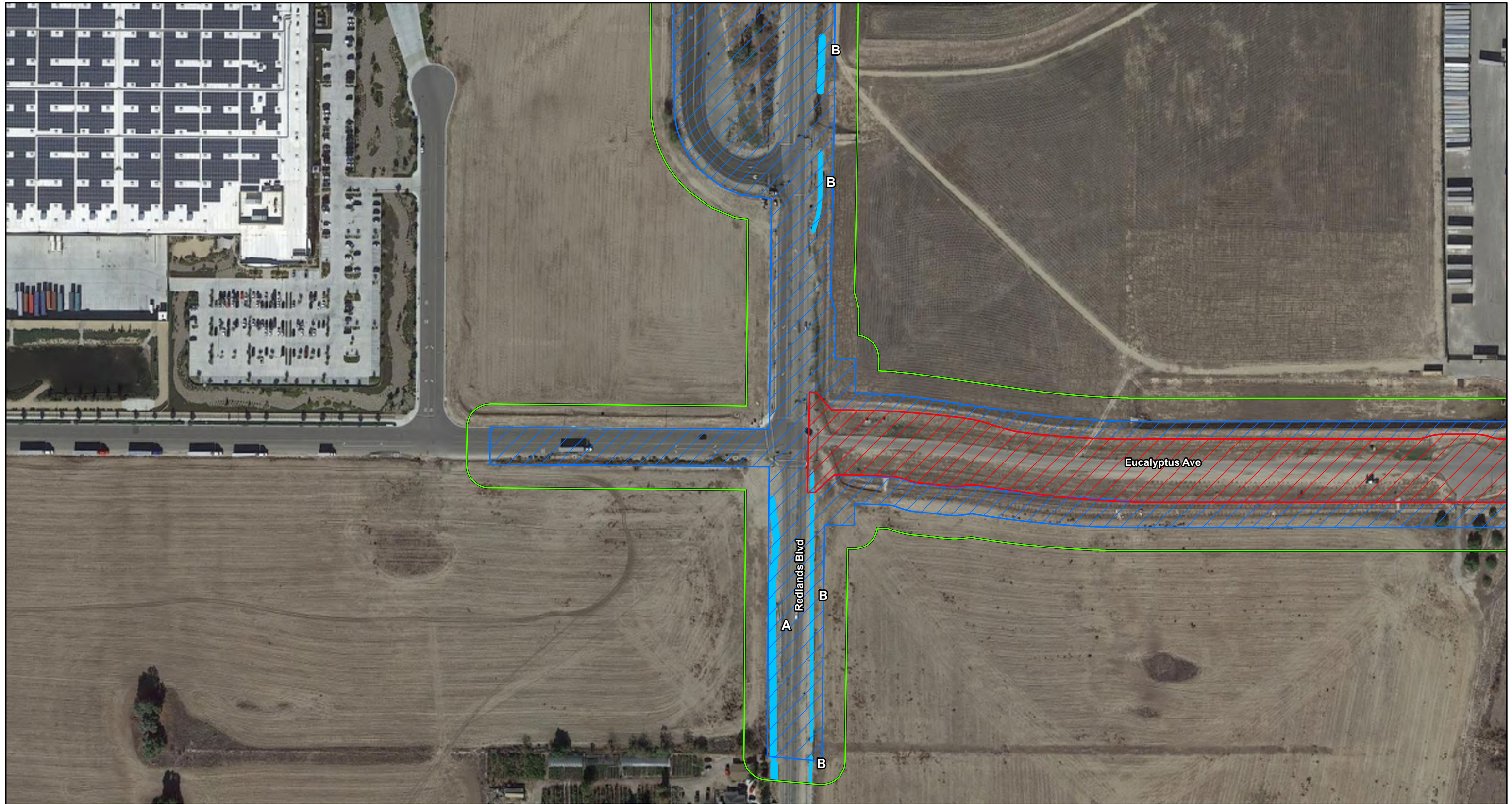
Sheet 2 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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Alternative 6 Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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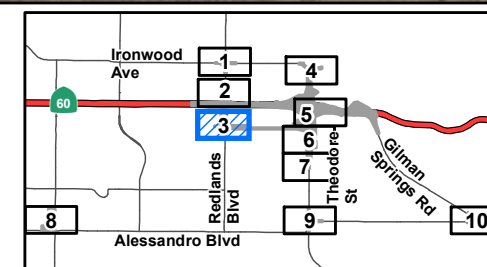


FIGURE 7

Sheet 3 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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Temporary



SOURCE: Google (2018); RBF (2018)

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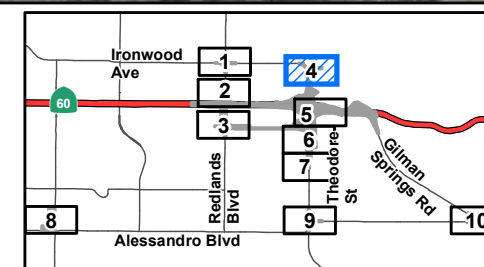


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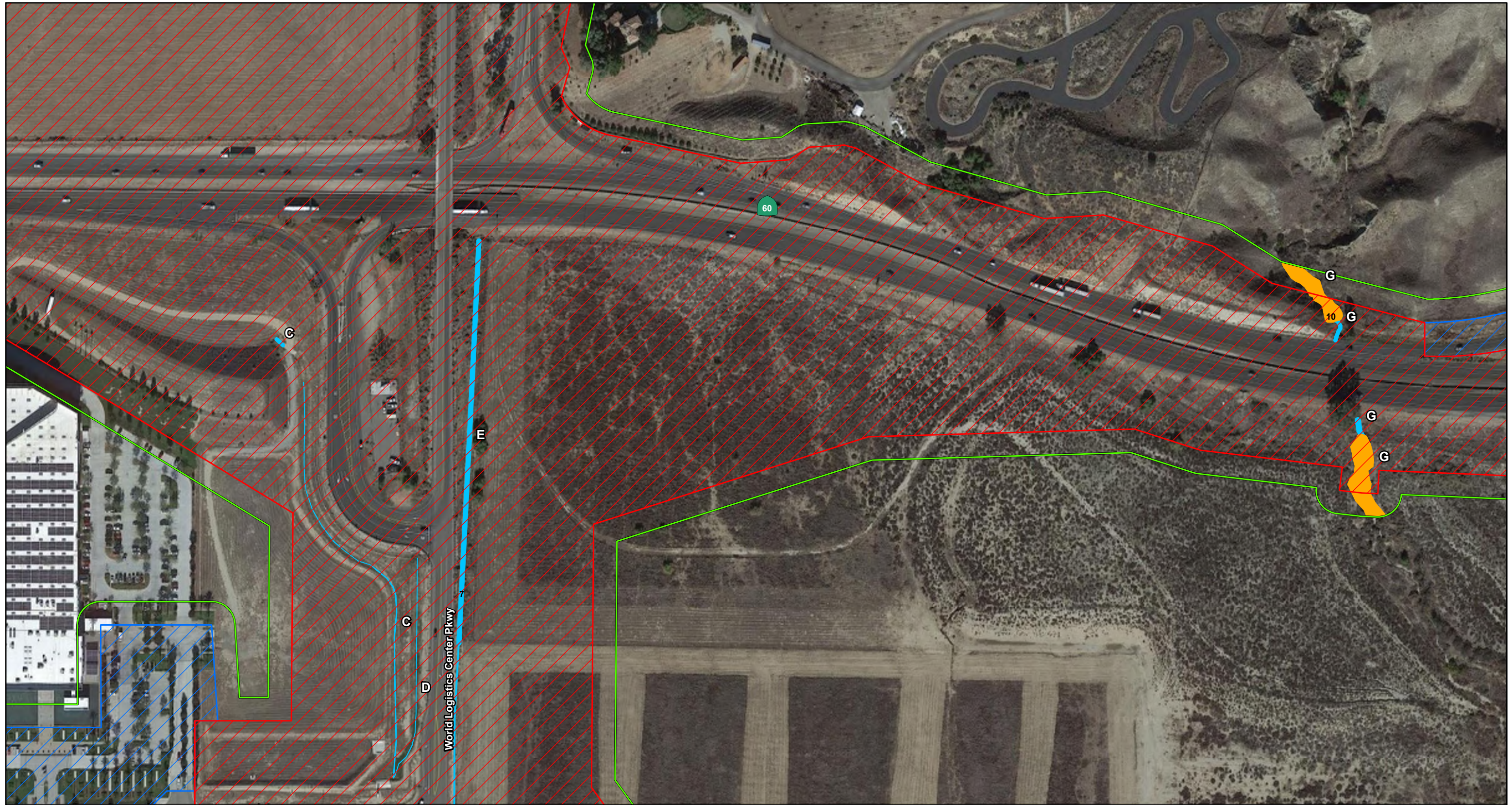
Sheet 4 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

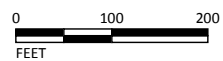
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SOURCE: Google (2018); RBF (2018)

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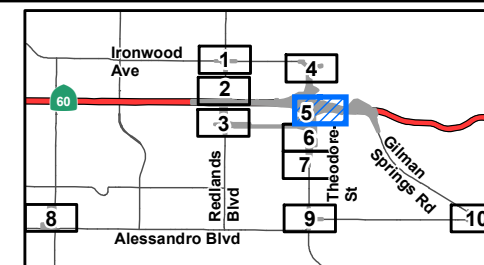


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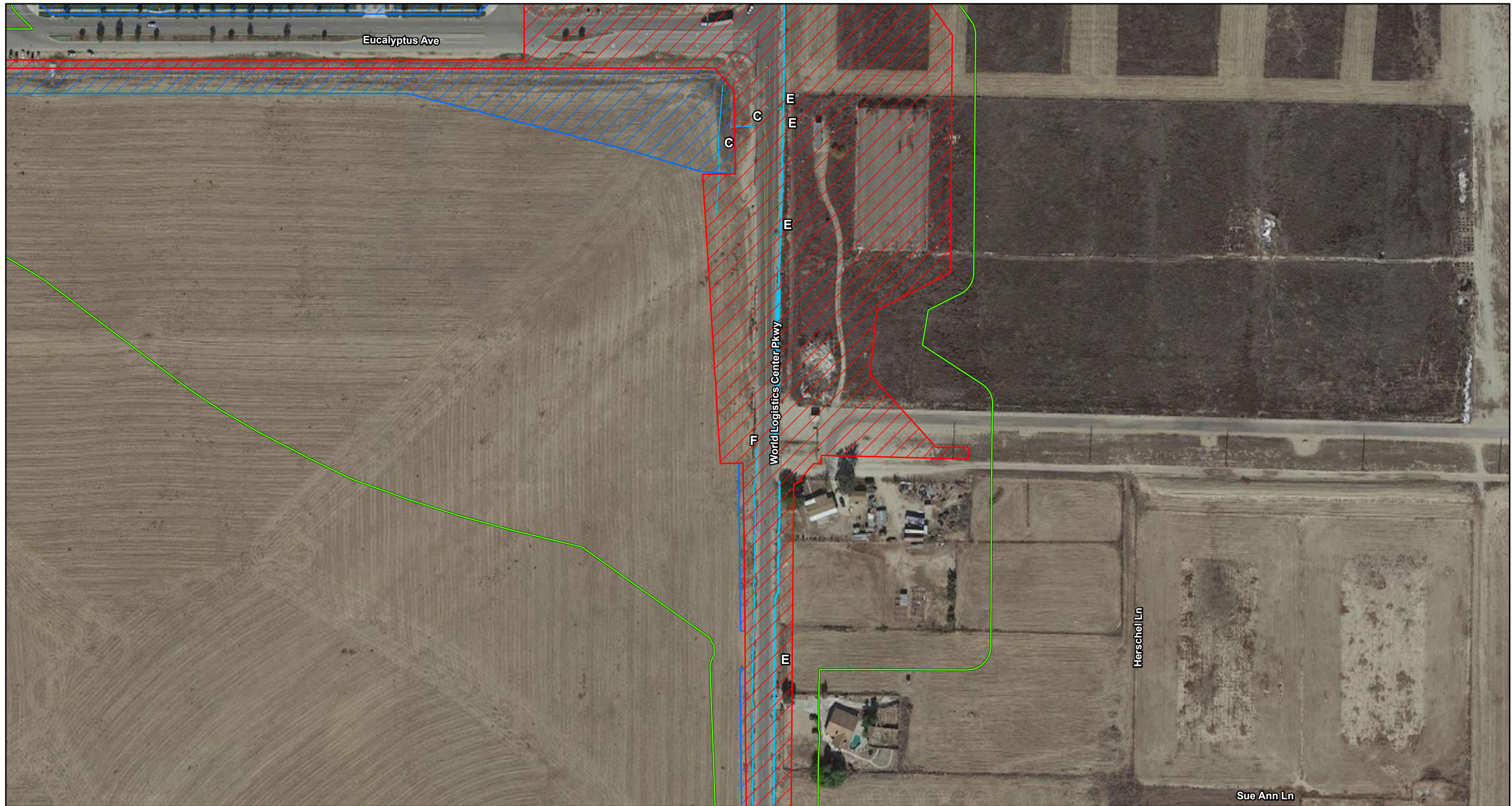
Sheet 5 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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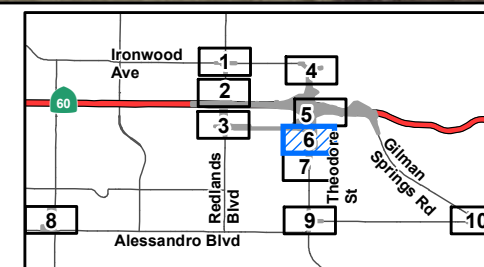
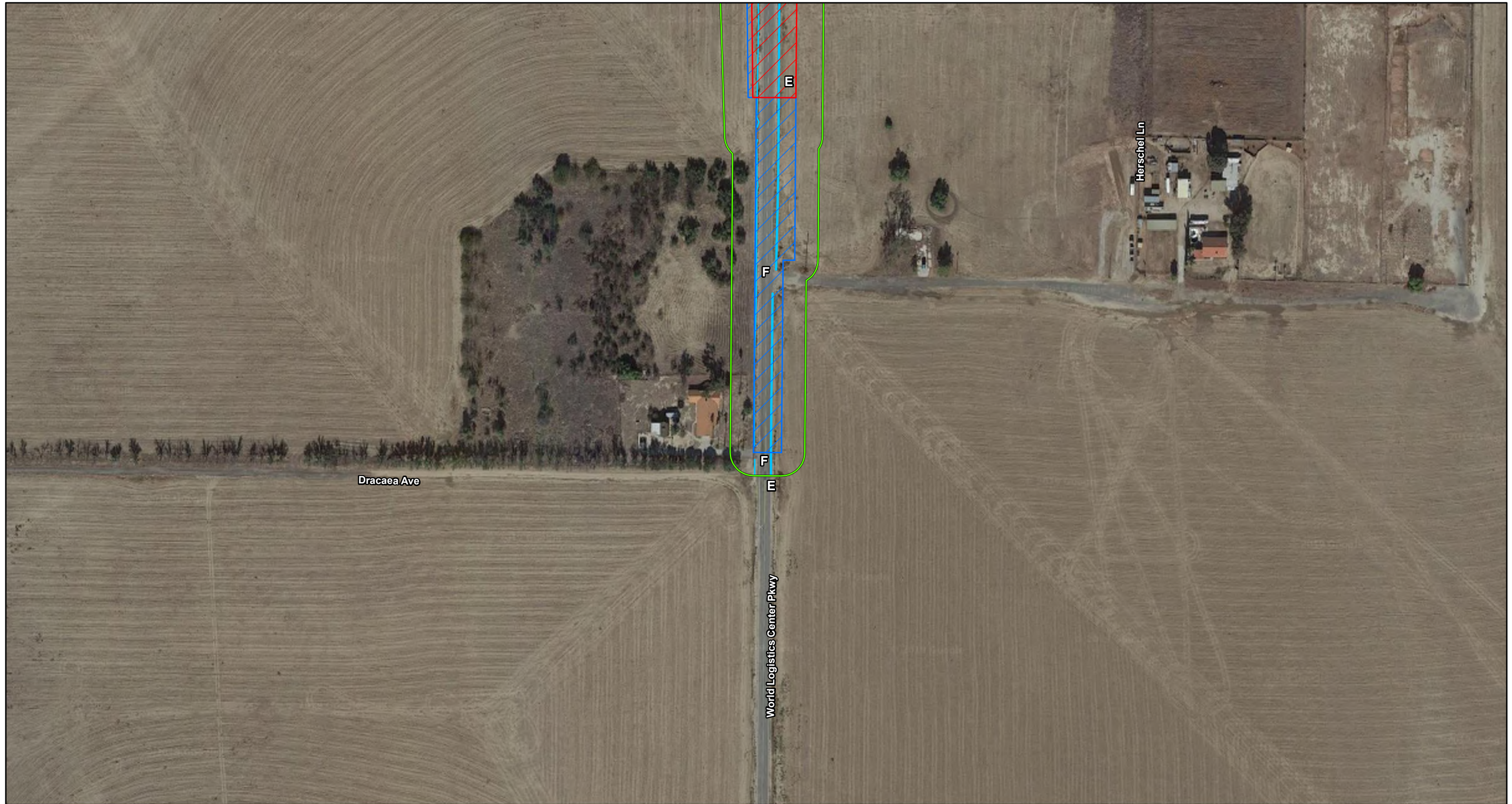


FIGURE 7
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SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

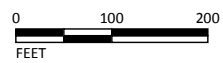
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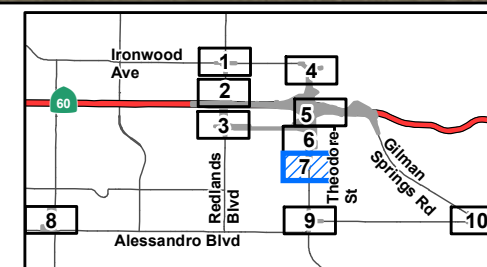


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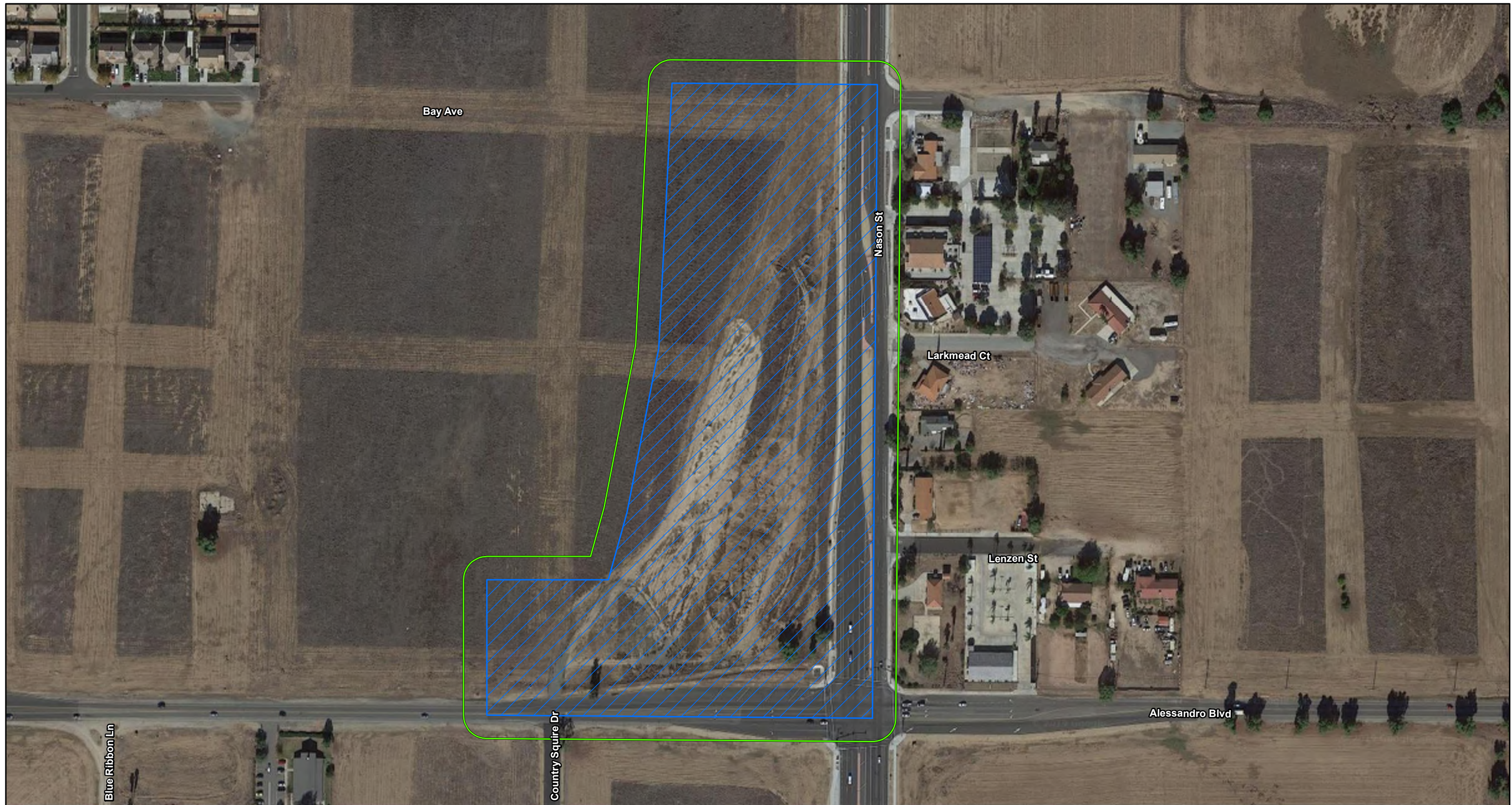
Sheet 7 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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Biological Study Area (BSA)

Riverine/Riparian Features

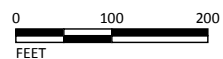
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Alternative 6 Impacts

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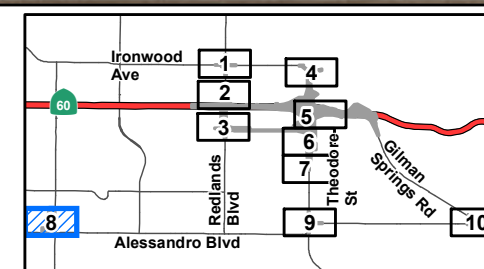


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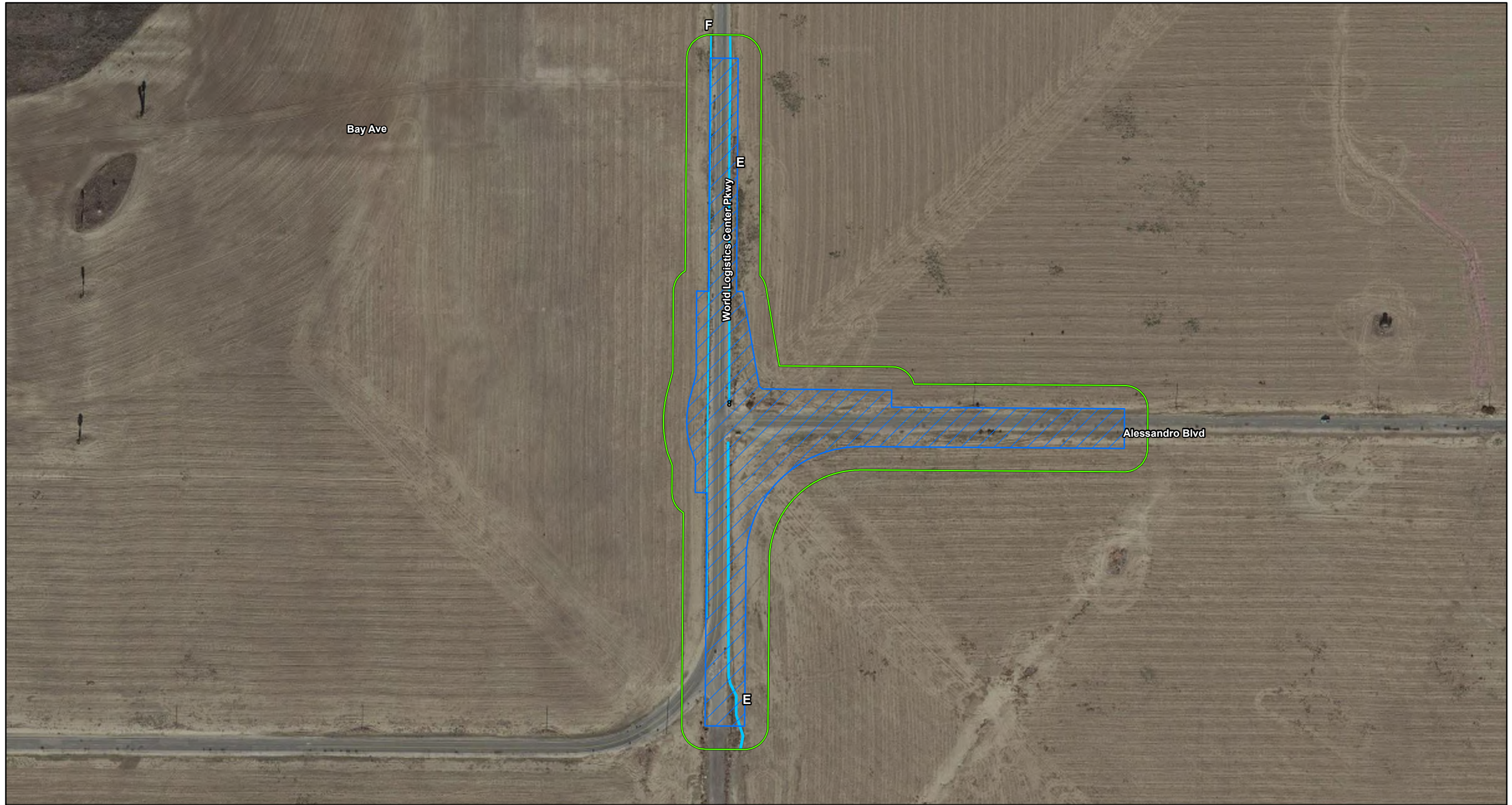
Sheet 8 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

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Alternative 6 Impacts

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SOURCE: Google (2018); RBF (2018)

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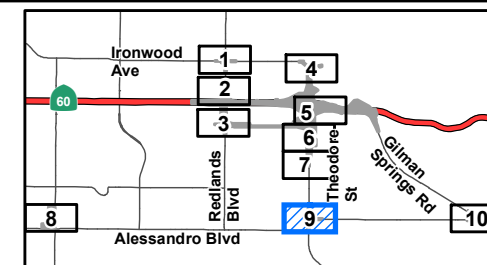
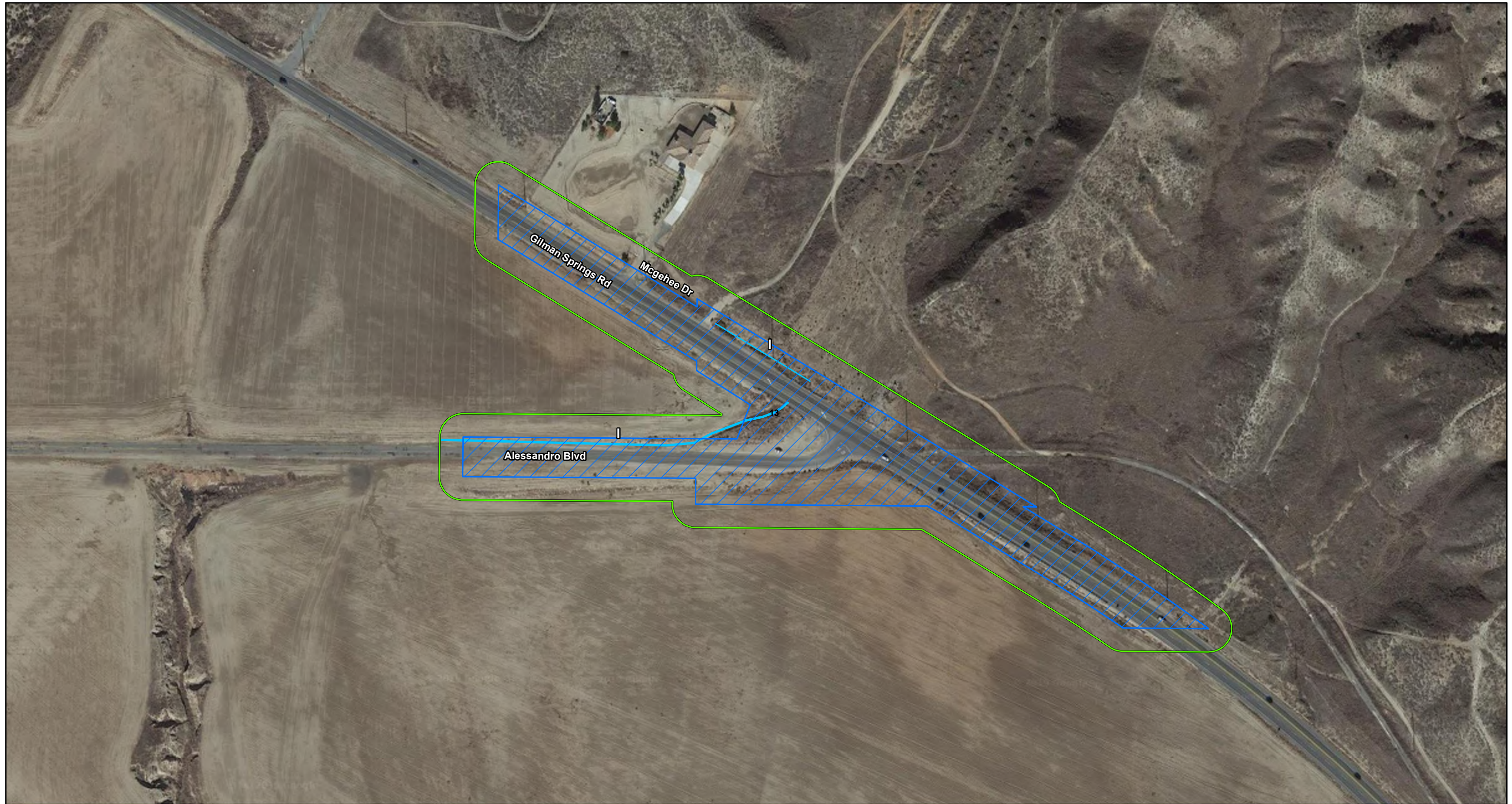


FIGURE 7
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*SR-60/World Logistics Center Parkway
Interchange Project*
Riverine/Riparian Features and Impacts
-Alternative 6 Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

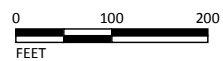


LEGEND

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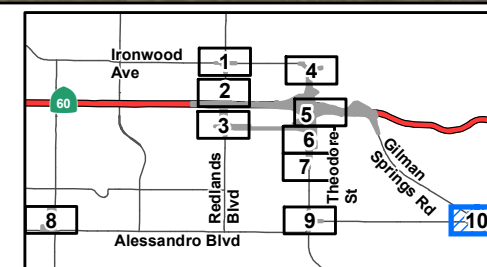
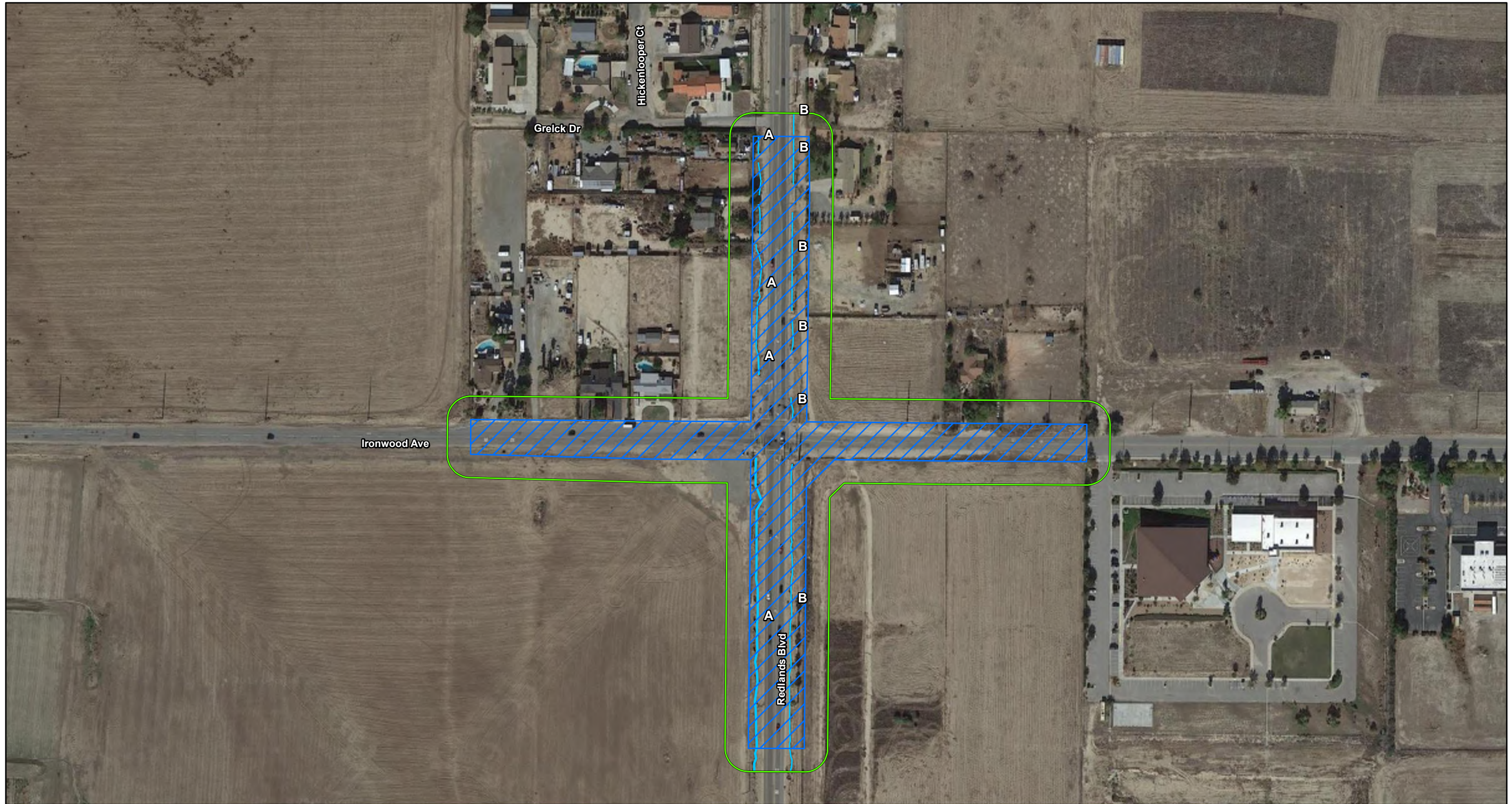


FIGURE 7
 Sheet 10 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Alternative 6 Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



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Design Variation 2a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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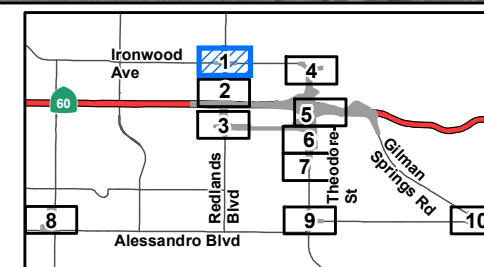


FIGURE 8

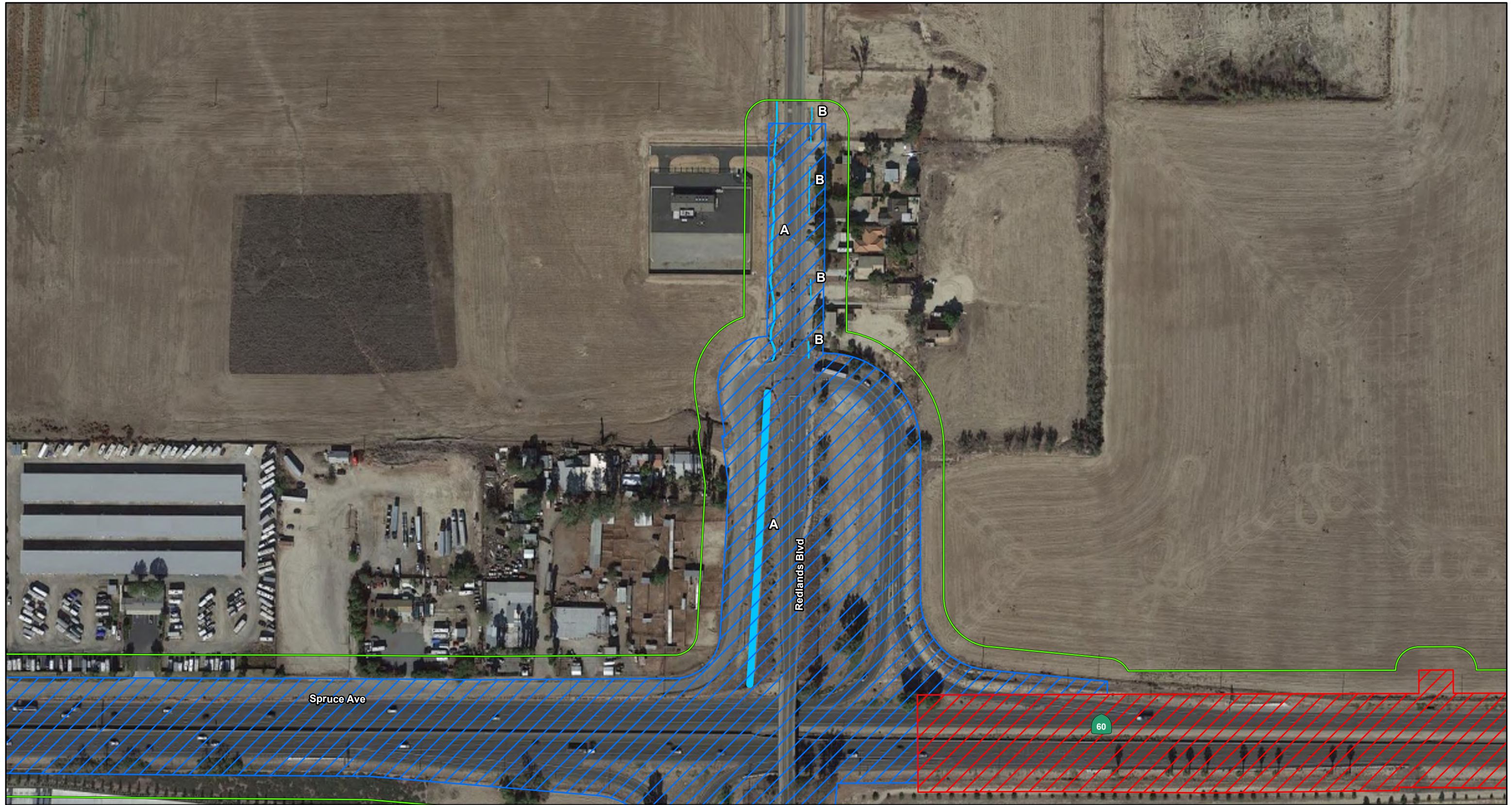
Sheet 1 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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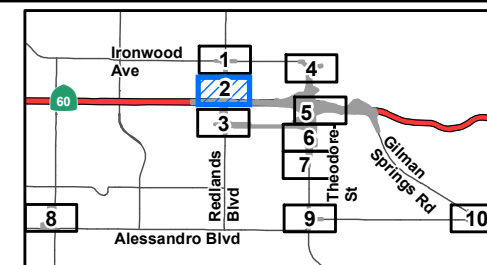


FIGURE 8

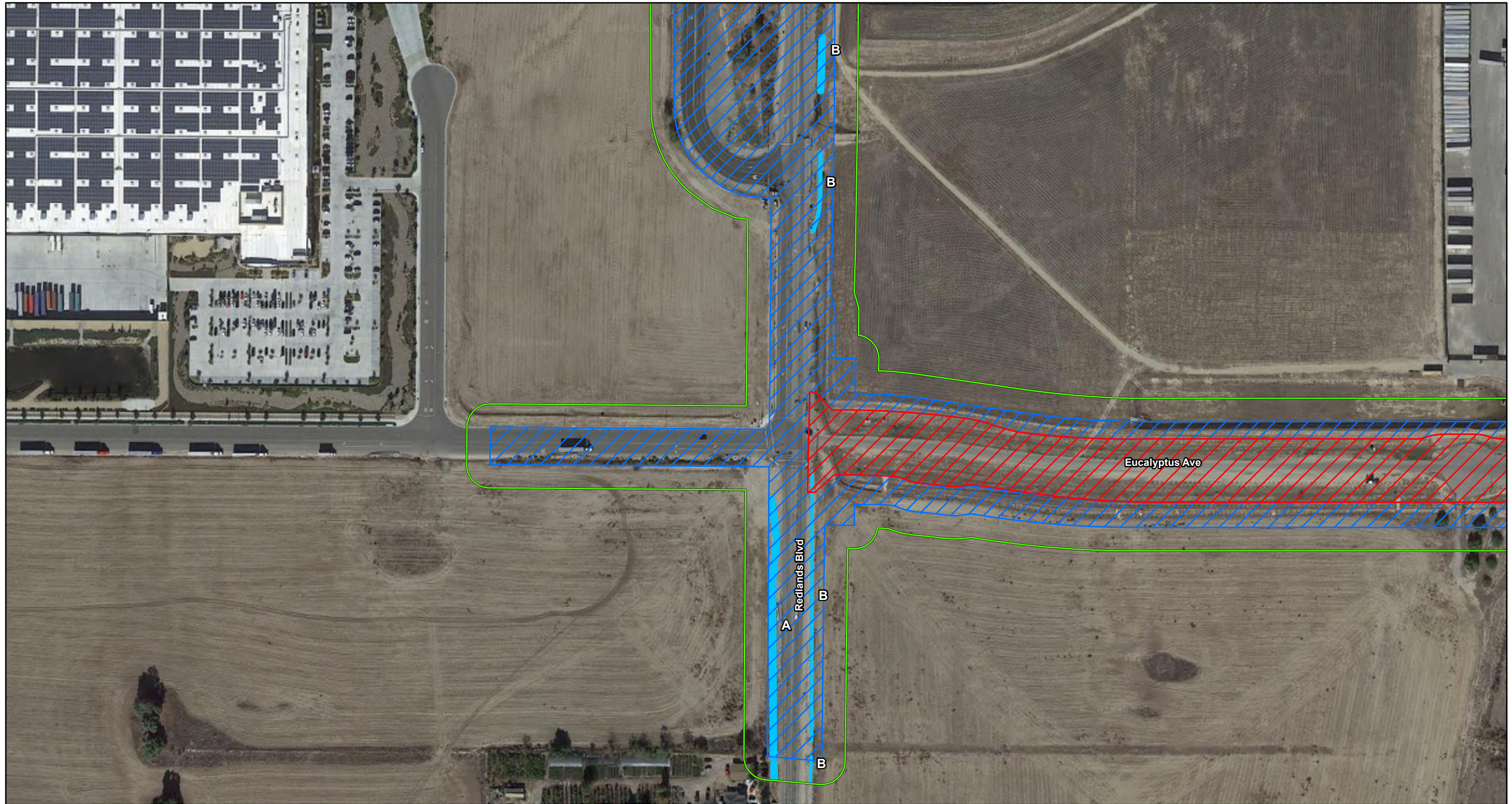
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SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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Design Variation 2a Impacts

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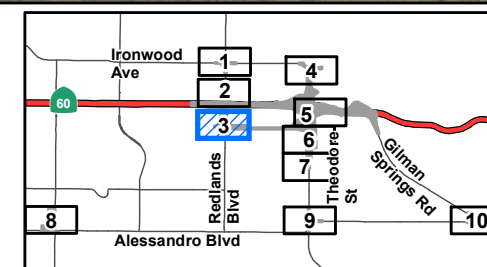
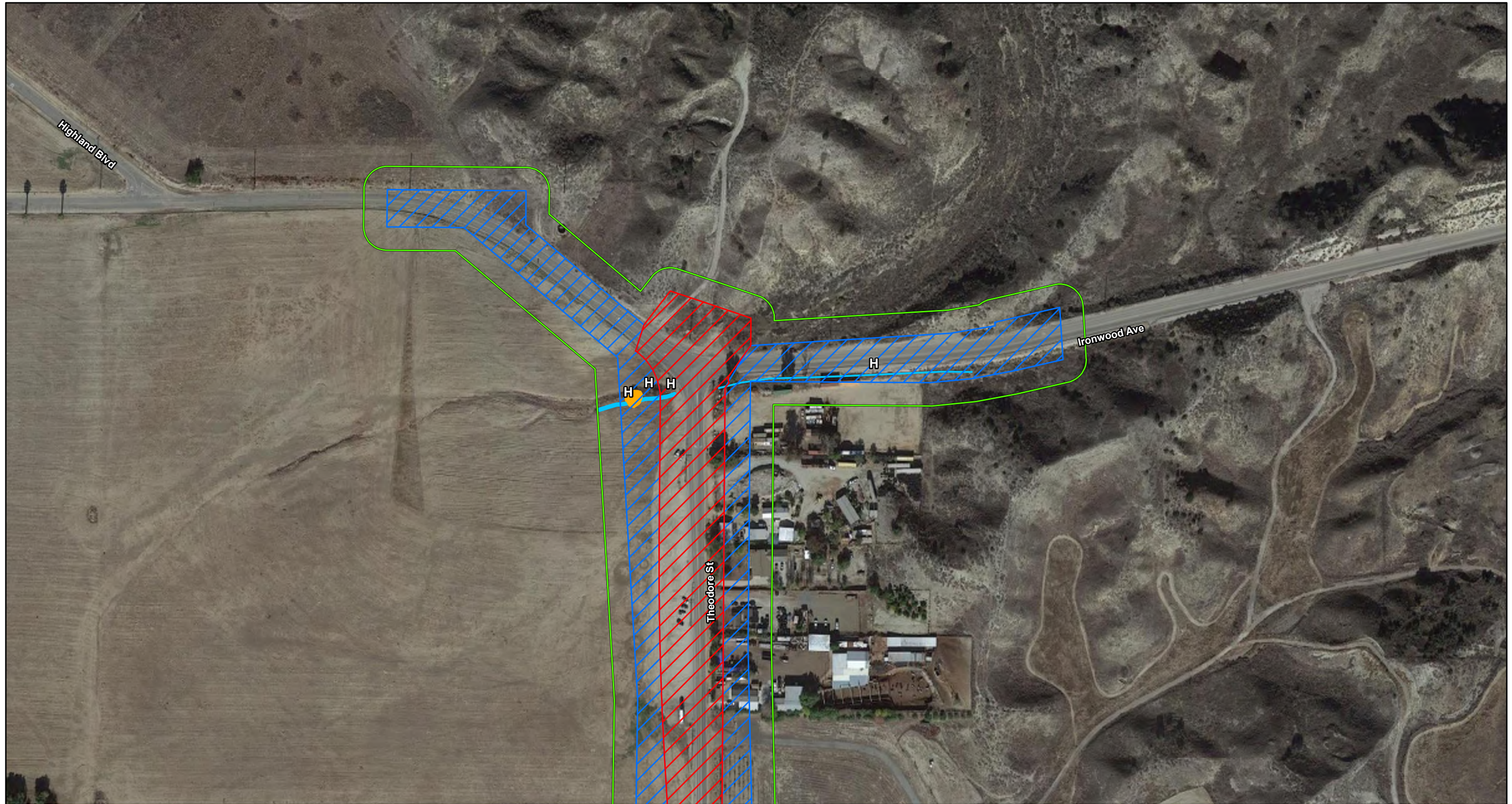


FIGURE 8
 Sheet 3 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 2a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

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Riverine/Riparian Features

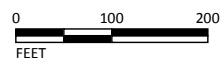
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Design Variation 2a Impacts

Permanent

Temporary



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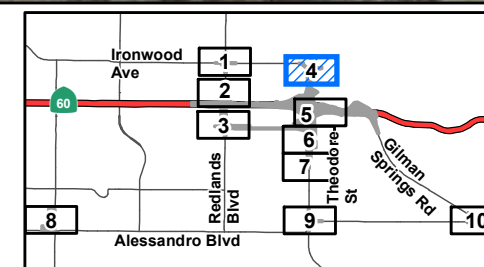


FIGURE 8

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SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

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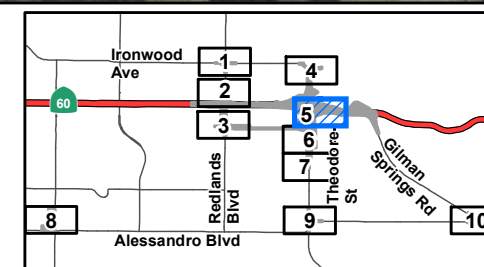


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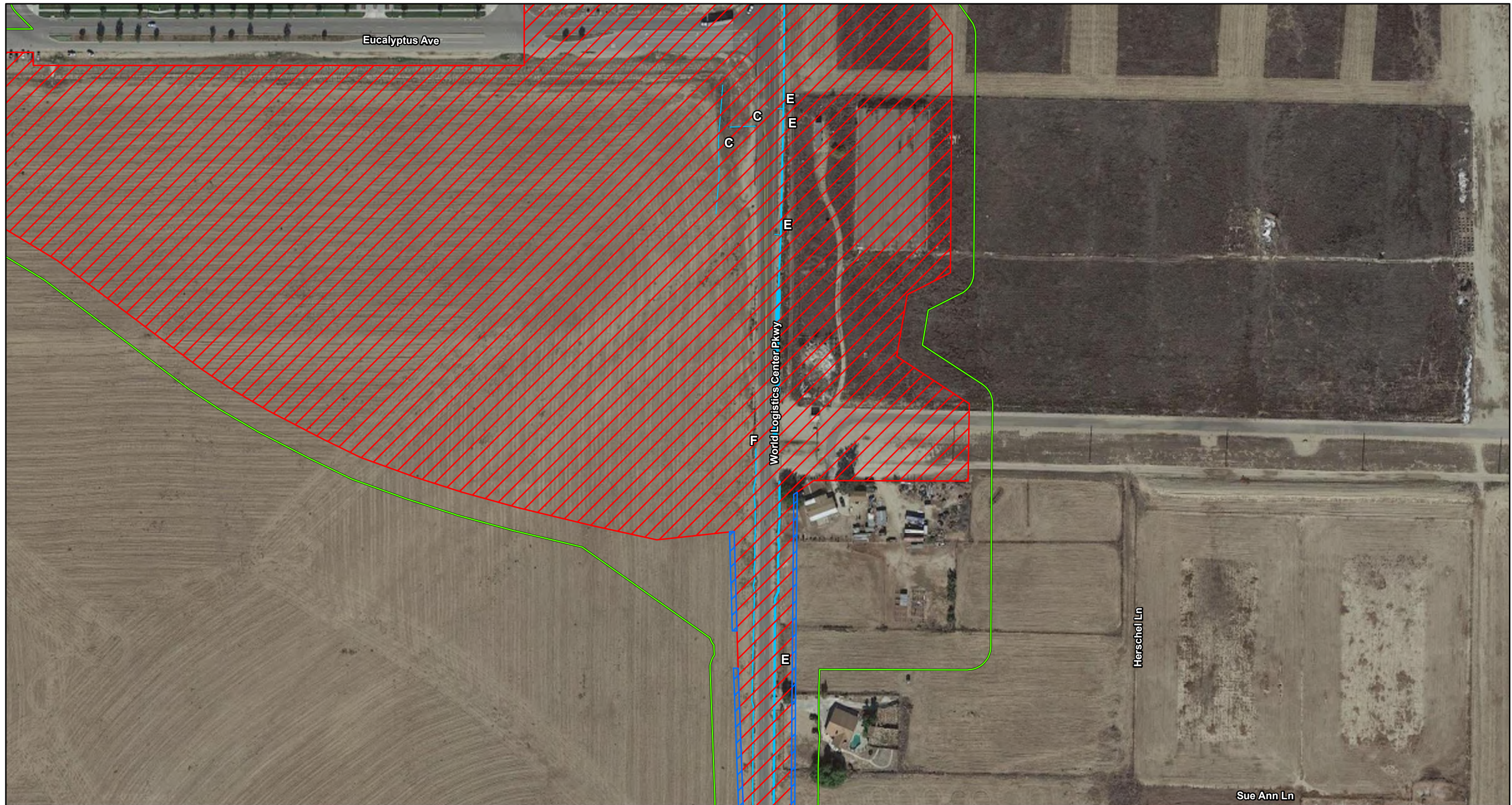
Sheet 5 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
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08-RIV-60 PM 20.0/22.0

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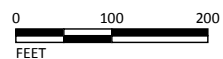


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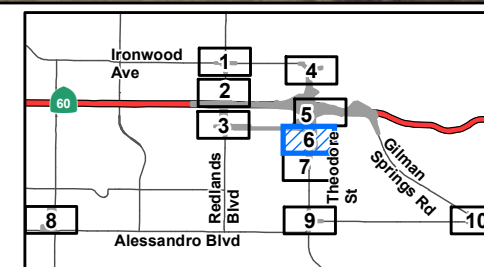
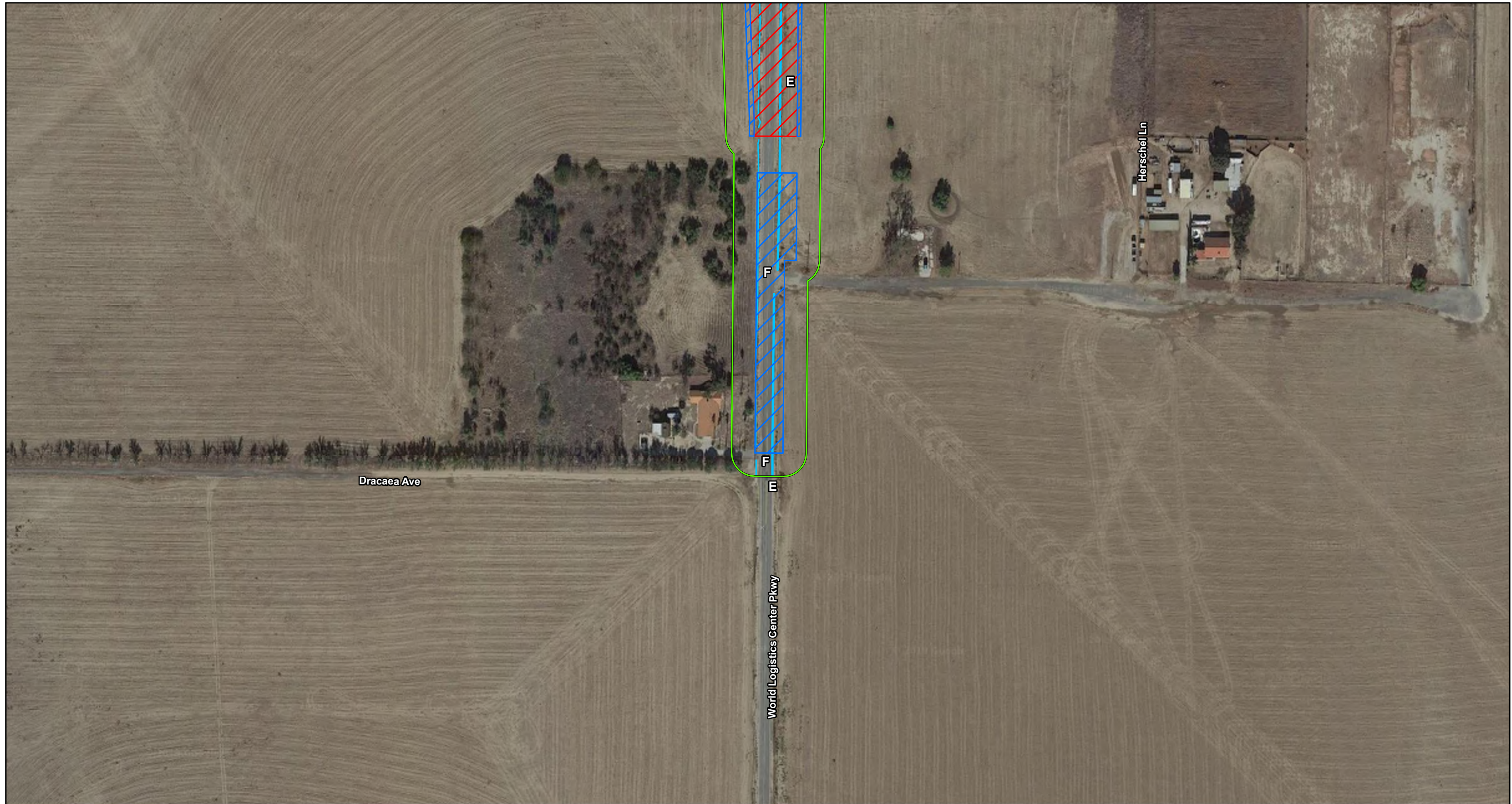


FIGURE 8
 Sheet 6 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 2a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
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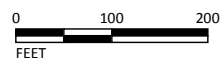
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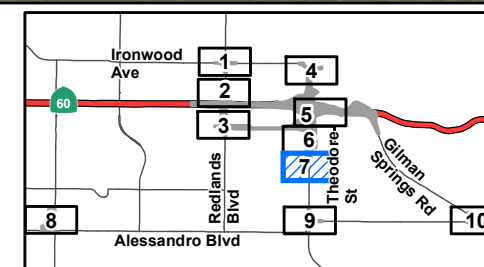


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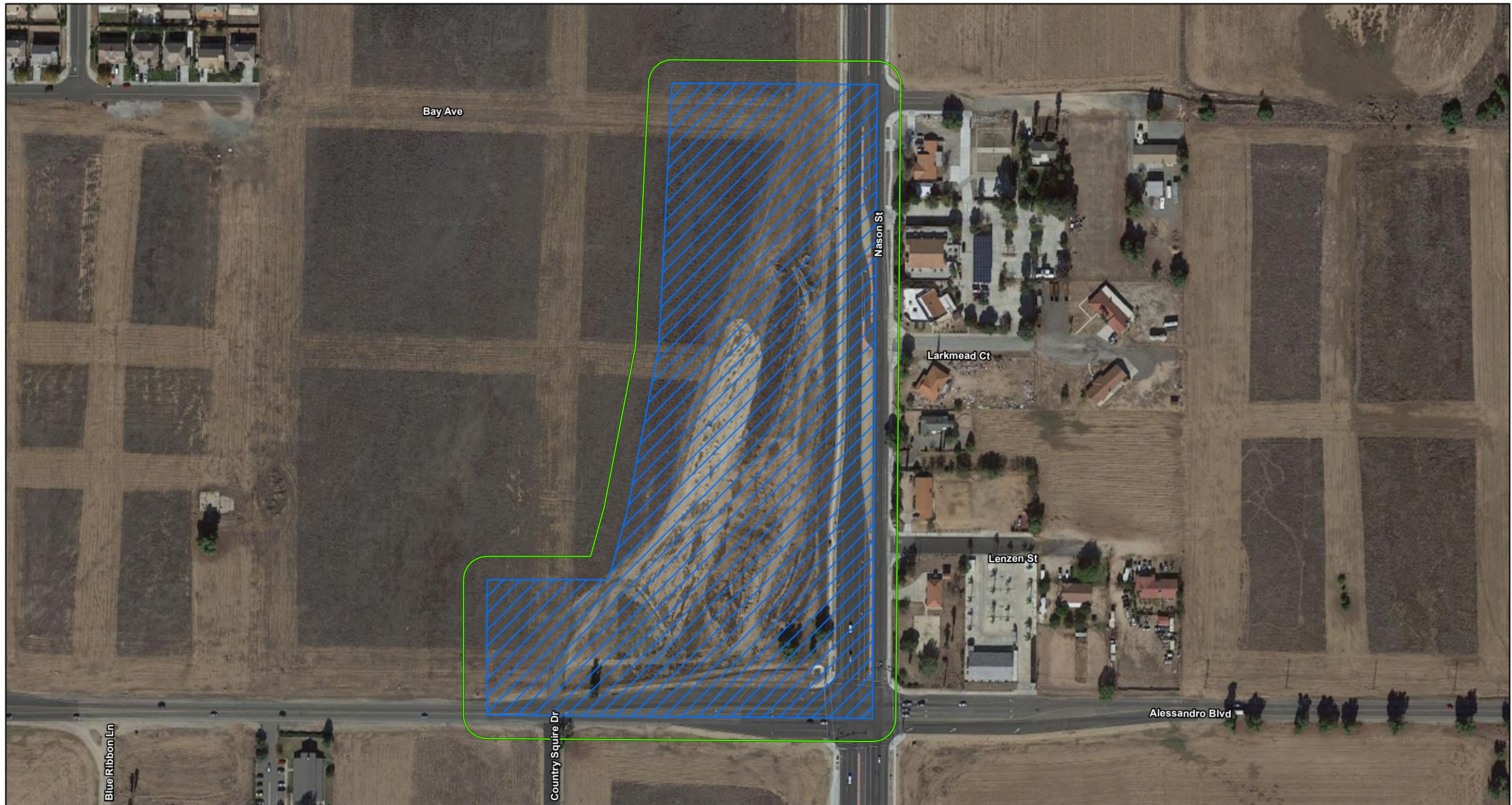
Sheet 7 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

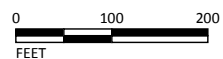


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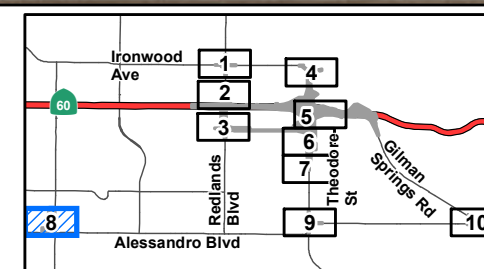


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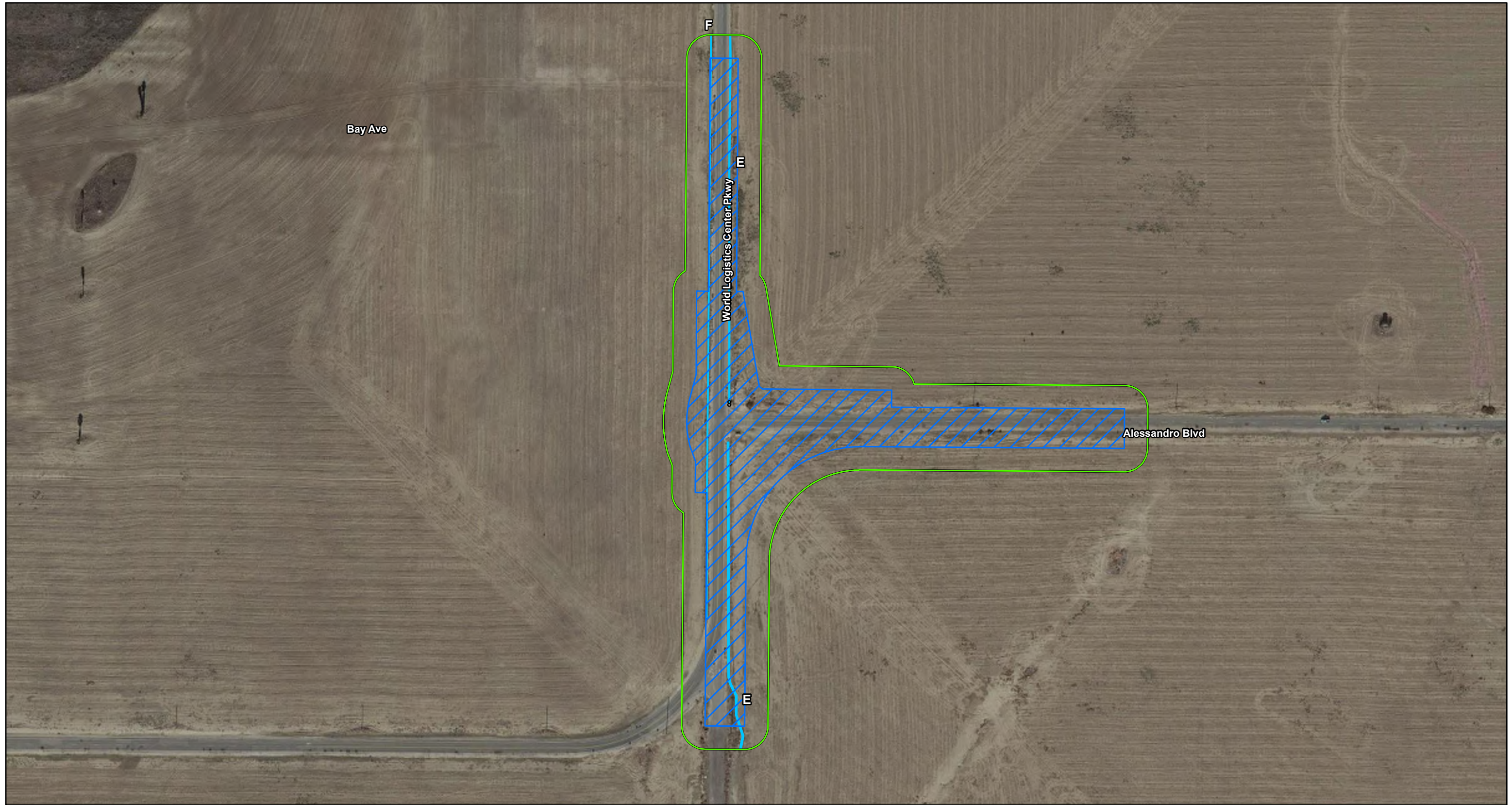
Sheet 8 of 10

SR-60/World Logistics Center Parkway Interchange Project
Riverine/Riparian Features and Impacts
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08-RIV-60 PM 20.0/22.0

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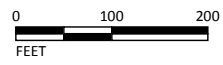
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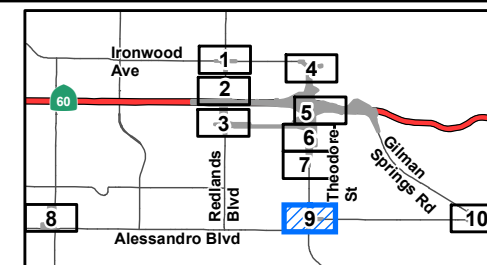


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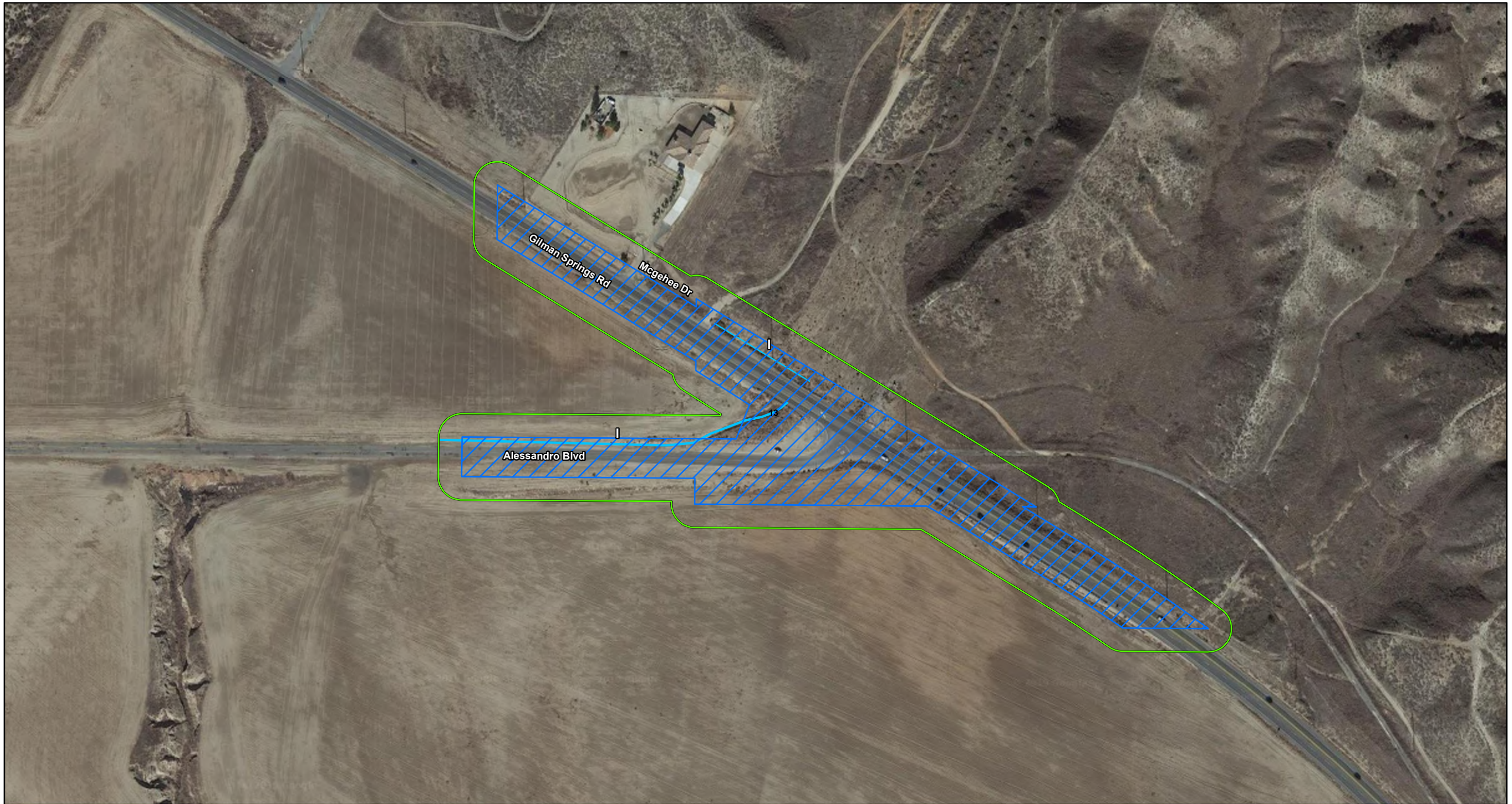
Sheet 9 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 2a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



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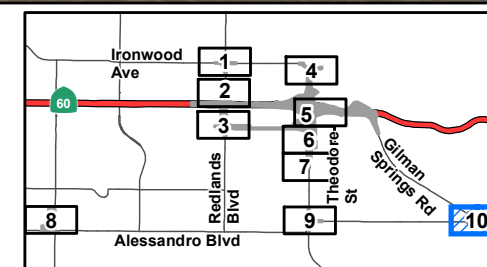
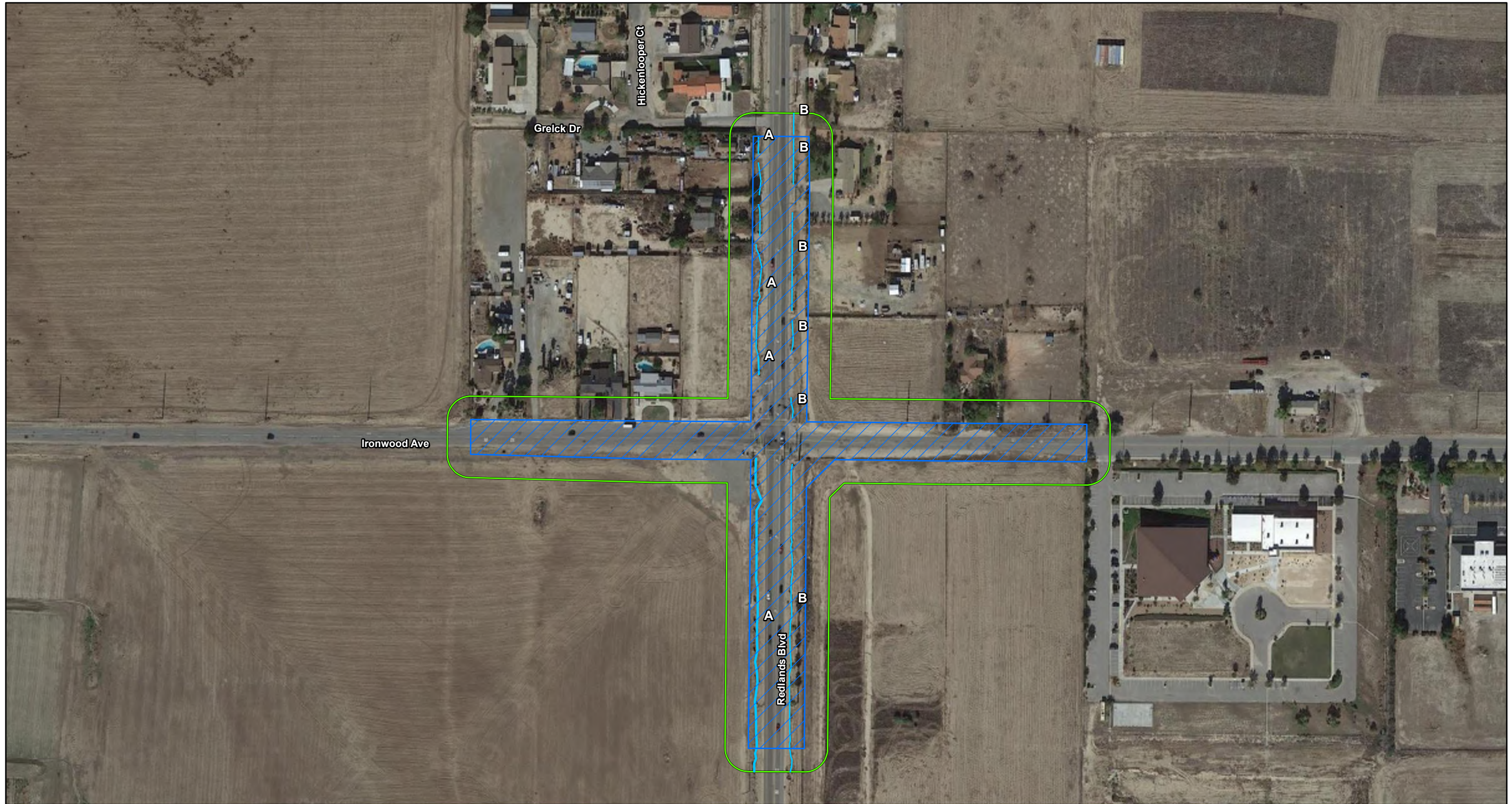


FIGURE 8
 Sheet 10 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 2a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

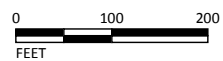
Riverine (permanent = 0.574 ac, temporary = 1.133 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

I:\RBF1301\GIS_Mod\MXD\Bio\MSHCP\DV6a_JD_Impacts.mxd (9/5/2019)

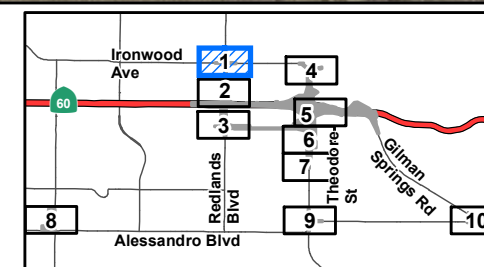


FIGURE 9

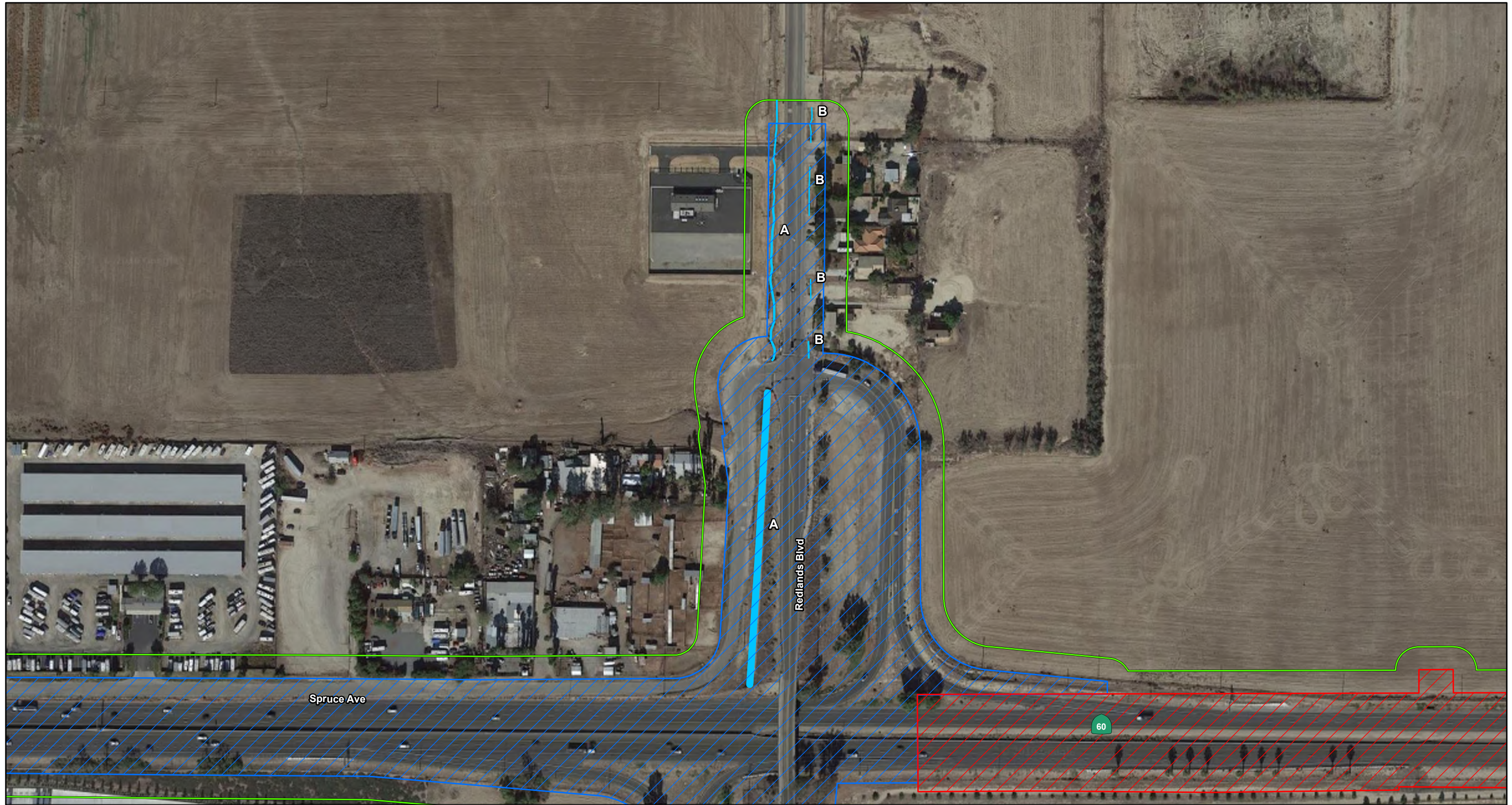
Sheet 1 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

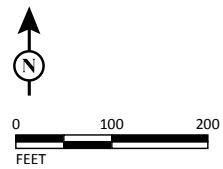


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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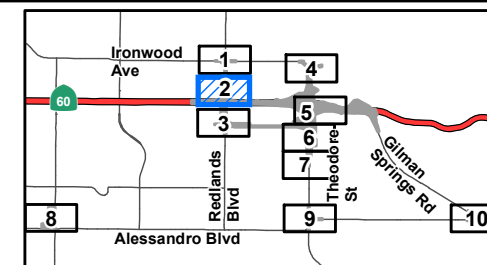
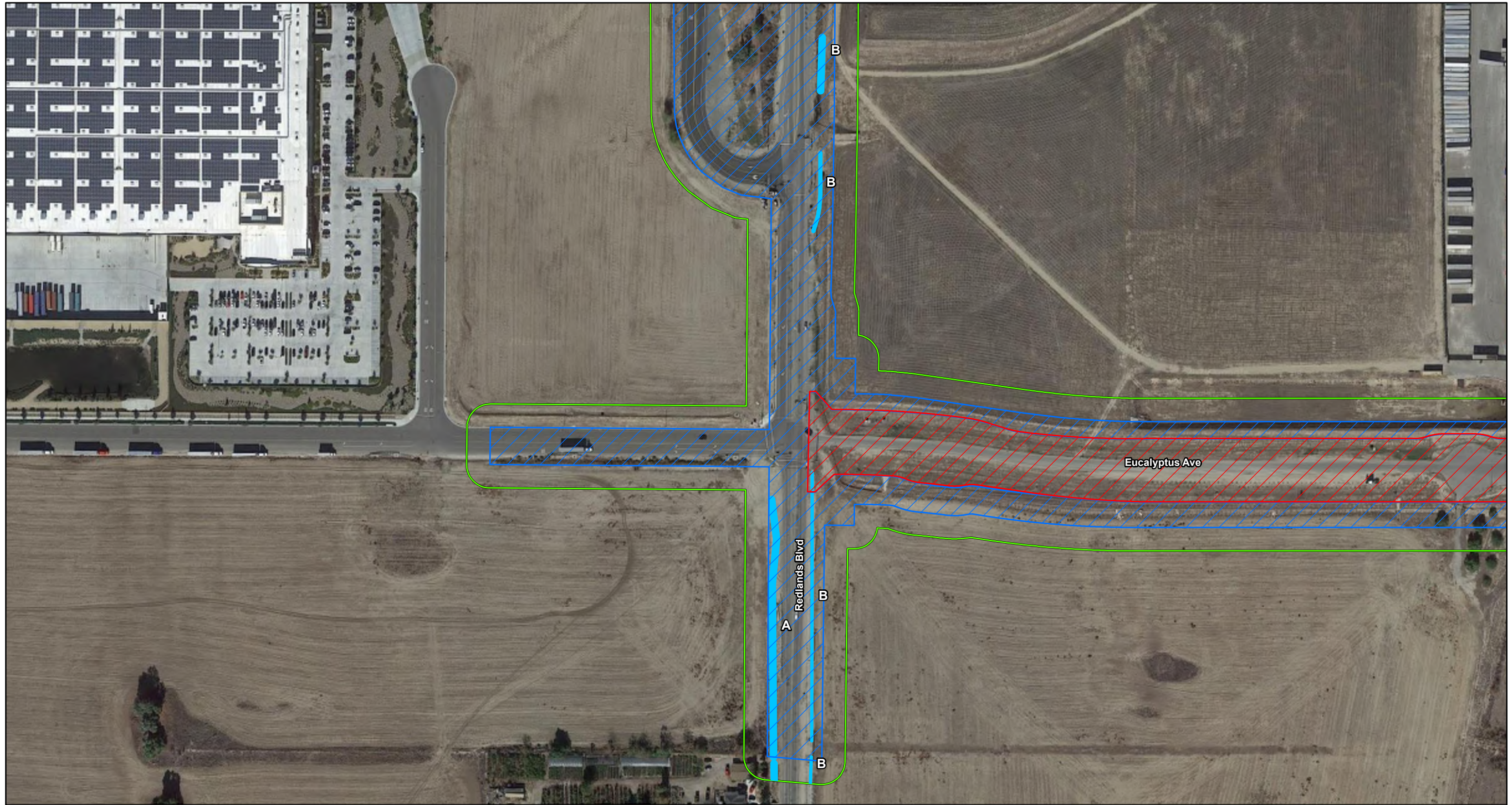


FIGURE 9
Sheet 2 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

I:\RBF1301\GIS_Mod\MXD\Bio\MSHCP\DV6a_JD_Impacts.mxd (9/5/2019)

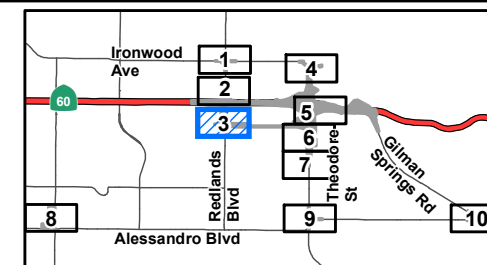


FIGURE 9
 Sheet 3 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 6a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

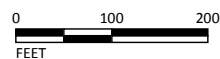
Riverine (permanent = 0.574 ac, temporary = 1.133 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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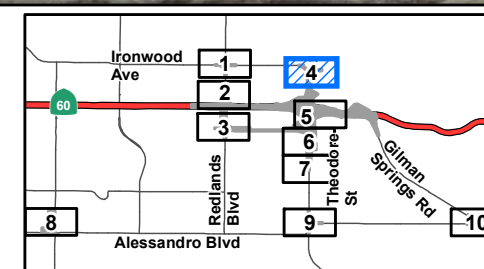


FIGURE 9

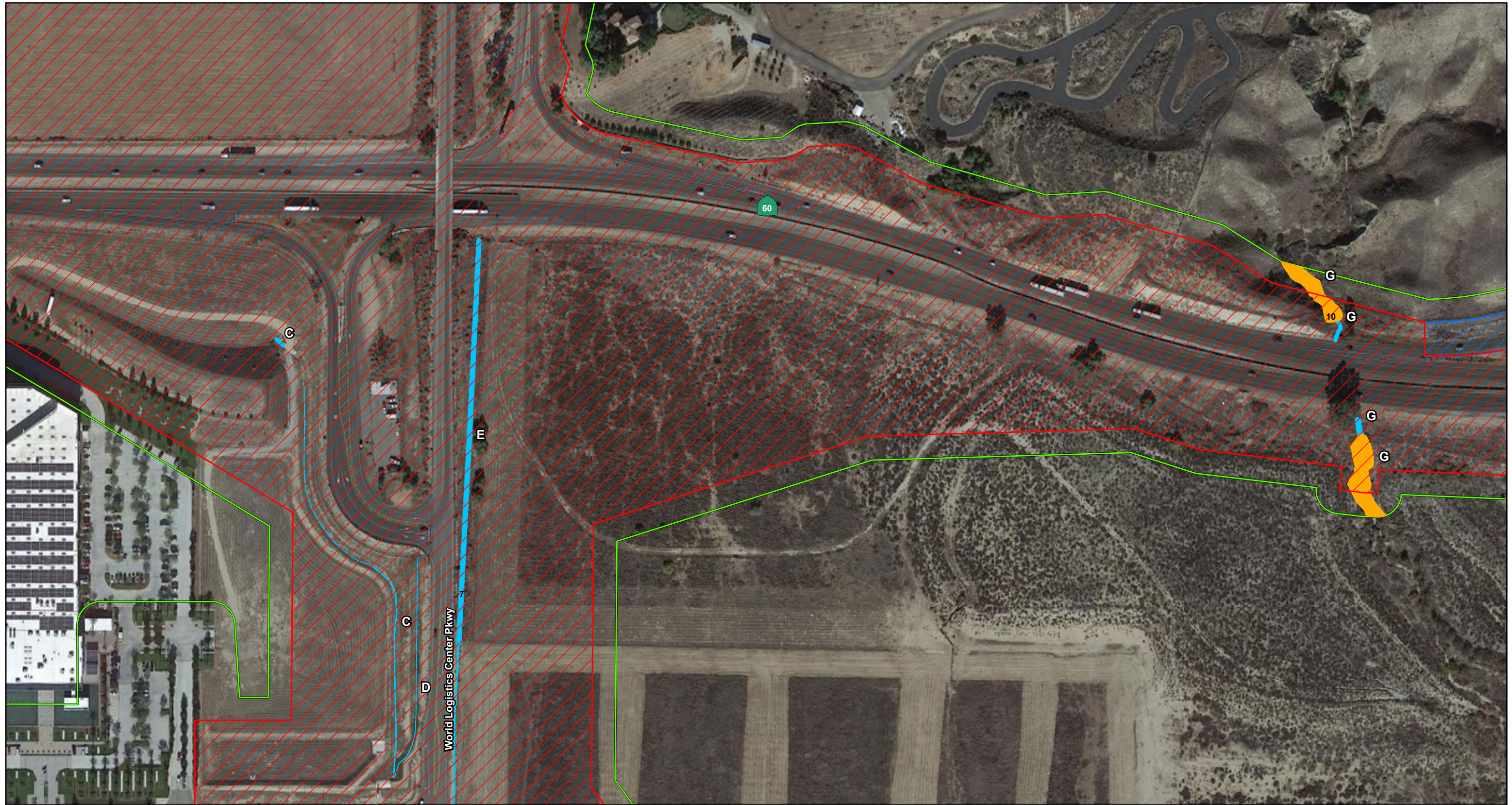
Sheet 4 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

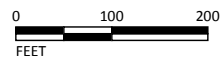


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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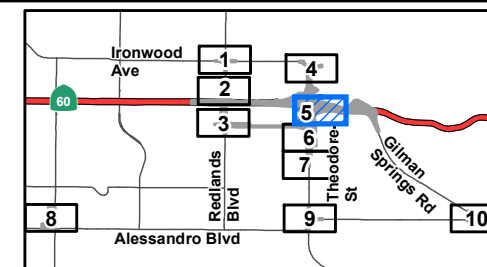
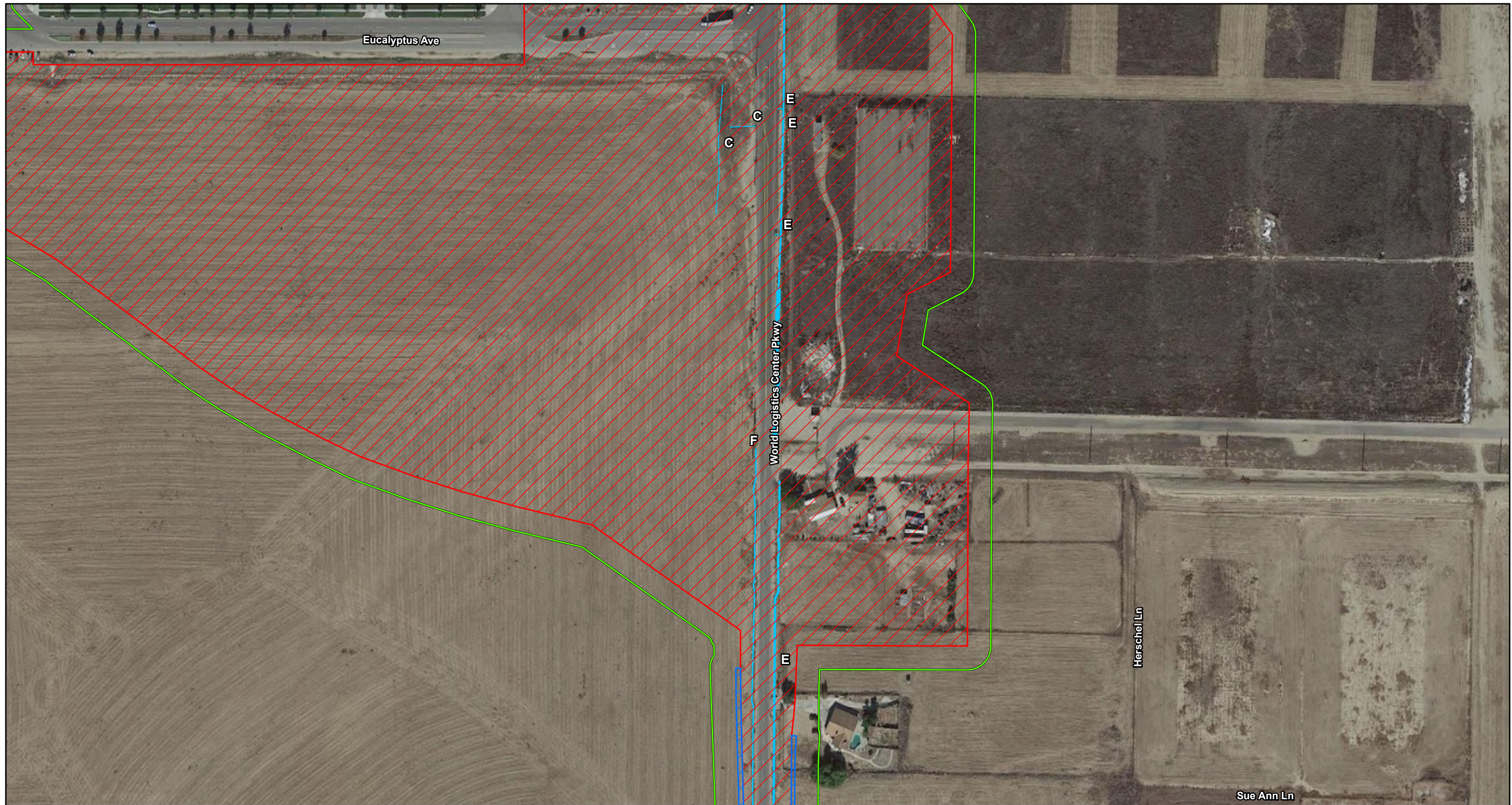


FIGURE 9
Sheet 5 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

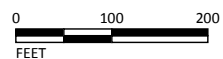


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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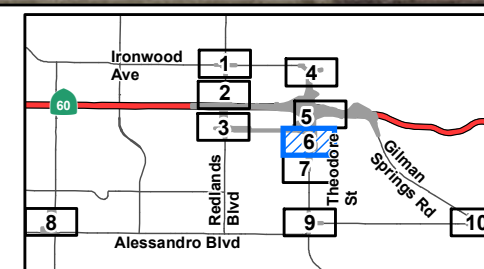
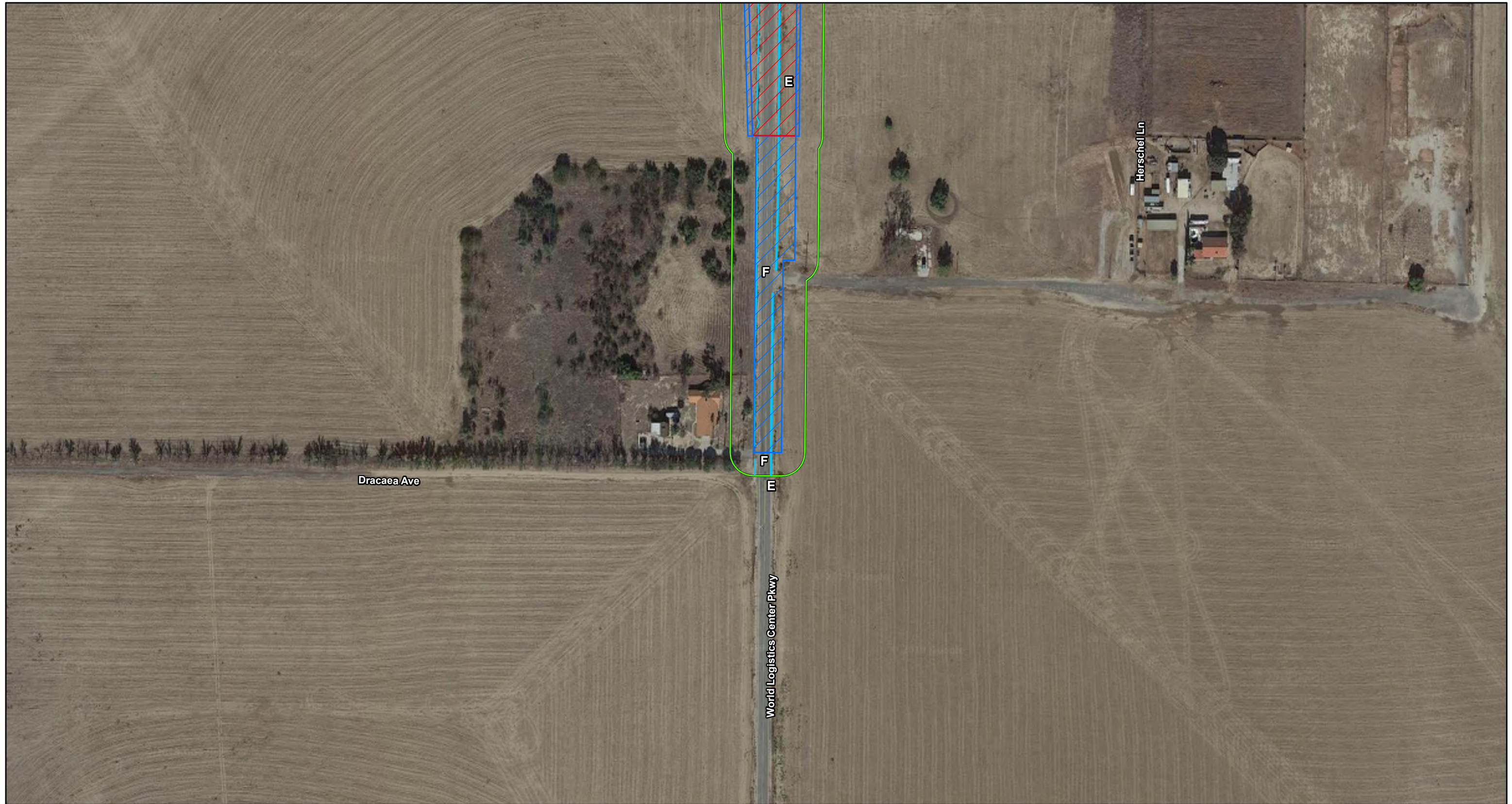


FIGURE 9
 Sheet 6 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 6a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109



LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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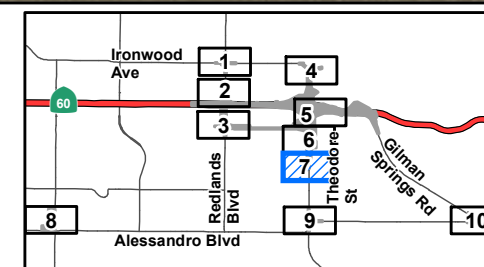


FIGURE 9

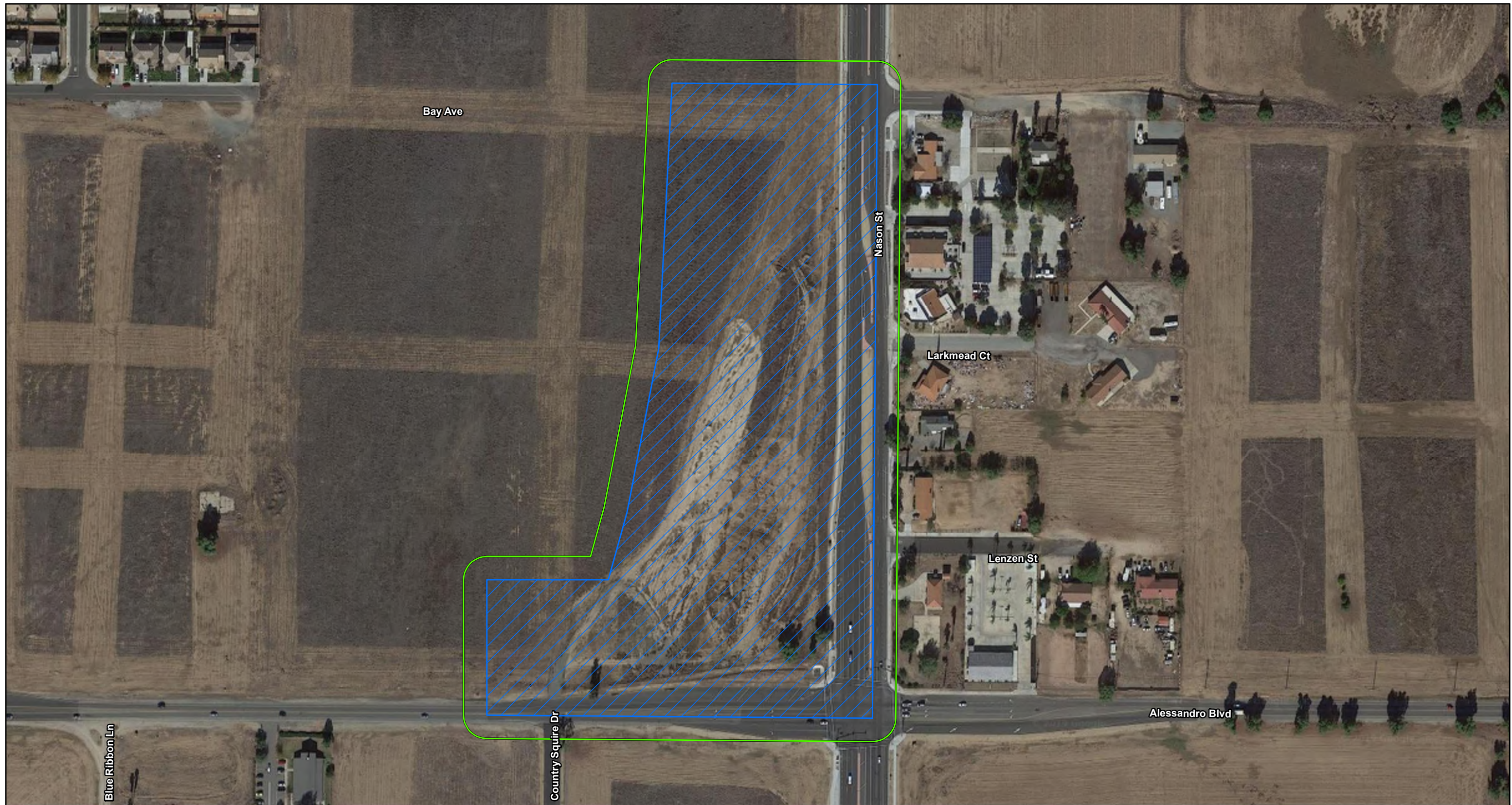
Sheet 7 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

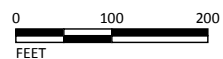


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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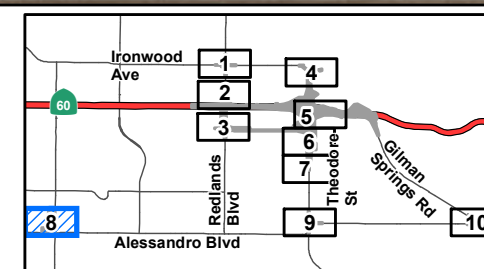


FIGURE 9

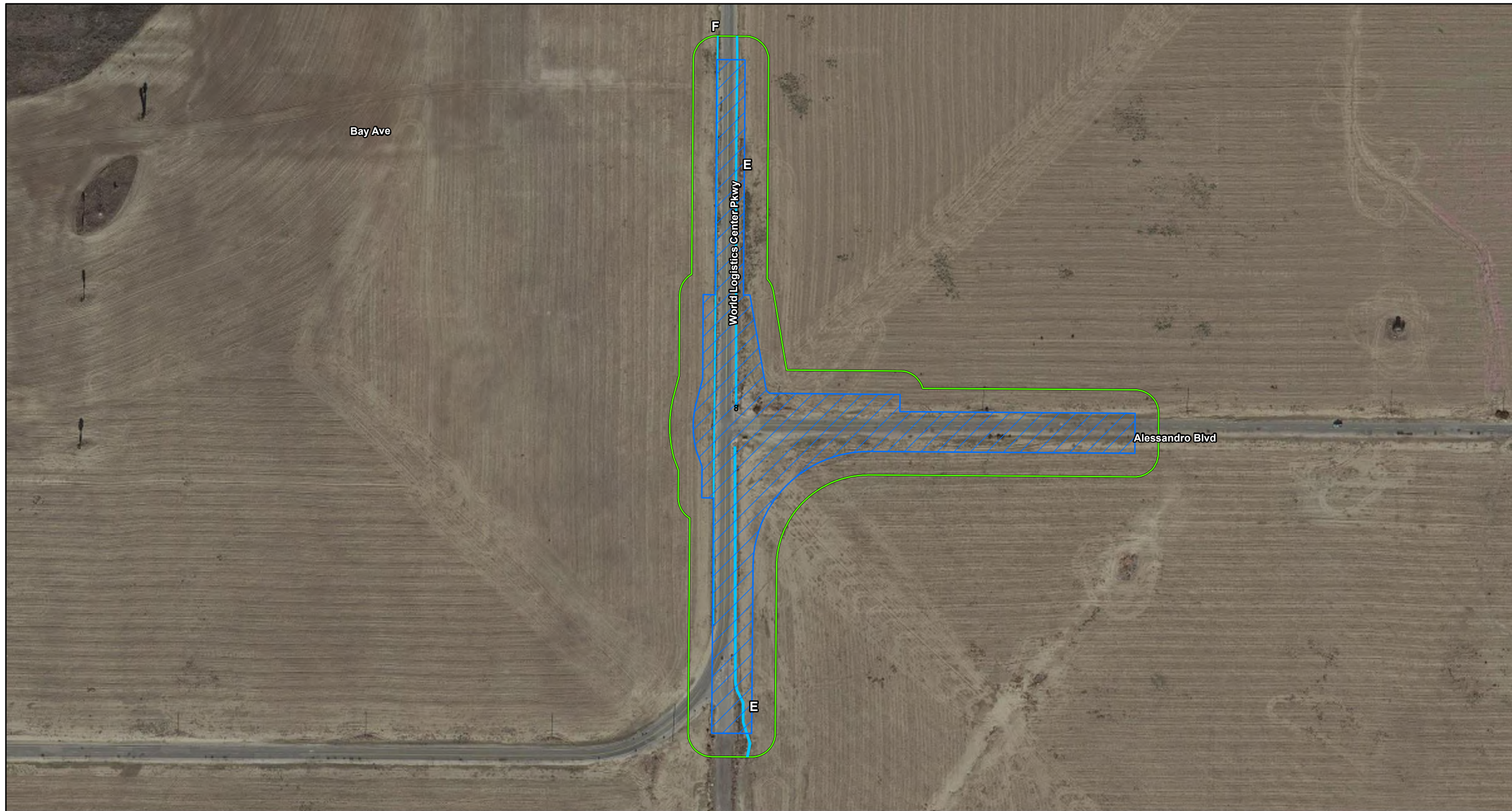
Sheet 8 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109



LEGEND

Biological Study Area (BSA)

Riverine/Riparian Features

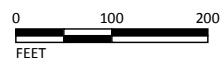
Riverine (permanent = 0.574 ac, temporary = 1.133 ac)

Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

Permanent

Temporary



SOURCE: Google (2018); RBF (2018)

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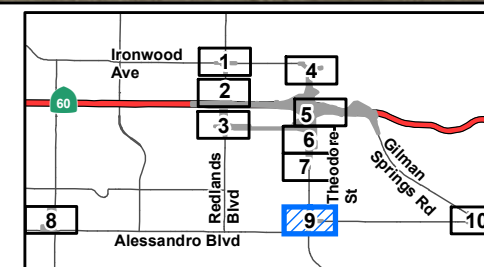


FIGURE 9

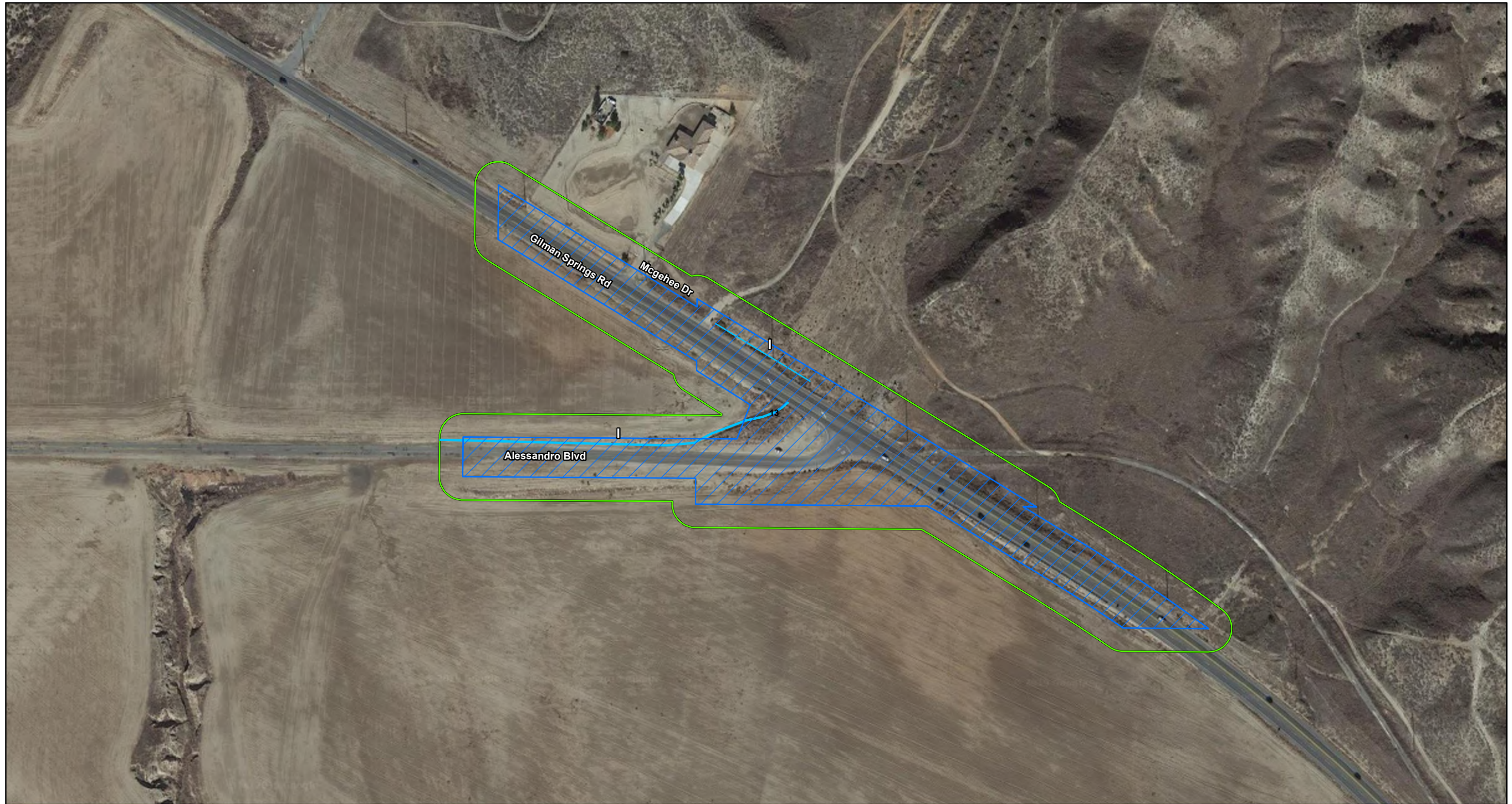
Sheet 9 of 10

SR-60/World Logistics Center Parkway
Interchange Project
Riverine/Riparian Features and Impacts
-Design Variation 6a Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

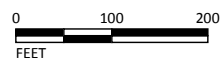


LEGEND

- Biological Study Area (BSA)
- Riverine/Riparian Features
 - Riverine (permanent = 0.574 ac, temporary = 1.133 ac)
 - Riverine/Riparian (permanent = 0.163 ac, temporary = 0.026 ac)

Design Variation 6a Impacts

- Permanent
- Temporary



SOURCE: Google (2018); RBF (2018)

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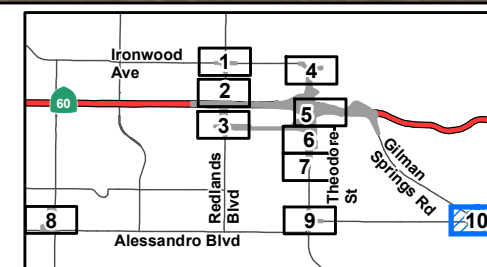


FIGURE 9
 Sheet 10 of 10
 SR-60/World Logistics Center Parkway
 Interchange Project
 Riverine/Riparian Features and Impacts
 -Design Variation 6a Impacts
 08-RIV-60 PM 20.0/22.0
 EA No. 0M590
 Project No. 0813000109

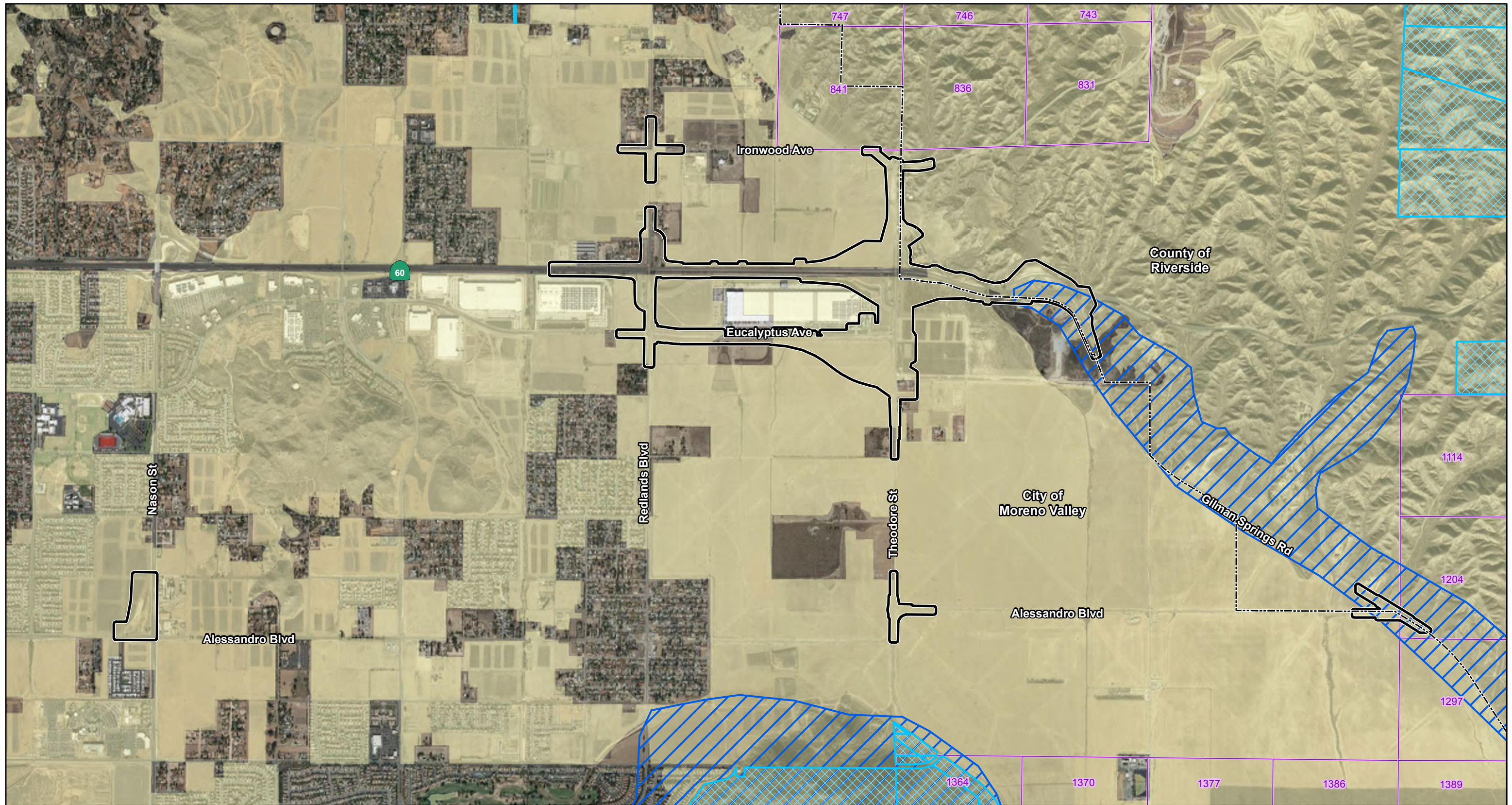
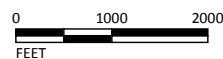


FIGURE 10

LEGEND

- | | |
|------------------------------------|--------------------------------------|
| Biological Study Area (BSA) | Los Angeles Pocket Mouse Survey Area |
| Public/Quasi-Public Preserve Lands | Burrowing Owl Survey Area |
| MSHCP Criteria Area/Criteria Cells | City/County Boundary |



SOURCE: Bing Maps (2013); Riverside County (2005); MSHCP (2003)

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SR-60/World Logistics Center Parkway
Interchange Project
MSCHP Criteria Areas and Survey Areas
08-RIV-60 PM 20.0/22.0
EA No. 0M590
Project No. 0813000109

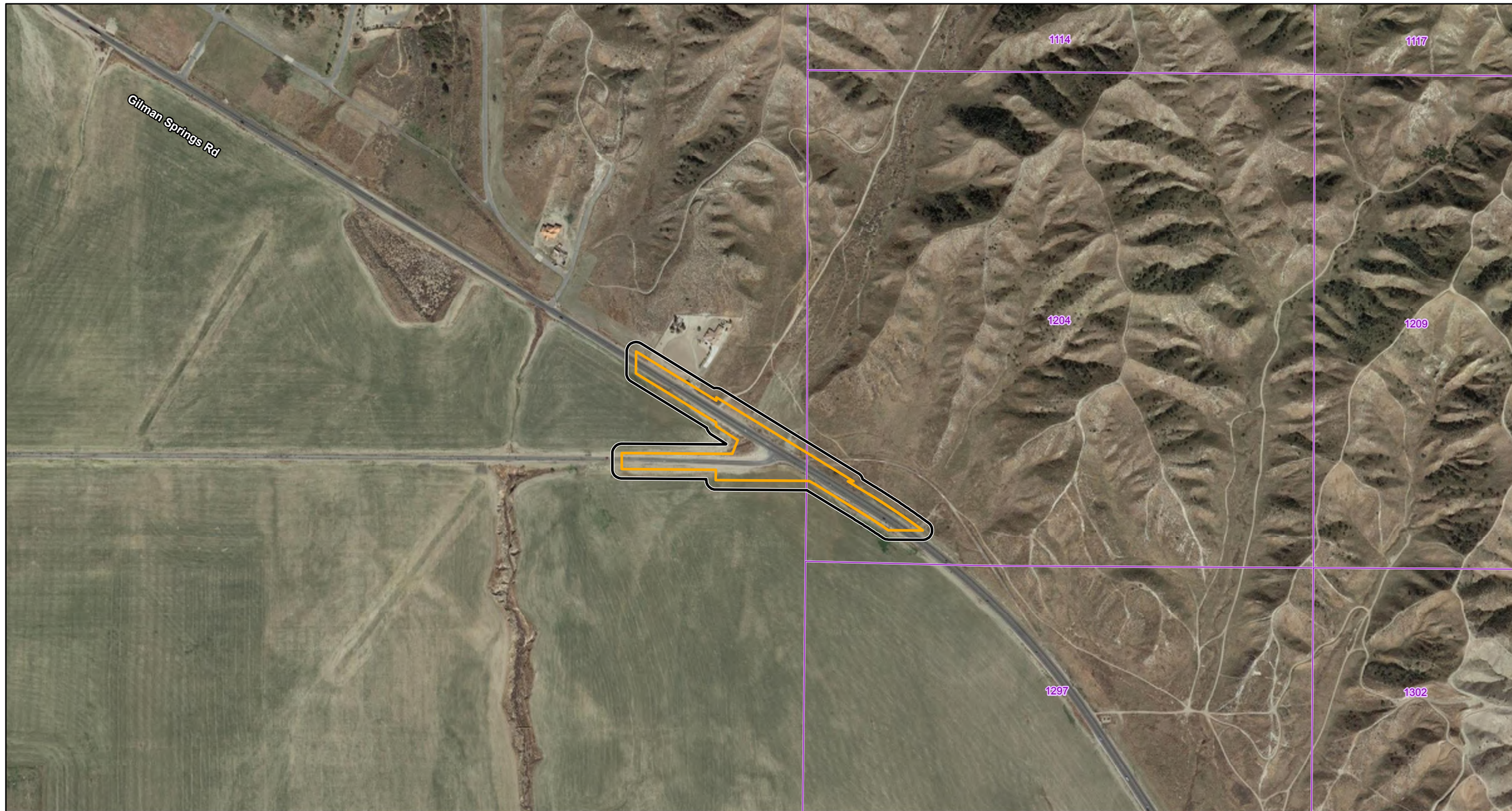
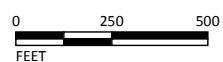


FIGURE 11

LEGEND

- Biological Study Area (BSA)
- MSHCP Criteria Area/Criteria Cells
- Temporary Impacts (1.60 ac within Criteria Cell 1204)



SOURCE: Bing Maps (2013); Riverside County (2005); MSHCP (2003)

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SR-60/World Logistics Center Parkway
Interchange Project

MSHCP Criteria Area Impacts

08-RIV-60 PM 20.0/22.0

EA No. 0M590

Project No. 0813000109

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