

2.16 Wetlands and Other Waters

2.16.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines

(Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction, and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the

U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.9, Water Quality and Storm Water Runoff, for more details.

2.16.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES, May 2017) and the *Jurisdictional Delineation* (February 2017) for the proposed project. The *Jurisdictional Delineation*, which was conducted in accordance with current USACE and CDFW criteria, is provided in Appendix C of the NES.

The proposed project is located in the Newport Bay Watershed which is defined by the Santa Ana Mountain Foothills to the east and the San Joaquin Hills to the west and southwest. Six primary channels, washes, and/or creeks (i.e., subwatersheds) were identified as occurring in the biological study area (BSA) (i.e., Serrano Creek, Agua Chinon Wash, Bee Canyon Wash, Marshburn Channel, Peters Canyon Wash, and El Modena-Irvine Channel). Serrano Creek, located south of Alton Parkway on the east side of Interstate 5 (I-5), is tributary to Agua Chinon Wash. A segment of Agua Chinon Wash, just south of Alton Parkway, daylights on the east side of I-5. Bee Canyon Wash, just north of Barranca Parkway, daylights on the west side of I-5. Marshburn Channel, just north of State Route 133 (SR-133), and Peters Canyon Wash, east of Jamboree Road, are both open concrete channels that are perpendicular to I-5. El Modena-Irvine Channel, west of Jamboree Road, is also an open channel that is perpendicular to I-5. These subwatersheds convey water from east to west, beginning in the foothills of the Santa Ana Mountains, and are tributary to San Diego Creek, which conveys flows to Upper Newport Bay and ultimately to the Pacific Ocean. In total, 35 drainages were identified within the BSA (refer to Figure 2.16.1).

2.16.2.1 USACE Jurisdictional Areas

Based on the results of the jurisdictional delineation, areas subject to potential USACE jurisdiction pursuant to Section 404 of the CWA include Drainages 1 (Serrano Creek), 2 (Agua Chinon Wash), 12 (Bee Canyon Wash), 15 (Marshburn Channel), 20 (concrete-lined drainage excavated on dry land and tributary to Peters Canyon Wash), 21 (Peters Canyon Wash), 24 (El Modena-Irvine Channel), and 25 (concrete-lined drainage excavated on dry land and tributary to El Modena-Irvine Channel). These drainages exhibit ordinary high water marks (OHWMs) and have connectivity to the Pacific Ocean via San Diego Creek. Therefore, with the exception of a 4.2-acre (ac) portion of Drainage 21, the USACE is expected to assert jurisdiction over these drainages as nonwetland waters of the U.S.

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LEGEND

Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

New Right of Way

Temporary Easement

Undefined

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

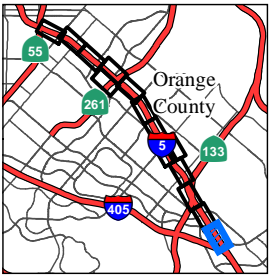


FIGURE 2.16.1

Sheet 1 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features

Alternative 2A Option 3

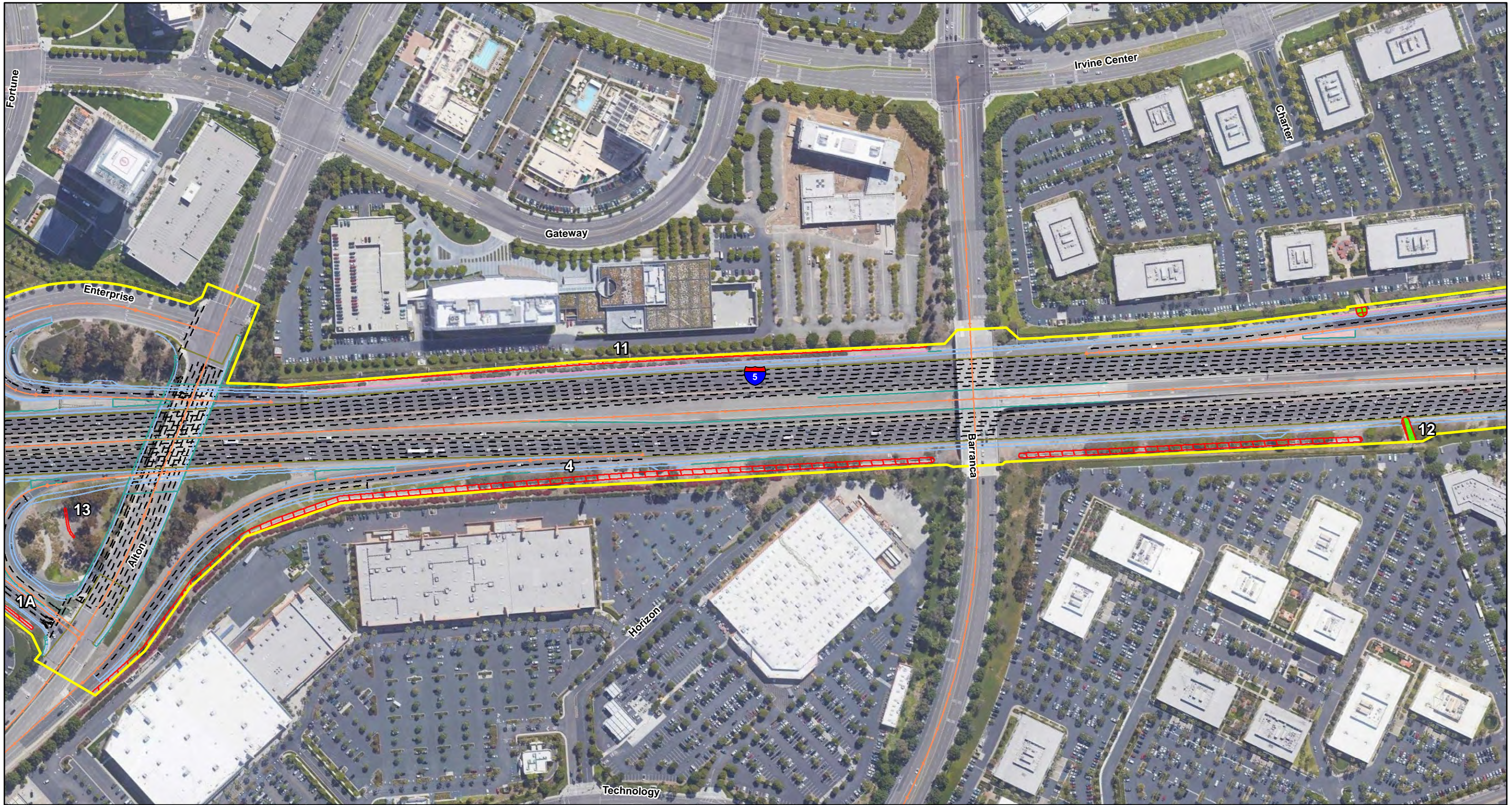
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LEGEND

 Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

— Centerline

— New Right of Way

— Temporary Easement

— Undefined

— Paved Edges

— Miscellaneous Construction Details

--- Striping

— Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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FIGURE 2.16.1

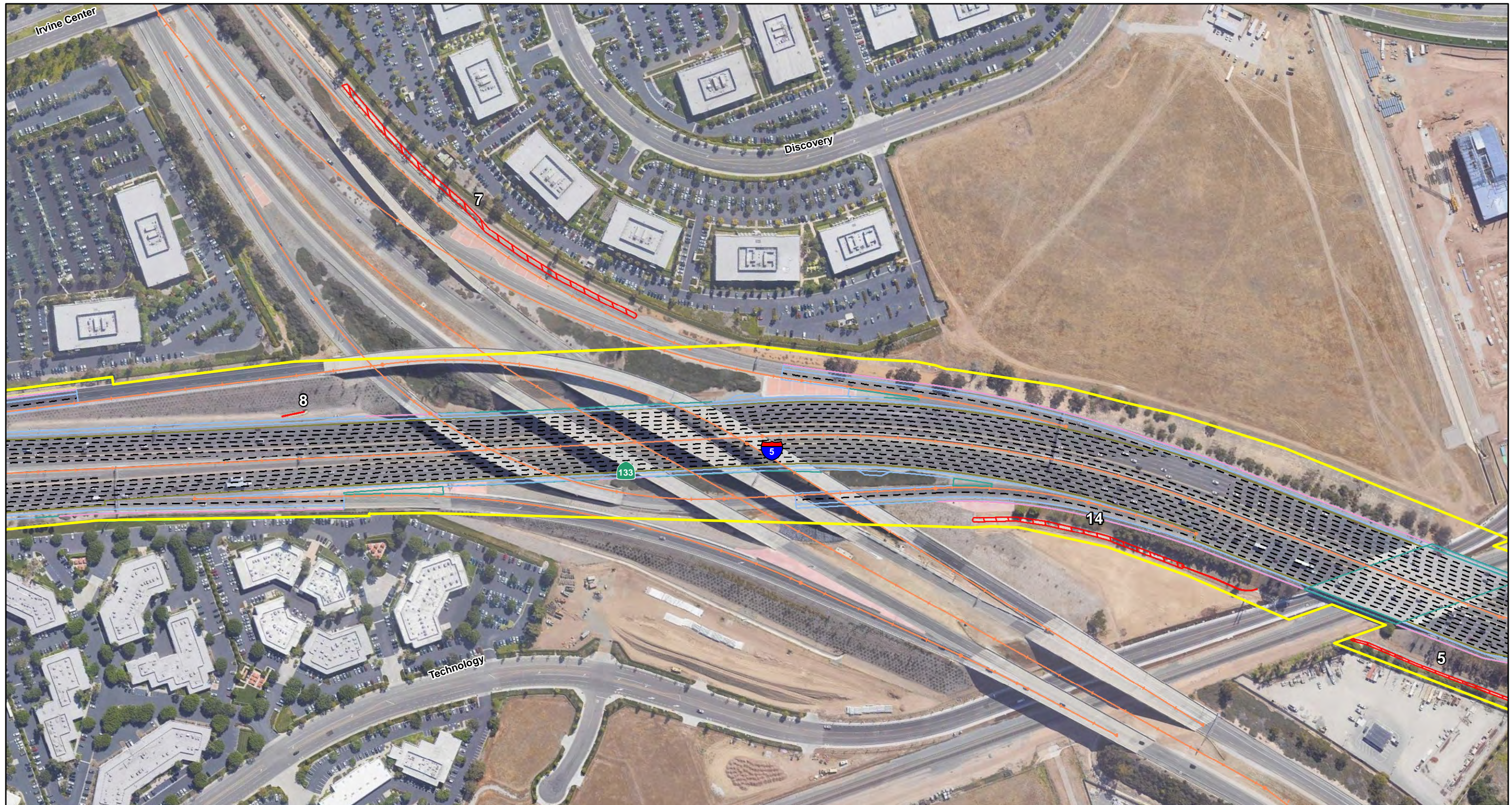
Sheet 2 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

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LEGEND

 Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

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— Miscellaneous Construction Details

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— Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

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 Nonwetland Waters of the U.S.

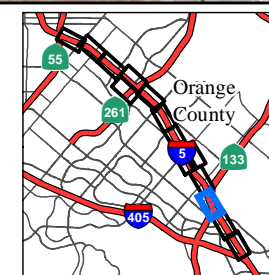


FIGURE 2.16.1

Sheet 3 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

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LEGEND

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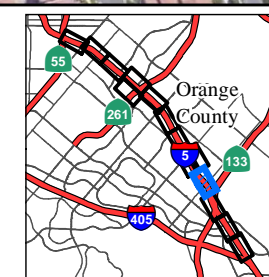


FIGURE 2.16.1
Sheet 4 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

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Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

New Right of Way

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CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

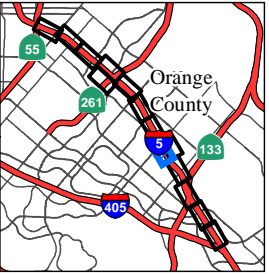


FIGURE 2.16.1
Sheet 5 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3
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LEGEND

Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

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Nonwetland Waters of the U.S.

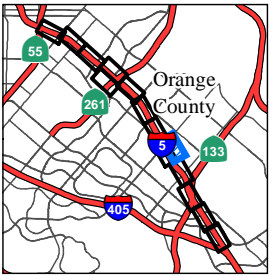


FIGURE 2.16.1

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I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features

Alternative 2A Option 3

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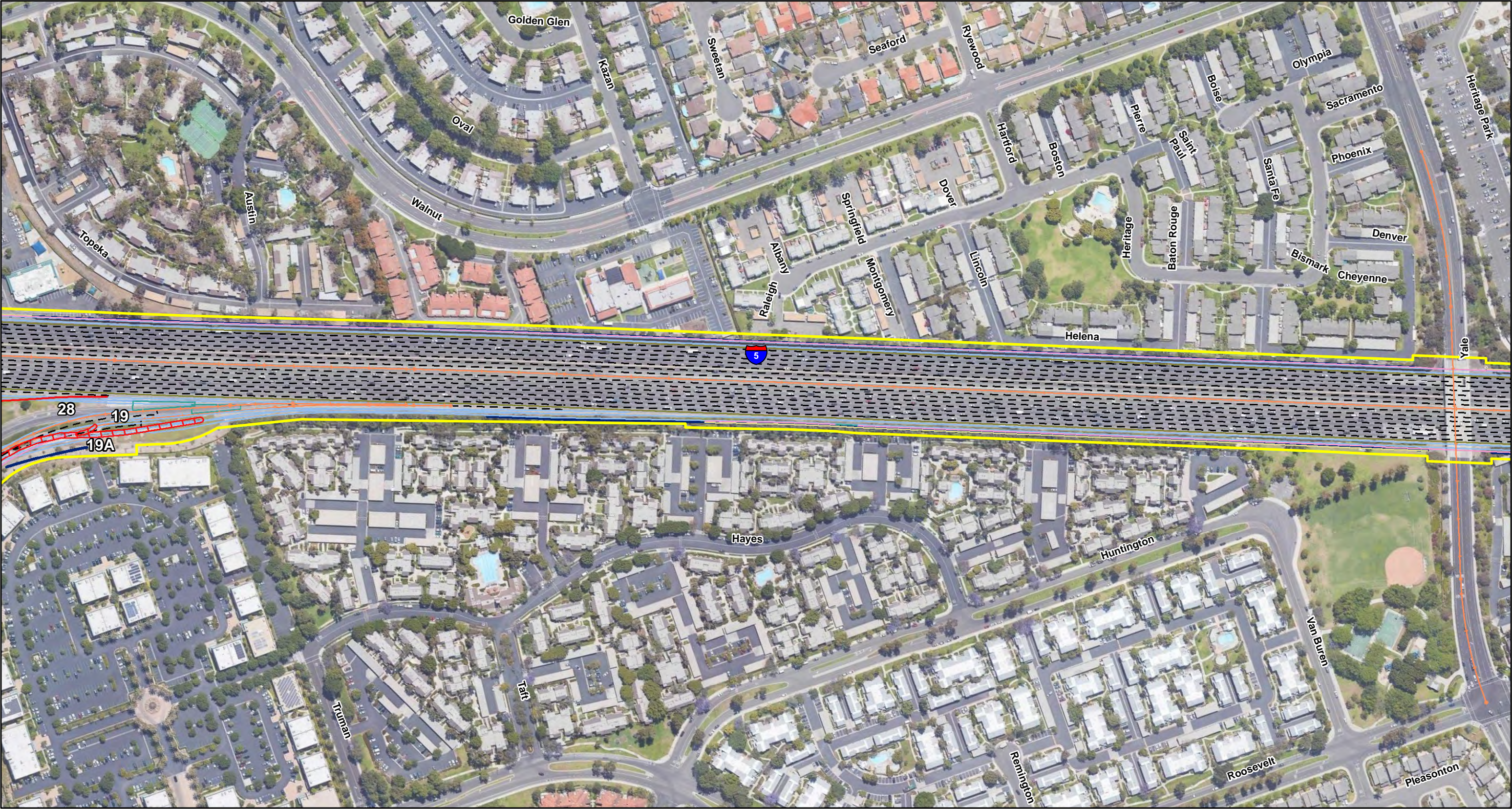
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Jurisdictional Study Area

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Centerline

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Miscellaneous Construction Details

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CDFW Jurisdiction

Corps Jurisdiction

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Nonwetland Waters of the U.S.

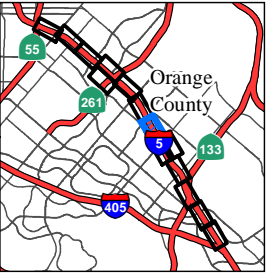


FIGURE 2.16.1

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Jurisdictional Drainage Features
Alternative 2A Option 3

12-ORA-5 PM 21.3/30.3

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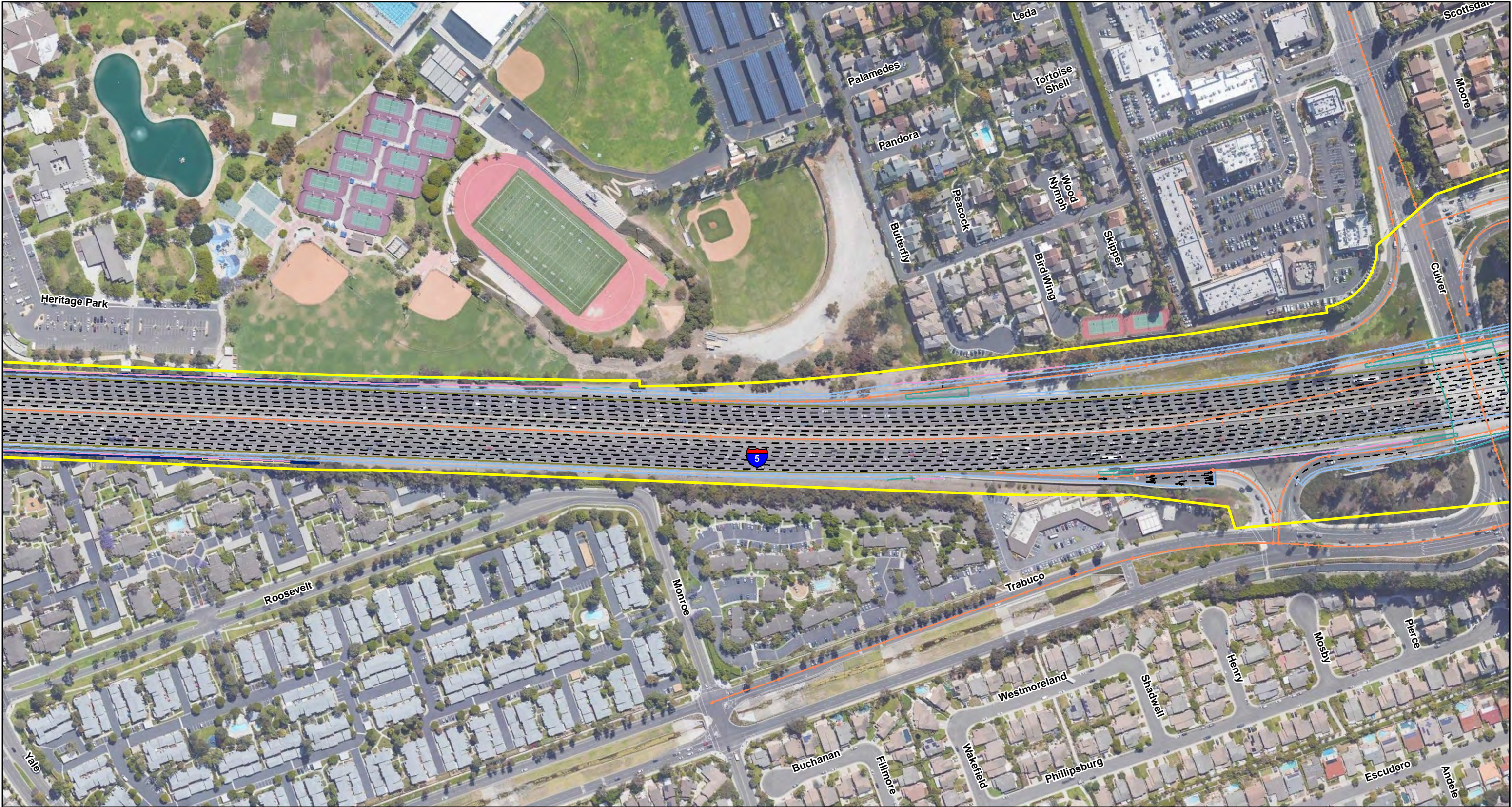


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Corps Jurisdiction

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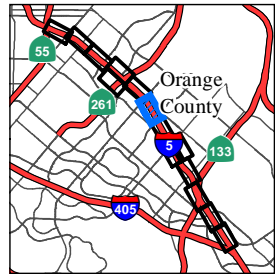


FIGURE 2.16.1

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I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

12-ORA-5 PM 21.3/30.3

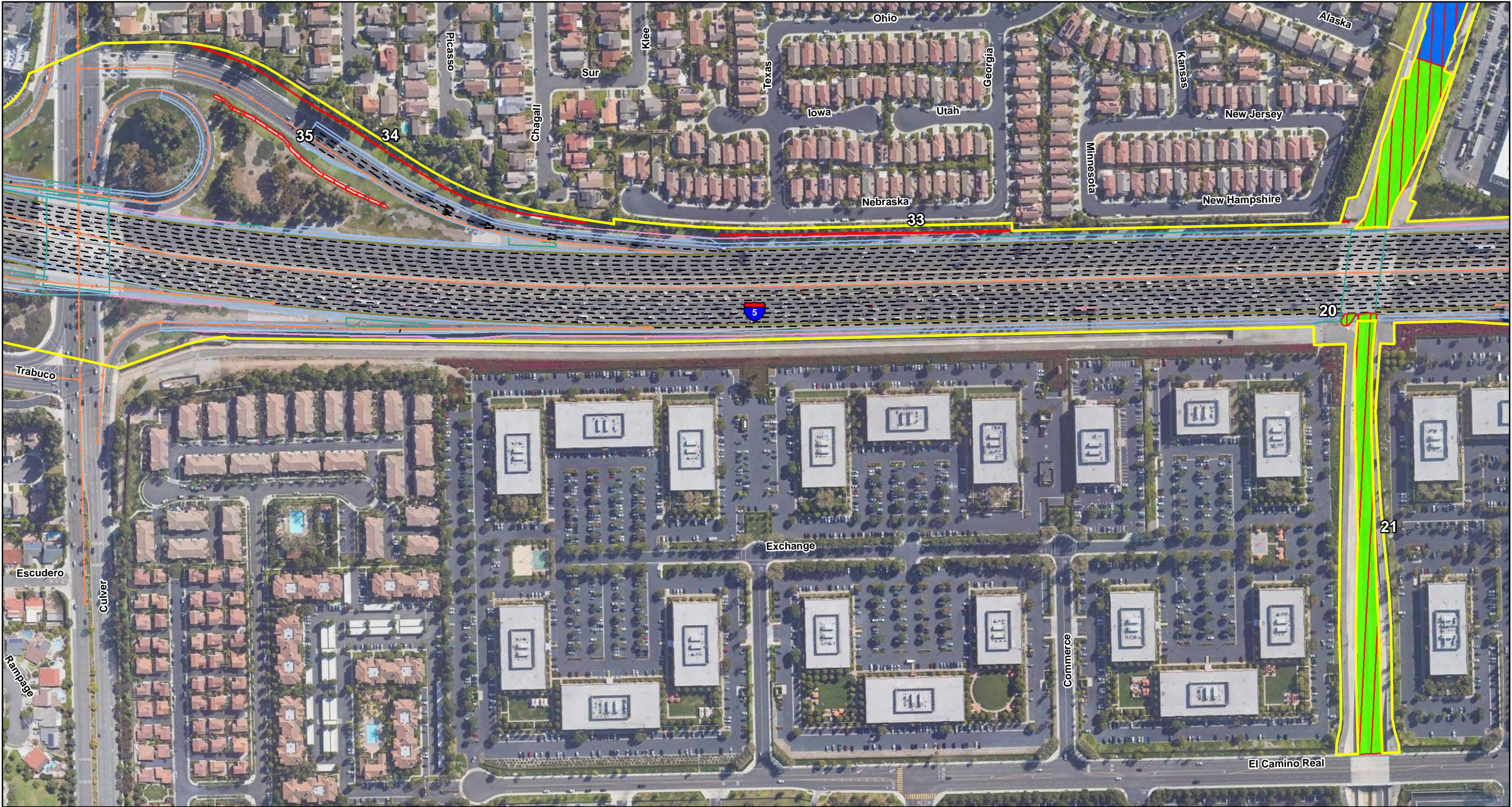
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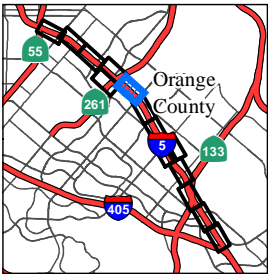


FIGURE 2.16.1

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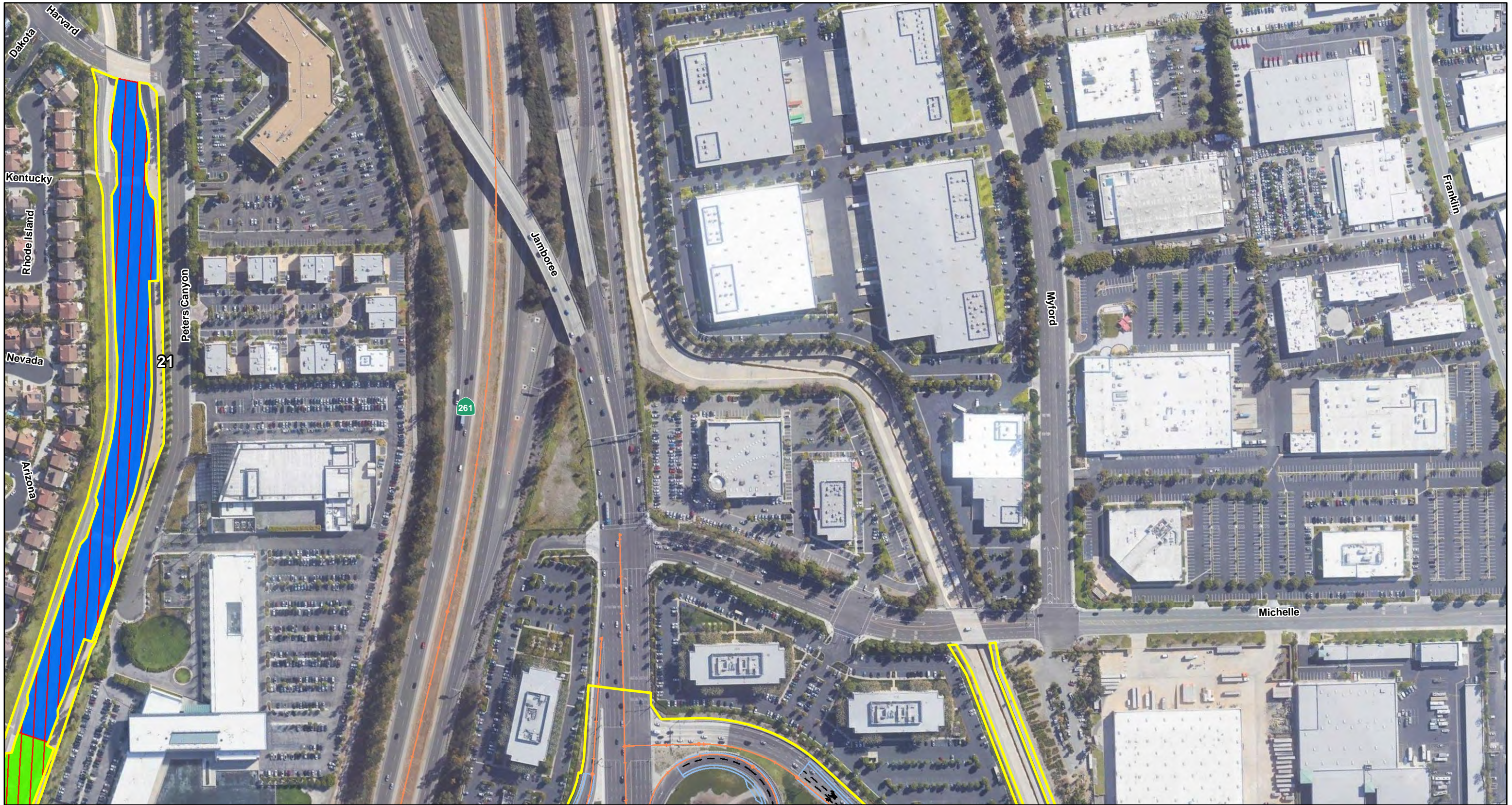
I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features

Alternative 2A Option 3

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LEGEND

 Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

New Right of Way

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 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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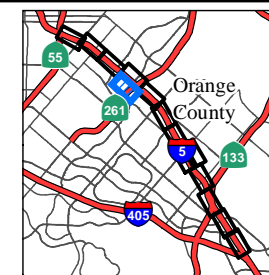


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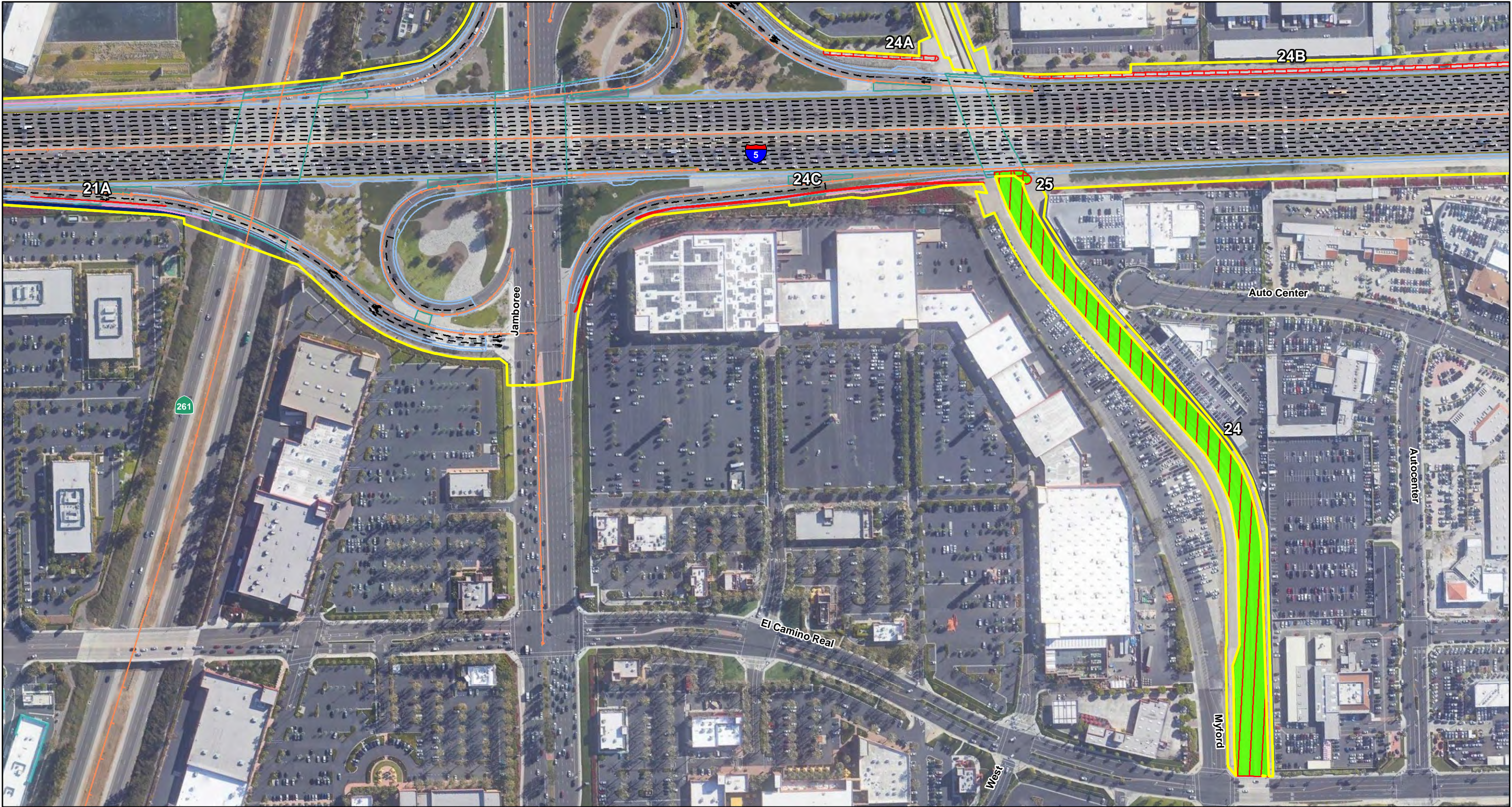
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Jurisdictional Drainage Features
Alternative 2A Option 3

12-ORA-5 PM 21.3/30.3

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LEGEND

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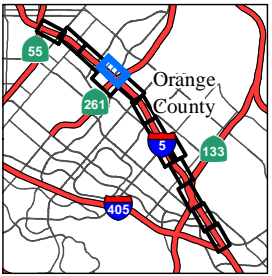


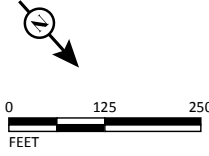
FIGURE 2.16.1

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I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

12-ORA-5 PM 21.3/30.3

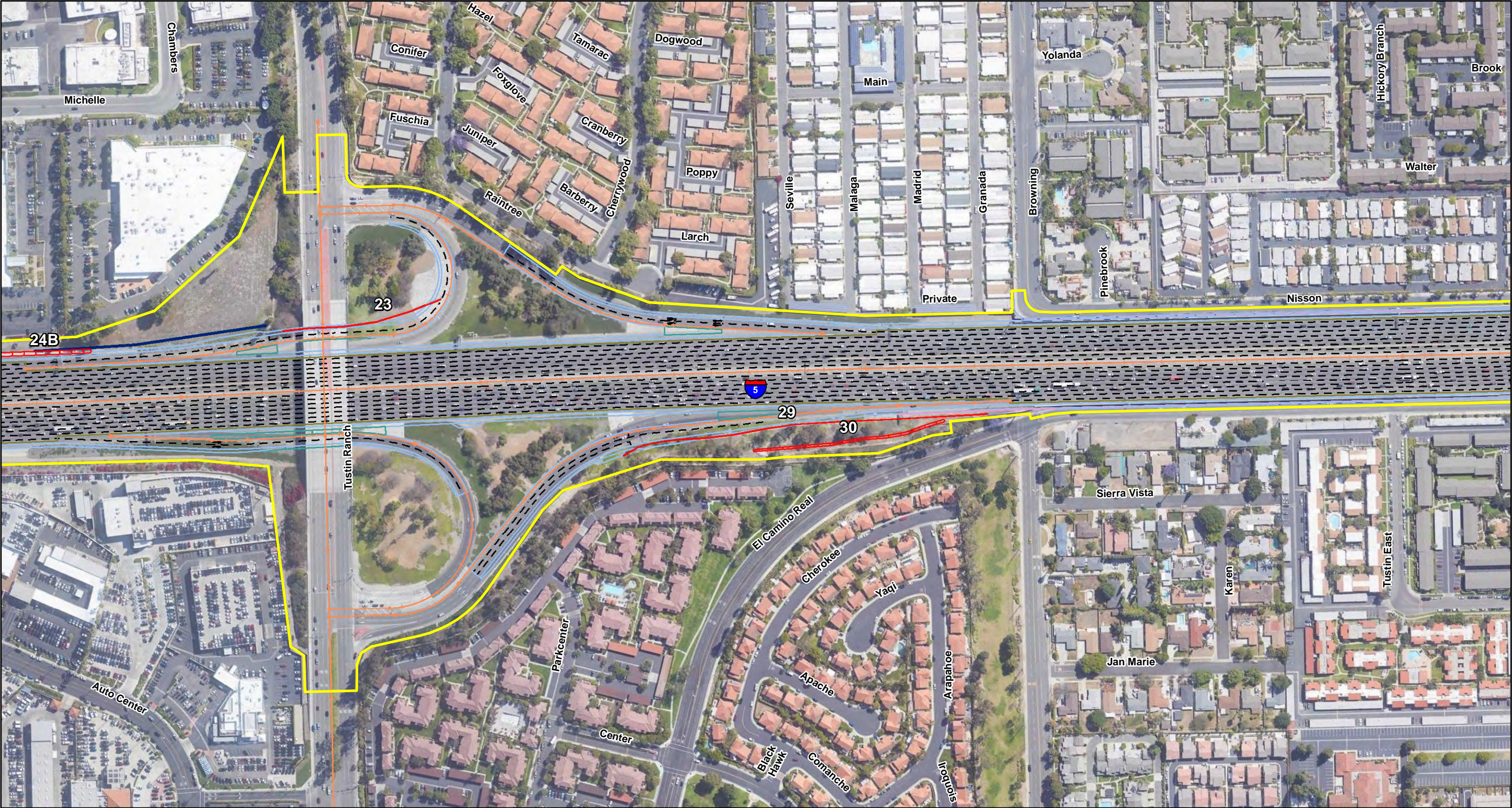
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LEGEND

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Nonwetland Waters of the U.S.

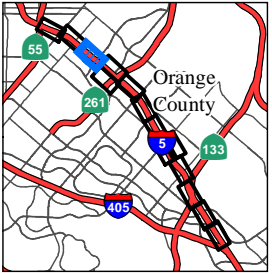
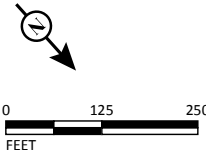
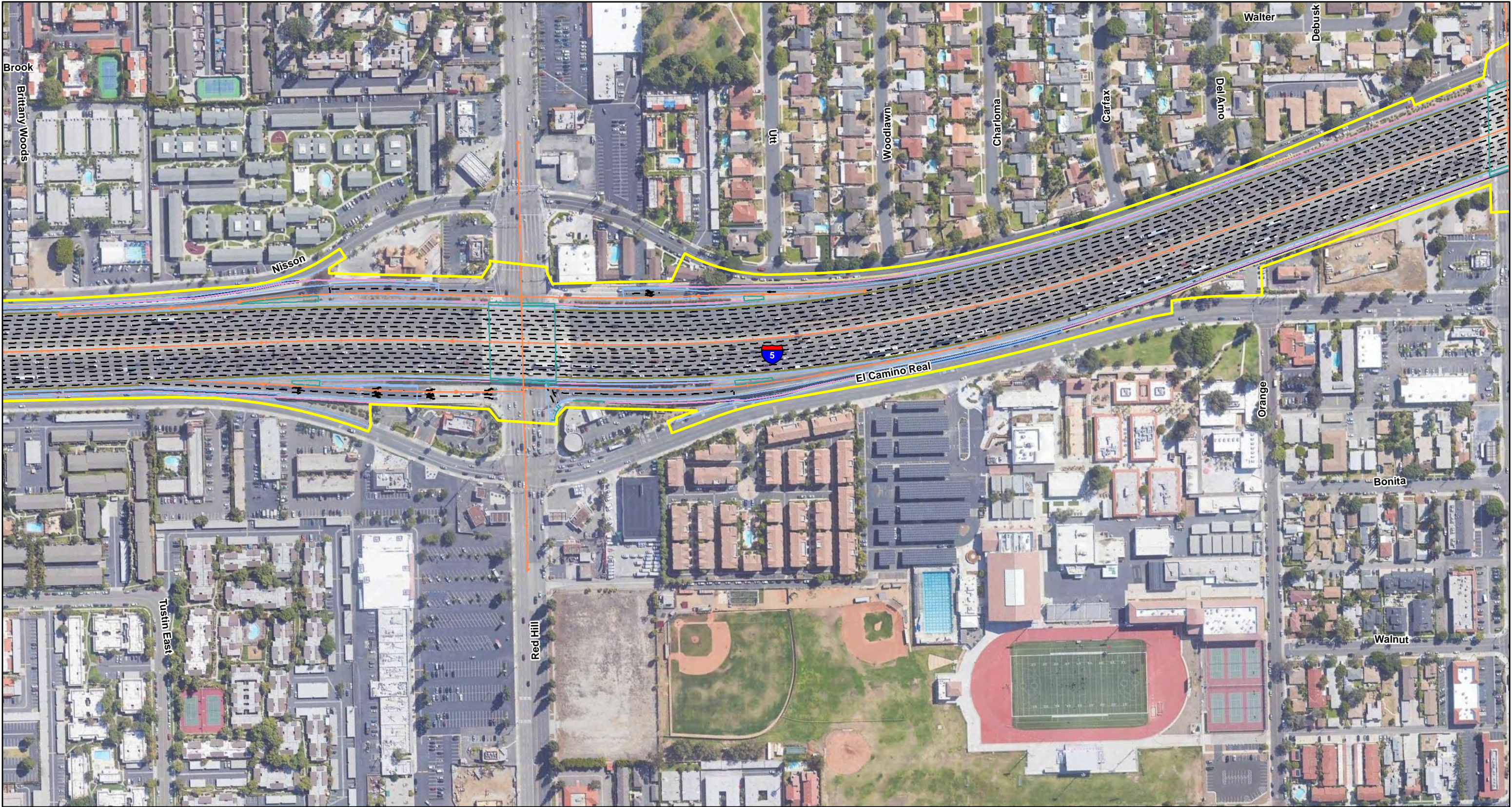


FIGURE 2.16.1
Sheet 12 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3
12-ORA-5 PM 21.3/30.3
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LEGEND

Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

New Right of Way

Temporary Easement

Undefined

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Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

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Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

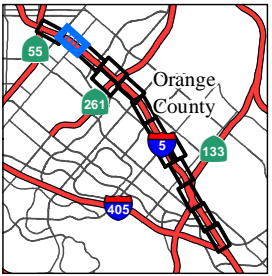


FIGURE 2.16.1

Sheet 13 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

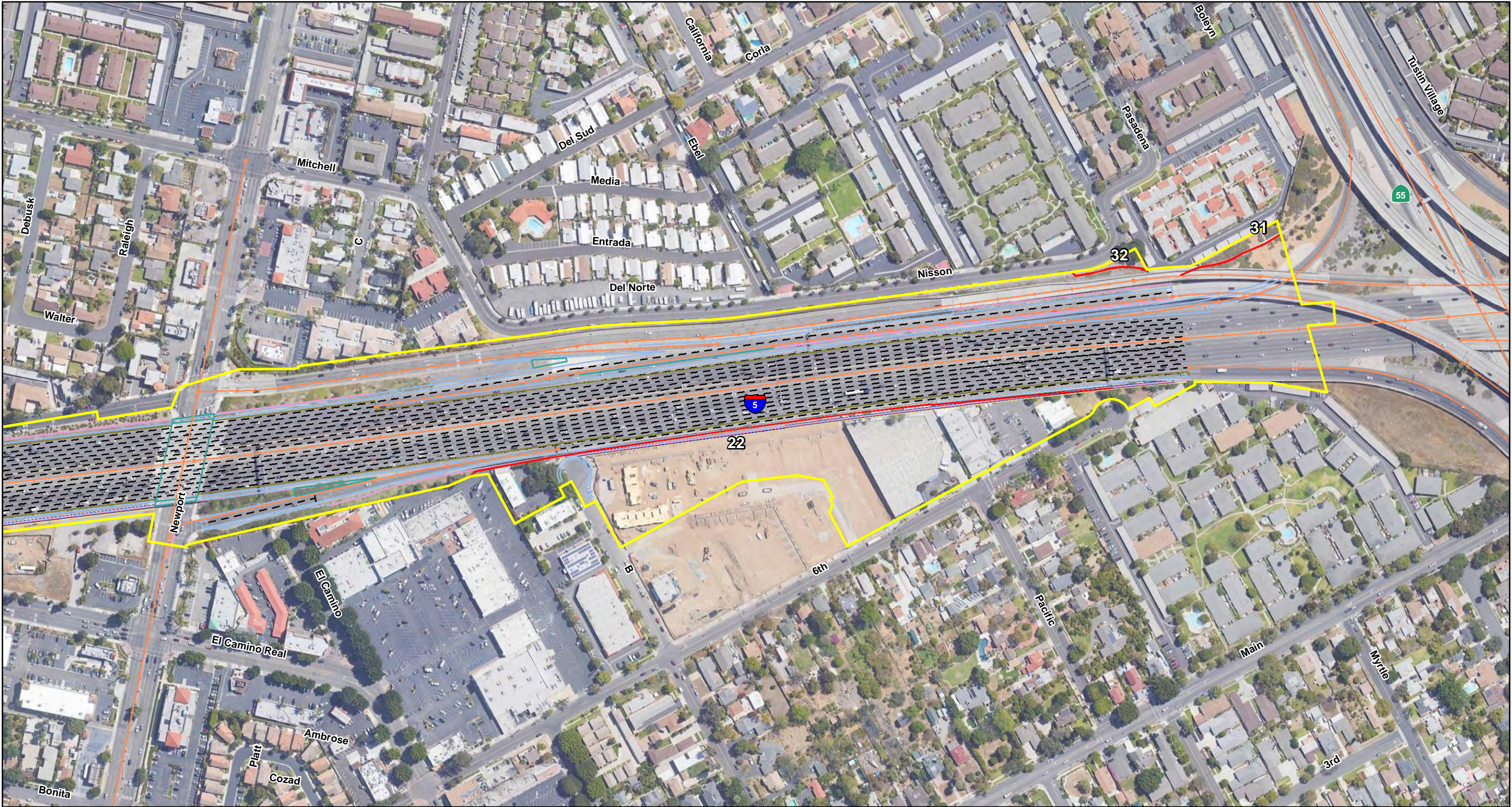
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LEGEND

Jurisdictional Study Area

Alternative 2A Option 3 Geometrics

Centerline

New Right of Way

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Miscellaneous Construction Details

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Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

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Nonwetland Waters of the U.S.

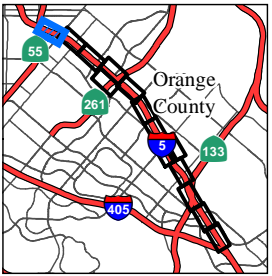


FIGURE 2.16.1

Sheet 14 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2A Option 3

12-ORA-5 PM 21.3/30.3

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A 4.2 ac portion of Drainage 21 is earthen and satisfies the USACE wetland criteria. Therefore, the USACE is expected to assert jurisdiction over this 4.2 ac portion of Drainage 21 as a wetland water of the U.S.

Drainages 1A, 3-11, 13, 14, 16-19, 21-23, 24A-C, and 26-35) are human-made drainages that do not displace a previously existing natural drainage channel and are wholly in and draining only uplands that do not convey at least a relatively permanent flow of water. Therefore, the USACE is not expected to assert jurisdiction over these drainages.

The *Jurisdictional Delineation* indicated there are a total of 5.81 ac of nonwetland waters and 4.2 ac of wetlands that are potentially subject to USACE jurisdiction. The Jurisdictional Delineation will be submitted to the USACE as part of the permit process during the Plans, Specifications, and Estimates (PS&E) stage of the proposed project. Coordination with USACE is required as part of Project Feature PF-WET-1.

PF-WET-1 Regulatory Permitting. Prior to initiation of construction, permits shall be obtained for the proposed project through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA), the State Water Resources Control Board (SWRCB) pursuant to Section 401 of the CWA, and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code. The Section 404 permit will utilize the Orange County Transportation Authority's (OCTA) Letter of Permission (LOP) Procedures. The 1602 permit will be obtained utilizing the OCTA's Renewed Measure M (M2) Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) approved mitigation and within the approved mitigation ratio caps. The Section 401 authorization will be obtained from the SWRCB utilizing the approved M2 mitigation.

2.16.2.2 RWQCB Jurisdictional Areas

There is no public guidance on determining RWQCB jurisdictional areas. For this study, RWQCB jurisdiction was determined based on the federal definition of wetlands (three-parameter) and the OHWM of other waters of the U.S. Since there are areas within the BSA subject to USACE and CDFW jurisdiction, RWQCB jurisdiction in this case is coincident with USACE jurisdiction for purposes of Section

401 certification. The total area of potential RWQCB jurisdiction is the same as the USACE jurisdiction (i.e., 10.01 ac).

2.16.2.3 CDFW Jurisdictional Areas

All the areas satisfying the USACE jurisdictional criteria for waters of the U.S. are also subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. All Drainages 1 through 35 exhibit a defined channel bed and bank or at least an intermittent, or periodic, flow of water. In addition, a portion of Drainage 21 (Peter's Canyon Wash) has associated riparian habitat within the streambed of that drainage. The total area in the BSA subject to CDFW jurisdiction is 11.62 ac.

2.16.3 Environmental Consequences

The discussions regarding the potential temporary and permanent project impacts on jurisdictional and nonjurisdictional waters in the following sections should be considered preliminary until verified by the USACE, the CDFW, and the RWQCB. Additionally, Design Option 3 does not have any effect on wetlands.

2.16.3.1 Temporary Impacts

Build Alternative (Alternative 2A and Alternative 2B [Preferred Alternative])¹

Implementation of the Build Alternative would result in temporary impacts to jurisdictional features within the BSA associated with installation of new pavement and noise barriers, as described below and shown on Figures 2.16.1 and 2.16.2, respectively. Design Option 3 would not result in any additional temporary impacts to jurisdictional features.

Temporary Impacts to Jurisdictional Areas

USACE Jurisdictional Areas

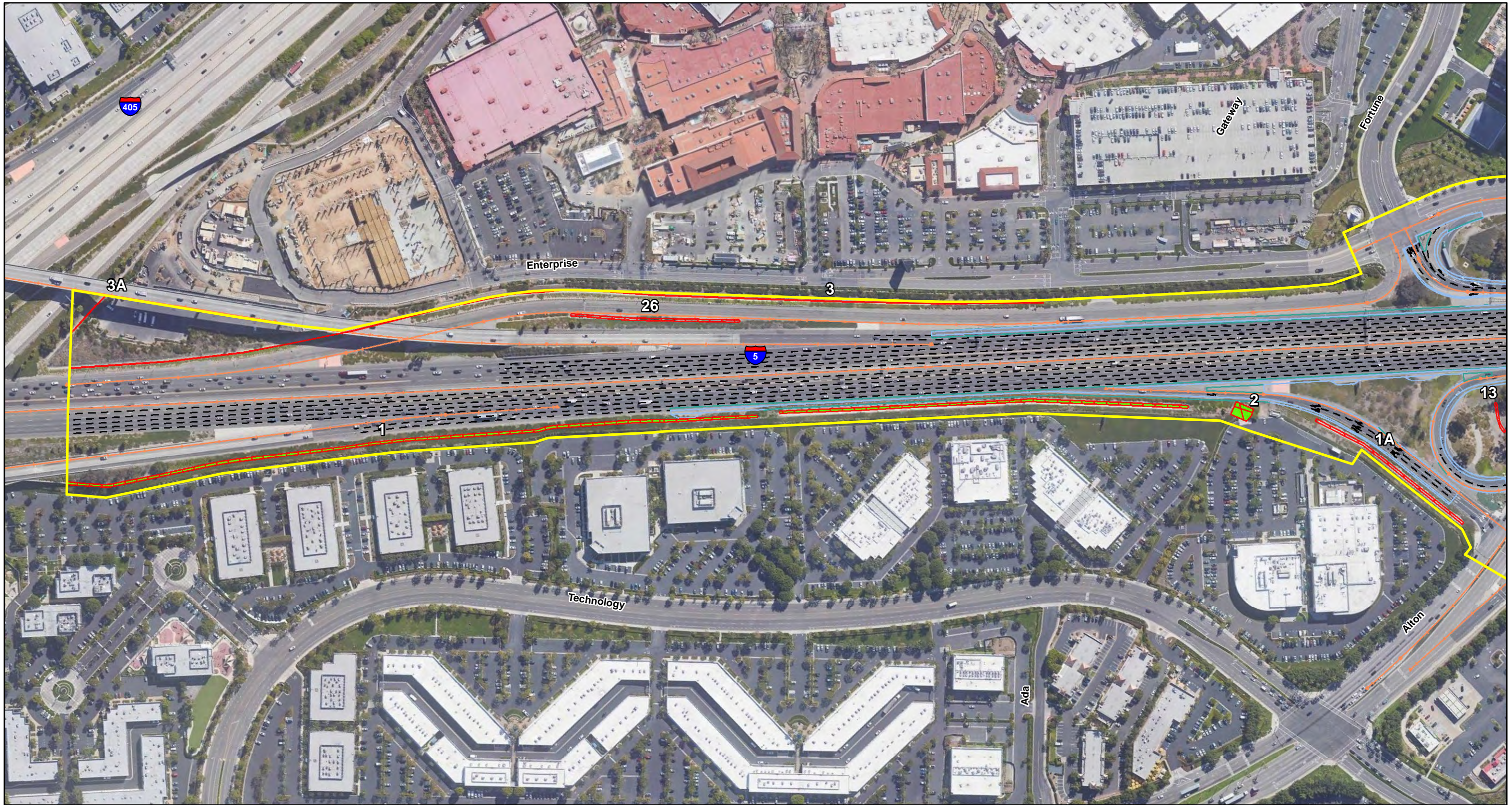
Alternative 2A would result in 5.11 ac of temporary impacts to nonwetland waters subject to USACE jurisdiction as shown in Table 2.16.1. No temporary impacts to wetlands subject to USACE jurisdiction would occur with implementation of Alternative 2A.

Alternative 2B (Preferred Alternative) would result in 5.10 ac of temporary impacts to nonwetland waters subject to USACE jurisdiction as shown in

¹ Alternative 2B without Design Option 3 has been selected as the Preferred Alternative

Table 2.16.2. No temporary impacts to wetlands subject to USACE jurisdiction would occur with implementation of Alternative 2B.

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

 CDFW Jurisdiction

 Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

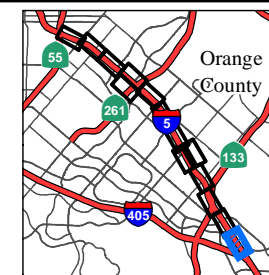


FIGURE 2.16.2

Sheet 1 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

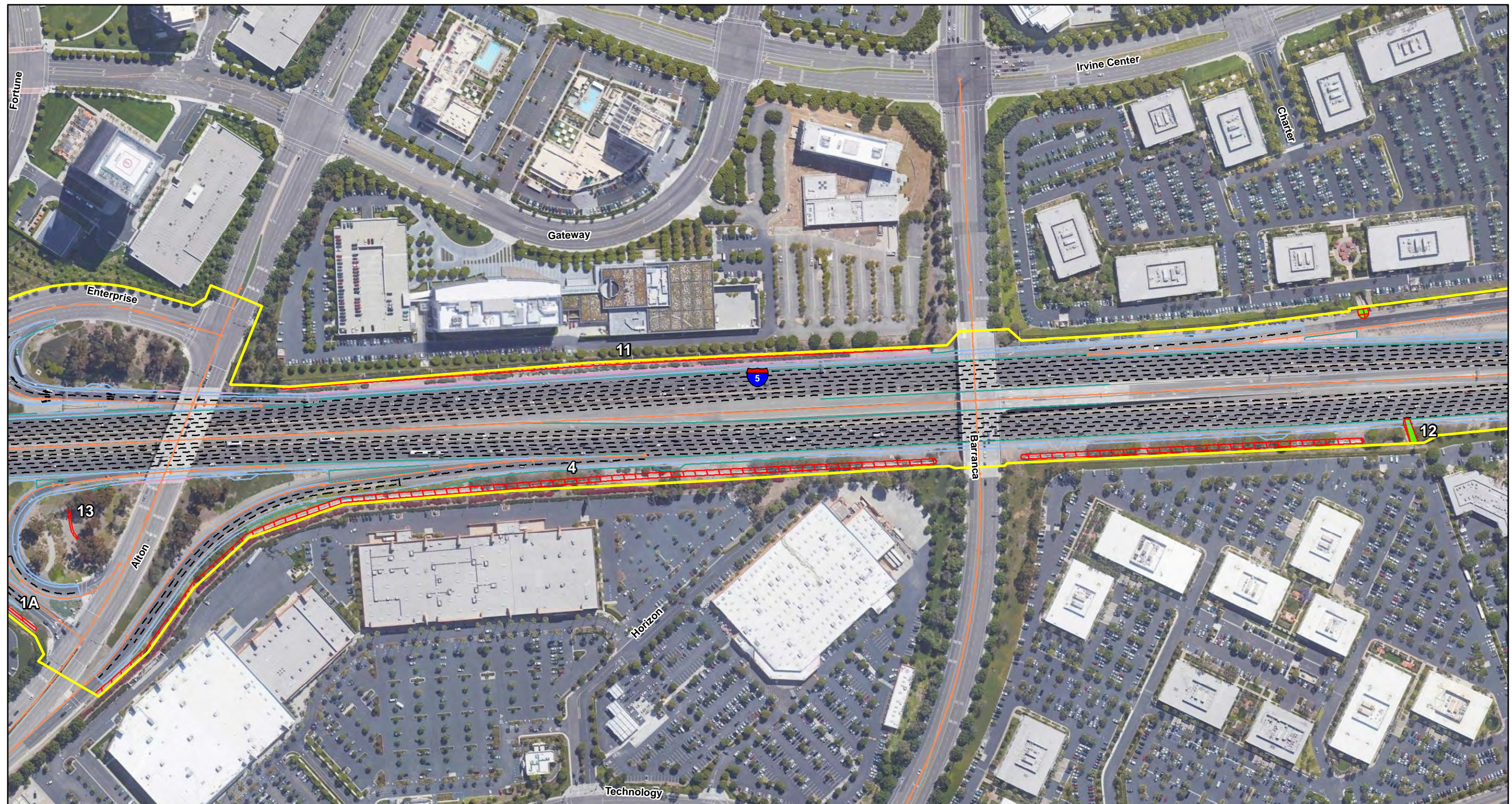
12-ORA-5 PM 21.3/30.3

EA No. 0K670K

SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

 Centerline

 New Right of Way

 New Easement

 Temporary Easement

 Paved Edges

 Miscellaneous Construction Details

 Striping

 Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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FEET

SOURCE: Google Maps (2016); AECOM (2017)

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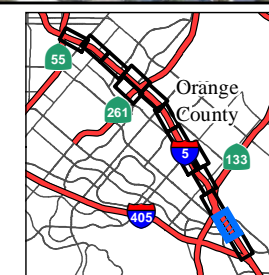


FIGURE 2.16.2

Sheet 2 of 14

I-5 Improvement Project: I-405 to SR-55

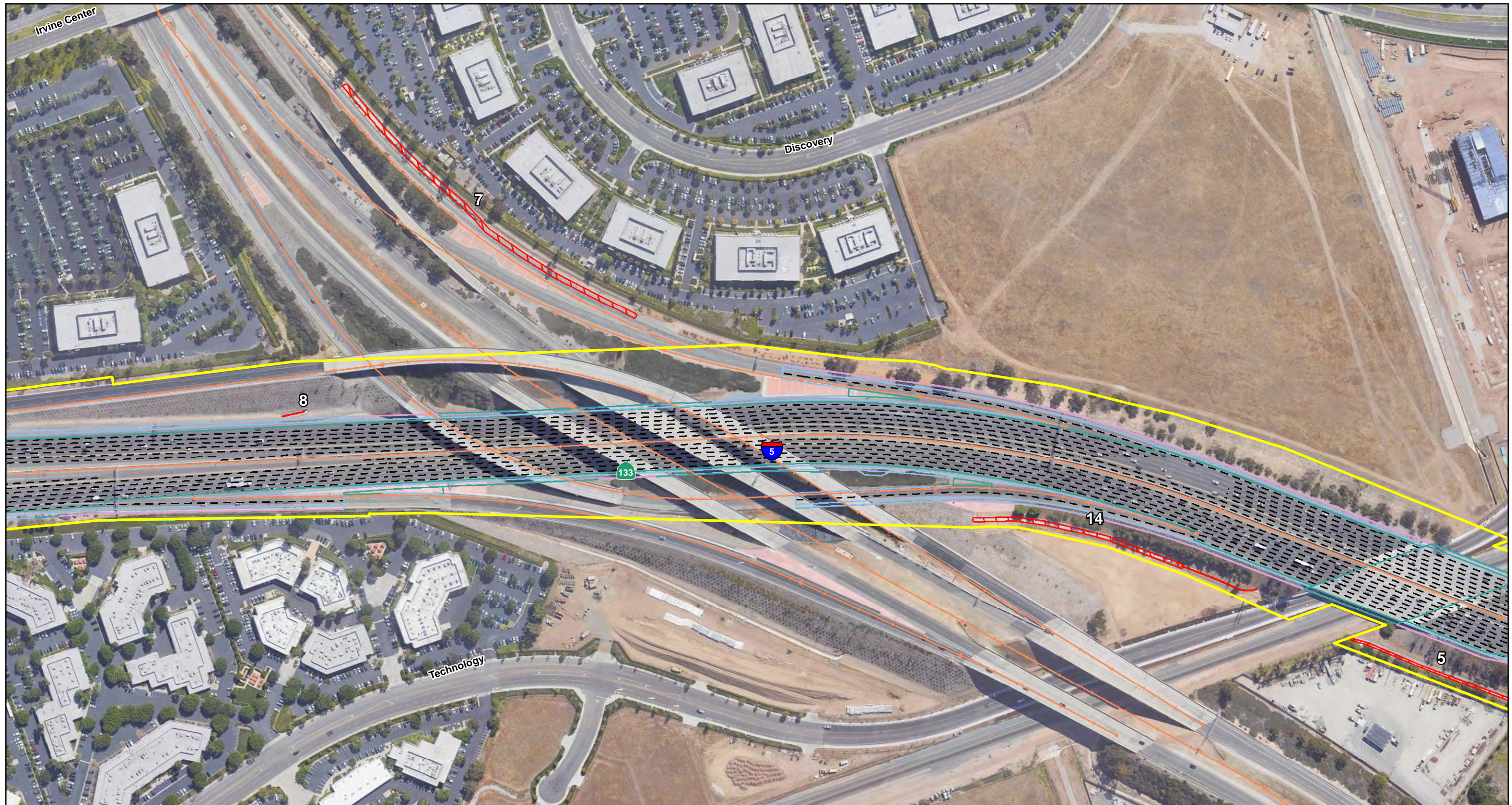
Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

— Centerline

— New Right of Way

— New Easement

— Temporary Easement

— Paved Edges

— Miscellaneous Construction Details

- - - Striping

— Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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FEET

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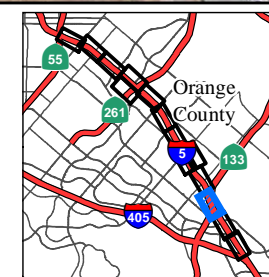


FIGURE 2.16.2

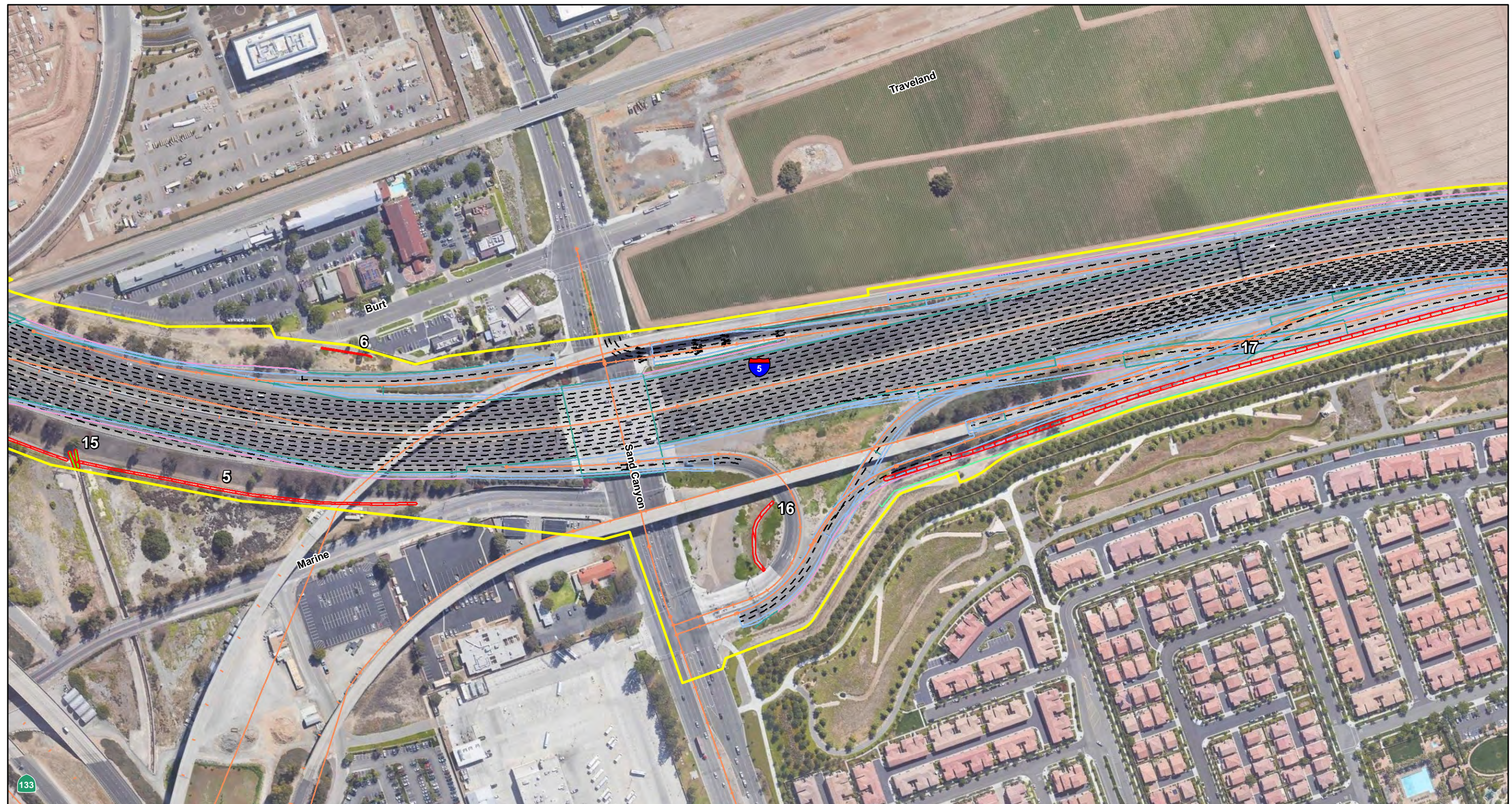
Sheet 3 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

— Centerline

— New Right of Way

— New Easement

— Temporary Easement

— Paved Edges

— Miscellaneous Construction Details

- - Striping

— Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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FEET

SOURCE: Google Maps (2016); AECOM (2017)

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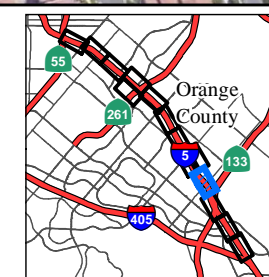


FIGURE 2.16.2

Sheet 4 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2B (Preferred Alternative) with Design Option 3


12-ORA-5 PM 21.3/30.3

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics


 Centerline


 New Right of Way


 New Easement

 Temporary Easement

 Paved Edges

 Miscellaneous Construction Details


 Striping

 Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.

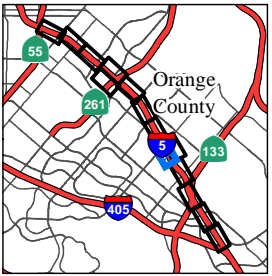


FIGURE 2.16.2

Sheet 5 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K



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FEET


SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics


 Centerline


 New Right of Way


 New Easement

 Temporary Easement

 Paved Edges

 Miscellaneous Construction Details


 Striping

 Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.

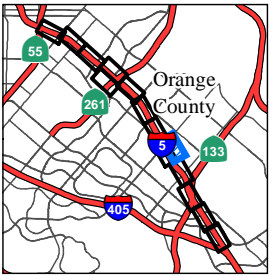


FIGURE 2.16.2

Sheet 6 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K

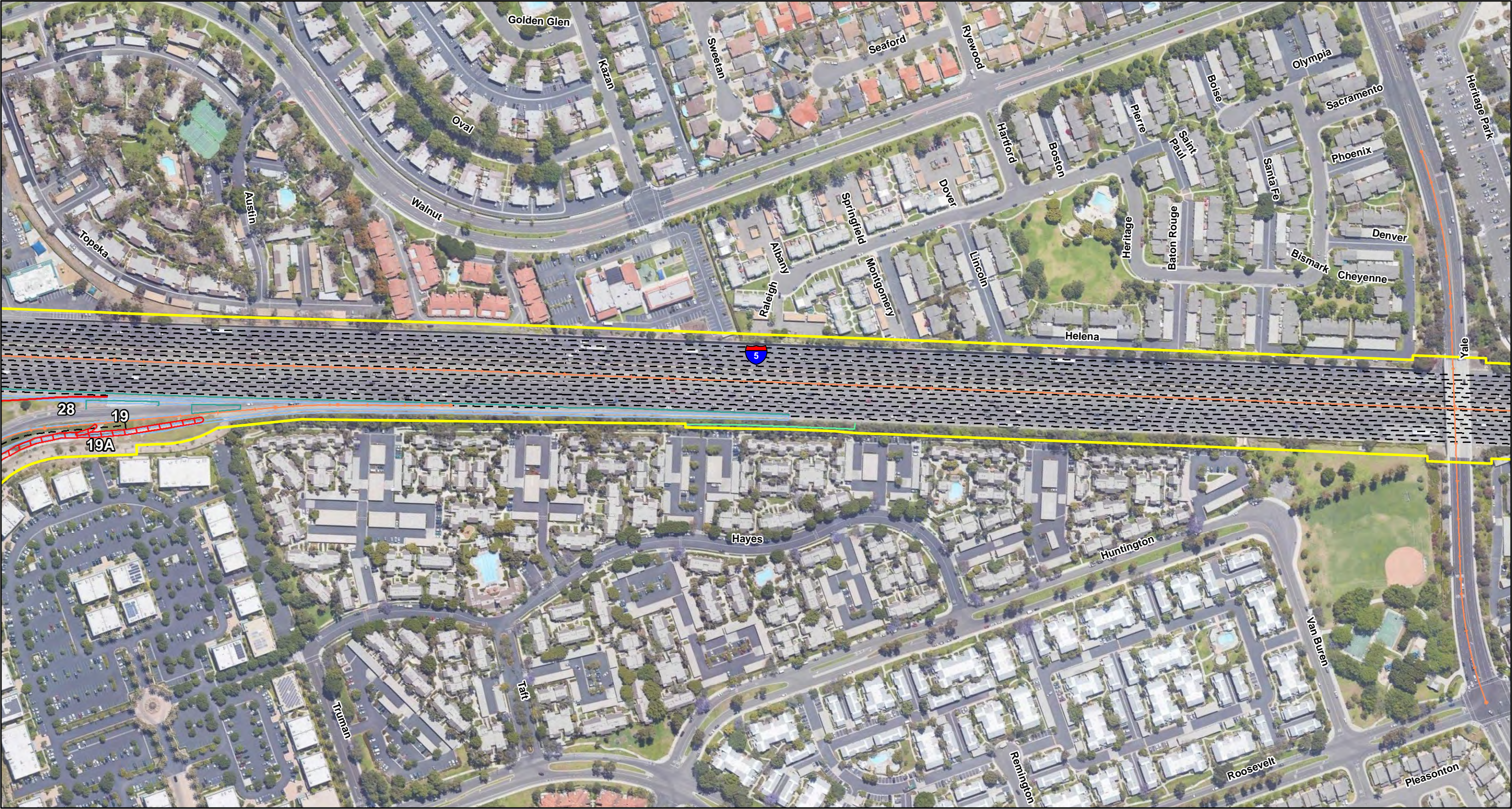


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SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND

Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

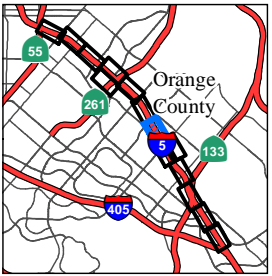


FIGURE 2.16.2

Sheet 7 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

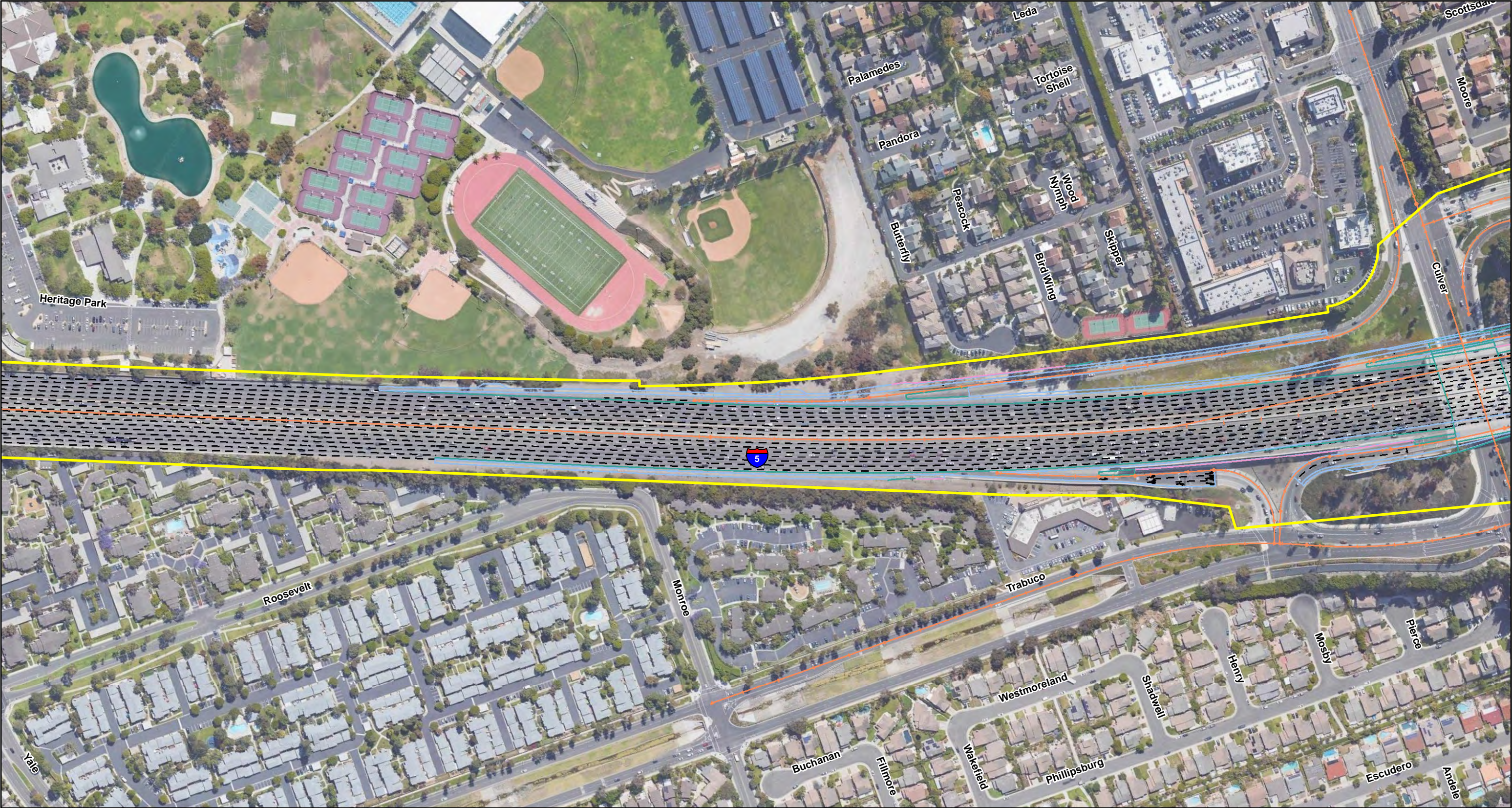
12-ORA-5 PM 21.3/30.3

EA No. 0K670K


SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND


 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics


 Centerline


 New Right of Way


 New Easement

 Temporary Easement

 Paved Edges

 Miscellaneous Construction Details


 Striping

 Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.

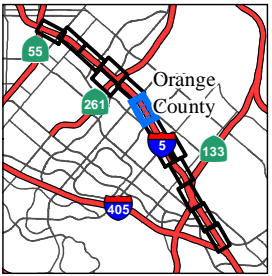


FIGURE 2.16.2

Sheet 8 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K

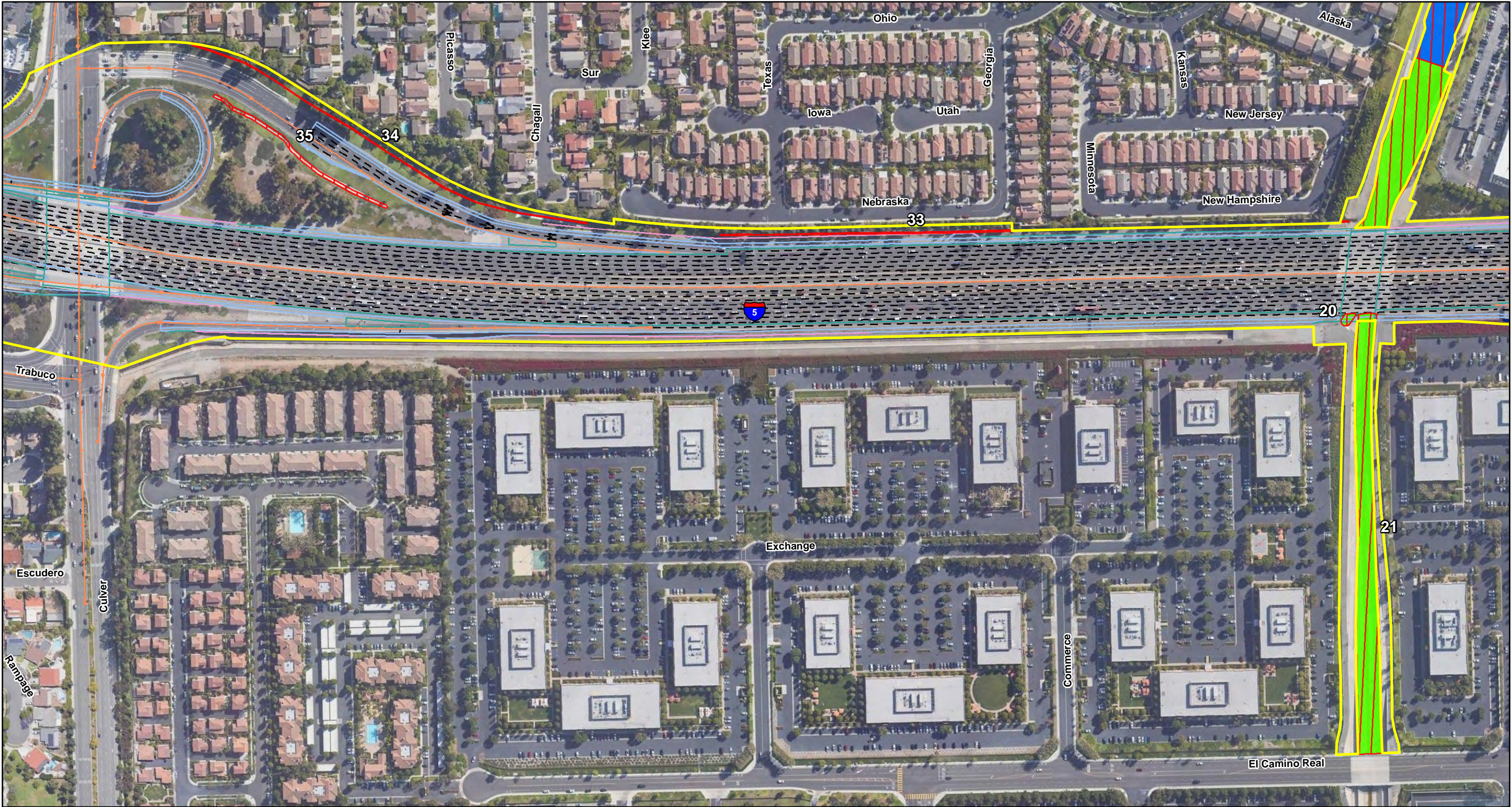


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SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND

Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.



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FEET

SOURCE: Google Maps (2016); AECOM (2017)

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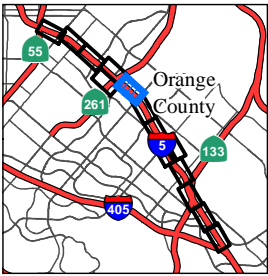


FIGURE 2.16.2

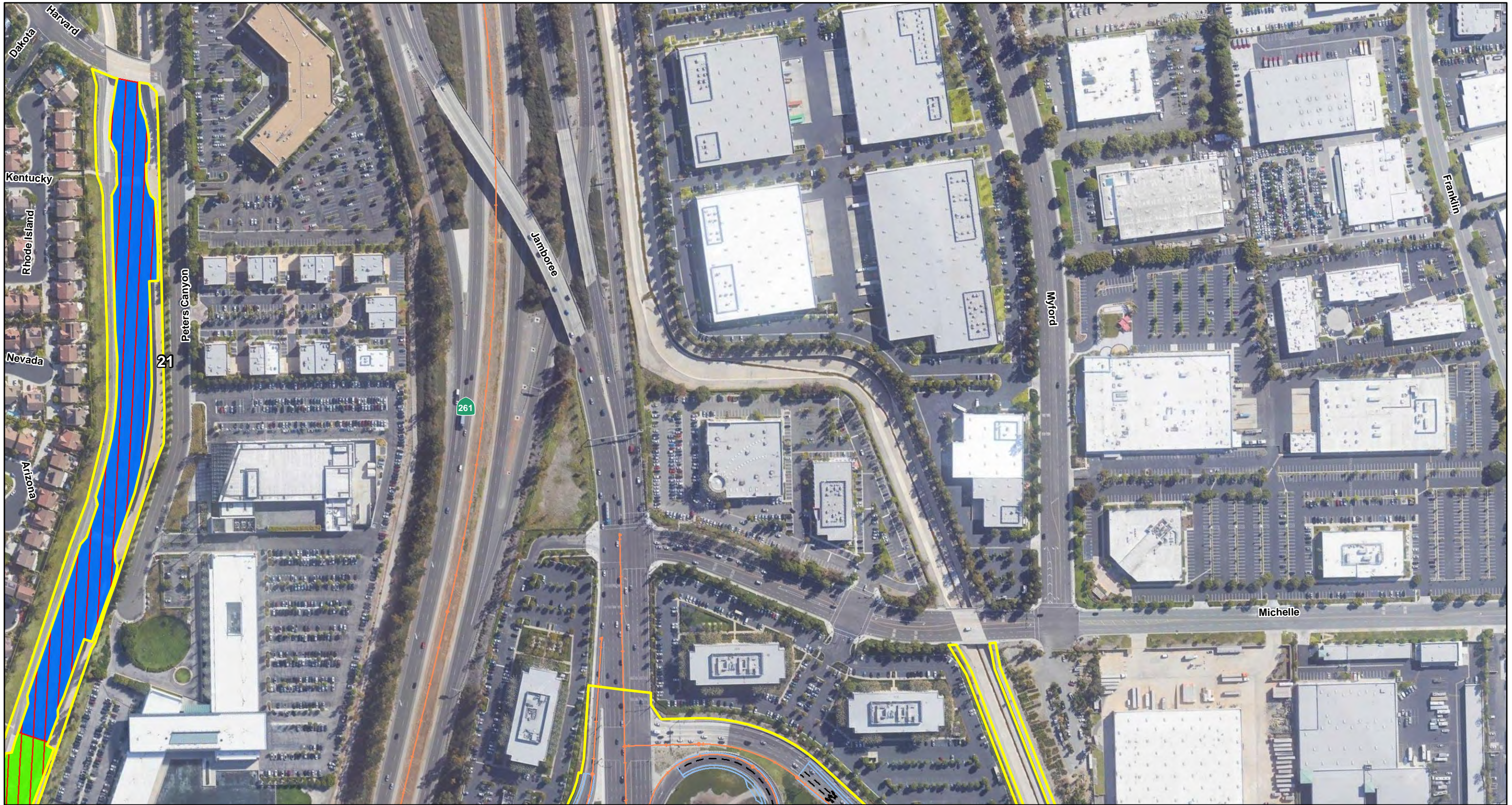
Sheet 9 of 14

I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

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LEGEND

 Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

 Centerline

 New Right of Way

 New Easement

 Temporary Easement

 Paved Edges

 Miscellaneous Construction Details

 Striping

 Soundwalls

 CDFW Jurisdiction

Corps Jurisdiction

 Wetland Waters of the U.S.

 Nonwetland Waters of the U.S.



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SOURCE: Google Maps (2016); AECOM (2017)

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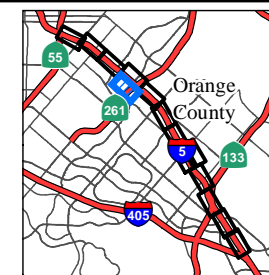


FIGURE 2.16.2

Sheet 10 of 14

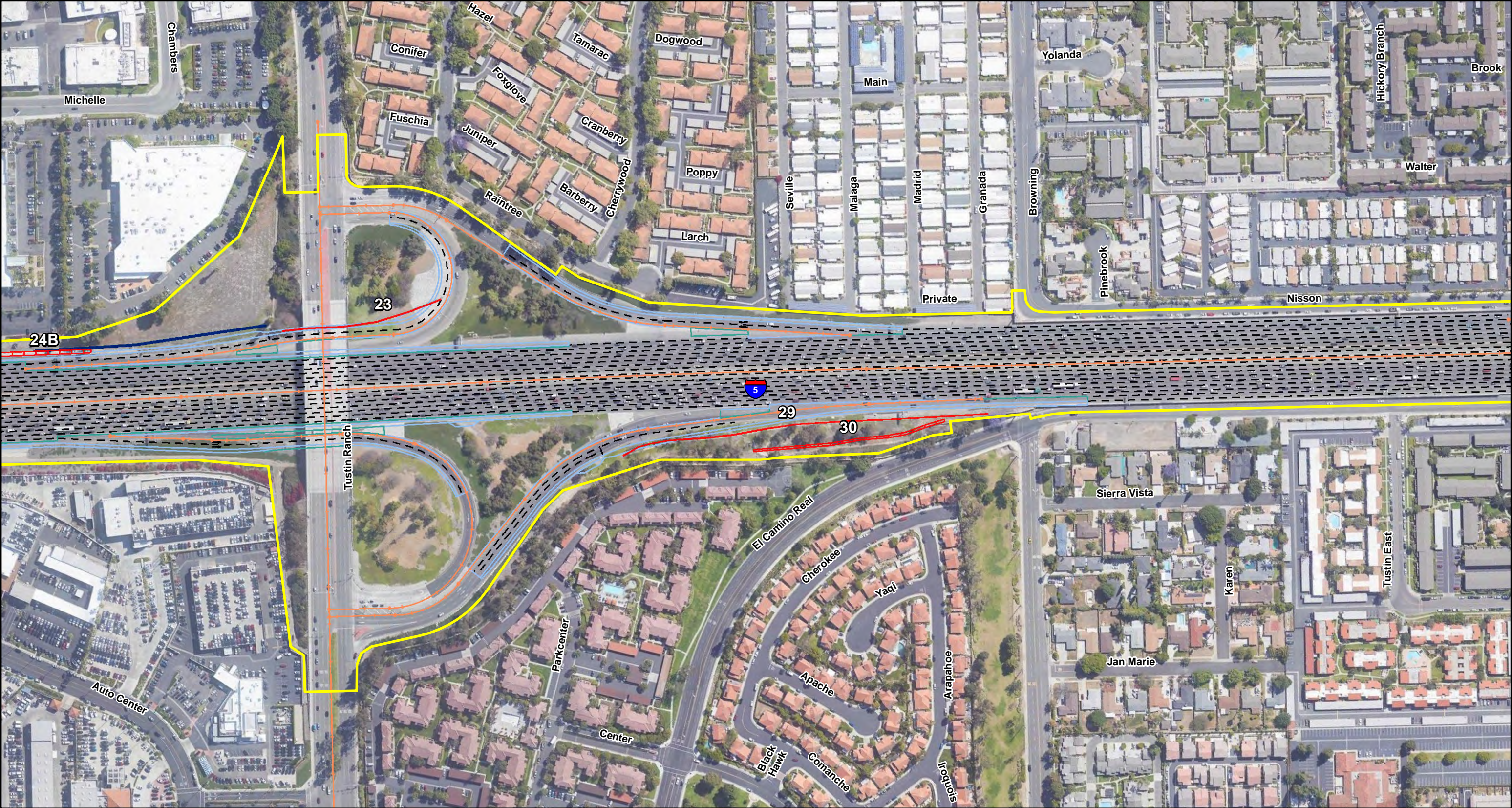
I-5 Improvement Project: I-405 to SR-55
Jurisdictional Drainage Features
Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

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LEGEND

Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.



0 125 250
FEET

SOURCE: Google Maps (2016); AECOM (2017)

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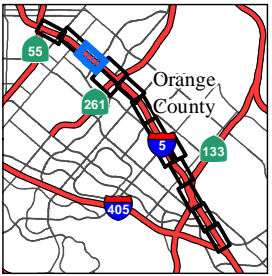


FIGURE 2.16.2

Sheet 12 of 14

I-5 Improvement Project: I-405 to SR-55

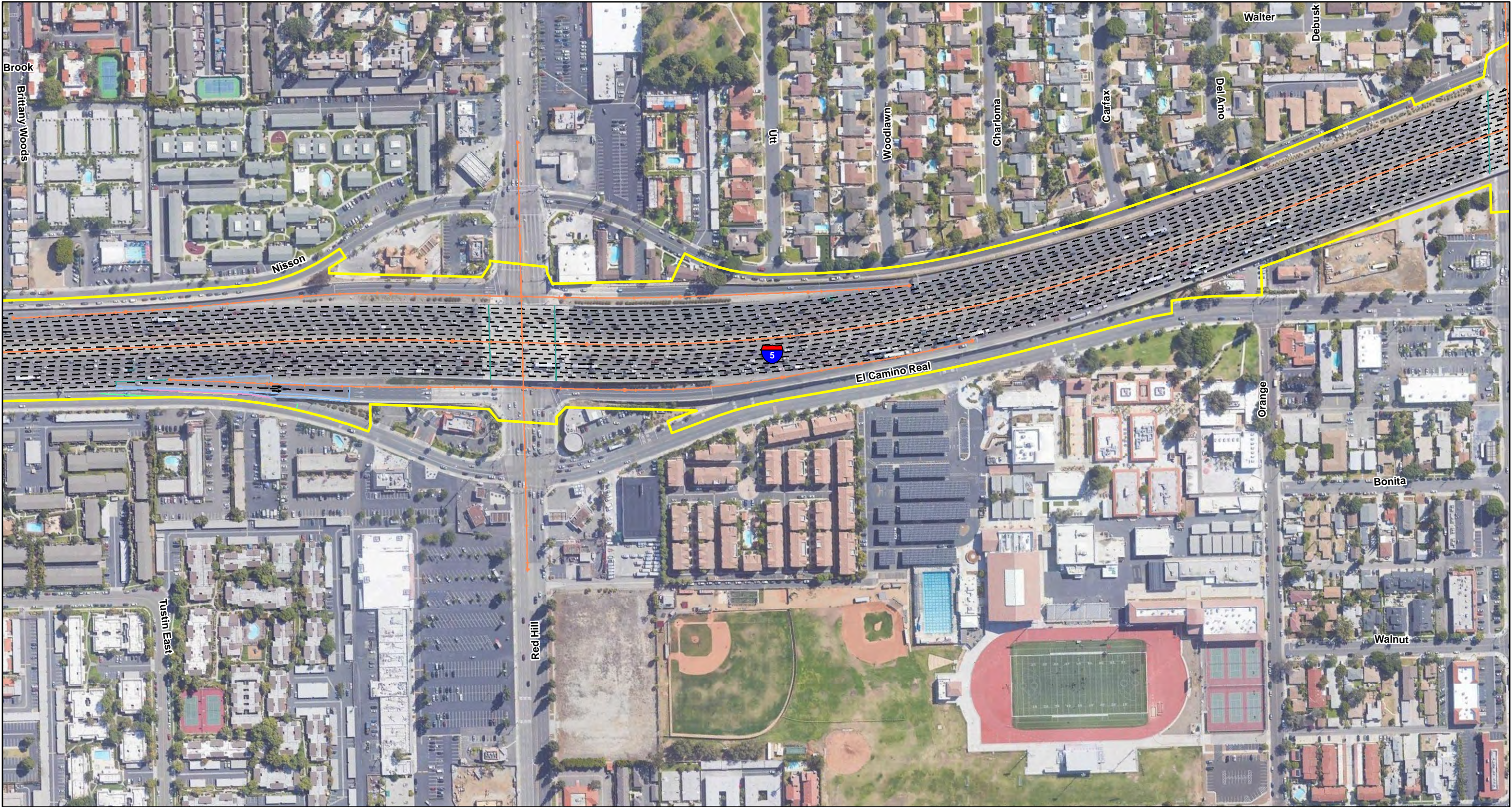
Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K

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LEGEND

Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

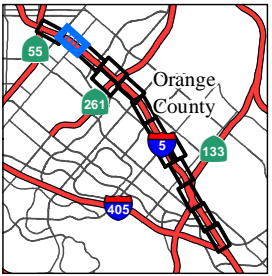


FIGURE 2.16.2

Sheet 13 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

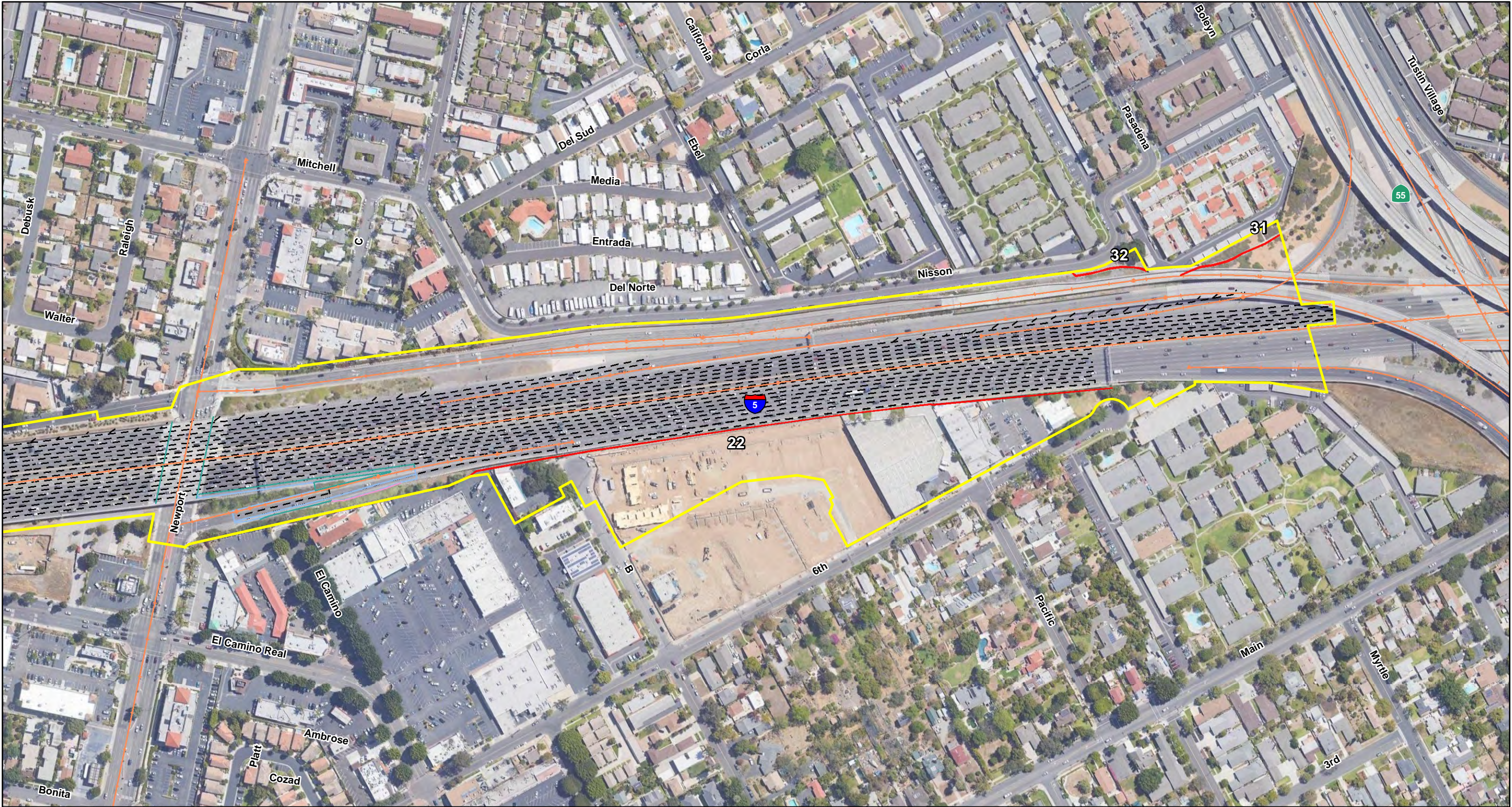
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SOURCE: Google Maps (2016); AECOM (2017)

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LEGEND

Jurisdictional Study Area

Alternative 2B with Design Option 3 Geometrics

Centerline

New Right of Way

New Easement

Temporary Easement

Paved Edges

Miscellaneous Construction Details

Striping

Soundwalls

CDFW Jurisdiction

Corps Jurisdiction

Wetland Waters of the U.S.

Nonwetland Waters of the U.S.

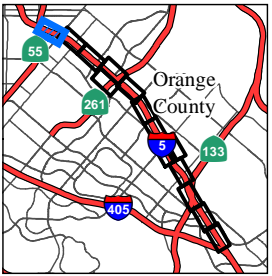


FIGURE 2.16.2

Sheet 14 of 14

I-5 Improvement Project: I-405 to SR-55

Jurisdictional Drainage Features

Alternative 2B (Preferred Alternative) with Design Option 3

12-ORA-5 PM 21.3/30.3

EA No. 0K670K

SOURCE: Google Maps (2016); AECOM (2017)

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Table 2.16.1: Jurisdictional Areas Impacted by Alternative 2A

Jurisdiction Type & Drainage Feature Name/Number	Existing (ac)	Permanent Impacts (ac)	Temporary Impacts (ac)	Total Impacts (ac)
Alternative 2A				
USACE/RWQCB				
Nonwetland Waters of the U.S.				
Serrano Creek (1)	0.48	0.48	0.00	0.48
Agua Chinon Wash (2)	0.04	0.04	0.00	0.04
Bee Canyon Wash (12)	0.05	0.04	0.01	0.05
Marshburn Channel (15)	0.02	0.02	0.00	0.02
20	0.02	0.02	0.00	0.02
Peters Canyon Wash (21)	2.41	0.05	2.36	2.41
El Modena-Irvine Channel (24)	2.79	0.04	2.74	2.79
25	0.02	0.02	0.00	0.02
<i>Total Nonwetland Waters of the U.S.</i>	<i>5.82</i>	<i>0.71</i>	<i>5.11</i>	<i>5.82</i>
Total Alternative 2A USACE/RWQCB	5.82	0.71	5.11	5.82
CDFW				
Streambed				
Serrano Creek (1)	0.48	0.48	0.00	0.48
Agua Chinon Wash (2)	0.04	0.04	0.00	0.04
3	0.06	0.06	0.00	0.06
4	1.06	1.06	0.00	1.06
5	0.21	0.21	0.00	0.21
6	0.01	0.01	0.00	0.01
8	0.00	0.00	0.00	0.00
9	0.02	0.00	0.02	0.02
10	0.00	0.00	0.00	0.00
11	0.20	0.20	0.00	0.20
Bee Canyon Wash (12)	0.05	0.04	0.01	0.05
13	0.01	0.01	0.00	0.01
14	0.15	0.15	0.00	0.15
Marshburn Channel (15)	0.02	0.02	0.00	0.02
16	0.04	0.04	0.00	0.04
17	2.02	2.02	0.00	2.02
18	0.01	0.01	0.00	0.01
19	0.24	0.24	0.00	0.24
20	0.02	0.02	0.00	0.02
Peters Canyon Wash (21)	2.41	0.05	2.36	2.41
22	0.05	0.05	0.00	0.05
23	0.01	0.01	0.00	0.01
El Modena-Irvine Channel (24)	2.79	0.04	2.74	2.79
25	0.02	0.02	0.00	0.02
26	0.06	0.06	0.00	0.06
27	0.06	0.06	0.00	0.06
28	0.01	0.01	0.00	0.01
29	0.02	0.02	0.00	0.02
30	0.07	0.07	0.00	0.07
31	0.01	0.01	0.00	0.01
32	0.01	0.01	0.00	0.01
33	0.05	0.05	0.00	0.05
34	0.05	0.05	0.00	0.05
35	0.10	0.10	0.00	0.10
19A	0.01	0.01	0.00	0.01
1A	0.08	0.08	0.00	0.08
21A	0.01	0.01	0.00	0.01
24A	0.07	0.07	0.00	0.07

Table 2.16.1: Jurisdictional Areas Impacted by Alternative 2A

Jurisdiction Type & Drainage Feature Name/Number	Existing (ac)	Permanent Impacts (ac)	Temporary Impacts (ac)	Total Impacts (ac)
24B	0.35	0.35	0.00	0.35
24C	0.07	0.07	0.00	0.07
3A	0.00	0.00	0.00	0.00
<i>Total Streambed</i>	<i>10.96</i>	<i>5.82</i>	<i>5.13</i>	<i>10.96</i>
<i>Total Alternative 2A CDFW</i>	<i>10.96</i>	<i>5.82</i>	<i>5.13</i>	<i>10.96</i>

Note: All impacts occur in nonwetland areas which are concrete-lined and would not result in direct impacts to riparian habitat.

ac = acre(s)

CDFW = California Department of Fish and Wildlife

RWQCB = Regional Water Quality Control Board

USACE = United States Army Corps of Engineers

**Table 2.16.2: Jurisdictional Areas Impacted by Alternative 2B
(Preferred Alternative)**

Jurisdiction Type & Drainage Feature Name/Number	Existing	Permanent Impacts (ac)	Temporary Impacts (ac)	Total Impacts (ac)
Alternative 2B (Preferred Alternative)				
USACE/RWQCB				
Nonwetland Waters of the U.S.				
Serrano Creek (1)	0.48	0.48	0.00	0.48
Agua Chinon Wash (2)	0.04	0.04	0.00	0.04
Bee Canyon Wash (12)	0.05	0.04	0.01	0.05
Marshburn Channel (15)	0.02	0.02	0.00	0.02
20	0.02	0.02	0.00	0.02
Peters Canyon Wash (21)	2.41	0.05	2.36	2.41
El Modena-Irvine Channel (24)	2.79	0.04	2.74	2.79
25	0.02	0.02	0.00	0.02
<i>Total Nonwetland Waters of the U.S.</i>	<i>5.82</i>	<i>0.71</i>	<i>5.10</i>	<i>5.81</i>
Total Alternative 2B USACE/RWQCB	5.82	0.71	5.10	5.81
CDFW				
Streambed				
Serrano Creek (1)	0.48	0.48	0.00	0.48
Agua Chinon Wash (2)	0.04	0.04	0.00	0.04
3	0.06	0.06	0.00	0.06
4	1.06	1.06	0.00	1.06
5	0.21	0.21	0.00	0.21
6	0.01	0.01	0.00	0.01
8	0.00	0.00	0.00	0.00
11	0.20	0.20	0.00	0.20
Bee Canyon Wash (12)	0.05	0.03	0.00	0.04
13	0.01	0.01	0.00	0.01
14	0.15	0.15	0.00	0.15
Marshburn Channel (15)	0.02	0.02	0.00	0.02
16	0.04	0.04	0.00	0.04
17	2.02	2.01	0.00	2.02
18	0.01	0.00	0.00	0.00
19	0.24	0.24	0.00	0.24
20	0.02	0.02	0.00	0.02
Peters Canyon Wash (21)	2.41	0.05	2.36	2.41
22	0.05	0.04	0.01	0.05
23	0.01	0.01	0.00	0.01
El Modena-Irvine Channel (24)	2.79	0.04	2.74	2.79
25	0.02	0.02	0.00	0.02
26	0.06	0.06	0.00	0.06
27	0.06	0.06	0.00	0.06
28	0.01	0.01	0.00	0.01
29	0.02	0.02	0.00	0.02
30	0.07	0.07	0.00	0.07
31	0.01	0.01	0.00	0.01
32	0.01	0.01	0.00	0.01
33	0.05	0.05	0.00	0.05
34	0.05	0.05	0.00	0.05
35	0.10	0.10	0.00	0.10
19A	0.01	0.01	0.00	0.01
1A	0.08	0.08	0.00	0.08
21A	0.01	0.01	0.00	0.01
24A	0.07	0.07	0.00	0.07
24B	0.35	0.35	0.00	0.35

**Table 2.16.2: Jurisdictional Areas Impacted by Alternative 2B
(Preferred Alternative)**

Jurisdiction Type & Drainage Feature Name/Number	Existing	Permanent Impacts (ac)	Temporary Impacts (ac)	Total Impacts (ac)
24C	0.07	0.07	0.00	0.07
3A	0.00	0.00	0.00	0.00
<i>Total Streambed</i>	<i>10.94</i>	<i>5.79</i>	<i>5.12</i>	<i>10.91</i>
Total Alternative 2B CDFW	10.94	5.79	5.12	10.91

Note: All impacts occur in nonwetland areas which are concrete-lined and would not result in direct impacts to riparian habitat.

ac = acre(s)

CDFW = California Department of Fish and Wildlife

RWQCB = Regional Water Quality Control Board

USACE = United States Army Corps of Engineers

CDFW Jurisdictional Areas

Alternative 2A would result in 5.13 ac of temporary impacts to drainages subject to CDFW jurisdiction as shown in Table 2.16.1.

Alternative 2B (Preferred Alternative) would result in 5.12 ac of temporary impacts to drainages subject to CDFW jurisdiction as shown in Table 2.16.2.

RWQCB Jurisdictional Areas

As noted earlier, Tables 2.16.1 and 2.16.2 show the temporary impacts to the USACE areas by Alternative 2A and Alternative 2B (Preferred Alternative), respectively. The temporary impacts to RWQCB jurisdictional areas would be the same as shown in Tables 2.16.1 and 2.16.2 for the USACE, 5.11 ac under Alternative 2A and 5.10 ac under Alternative 2B.

Temporary Water Quality Impacts

There is also the potential for temporary indirect water quality impacts through sediment introduction and transport downstream. Refer to the discussion in Section 2.9 regarding this issue. Identification and implementation of erosion, sedimentation, and pollution prevention best management practices (BMPs) in the Storm Water Pollution Prevention Plan (SWPPP; refer to Section 2.9) for the proposed project would avoid or minimize indirect impacts to jurisdictional areas during construction.

With implementation of Project Feature PF-WET-1 in Section 2.9, and Project Features PF-BIO-1 through PF-BIO-5 in Section 2.15, Natural Communities, potential temporary impacts to jurisdictional areas would not be adverse.

No Build Alternative (Alternative 1)

None of the proposed improvements to I-5 would be constructed under the No Build Alternative. Therefore, the No Build Alternative would not result in adverse temporary impacts to USACE, CDFW, or RWQCB areas in the BSA.

2.16.3.2 Permanent Impacts

Build Alternative (Alternative 2A and Alternative 2B [Preferred Alternative])

Implementation of the Build Alternative would result in permanent impacts to jurisdictional features within the BSA associated with installation of new pavement and noise barriers, as described below and shown on Figures 2.16.1 and 2.16.2, respectively. However, the impacts would occur in nonwetland areas which are concrete-lined and would not result in direct impacts to riparian habitat. Design Option 3 would not result in any additional permanent impacts to jurisdictional features.

USACE Jurisdictional Areas

Alternative 2A would result in 0.71 ac of permanent impacts to nonwetland waters subject to USACE jurisdiction as shown in Table 2.16.1. No permanent impacts to wetlands subject to USACE jurisdiction would occur with implementation of Alternative 2A.

Alternative 2B (Preferred Alternative) would result in 0.71 ac of permanent impacts to nonwetland waters subject to USACE jurisdiction as shown in Table 2.16.2. No permanent impacts to wetlands subject to USACE jurisdiction would occur with implementation of Alternative 2B.

CDFW Jurisdictional Areas

Alternative 2A would result in 5.82 ac of permanent impacts to drainages subject to CDFW jurisdiction as shown in Table 2.16.1.

Alternative 2B (Preferred Alternative) would result in 5.79 ac of permanent impacts to drainages subject to CDFW jurisdiction as shown in Table 2.16.2.

RWQCB Jurisdictional Areas

As noted earlier, Tables 2.16.1 and 2.16.2 show the permanent impacts to USACE areas by Alternative 2A and Alternative 2B (Preferred Alternative), respectively. The permanent impacts to RWQCB areas would be the same as shown in Tables 2.16.1 and 2.16.2 for the USACE, 0.71 ac under both Alternative 2A and Alternative 2B.

The California Department of Transportation (Caltrans)/the Orange County Transportation Authority (OCTA) will follow the Letter of Permission (LOP) procedures established for OCTA's Renewed Measure M (M2) freeway projects, including compensatory mitigation activities to offset unavoidable impacts to aquatic habitats (i.e., waters under the jurisdiction of the USACE, the CDFW, and the SWRCB/RWQCB). Caltrans/OCTA will submit an application to the USACE and will obtain authorization under the established LOP procedures. Before submitting an application to use the established LOP procedures, pre-application coordination is required for projects occurring within the San Diego Creek Special Area Management Plan (SAMP). The OCTA Programmatic Permit program was written to be consistent with the SAMP. The USACE will notify other federal and State agencies of the submitted application and, if it is determined eligible of meeting all the LOP procedure requirements, the USACE will issue an LOP authorization for project impacts to waters of the U.S. The LOP application will include information clearly demonstrating that impacts to aquatic resources will be avoided and minimized to the maximum extent practicable. If impacts are anticipated, it will also include a mitigation statement and either an approved Habitat Mitigation and Monitoring Program (HMMP) or Long-Term Resource Management Plan (LTRMP). The mitigation presented will compensate for project impacts and will result in a net increase in aquatic resource functions. The USACE will determine whether: (a) project impacts can be authorized under established LOP procedures, (b) additional special conditions will be required, or (c) authorization under another USACE permit type will be required. Caltrans/OCTA will obtain the LOP and/or other required USACE permits prior to impacting areas under the jurisdiction of the USACE, the CDFW, and the RWQCB, and will implement the approved mitigation plan.

With implementation of Project Feature PF-WET-1, permanent impacts to jurisdictional areas would not be adverse. PF-WET-1 requires compensatory mitigation as specified in OCTA's LOP Procedures (established for OCTA's M2 freeway projects) to offset unavoidable impacts to aquatic resources. Additionally, it includes compensatory mitigation as specified in OCTA's Renewed M2 NCCP/HCP to offset unavoidable impacts to drainages subject to CDFW jurisdiction, as well as approved M2 mitigation from the SWRCB to offset unavoidable impacts to RWQCB areas. The USACE will rely on this Final Environmental Document (EA/FONSI) prepared by Caltrans to fulfill its responsibilities under the National Environmental Policy Act (NEPA) and related environmental laws.

No Build Alternative (Alternative 1)

None of the proposed project improvements to I-5 would be constructed or operated under the No Build Alternative. Therefore, the No Build Alternative would not result in adverse permanent impacts to USACE, CDFW, or RWQCB areas in the BSA.

2.16.4 Avoidance, Minimization, and/or Mitigation Measures

The Preferred Alternative will incorporate the project features outlined above in Sections 2.16.2.1 and 2.16.3.1 to help address potential impacts. No avoidance, minimization, and/or mitigation measures are required.

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