



SPECIAL PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

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FINAL

Clean Water Act Section 404 Letter of Permission Procedures for OCTA Renewed Measure M (M2) Freeway Program Projects

Public Notice/Application No.: SPL-2012-00830-VCL

Project: Orange County Transportation Authority Renewed Measure M (M2) Freeway Program Projects

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Project Manager: Veronica Li; 213-452-3292; Veronica.C.Li@usace.army.mil

Co-Applicant

Kai Mortazavi
Executive Director of Planning
Orange County Transportation Authority
560 South Main Street
P.O. Box 14184
Orange, California 92683

Co-Applicant

Chris Flynn, Chief of
Environmental Planning
California Department of
Transportation, District 12
1750 East 4th Street, Suite 100
Santa Ana, CA 92705

Agent

Lexi Kessans
Glenn Lukos Associates
29 Orchard
Lake Forest, CA 92630

Location

The areas, including Corps jurisdictional water bodies that would be affected by the Orange County Transportation Authority's (OCTA) Renewed Measure M (M2) Freeway Program Projects include various locations along freeway corridors throughout Orange County (Enclosures 1 to 6).

Purpose

Interested parties are hereby notified, pursuant to 33 Code of Federal Regulations (C.F.R.) section 325.2(e), that the U.S. Army Corps of Engineers (Corps), Los Angeles District has established new Letter of Permission (LOP) procedures to more efficiently evaluate and, if determined eligible by the Corps in coordination with other federal and state agencies, authorize discharges of dredged and fill materials into waters of the U.S. associated with constructing OCTA's M2 Freeway Program projects, as regulated under section 404 of the Clean Water Act (CWA), during the next 20-30 years (Enclosure 4). With the LOP procedures now established, individual project applications will be submitted over time to the Corps by OCTA and/or Caltrans for the anticipated discharges of dredged or fill material into waters of the U.S. for each project, and those regulated project activities determined by the Corps to be eligible/qualify for authorization under the LOP procedures, in coordination with other federal and state agencies, would receive a project-specific LOP. A total of 11 projects are expected to be constructed under this long-term freeway improvements program, designated as A; B; C ("Northern Segment"); D; E; F-North, F-South; G-North, G-South; I; K; L; and M). Two other M2 projects, H and J, were previously authorized under the Corps' Nationwide Permit Program.

As noted in our April 6, 2015 public notice of the proposal to establish LOP procedures (http://www.spl.usace.army.mil/Portals/17/docs/publicnotices/SPL201300830_OCTA_PN_20150401_final%20.pdf?ver=2015-04-01-145442-187), regulations at 33 C.F.R. section 325.2(e) authorize the Corps to use "alternative procedures", including LOPs, to authorize activities under the Corps Regulatory Program, pursuant to section 10 of the Rivers and Harbors Act or section 404 of the Clean

Water Act. LOPs are a type of individual permit issued through an abbreviated processing procedure completed by the Corps that includes coordination with other federal and state fish and wildlife agencies.

Any project-specific regulated activities authorized by LOP must also meet the LOP general conditions and special conditions listed below. A flow chart to support an initial decision of whether a project could be eligible for authorization under the LOP procedures is provided (Enclosure 7: Figure 3).

General Conditions:

1. **The time limit for completing the authorized activity ends on December 8, 2047.** If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification from this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

Special Conditions:

A. Before Submitting an Application to Use the Established LOP Procedures

Requirements and procedures for Pre-Application Coordination are summarized as follows:

1. A request for pre-application coordination with the Corps Regulatory Division is required for proposed projects occurring within the San Diego Creek Special Area Management Plan (SAMP) or San Juan Creek/Western San Mateo SAMP areas or for projects that involve the conversion of a soft-bottom channel to a rip rap or concrete-lined channel within Santiago Creek, Oso Creek, Aliso Creek, Santa Ana River, Tonner Canyon, or San Diego Creek.
2. In addition to the Corps Regulatory Division, pre-application coordination may involve the California Department of Fish and Wildlife (CDFW), the State Water Resources Control Board

(SWRCB) and/or the applicable Regional Water Quality Control Board (RWQCB), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Environmental Protection Agency (EPA).

3. For the pre-application meetings, the OCTA and/or Caltrans (applicant/co-applicants) may meet with the agencies separately or in small groups, consult by telephone, or schedule a pre-application meeting to be held at the Corps' Los Angeles District office. A written record of the proceedings must be provided afterwards to the Corps Regulatory Division, documenting substantive issues discussed, agency recommendations, and any pertinent conclusions.
4. In preparation for the pre-application meeting, the following information should be provided to the participating agencies at least two weeks prior to the meeting:
 - a. A draft detailed written description (including area(s), volume(s) and types of material(s), dimensions)) of activity to be permitted by the Corps Regulatory Division;
 - b. A delineation of waters of the U.S. within the project area. The preliminary jurisdictional determination for the M2 Freeway Program was issued by the Corps Regulatory Division on December 4, 2012 and updated on September 17, 2013. This preliminary jurisdictional determination was used for discussion of avoidance, minimization, and compensatory mitigation opportunities during the pre-application process for development of these LOP Procedures. Although future delineations are possible as specified herein, the preliminary jurisdictional determination issued on December 4, 2012 (and September 17, 2013 updates) can be used as the baseline for all subsequent discussions on avoidance, minimization, and compensatory mitigation. Future projects proposing to impact waters of the U.S. need to have only a re-verification of the 2012 jurisdictional delineation (and September 17, 2013 updates). Submittals for the re-verification include: a memo indicating whether any changes to the potential geographic extent of waters of the U.S. have occurred since the preliminary jurisdictional determination was issued on December 4, 2012 (and September 17, 2013 updates), photos of each aquatic feature, and a new preliminary determination form specific to each application to use LOP procedures. If changes to the potential geographic extent of waters of the U.S. have occurred since the preliminary jurisdictional determination was issued on December 4, 2012 (and September 17, 2013 updates), the memo should also include any supporting information such as wetland delineation forms to re-delineate the extent of wetland waters of the U.S., ordinary high water mark forms to re-delineate the extent of waters of the U.S., photos of each aquatic feature, and wetland jurisdictional delineation maps indicating the extent of wetland and non-wetland waters of the U.S. overlaid onto an aerial photograph. If the delineation has changed from the 2012 delineation (and September 17, 2013 updates), new GIS data shall be submitted to the Corps Regulatory Division;
 - c. A site location and plan view of the proposed project areas and acreage and linear feet of stream(s) and any other aquatic resource types to be impacted showing permanent losses and temporary impacts to waters of the U.S.;
 - d. A draft statement addressing the Section 404(b)(1) Guidelines¹;

¹ The applicant/co-applicants must provide information documenting the evaluation of alternatives to the proposed impacts to aquatic resources. The basic premise of the section 404 Clean Water Act program is that no discharge of dredged or fill material may be permitted if: (1) a practicable alternative exists that is less damaging to the aquatic environment (and an alternative that would not impact a special aquatic site, such as wetland, is presumed to be less damaging to the aquatic environment, unless rebutted), or (2) the nation's waters would be significantly degraded. In other words, when applying for a Corps permit, the applicant must first show that the project has been designed to avoid impacts to wetlands, streams, and other aquatic resources to the maximum extent practicable. The applicant must also demonstrate that potential impacts have

- e. A draft habitat mitigation and monitoring plan (HMMP) or long term resources management plan (LTRMP) or mitigation statement relating the project to an approved HMMP or LTRMP, if applicable, if unavoidable impacts would occur to riparian habitat and/or wetlands (note that temporary impacts to waters of the U.S., such as those occurring at the concrete-lined channel locations, will not require compensatory mitigation; an exception to this is if the Corps Regulatory Division determines there is an unacceptable delay in native re-vegetation and/or unsatisfactory recovery of aquatic habitat functions and services of temporarily impacted areas, unless unforeseeable circumstances or causes beyond reasonable control, and without the fault or negligence of the Construction Lead [OCTA or Caltrans], including but not limited to natural disasters [e.g., earthquakes, flooding, etc.]);
- f. When appropriate, a cultural resources inventory and results from an endangered or threatened species (federally listed, including designated/proposed critical habitat) survey (pursuant to the M2 Freeway Program Natural Community Conservation Planning/Habitat Conservation Plan/Habitat/Habitat Conservation Plan (NCCP/HCP) for covered species and covered activities), for the project area; and
- g. Pursuant to 33 U.S.C Section 408 (Section 408), if Section 408 permission/approval is needed, the applicant must provide the Section 408 permission/approval within 30 days of the LOP application submittal date or the LOP application will be withdrawn by the Corps.

The Corps Regulatory Division will make an initial determination as to whether the project may qualify for the LOP procedures based on a preliminary determination that the project meets certain requirements, including compliance with the CWA Section 404(b)(1) Guidelines.

B. LOP Application Submittal

The following informational items 1-9 are needed for a complete LOP application. Corps District and South Pacific Division (SPD) standards for submitting maps and drawings (<http://www.spd.usace.army.mil/Portals/13/docs/regulatory/standards/MapStand020816.pdf>) shall apply to the LOP application and related submittals.

1. A completed Department of the Army application form (Eng Form 4345) or SPD Preconstruction Notification Checklist.
2. A complete project description, which includes the following information:
 - a. Pre-project photographs of the project site and each potentially jurisdictional waters of the U.S.;
 - b. A site location map and engineering layouts and cross sections of the project activity on sheets no larger than 11" x 17";
 - c. Scale plan views showing waters of the U.S. to be permanently and/or temporarily impacted juxtaposed on the project construction plans overlaid on aerials and on sheets no larger than 11" x 17" and associated GIS data;
 - d. Location coordinates: latitude/longitude or UTM;
 - e. Volume, type, and source of material(s) to be placed into waters of the U.S.;
 - f. Total area of waters of the U.S. and linear feet of stream(s) to be directly and indirectly affected;

been minimized and that compensation will be provided for remaining unavoidable impacts. Justification why less damaging alternatives are not practicable must be provided.

- g. A delineation of waters of the U.S. located in the project area including a wetland delineation map on sheets no larger than 11" x 17", if not provided during pre-application coordination. Although future delineations are possible as specified herein, the preliminary jurisdictional determination issued on December 4, 2012 (and September 17, 2013 updates) can be used as the baseline for all subsequent discussions on avoidance, minimization, and compensatory mitigation. Future projects proposing to impact waters of the U.S. need to have only a re-verification of the 2012 jurisdictional delineation (and September 17, 2013 updates). Submittals for the re-verification include: a memo indicating whether any changes to the potential geographic extent of waters of the U.S. have occurred since the preliminary jurisdictional determination was issued on December 4, 2012 (and September 17, 2013 updates), photos of each aquatic feature, and a new preliminary determination form specific to each application to use LOP procedures. If changes to the potential geographic extent of waters of the U.S. have occurred since the preliminary jurisdictional determination was issued on December 4, 2012 (and September 17, 2013 updates), the memo should also include any supporting information such as wetland delineation forms to re-delineate the extent of wetland waters of the U.S., ordinary high water mark forms to re-delineate the extent of waters of the U.S., photos of each aquatic feature, and wetland jurisdictional delineation maps indicating the extent of wetland and non-wetland waters of the U.S. overlaid onto an aerial photograph. If the delineation has changed from the 2012 delineation (and September 17, 2013 updates), new GIS data shall be submitted to the Corps Regulatory Division;
 - h. A description of habitats to be impacted, including plant communities, located in the project area;
 - i. A description of secondary and cumulative impacts to waters of the U.S.;
 - j. A description of methods to avoid, minimize, and compensate for adverse impacts to aquatic functions and water quality at the project site, including best management practices proposed to be used and maintained during project implementation to control siltation and erosion;
 - k. A written statement describing avoidance and minimization measures to be used and maintained during project construction to minimize discharges of fill material into jurisdictional waters at the project site to the maximum extent practicable;
 - l. Any other information pertinent to the wetlands, stream(s), or other waterbody(ies) involved; and
 - m. Proposed project schedule, including approximate start and end dates (month and year) when impacts to waters of the U.S. would occur, approximate dates to restore all temporary impact areas to pre-construction elevations and remove temporary fills, and approximate dates to start native revegetation/hydroseeding of temporarily disturbed areas, if appropriate.
3. A discussion of how each participating agency comment/concern provided during pre-application meeting(s) was addressed, if applicable.
4. Air quality analysis or documentation demonstrating that: (1) the proposed federal action's total emissions (direct and indirect) rates would be below the current applicable de minimis rate for any criteria pollutants or their precursors in a non-attainment or maintenance area as specified at 40 CFR section 93.153(b).; (2) the proposed federal action's total emissions are accounted for in the emissions budgets in the currently approved State Implementation Plan (a general conformity determination would still be required, but it is expected to be a straightforward process if the total emissions are already accounted for in approved emissions budgets); or (3) a draft general conformity determination for the proposed federal action's total emissions has

been prepared demonstrating conformance with the approved State Implementation Plan (for Corps Regulatory Division's consideration and use in completing the General Conformity Determination process) . The only air emissions that need to be included in the applicability analysis or general conformity determination are those emissions resulting from activities that: (1) discharge fill material into waters of the U.S. (direct); and (2) occur immediately adjacent to waters of the U.S. (within 100 feet of waters of the U.S.), such as equipment staging and material storage, necessary for in-water fill discharge-generating activities to occur (indirect). It is only these proposed federal action direct and indirect emissions the Corps could have continuing program responsibility and control over by, for example, requiring mitigation measures/conditions. The total direct and indirect emissions of each criteria pollutant or precursor in a nonattainment or maintenance area associated with the Federal action shall not equal or exceed the applicability rates specified at 40 CFR section 93.153(b).

5. A statement addressing the Section 404(b)(1) alternatives analysis.
6. A statement explaining how avoidance and minimization of dredged or fill material discharges into waters of the U.S. were achieved on the project site.
7. A mitigation statement that describes the amount and type of mitigation and the mitigation site(s) at which the project's unavoidable impacts would be mitigated in full. The mitigation statement will be consistent with the Corps Regulatory Division-approved HMMPs for Agua Chinon (Habitat Mitigation and Monitoring Plan: Agua Chinon Subwatershed, dated September 2017) and Aliso Creek (Aliso Creek Habitat and Monitoring Plan, dated September 2017) and LTRMP for Ferber Ranch (Ferber Ranch Resource Management Plan, dated September 2017).
8. The project level impact information and amount of mitigation required for each impacted aquatic feature per the approved mitigation checklists using the established mitigation ratios². If there are additional unavoidable impacts to waters of the U.S. beyond that anticipated at the LOP project level, either a statement about why additional compensatory mitigation should not be required should be included in the application, or an existing mitigation checklist that includes a similar aquatic resource may be referenced, or a new mitigation checklist may be submitted with a proposed mitigation ratio.
9. Local approvals or other evidence that the project has been reviewed by the appropriate local governmental body and has been found to be consistent with state and local land use plans and policies, particularly state and local wetland or other aquatic resource policies.
10. Appropriate surveys, inventories, or reports (pursuant to the NCCP/HCP for covered species and covered activities) that will allow the Corps Regulatory Division to make a determination of the effect of the proposed Federal action (and if necessary consult with the USFWS) pursuant to the federal ESA or evidence of incidental take authorizations provided under ESA.
11. Appropriate surveys, inventories, or reports (pursuant to the section 106 of the National Historic Preservation Act (NHPA)) that will allow the Corps Regulatory Division to make a determination of the effect of the proposed Federal action (and if necessary consult with the SHPO) or evidence of compliance with section 106 of the NHPA (through submittal of an approved Caltrans Historic Property Survey Report including any subsequent re-evaluations),

² Impact amounts in the mitigation checklists may be adjusted from the original mitigation checklists to reflect actual project design impacts to waters of the U.S.

including any tribal consultation as appropriate, or submittal of a cultural resources study with historic record searches and pedestrian surveys not more than 5 years old.

12. The decision on a Department of the Army permit application pursuant to Section 404 of the Clean Water Act cannot be rendered prior to the decision on a Section 408 request. Where applicable, provide Section 408 permission/approval. If Section 408 permission/approval is needed, the applicant/co-applicants must provide the Section 408 permission/approval within 30 days of the LOP application submittal date or the LOP application will be withdrawn by the Corps Regulatory Division.

C. Application Processing Procedures

When the applicant has compiled the information required for a complete LOP application, these following steps will occur:

1. The applicant/co-applicants will provide the Corps Regulatory Division and the other federal and state review agencies (EPA, USFWS, CDFW, SWRCB, RWQCB, SHPO) complete LOP applications. The Corps Regulatory Division will review the application and assign an action ID number (OMBIL Regulatory Module/ORM).
2. Within fifteen (15) calendar days of receipt of an LOP application, the Corps Regulatory Division will determine if the LOP application is complete. If an LOP application is incomplete, the Corps Regulatory Division will notify the applicant/co-applicants of the needed information items and the applicant/co-applicants will be required to submit that information. The applicant/co-applicants must provide the information within 30 days of the notification date or the LOP application will be withdrawn by the Corps Regulatory Division.
3. Within fifteen (15) calendar days of receiving a complete LOP application, the Corps Regulatory Division will submit materials to the other federal and state review agencies (i.e., the CDFW, applicable RWQCB, SWRCB, USFWS, EPA, and SHPO) via email and request the agencies provide comments. The agencies (except for the SHPO) will have 21 calendar days to provide comments to the Corps Regulatory Division. The SHPO will have 30 calendar days provide comments. "No objection" comments may be provided by telephone, but substantive comments shall be provided and confirmed by email, FAX, or letter. When the LOP application notification is transmitted to the other federal and state review resource agencies, the Corps Regulatory Division will consider the following:
 - a. Conformity of the proposed project action with the established LOP Procedures;
 - b. Accuracy of the jurisdictional delineation and the resource assessments;
 - c. Avoidance and minimization of impacts to aquatic resources to the maximum extent practicable;
 - d. Compliance with the Section 404(b)(1) Guidelines at 40 CFR part 230;
 - e. Consistency of the proposed project-specific compensatory mitigation with the mitigation framework and the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE* and any updates thereto: (<http://www.spd.usace.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf>);
 - f. Whether federally listed species issues have been resolved in a manner consistent with the M2 Freeway Program NCCP/HCP program for covered species and/or resolution of ESA section 7 for non-covered species;
 - g. Resolution or status of compliance with section 106 of the NHPA, including tribal consultation as appropriate;
 - h. Resolution or status of the CWA section 401 water quality certification;

- i. Although not expected to be needed, if a project does propose to affect the coastal zone, resolution or status of the Coastal Zone Management Act certification;
- j. Although not expected to be needed, if a project does propose to affect Essential Fish Habitat (i.e., water body under tidal influence), resolution or status of Essential Fish Habitat consultation; and
- k. Resolution or status of the CWA Section 408 permission.

The Corps Regulatory Division will review the comments received and make a final determination within 45 calendar days of receiving the complete LOP application, unless consultation under section 7 of ESA or section 106 of NHPA is required, or unless a section 408 permit is necessary which would likely extend the processing time for a final decision. If section 408 permission is required, it must be provided to the Corps Regulatory Division within 30 days of submitting a complete LOP application or the application will be withdrawn. After all the comments are received from the notified federal and state agencies, the Corps Regulatory Division will perform a final evaluation of the project. Any problems identified during the LOP application notification process to the federal and state review agencies will be resolved before a decision on the LOP application is made. If the project is consistent with items a. through k., above, and the special conditions, below, for LOP authorization, an LOP can be issued. If the proposed project action fails to meet the requirements for LOP authorization, the Corps will notify OCTA and Caltrans of the need for review through a separate Corps permitting process (likely the Standard Individual Permit process).

D. Special Conditions of the LOP Authorization: Any regulated activity authorized by an LOP must also meet the following non-discretionary Special Conditions listed below:

1. *Avoidance and Minimization.* The Permittee(s) must implement avoidance and minimization measures to be used and maintained during project construction to minimize discharges of fill material into waters of the U.S. at the project site to the maximum extent practicable.
2. *Ineligible Impacts.* Proposed discharges of dredged or fill material into waters of the U.S. that would be ineligible for LOP procedures include activities not evaluated for LOP procedures in accordance with the San Diego Creek SAMP and San Juan Creek/Western San Mateo SAMP, projects that substantially alter a previously established compensatory mitigation site, or projects that involve the conversion of a soft-bottom channel to a rip rap or concrete-lined channel within San Diego Creek, Peters Canyon Wash, Hicks Canyon Wash, Serrano Creek, Borrego Canyon Wash, San Juan Creek, Oso Creek, Arroyo Trabuco, Chiquita Creek, Canada Gobernadora, San Mateo Creek, Gabino Creek, and Cristianitos Creek. Those ineligible proposed projects must be evaluated by the Corps through a Standard Individual Permit process.
3. *Mitigation.*
 - A. The LOP must comply with the mitigation framework (see Section E below), and the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division USACE* and any updates thereto:
<http://www.spd.usace.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf>.
 - B. OCTA and Caltrans have proposed to mitigate for permanent impacts to waters of the U. S. through implementation of the following final habitat mitigation and monitoring plans (HMMPs): "Habitat Mitigation and Monitoring Plan OCTA Measure M – Aliso Creek" (dated September 2017, and prepared by Laguna Canyon Foundation) to rehabilitate and enhance 0.62 acre of wetland and 6.02 acres of non-wetland waters of the U.S. within the Aliso Creek HMMP project area; "Habitat Mitigation and Monitoring Plan: Agua Chinon Subwatershed"

(dated September 2017, and prepared by Irvine Ranch Conservancy) to enhance 1.02 acre of non-wetland waters of the U.S. within the Agua Chinon HMMP project area; and “Final Ferber Ranch Preserve Resource Management Plan” (dated September 2017, and prepared by Orange County Transportation Authority) to preserve 0.04 acre of wetland and 1.36 acres of non-wetland waters of the U.S. within the Ferber Ranch preservation mitigation area. See Table 1 for estimated permanent impacts and associated compensatory mitigation requirements. OCTA/Caltrans shall complete site preparation and planting and initiate monitoring as described in each final, approved mitigation plan prior to discharging any fill material in waters of the U.S. According to each final, approved mitigation plan, responsible parties will be as follows: a) Implementation: Orange County Transportation Authority; b) Long-term management: Orange County Transportation Authority. OCTA retains ultimate legal responsibility for meeting the requirements of each final HMMP (i.e., this is permittee-responsible mitigation) unless an assignment and assumption agreement is approved by the Corps Regulatory Division. Detailed mitigation objectives, performance standards, and monitoring requirements are described in each final, approved mitigation plan. Any requirements for financial assurances and/or long-term management provisions are also described in each final, approved mitigation plan, as well as in Special Condition 3C and 3D below. OCTA’s responsibility to complete the required compensatory mitigation as set forth in Special Condition 3C will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the Corps Regulatory Division.

Table 1. Amount of estimated mitigation required at each mitigation site for each project permanent impact.

		Estimated Mitigation Required (Acres)				
		Aliso Creek		Agua Chinon	Ferber Ranch	
Project Name	Estimated Permanent Impact (Acres)	Wetland	Non-wetland	Non-wetland	Wetland	Non-wetland
B						
B-20	0.14		0.16	0.28		
B-30	0.04		0.05	0.08		
B-35	0.04		0.05	0.08		
Total Mitigation Required, Project B			0.26	0.44		
C						
C-9 non-wetland	0.05					0.76
C-9 wetland	0.04				0.04	0.60
C-35	0.05		0.15			
Total Mitigation Required, Project C			0.15		0.04	1.36
E						
E-6	0.19		0.57			
E-14	0.07		0.21			
Total Mitigation Required, Project E			0.77			
F						
F-24	0.01		0.02			
F-25 non-wetland	0.01		0.04			
F-25 wetland	0.14	0.59				
Total Mitigation Required, Project F		0.59	0.06			
G						
G-1	0.62		1.78			

		Estimated Mitigation Required (Acres)				
		Aliso Creek		Agua Chinon	Ferber Ranch	
Project Name	Estimated Permanent Impact (Acres)	Wetland	Non-wetland	Non-wetland	Wetland	Non-wetland
G-11 non-wetland	0.08		0.23			
G-11 wetland	0.01	0.03				
Total Mitigation Required, Project G		0.03	2.01			
I						
I-5	0.01		0.02			
I-6	0.06		0.22			
I-7	0.02		0.04			
I-10	0.16		0.47			
Total Mitigation Required, Project I			0.75			
K						
K 4-1	0.06		0.23			
K 7-2	0.42		1.62			
K 10-1	0.04		0.15			
K 25-4	0.06		0.23			
K 27-1	0.11		0.42			
Total Mitigation Required, Project K			2.66			
L						
L-1	0.01		0.01	0.02		
L-17	0.01		0.01	0.02		
L-30	0.07		0.07	0.14		
L-45	0.02		0.02	0.04		
L-47 non-wetland	0.05			0.26		
L-47 wetland	0.01			0.06		
L-65	0.01		0.01	0.02		
L-66	0.01		0.01	0.02		
Total Mitigation Required, Project L			0.13	0.58		
Total Acres Required/Used		0.62	6.02	1.02	0.04	1.36
Total Acres Available at Mitigation Site						
Agua Chinon				1.13		
Aliso Creek		1.80	9.39			
Ferber Ranch					0.14	1.61
Total Mitigation Acres Remaining		1.18	3.37	0.11	0.10	0.25

¹ Only projects that would result in permanent impacts are presented in this table. All temporary impact areas would be restored onsite as described in Special Condition 9 *Removal of Temporary Fills and Native Revegetation of Temporary Impact Areas*, below. Project D would only result in impacts to concrete channels and therefore, impacts to these features are considered temporary; no restoration would occur at this site though because the substrate is covered by the concrete lining. Compensatory mitigation has already been provided for Project H and J permanent impacts to wetland waters of the U.S. by the purchase of 0.5 acre of enhancement mitigation credit from the Riverside-Corona Resource Conservation District In-Lieu Fee Program.

² A minimum of 1:1 will be required to be mitigated at Agua Chinon to meet the San Diego Creek SAMP requirements.

³ A minimum of 1:1 will be required to be mitigated at Ferber Ranch to meet the San Juan SAMP requirements.

MONITORING: For Agua Chinon and Aliso Creek HMMPs, OCTA/Caltrans shall submit monitoring reports for all compensatory mitigation sites as described in the final, approved mitigation plan by February 1 of each year following the construction of mitigation. To assure

compensatory mitigation success, OCTA shall monitor the mitigation area(s) as specified in the HMMPs, the amount of consecutive growing seasons after construction or until the Corps Regulatory Division determines the final performance standards are met (monitoring shall be for a minimum of 5 or 10 years unless the Corps Regulatory Division agrees earlier that success has been reached and maintained for a sufficient time period, or, if success is not demonstrated to the Corps Regulatory Division satisfaction after the final year of monitoring, additional monitoring may be required by the Corps Regulatory Division as determined at that time). The monitoring period shall commence upon completion of the construction of the mitigation site(s). Additionally, OCTA shall demonstrate continued success of the compensatory mitigation site(s), without human intervention, for at least two consecutive years during which interim and/or final performance standards are met. The compensatory mitigation project will not be deemed successful until this criterion has been met.

GIS DATA: Within 60 days following individual permit issuance, OCTA shall provide to this office GIS data (polygons only) depicting the boundaries of all compensatory mitigation sites, as authorized in the above, final mitigation plan. All GIS data and associated metadata shall be provided on a digital medium (CD or DVD) or via file transfer protocol (FTP), preferably using the Environmental Systems Research Institute (ESRI) shapefile format. GIS data for mitigation sites shall conform to the Regulatory_mitigation_template_20160115.lpk labeling requirements, as specified in the Final Map and Drawing Standards for the South Pacific Division Regulatory Program dated February 10, 2016 (<http://www.spd.usace.army.mil/Missions/Regulatory/PublicNoticesandReferences/tabid/10390/Article/651327/updated-map-and-drawing-standards.aspx>), and shall include a text file of metadata, including datum, projection, and mapper contact information. Within 60 days following completion of compensatory mitigation construction activities, if any deviations have occurred, OCTA shall submit to the Corps Regulatory Division as-built GIS data (polygons only) accompanied by a narrative description listing and explaining each deviation.

- C. At least 30 days prior to initiating construction in waters of the U.S., OCTA shall submit a draft long term management plan (LTMP) for the Agua Chinon and Aliso Creek compensatory mitigation sites prepared in accordance with the Corps' South Pacific Division Final Regional Compensatory Mitigation and Monitoring Guidelines, dated January 12, 2015, and the Mitigation Rule (33 C.F.R. Part 332; 73 FR 19670-19687 (April 10, 2008)). The LTMP shall be prepared in accordance with the final approved HMMP and reviewed by an approved long-term manager of the compensatory mitigation site. The LTMP must be approved by Corps Regulatory Division prior to recordation of the site protection instrument. OCTA shall provide long term financing (such as a non-wasting endowment) through a mechanism approved by the Corps Regulatory Division.
- i. In the event a federal Aliso Creek Mainstem Ecosystem Restoration Project is approved to commence construction and comprises portions within the Aliso Creek HMMP project area **before** all of the actions in the HMMP have been completed, OCTA shall coordinate with the Corps Regulatory Division to consider whether revisions to the HMMP and the Long-term Management Plan (LTMP) are warranted. Revisions to the HMMP could consist of revising (i) the HMMP project area to eliminate the area that would be impacted by a federal project, (ii) Performance Standards, and/or (iii) monitoring requirements. Revisions to the LTMP could consist of revising (i) the areas subject to long-term management and/or (ii) long-term management measures.
- ii. In the event a federal Aliso Creek Mainstem Ecosystem Restoration Project is approved to commence construction and comprises portions within the Aliso Creek HMMP project area **after** all of the actions in the HMMP have been completed, the OCTA shall

coordinate with the Corps Regulatory Division to consider whether revisions to the LTMP are warranted. Revisions to the LTMP could consist of revising the areas subject to long-term management and/or revising the management and/or monitoring measures.

- D. In advance of, or concurrent with (within two months), of freeway project construction impacts to waters of the U.S., OCTA shall record a Restrictive Covenant (RC) or other site protection instrument in a form approved by the Corps Regulatory Division, which shall run with the land, obligating OCTA, its successors, and assigns to protect and maintain the 6.64 acres of waters of the U.S. at the Aliso Creek HMMP area (as shown in attached Figure 1) for the purpose of ensuring long-term protection of its conservation values. The site protection instrument will anticipate potential construction and maintenance of the federal Aliso Creek Mainstem Ecosystem Restoration Project within the areas covered by the site protection instrument.
- E. In advance of, or concurrent with (within two months), of freeway project construction impacts to waters of the U.S., OCTA shall record a Restrictive Covenant (RC) or other site protection instrument in a form approved by the Corps Regulatory Division, which shall run with the land, obligating OCTA, its successors, and assigns to protect and maintain the 1.02 acres of waters of the U.S. at the Agua Chinon HMMP area (as shown in attached Figure 2) for the purpose of ensuring long-term protection of its conservation values.
- F. In advance of, or concurrent with (within two months), of freeway project construction impacts to waters of the U.S., OCTA shall record a Conservation Easement (CE) in a form approved by the Corps Regulatory Division, which shall run with the land, obligating OCTA, its successors, and assigns to protect and maintain the 1.40-acres Ferber Ranch preservation mitigation area (as shown in attached Figure 3) as natural open space in perpetuity. The CE must include a 3rd party easement holder qualified to hold easements pursuant to California Civil Code 815.3 and Government Code section 65965. OCTA must provide monies in the form of an endowment (endowment amount to be determined by Property Analysis Record or similar methodology) for the purposes of fulfilling the 3rd party easement holder's responsibilities under the CE.
- G. The site protection instruments required by Special Conditions 3D, 3E, and 3F above, shall, to the extent appropriate and practicable, prohibit incompatible uses that might otherwise jeopardize the objectives of OCTA compensatory mitigation projects. The site protection instrument shall preclude incompatible uses such as: (1) establishment of fuel modification zones, trails, drainage facilities, walls, maintenance access roads; (2) the granting of any additional easements, rights of way, or other interests in the surface or subsurface of the easement or restrictive covenant area, or interest of any type (other than a security interest that subordinate to the site protection instrument), without first obtaining the written consent of the Corps Regulatory Division. Further, to the extent practicable, any such facilities outside the HMMP project area subject to the site protection instrument shall be sited to minimize indirect impacts on the avoided, preserved, rehabilitated, and enhanced wetland and non-wetland waters of the U.S. Concurrently with execution of the site protection instrument, OCTA must provide monies in the form of an endowment (endowment amount to be determined by Property Analysis Record or similar methodology) to fund long-term management of the HMMP project area subject to the site protection instrument. The endowment shall be governed by an Endowment Agreement

entered into concurrently with execution of the site protection instrument. The Corps Regulatory Division shall have the right to review and approve the terms of the Endowment Agreement, and the Corps Regulatory Division shall be third party beneficiary of that agreement with the right to review and approve any amendments. OCTA shall receive written approval (by letter or e-mail) from the Corps Regulatory Division of the site protection instrument prior to it being executed and recorded. A conformed copy of each recorded site protection instrument shall be furnished by OCTA to the Corps Regulatory Division within 30 days of recordation.

GIS DATA: Within 60 days following recordation, OCTA shall provide to this office GIS data (polygons only) depicting the site protection instrument boundaries, as authorized by the Corps Regulatory Division. All GIS data and associated metadata shall be provided on a digital medium (CD or DVD) or via file transfer protocol (FTP), preferably using the Environmental Systems Research Institute (ESRI) shapefile format. GIS data for each compensatory mitigation project subject to the site protection instrument shall conform to the Regulatory_mitigation_template_20160115.lpk labeling requirements, as specified in the Final Map and Drawing Standards for the South Pacific Division Regulatory Program dated February 10, 2016 (<http://www.spd.usace.army.mil/Missions/Regulatory/PublicNoticesandReferences/tabid/10390/Article/651327/updated-map-and-drawing-standards.aspx>) and shall include a text file of metadata, including datum, projection, and mapper contact information.

4. *Mitigation Tracking.* OCTA shall utilize the program level tracking approach that been established to calculate and document final compensatory mitigation needs at the project level, which includes a set of impact and mitigation tracking worksheets (attached as Enclosure 8 - Mitigation Tracking Spreadsheets). The Program Mitigation Worksheet A is a planning-level tool that summarizes anticipated permanent impacts to waters of the U.S., approved mitigation ratios, and estimated compensatory mitigation amounts as determined in the Corps Regulatory Division-approved mitigation checklists. This worksheet is included in Enclosure 8 as a reference and should not be edited. The Mitigation Availability Worksheet B provides the amount of compensatory mitigation that is currently available at each mitigation site, which is based on the amount of the site currently meeting performance standards. This table will be updated by the OCTA or Corps Regulatory Division using the annual monitoring reports for Aliso Creek and Agua Chinon mitigation sites. OCTA will include a statement in the annual monitoring report regarding the amounts of Corps wetland and non-wetland jurisdictional acreage meeting its performance standards. All Corps preservation mitigation at Ferber Ranch Preserve is available as no performance standards are associated with the preservation site. The amount of compensatory mitigation meeting the performance standards would be the amount of available mitigation at the site.

LOP applications provided by OCTA and/or Caltrans will include the project level impact information and amount of compensatory mitigation required for each impacted aquatic feature per the Corps Regulatory Division-approved mitigation checklists using the established mitigation ratios. If there are additional unavoidable impacts to waters of the U.S. beyond that anticipated at the LOP project level, either a statement about why additional compensatory mitigation should not be required (i.e., additional impacts to waters of the U.S. are determined to be minor - for example, total impacts less than 0.10 acre) should be included in the LOP application, or an existing mitigation checklist that includes a similar aquatic resource may be referenced, or a new mitigation checklist may be submitted with a proposed mitigation ratio.

The Corps Regulatory Division/OCTA will then enter project-level impacts into the LOP Project Tracking Worksheet C, which will calculate the required compensatory mitigation. The Surplus-Deficit Worksheet D will be populated after completing the LOP Project Tracking Worksheet C to determine the amount of excess compensatory mitigation available and that may be used for projects that have a compensatory mitigation need or that are in non-compliance, or to determine the amount of compensatory mitigation needs for a project in which permanent impacts were underestimated at the planning level. Last, the Corps Regulatory Division will enter the compensatory mitigation surplus or deficit for each project in the Rollover Worksheet E.

5. *Soil Erosion and Siltation Controls.* During project implementation, appropriate erosion and siltation controls such as siltation or turbidity curtains, sedimentation basins, and/or hay bales, or other means designed to minimize turbidity in the watercourse to prevent exceedances of background levels existing at the time of project implementation, shall be used and maintained by OCTA and/or Caltrans in effective operating condition. Projects are exempted from implementing controls if site conditions preclude their use, or if site conditions are such that the proposed work would not increase turbidity levels above the background level existing at the time of the work. All exposed soil and other fills, as well as any work below the ordinary high water mark, must be stabilized at the earliest practicable date to preclude additional damage to the project area through erosion or siltation and no later than November of the year the work is conducted to avoid erosion from storm events.
6. *Equipment.* If personnel would not be subjected to additional, potentially hazardous conditions, heavy equipment working in or crossing wetlands must be placed on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low-pressure equipment. Temporary construction mats shall be removed promptly after construction is completed.
7. *Suitable Material.* No discharge of dredged or fill material into waters of the U.S. may consist of unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.), and material discharged must be free from toxic pollutants in toxic amounts (see section 307 of the CWA).
8. *Management of Water Flows.* To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. To the maximum extent practicable, the activity must provide for the retention of excess flows from the site and for the maintenance of surface flow rates from the site similar to pre-project conditions, while not increasing water flows from the project site, relocating water, or redirecting water flow beyond pre-project conditions unless it benefits the aquatic environment (e.g., stream restoration activities).
9. *Removal of Temporary Fills and Native Revegetation of Temporary Impact Areas.* Any temporary fills must be removed in their entirety and the affected areas must be returned to their pre-construction conditions, including any native riparian and/or wetland vegetation, at the conclusion of the project. To reduce the potential for erosion and to facilitate the recovery of the temporarily affected areas, the Permittee(s) shall hydroseed and re-vegetate the disturbed portions of the earthen stream banks and bottom and floodplain, as appropriate, with native, non-invasive species. Woody riparian vegetation shall be revegetated with container plantings unless other methods are coordinated with and approved by the Corps Regulatory

Division. The Permittee(s) shall submit the proposed native planting palette and planting plan for review and approval by the Corps Regulatory Division at least 30 days prior to initiation of construction. The Permittee(s) shall ensure the affected areas (disturbed stream channel bottoms and banks and hydroseeded/replanted areas) are maintained and monitored for a period of two years, minimum, after completing the revegetation activities, such that less than 10 percent (absolute cover) of the areas disturbed by the project are vegetated by non-native and invasive plant species. For each project aquatic feature, the Permittee(s) shall submit to the Corps Regulatory Division a memorandum by December 15th after completion of the minimum two-year maintenance and monitoring period. The memo shall indicate for each project crossing/aquatic impact area, when temporary construction areas were re-contoured to preconstruction conditions, when native planting/seeding was completed, the species and percent cover (absolute) of invasive and/or non-invasive plant species that occur onsite each year prior to treatment, and when and how many/the extent of invasive and/or non-invasive plant species that were removed that year.

Implementation of the native revegetation of temporary impact areas shall commence immediately following completion of construction or, with written approval from the Corps Regulatory Division, at the beginning of the next growing season after project completion. A delay in native planting to take advantage of the appropriate season should be considered in the application phase to use established LOP procedures in order for appropriate mitigation to be considered by the Corps Regulatory Division. An increase in delay after the LOP has been issued may require a modification to the mitigation requirements and should be coordinated with Corps Regulatory Division to avoid non-compliance action. If native re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter shall not be revegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces shall be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water. Native revegetation of temporary impact areas shall be completed within 12 months of initial occurrence of project impacts to waters of the U.S. Any temporal loss of riparian/wetland/stream function caused by delays beyond the 12 months in implementation of native revegetation of temporary impact areas shall be mitigated in-kind through riparian/wetland/stream establishment, re-establishment, rehabilitation, and/or enhancement at a mitigation ratio as determined by the Corps Regulatory Division in accordance with the latest Standard Operating Procedure for Determination of Mitigation Ratios (i.e., current instructions require that the mitigation ratio is increased 0.05:1 for every month of delay). In the event that the Permittee(s) is wholly or partly prevented from revegetating temporary impact areas within the above time frame (causing temporal losses due to delays) because of unforeseeable circumstances or causes beyond reasonable control, and without the fault or negligence of the Construction Lead, including but not limited to natural disasters (e.g., earthquakes, flooding, etc.), OCTA/Caltrans may be excused by such unforeseeable cause(s) from the additional 0.05:1 per each month of delay requirement with Corps Regulatory Division approval. Any on-site native revegetation deemed infeasible as a result of such unforeseeable causes(s) will be considered a permanent impact, and will be mitigated accordingly. Additional exotic species management is required within the SAMP areas to prevent the establishment of invasive exotic vegetation. (See Special Condition 14).

If the Corps Regulatory Division determines native revegetation efforts are not resulting in successful recovery of comparable, pre-project aquatic resource functions and services at any temporary impact area, the Corps may require OCTA and/or Caltrans to implement additional native revegetation activities in the treated area, and/or implement additional mitigation

activities outside the treated area to ensure aquatic resource losses are minimized or offset adequately.

10. *Preventive Measures.* Measures must be adopted to prevent potential pollutants from entering the on-site watercourse(s). Within the project area, construction materials, and debris, including fuels, oil, and other liquid substances shall be stored in a manner as to prevent any runoff from entering aquatic areas.
11. *Staging of Equipment.* Staging, storage, fueling, and maintenance of equipment must be located or occur sufficiently outside of all the water bodies so that any potential spilled materials will not be able to enter any waterway or other body of water.
12. *Fencing of Project Limits.* The Permittee(s) shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved/avoided waters of the U.S. and riparian wetland/habitat areas shown on a project-specific figure attached to the LOP. Adverse impacts to waters of the U.S. beyond the Corps Regulatory Division approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil, or criminal penalties, and/or substantial, additional, compensatory mitigation requirements.
13. *Avoidance of Breeding Season.* With regard to federally listed avian species, avoidance of breeding season requirements shall be as described in Special Condition 20 below. For all other species, initial vegetation clearing in waters of the U.S. must occur between September 15 and March 15, which is outside the breeding season. Work in waters of the U.S. may occur during the breeding season between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-foot radius.
14. *Exotic Species Management.* For projects within the SAMP areas, all giant reed (*Arundo donax*), salt cedar (*Tamarix spp.*), and castor bean (*Ricinus communis*) must be removed from the construction areas, and the Permittee(s) shall ensure that the affected areas remain free from these invasive, non-native species for a period of five years following completion of the project.
15. *Site Inspections.* Corps personnel shall be allowed to inspect the site at any time during and immediately after project implementation. In addition, compliance inspections of all compensatory mitigation sites shall be allowed at any time.
16. *Posting of Conditions.* A copy of the LOP terms and conditions shall be included in all bid packages for the project and shall be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request.
17. *Post-Project Report.* Within 45 days of completion of impacts to waters of the U.S., as-built drawings with an overlay of waters of the U.S. that were impacted and avoided must be submitted to the Corps Regulatory Division. Post-project photographs, which document compliance with permit conditions, must also be provided. Maps and drawing submitted to the Corps Regulatory Division must comply with the *Final Map and Drawing Standards for the South Pacific Division Regulatory Program*, dated February 10, 2016 (<http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/>)

18. *Water Quality.* OCTA/Caltrans must obtain an individual project-specific section 401 water quality certification from the California State Water Resource Control Board or the applicable Regional Water Quality Control Board. By Federal law, no Department of the Army permit can be issued until a Section 401 water quality certification has been issued or waived by the State Water Resource Control Board or the applicable Regional Water Quality Control Board. No Corps-regulated discharges of dredged or fill material into waters of the U.S. may proceed for a particular project until Section 401 water quality certification for that individual project is obtained or otherwise waived and provided to Corps Regulatory Division.
19. *Coastal Zone Management.* The M2 Freeway Program project sites, including the compensatory mitigation site options evaluated to address unavoidable impacts to waters of the U.S., are located outside the coastal zone and Corps Regulatory Division review indicates that they would not affect coastal zone resources, and therefore, would not need concurrence from the California Coastal Commission. If any project site is located within or affects the coastal zone, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR section 330.4(d)). The Corps Regulatory Division or a State may require additional measures to ensure that the authorized activity is consistent with Coastal Zone Management Act requirements.
20. *Endangered Species.*
 - A. OCTA coordinated with the USFWS and CDFW to complete an NCCP/HCP for the M2 Freeway Program projects, including those proposed to be authorized under the LOP procedures. Even with the NCCP/HCP completed and an ESA section 10 permit issued from the USFWS for impacts to covered species from covered projects, consultation between the Corps Regulatory Division or Caltrans and USFWS shall still occur pursuant to section 7 of the ESA for any “may affect” of federally listed species and/or designated critical habitat, prior to initiation of project construction. Protocol or focused surveys for listed species would be conducted as outlined in the NCCP/HCP, and the Corps Regulatory Division or Caltrans would initiate a streamlined section 7 consultation process with the USFWS for each M2 Freeway Program project that may affect federally listed species and/or designated critical habitat. For project actions that “may affect” federally listed as threatened or endangered species not covered under the NCCP/HCP, the Corps Regulatory Division or Caltrans would initiate formal or informal section 7 consultation on an individual project basis.
 - B. No activity is authorized that is likely to jeopardize the continued existence of a federally listed as threatened or endangered species or a species proposed for such designation, as identified under the ESA, or which will destroy or adversely modify the critical habitat of such species. OCTA and/or Caltrans shall not begin work on the proposed activity until notified by the Corps Regulatory Division that the requirements of the ESA have been satisfied and that the activity is authorized.
 - C. Where applicable, Caltrans, as assigned by Federal Highway Administration (FHWA), under the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding, should follow their own procedures for complying with the requirements of the ESA. Caltrans must provide the Corps Regulatory Division with the appropriate documentation to demonstrate compliance with those requirements.
 - D. OCTA and/or Caltrans shall notify the Corps Regulatory Division if any federally listed species or designated critical habitat (or proposed for such listing or designation) might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the proposed activity until notified by the Corps Regulatory Division that the requirements of the ESA have been satisfied and that the

activity is authorized. For activities that “may affect” federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the federally listed as endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The Corps Regulatory Division will determine whether the proposed activity “may affect” or will have “no effect” on federally listed species and/or designated critical habitat, and will notify the OCTA and/or Caltrans of the Corps Regulatory Division’s determination within 45 days of receipt of a complete LOP application/preconstruction notification. In cases where the OCTA and/or Caltrans has identified federally listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps Regulatory Division, the applicant shall not begin work until the Corps Regulatory Division has provided notification the proposed activities will have “no effect” on federally listed species or critical habitat, or until the LOP has been issued.

- E. As a result of formal or informal consultation with the USFWS, the Corps Regulatory Division may add species-specific endangered/threatened species conditions to the LOP.
- F. Authorization of an activity by a Corps permit does not authorize the “take” of a federally listed as threatened or endangered species or the adverse modification of designated critical habitat of such species as defined under the ESA. In the absence of separate authorization (e.g., an ESA section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the USFWS, both lethal and nonlethal “takes” of protected species are in violation of the ESA. Information on the location of federally listed as threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. USFWS and NMFS or their World Wide Web pages at <http://www.fws.gov/carlsbad/> and <http://www.nmfs.noaa.gov/pr/species/esa/index.htm>, respectively.

21. *Fish Passage.* For projects resulting in construction or replacement of stream crossings, the resulting structure must comply with National Marine Fisheries Service and CDFW requirements for fish passage.

22. *Historic Properties.*

- A. In cases where the Corps Regulatory Division determines that the activity “may affect” properties listed, or eligible for listing, on the National Register of Historic Places (NRHP), the activity is not authorized, until the requirements of section 106 of the National Historic Preservation Act (NHPA), including tribal consultation as appropriate, have been satisfied.
- B. Where applicable, Caltrans, as assigned by FHWA under the NEPA Assignment Memorandum of Understanding, should follow their own procedures for complying with the requirements of section 106 of the NHPA. Caltrans must provide the Corps Regulatory Division with the appropriate documentation to demonstrate compliance with those requirements.
- C. OCTA and/or Caltrans must submit with their application information on historic properties that might be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties listed, or eligible for listing, on the NRHP. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate, and the NRHP (see 33 C.F.R. §330.4(g)). The Corps shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey.

Based on the information submitted and these efforts, the Corps shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where OCTA and/or Caltrans has identified historic properties that the activity may have the potential to cause effects and so notified the Corps, OCTA and/or Caltrans shall not begin the activity until notified by the Corps Regulatory Division either that the activity has no potential to cause effects or that consultation under section 106 of the NHPA has been completed.

- D. Section 106 consultation is not required when the Corps determines that the proposed regulated activity does not have the potential to cause effects on historic properties (see 36 C.F.R. §800.3(a)). If NHPA section 106 consultation is required to occur, the Corps Regulatory Division will notify OCTA and/or Caltrans that work may not begin until section 106 consultation is completed.
- E. OCTA and/or Caltrans should be aware that section 110(k) of the NHPA [16 U.S.C. 470h-2(k)] prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts from the permitted activity on historic properties.
- F. Section 106 compliance is required for all on-going short term and long term maintenance activities within the Agua Chinon, Aliso Creek, and Ferber Ranch Preserve mitigation areas. OCTA/Caltrans shall notify the Corps Regulatory Division at least 90 days prior to any ground-disturbing activities within 100 feet of any known cultural resources. All ground-disturbing activities within 100 feet of known cultural resources shall be avoided within or adjacent to waters of the U.S. unless specifically authorized by the Corps Regulatory Division.

23. *Transfer of LOPs.* If OCTA and/or Caltrans (Permittee(s)) sell(s) the property associated with an LOP, the Permittee(s) may transfer the LOP to the new owner by submitting a letter to the Corps, Los Angeles District, Regulatory Division to validate the transfer. A copy of the LOP and the name and all available contact information, including company name, addresses, telephone numbers, and e-mail address, must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this LOP are still in existence at the time the property is transferred, the terms and conditions of this LOP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this LOP and the associated liabilities associated with compliance with its terms and conditions, the transferee must sign and date below.”

(Transferee) (Date)

24. *Compliance Certification.* Each Permittee who receives an LOP from the Corps Regulatory Division must submit a signed certification regarding the completed work and any required compensatory mitigation within 45 days after completing construction activities. The certification form must be forwarded to the Corps Regulatory Division with the LOP and will include:

- A. A statement that the authorized work was done in accordance with the LOP authorization, including any general or specific conditions;
- B. A statement that any required compensatory mitigation was completed in accordance with the permit conditions; and
- C. The signature of the Permittee(s) certifying the completion of the work and compensatory mitigation.

Activity-Specific Special Conditions: For each project, additional activity specific permit Special Conditions may be included.

Compliance: The use and implementation of the LOP procedures for Corps permit applications is contingent on compliance with all the terms and conditions of the LOP procedures. Should a Permittee(s) become non-compliant with permit conditions, the Corps may suspend, revoke, or modify the permit and assess administrative penalties. Pursuant to section 309(g) of the CWA, the Corps is able to levy Class I Administrative Penalties of up to \$20,966 per violation of a permit Special Condition, to a maximum of \$52,414.

Further Information:

1. Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:

() Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
 - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR section 325.7 or enforcement procedures such as those contained in 33 CFR sections 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR section 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give you favorable consideration to a request for an extension of this time limit.

For additional information please call Veronica Li of my staff at 213-452-3292 or via e-mail at Veronica.C.Li@usace.army.mil. This public notice is issued by the Regulatory Division Chief, Los Angeles District.



Regulatory Program Goals:

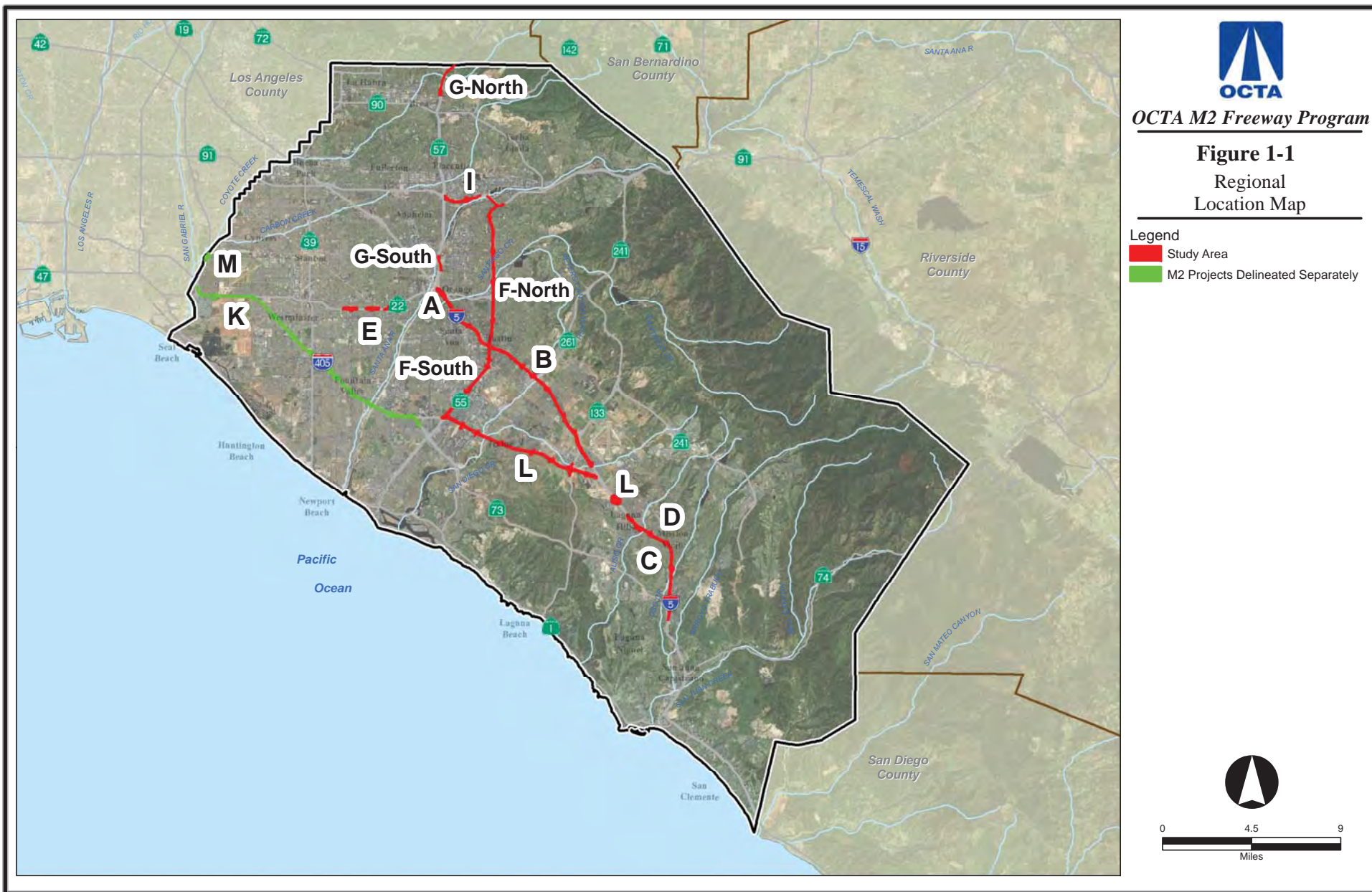
- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 Wilshire Boulevard, Suite 930
Los Angeles, CA 90017-3401
WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY

Enclosures:

- Enclosure 1: Figure 1: M2 Freeway Program Projects Map
- Enclosure 2: Table 1: Township, Range, and Sections
- Enclosure 3: Figure 2: Detailed Map of M2 Program Project Study Area
- Enclosure 4: Freeway Project Description and Schedule
- Enclosure 5: Table 2: Potential Permanent Jurisdictional Impacts by Feature
- Enclosure 6: Table 3: Estimated Temporary Jurisdictional Impacts Summary by Watershed
- Enclosure 7: Figure 3: LOP flowchart
- Enclosure 8: Mitigation Tracking Spreadsheets

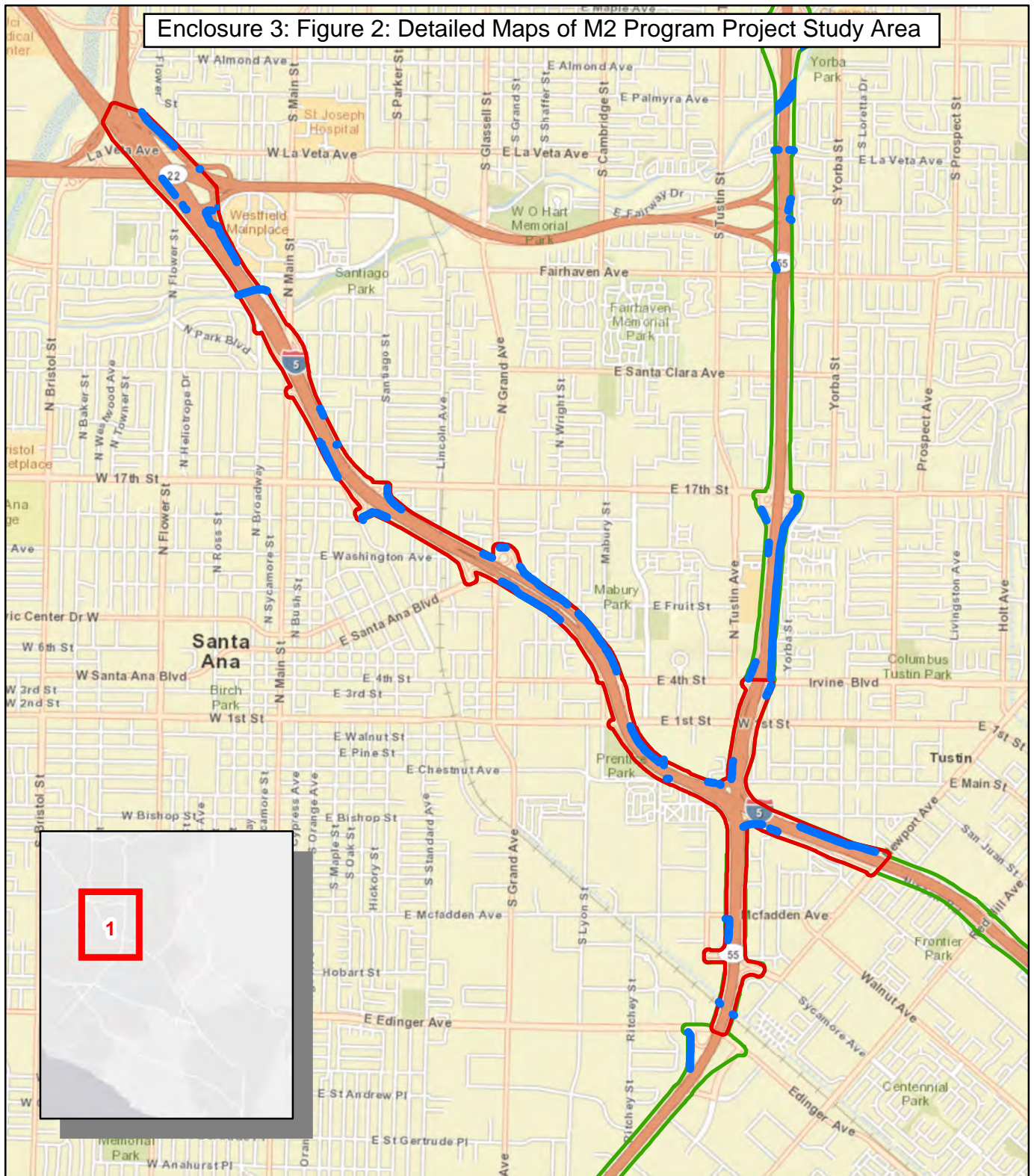
Enclosure 1: Figure 1: M2 Freeway Program Projects Map



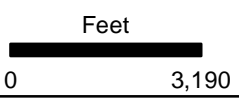
ENCLOSURE 2: TABLE 1: Township, Range, and Sections

Township, Range	Sections	Project(s)
Quad: Anaheim		
4 S, 10 W	35	A
4 S, 10 W	3, 4, 5, 6	E
4 S, 10 W	unsectioned, 24	G-North and G-South
Quad: La Habra		
3 S, 10 W	unsectioned, 12, 13, 24, 25	G-North
Quad: Lake Forest (El Toro)		
6 S, 8 W	139, 156	B
6 S, 8 W	156, 157	L
Quad: Los Alamitos		
4 S, 12 W	13, 18, 19, 24, 25, 30, 36	K
5 S, 12 W	1	K
4 S, 11 W	3, 32, 33, 34, 35	K
5 S, 11 W	2, 3, 4, 5, 6, 9, 10	K
Quad: Newport Beach		
5 S, 11 W	13, 14, 23, 24	K
5 S, 10 W	19, 29, 30, 31, 32, 33	K
6 S, 10 W	unsectioned, 7	K
Quad: Orange		
4 S, 9 W	unsectioned	A
4 S, 10 W	unsectioned	A
5 S, 9 W	unsectioned	A
5 S, 10 W	unsectioned	A
4 S, 9 W	unsectioned	F-North and F-South
5 S, 9 W	unsectioned	F-South
4 S, 9 W	1, 12	G-North
4 S, 9 W	unsectioned, 4, 5	I
Quad: San Juan Capistrano		
6 S, 8 W	11, 12, 34, 35	C
7 S, 8 W	unsectioned, 1, 2, 11, 12, 13, 23, 24	C
6 S, 8 W	27, 34	D
Quad: Seal Beach		
5 S, 11 W	10, 11, 14, 15	K
Quad: Tustin		
5 S, 9 W	unsectioned	A
5 S, 9 W	unsectioned, 1, 12, 44, 63, 64, 85, 104, 122, 123, 139, 140	B
5 S, 9 W	unsectioned, 9	F-South
6 S, 9 W	48, 49, 59, 60, 88, 101, 102, 124, 138, 157	L
5S, 10W	unsectioned	F-South
Quad: Yorba Linda		
3 S, 10 W	unsectioned	G-North

Enclosure 3: Figure 2: Detailed Maps of M2 Program Project Study Area

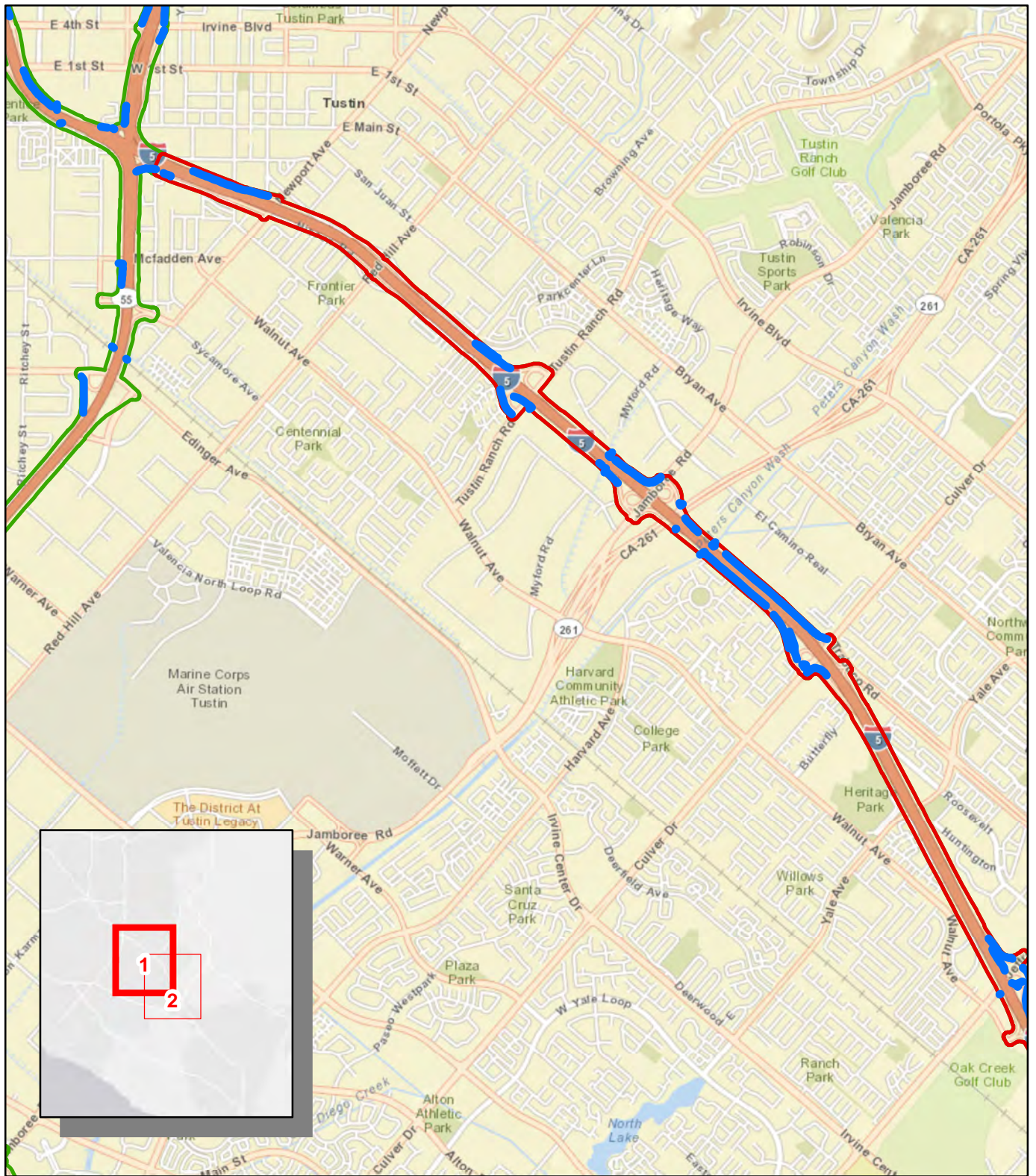


- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.

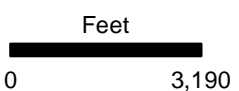


Project A Study Area

Figure 3



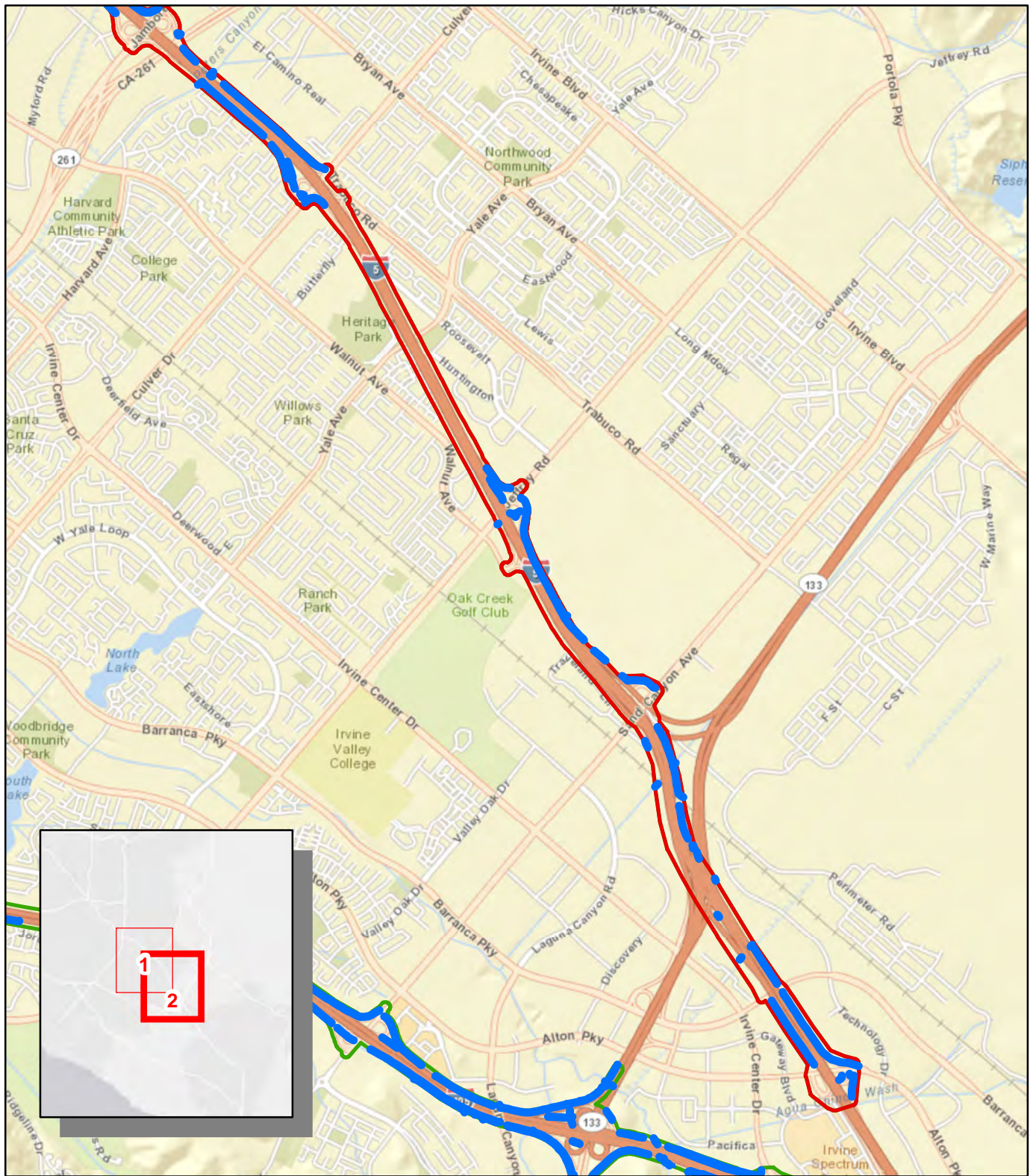
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



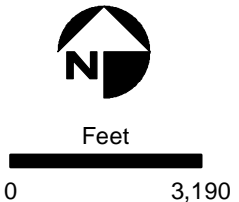
Project B Study Area

Map 1 of 2

Figure 4-1



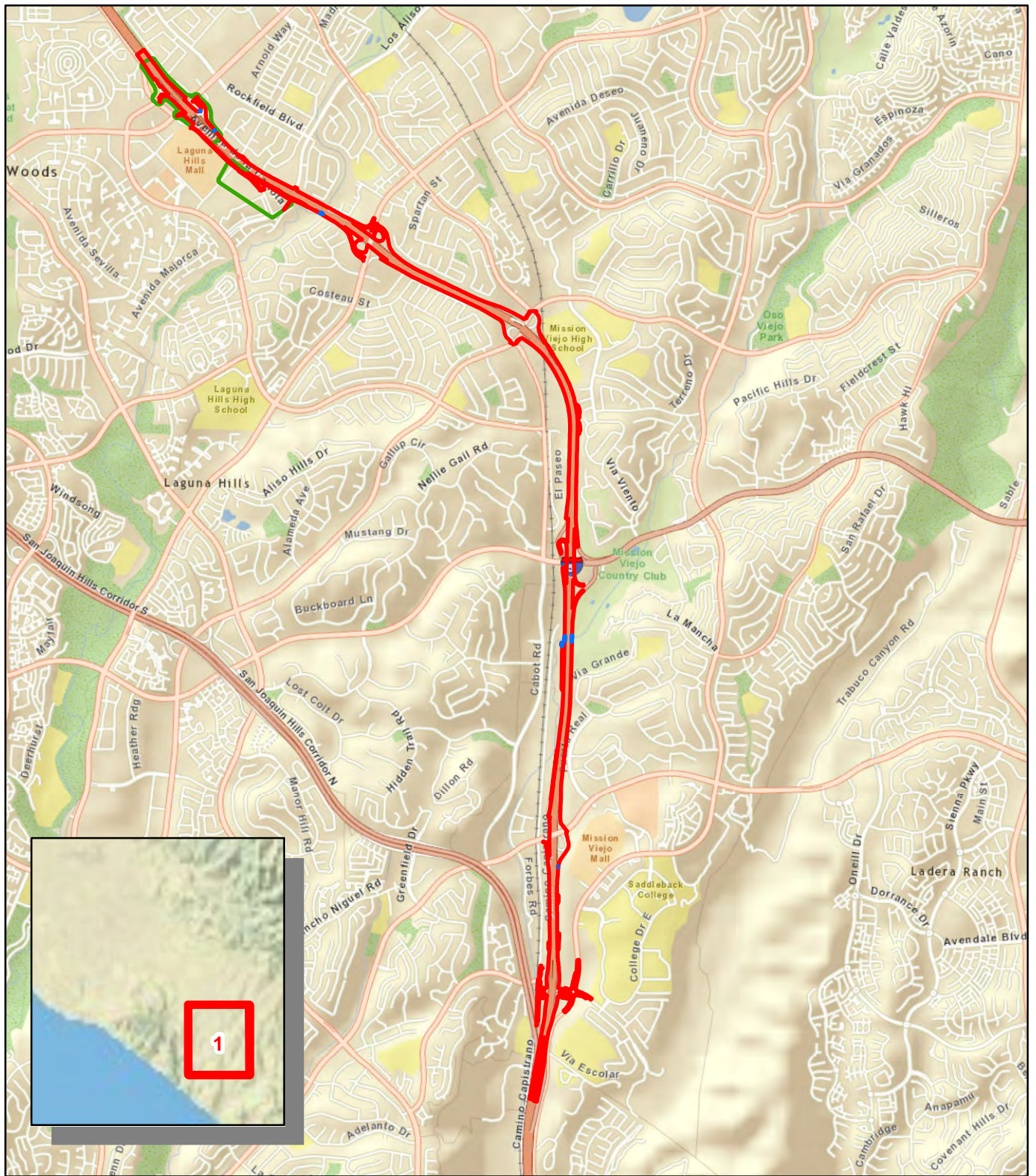
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



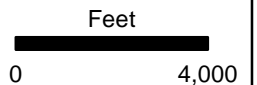
Project B Study Area

Map 2 of 2

Figure 4-2

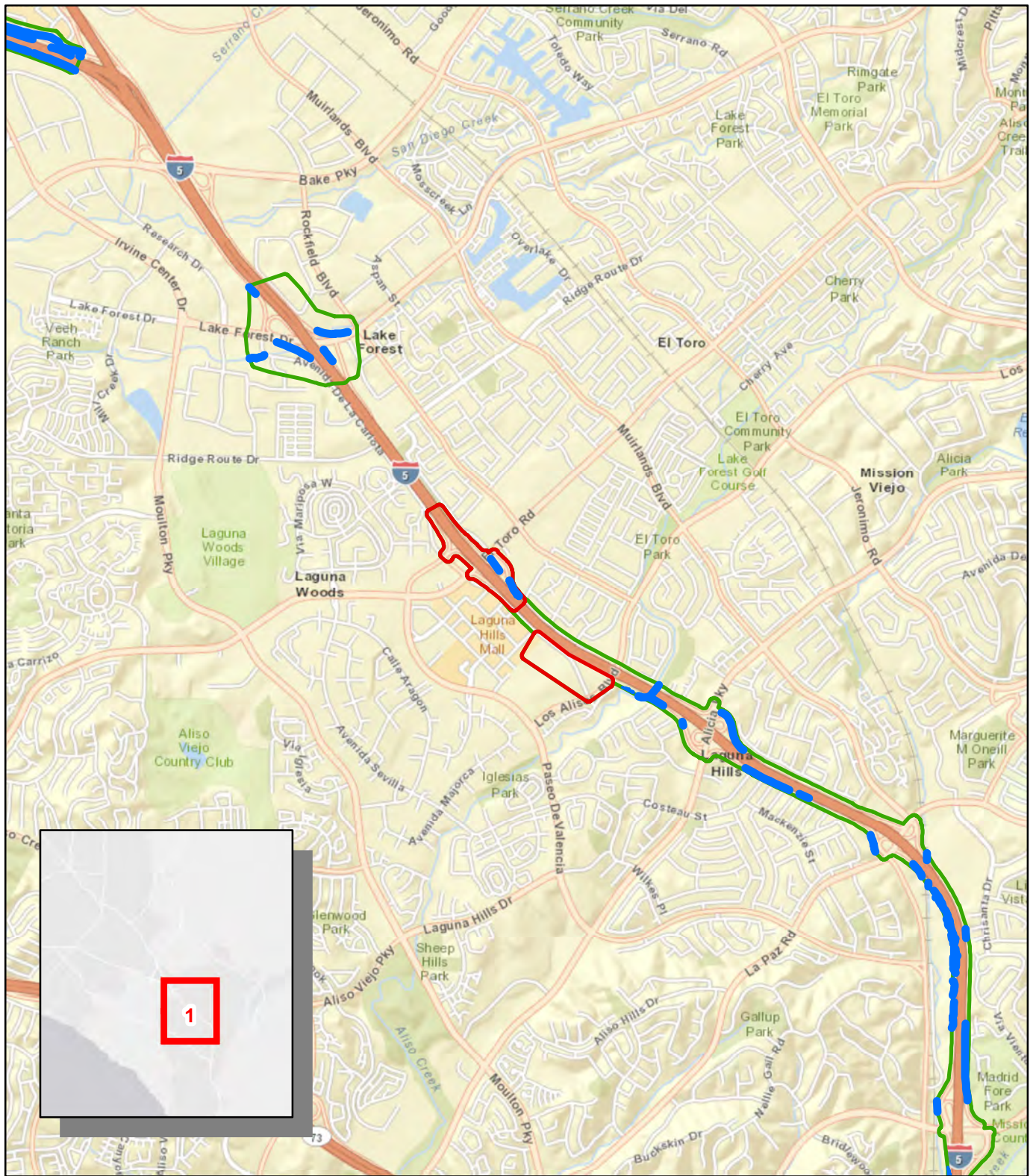


- Legend**
- Project Footprint
 - Other Survey Areas
 - ~ Waters of the U.S.






Project C Footprint

Figure 5



Legend

-  Project Survey Area
-  Other Survey Areas
-  Waters of the U.S.



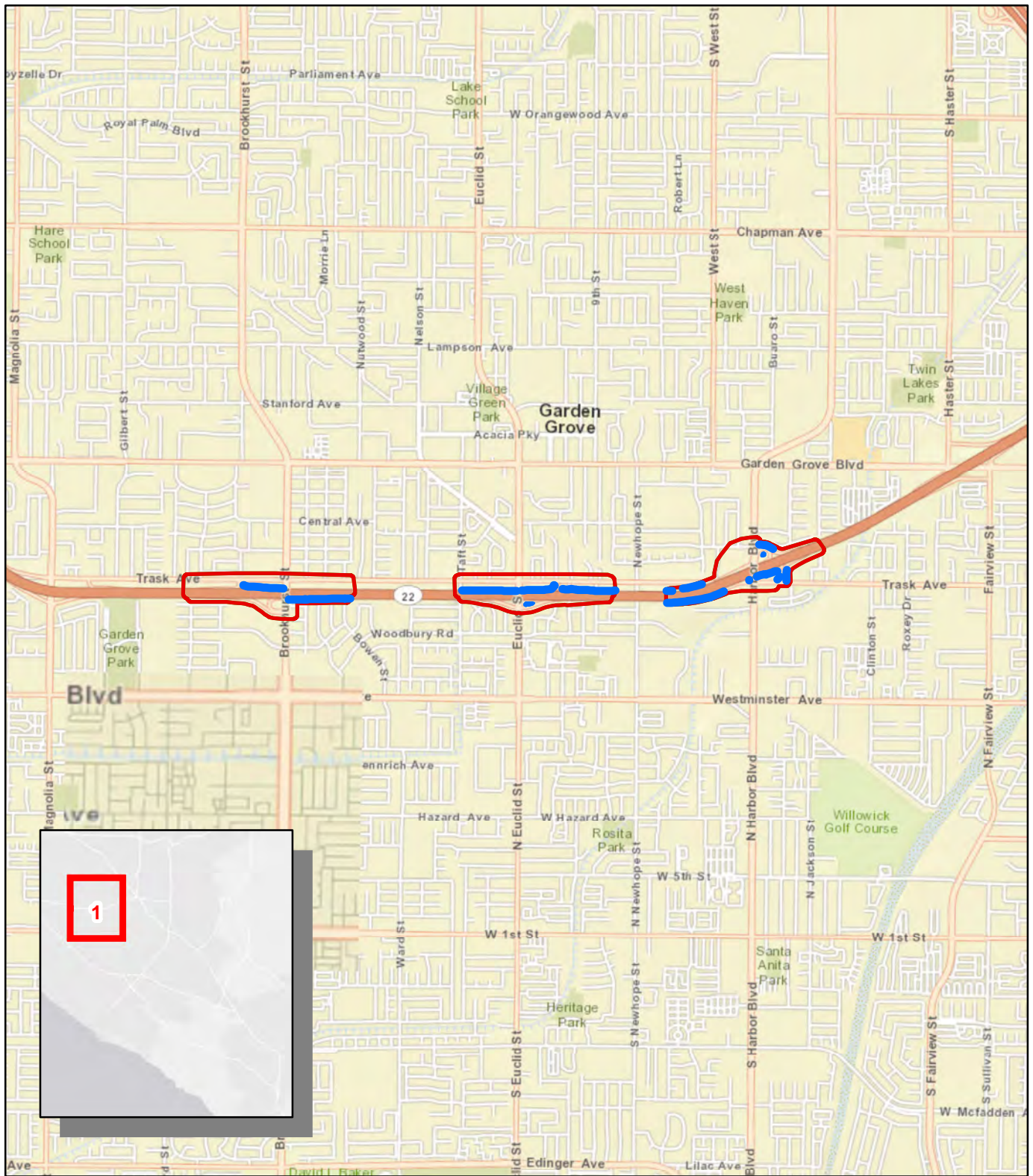
Feet

0 3,190






Project D Study Area

Figure 6



Legend

-  Project Survey Area
-  Other Survey Areas
-  Waters of the U.S.



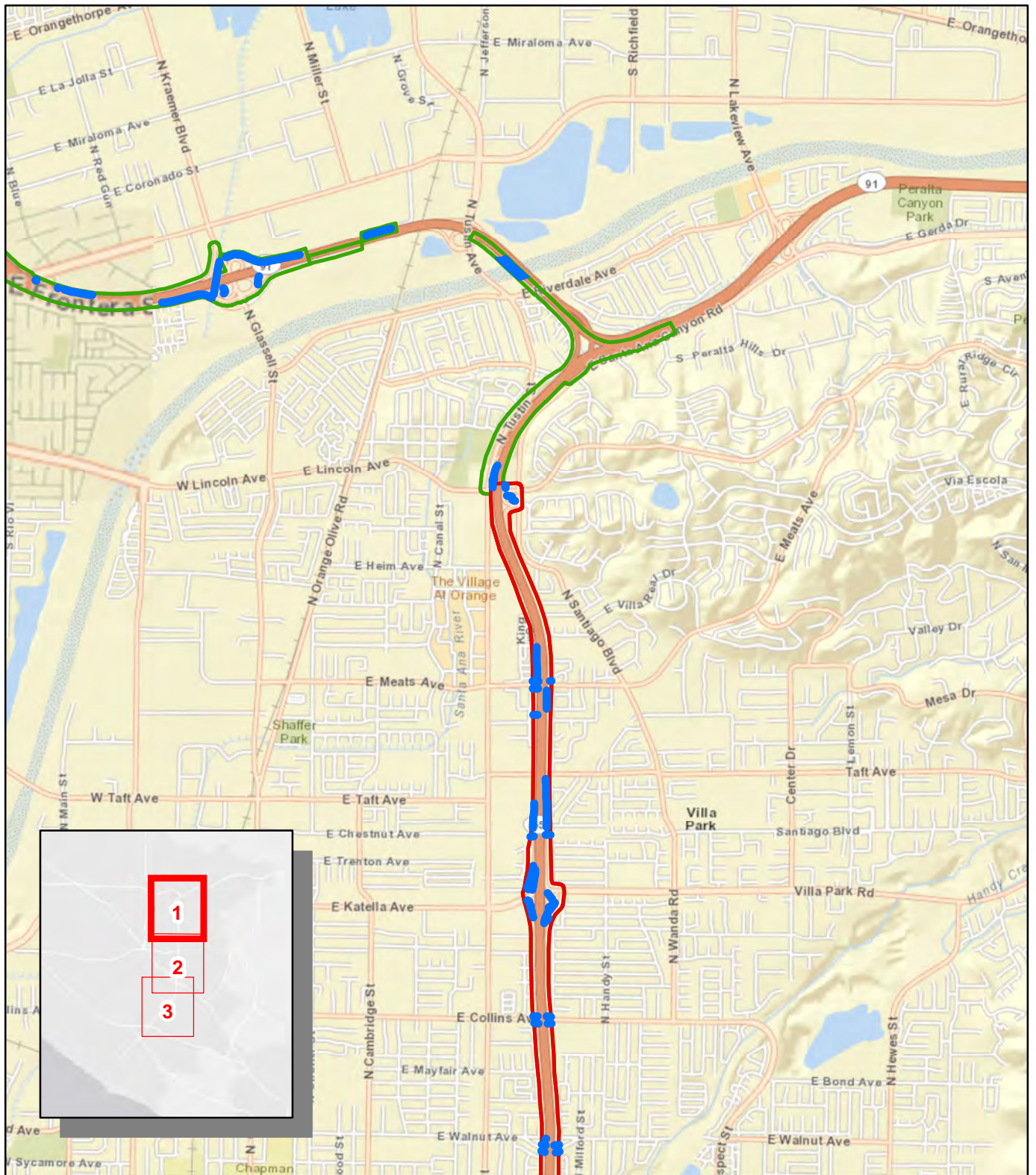
Feet

0 3,190

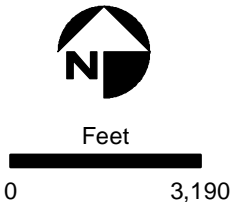


Project E Study Area

Figure 7



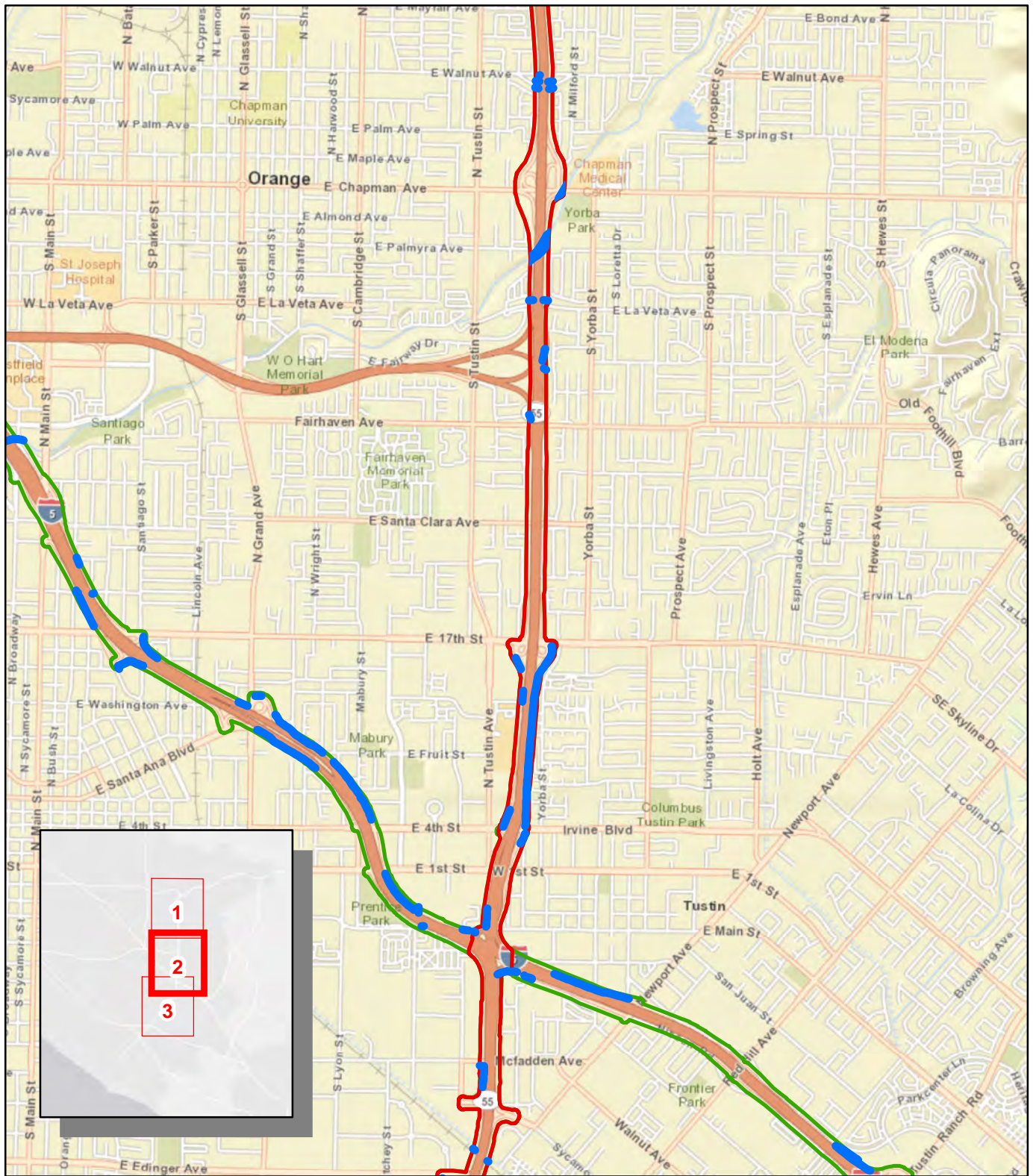
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



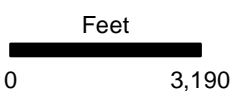
Project F Study Area

Map 1 of 3

Figure 8-1



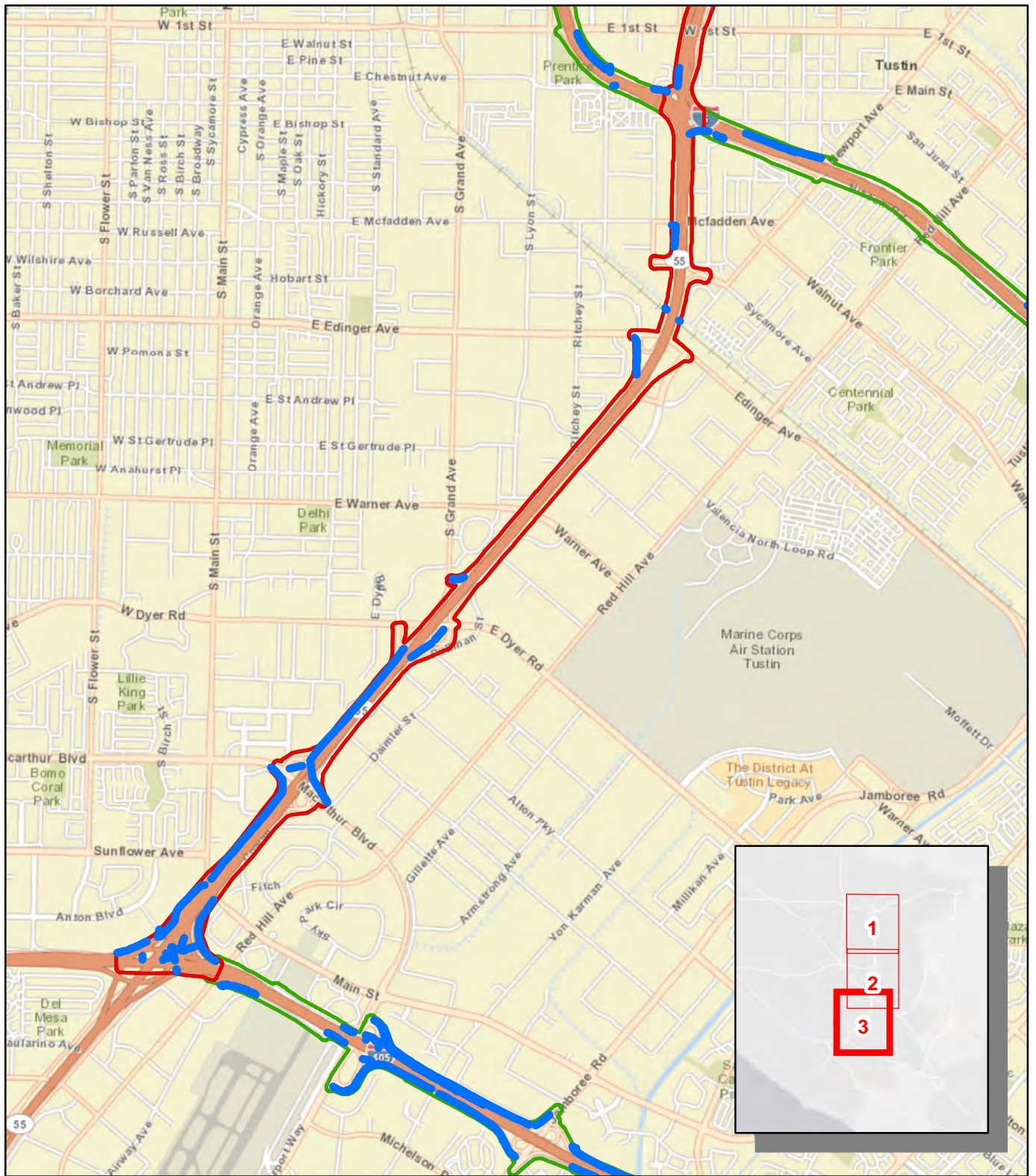
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



Project F Study Area

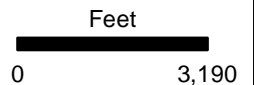
Map 2 of 3

Figure 8-2



Legend

- Project Survey Area
- Other Survey Areas
- ~ Waters of the U.S.

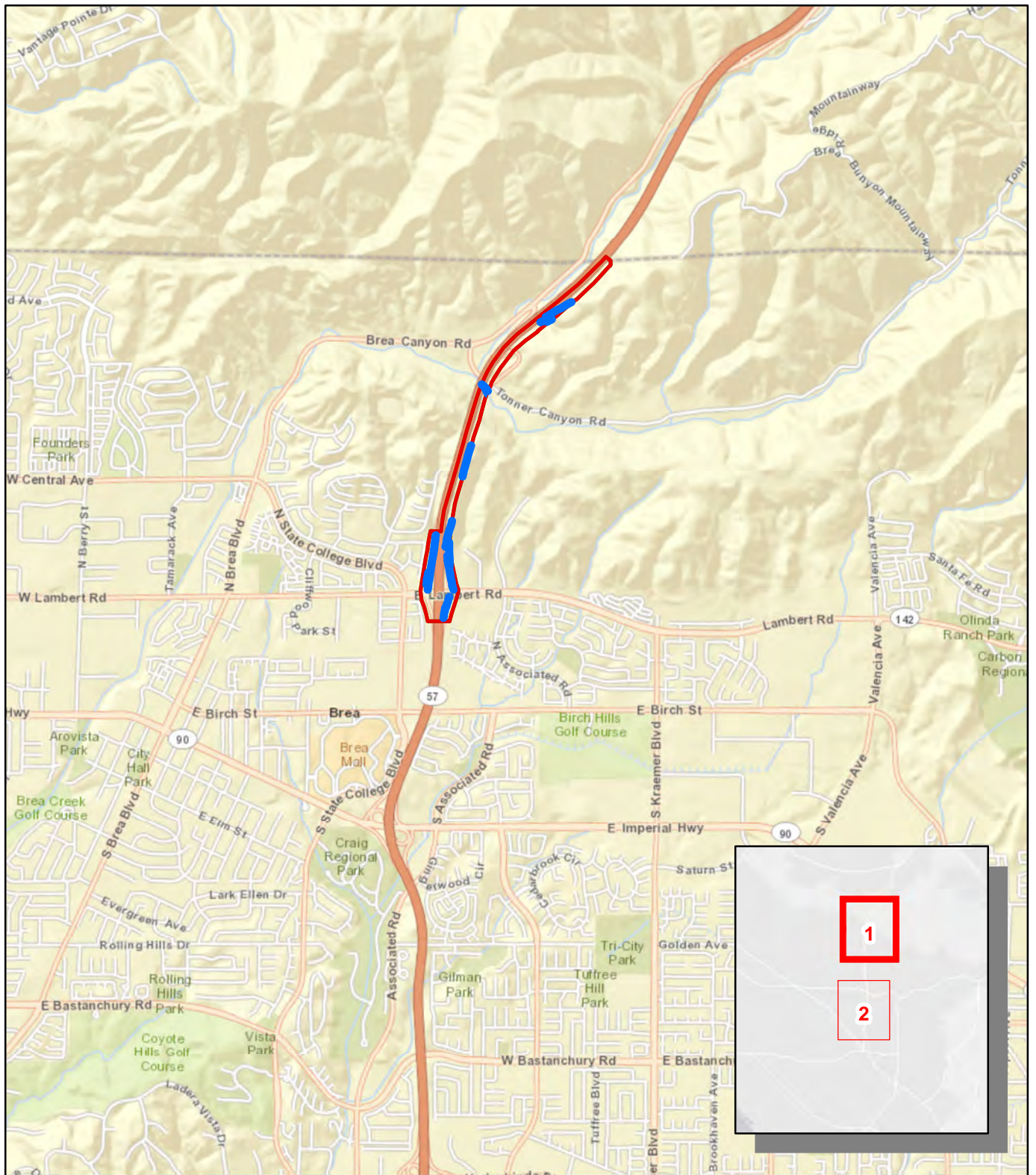


Project F Study Area

Map 3 of 3

Figure 8-3





Legend

- Project Survey Area
- Other Survey Areas
- ~ Waters of the U.S.



Feet

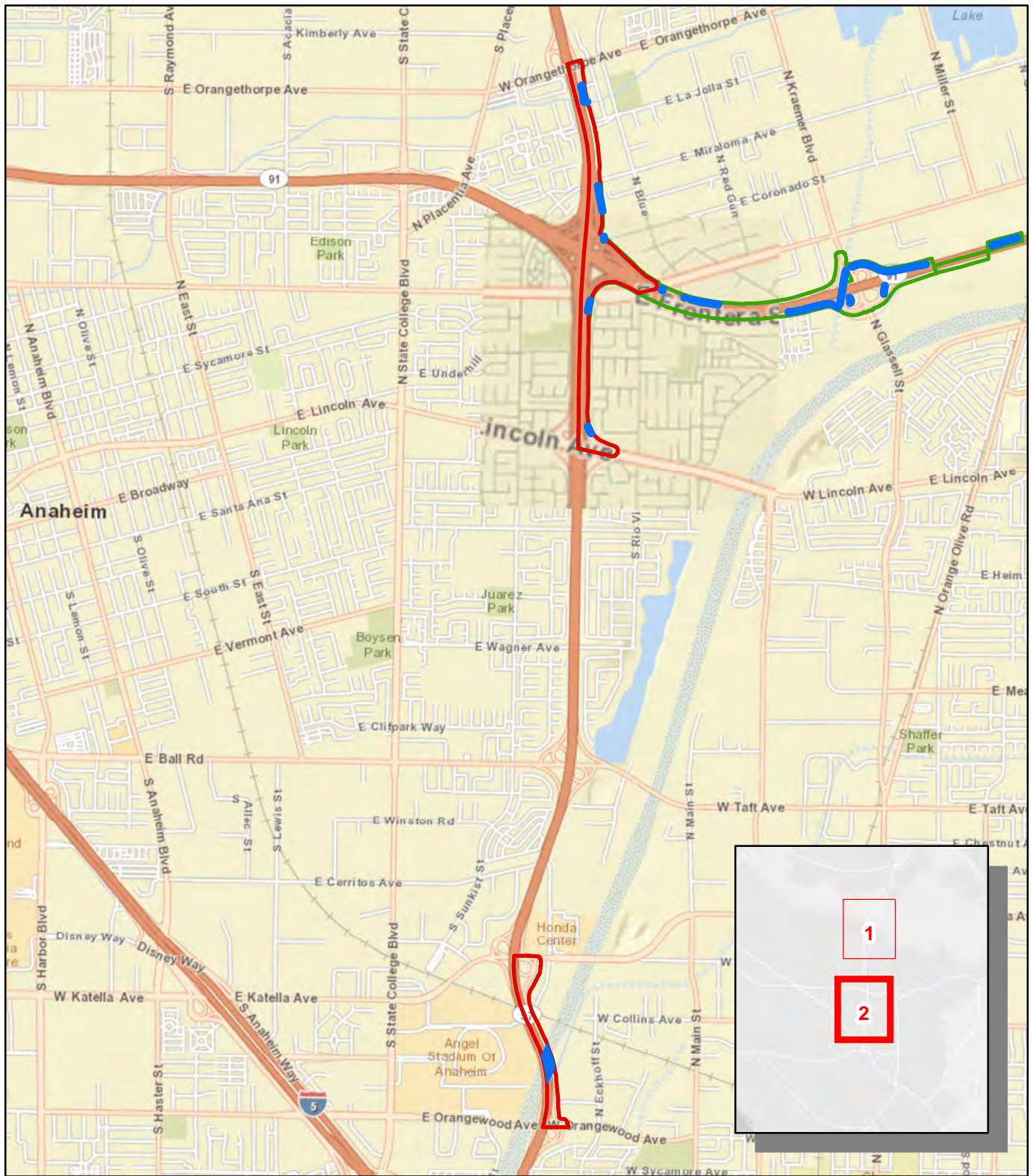
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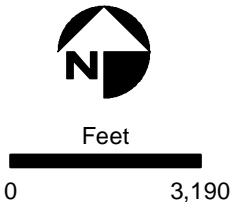
Project G Study Area

Map 1 of 2

Figure 9-1



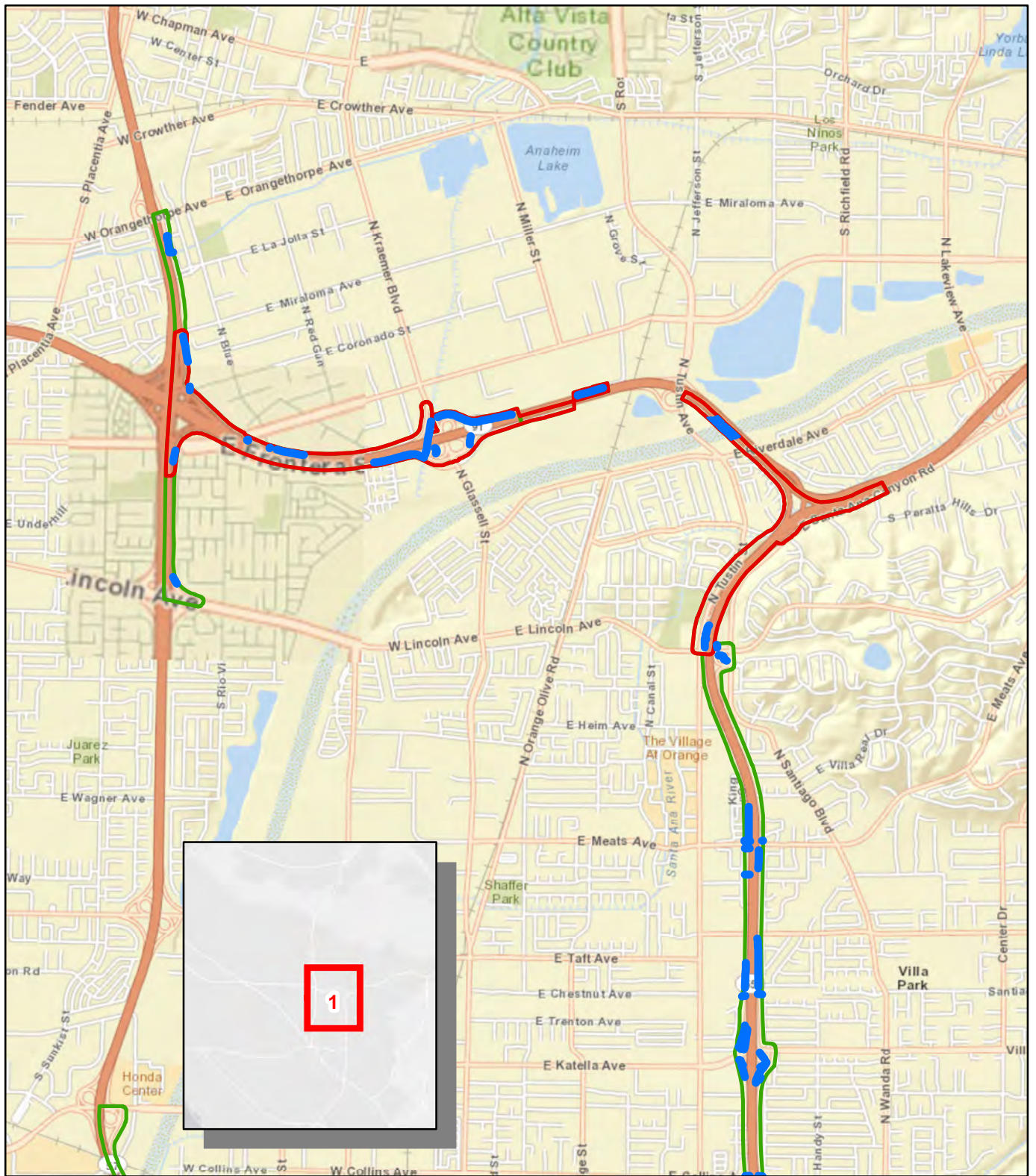
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



Project G Study Area

Map 2 of 2

Figure 9-2



Legend

- Project Survey Area
- Other Survey Areas
- ~ Waters of the U.S.



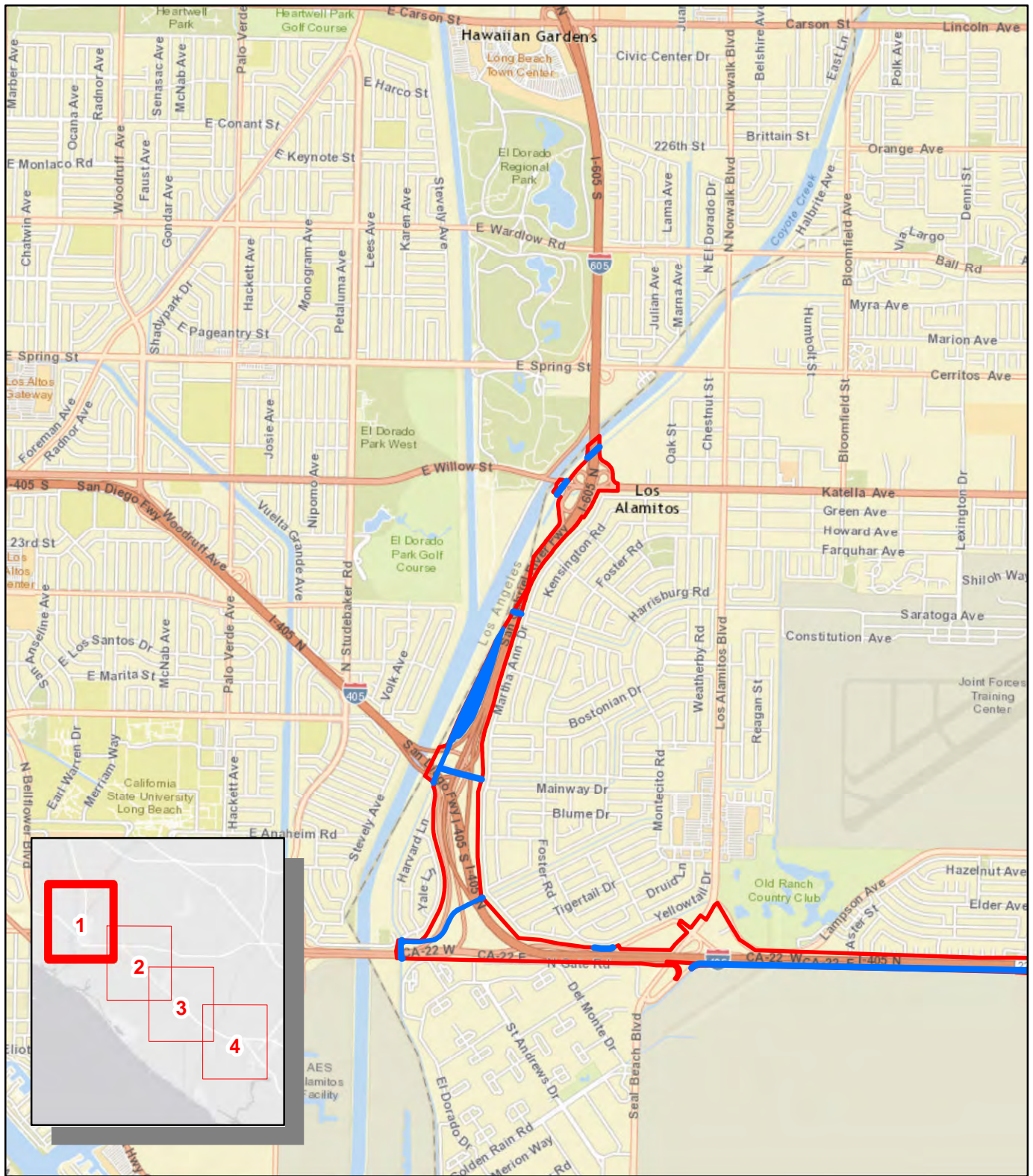
Feet

0 3,190

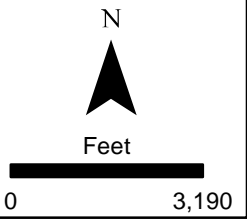


Project I Study Area

Figure 10



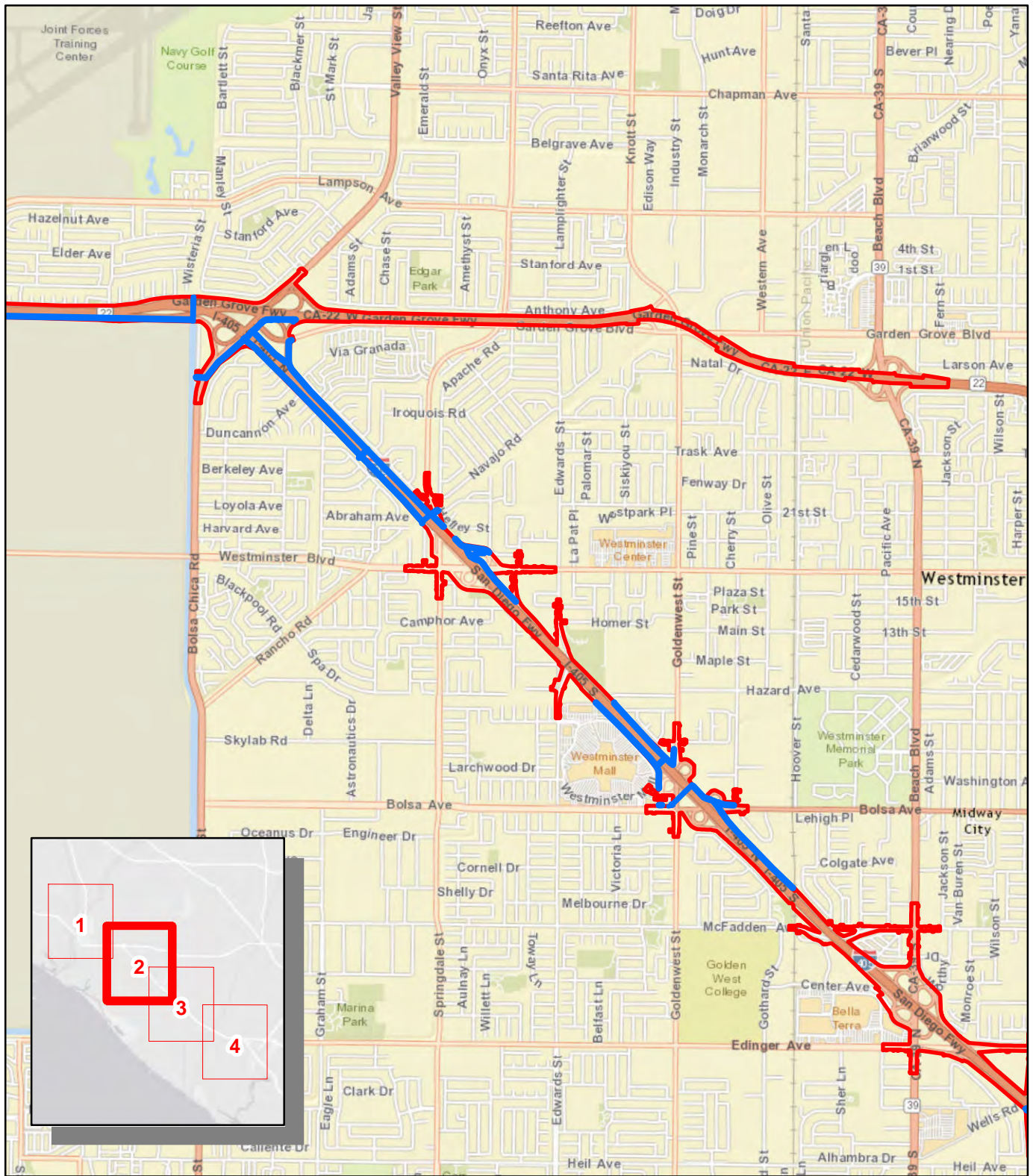
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Potential Waters of the U.S.



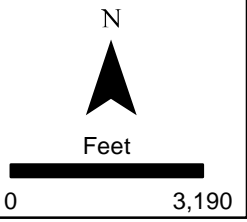
Project K Footprint

Map 1 of 4

Figure 11-1

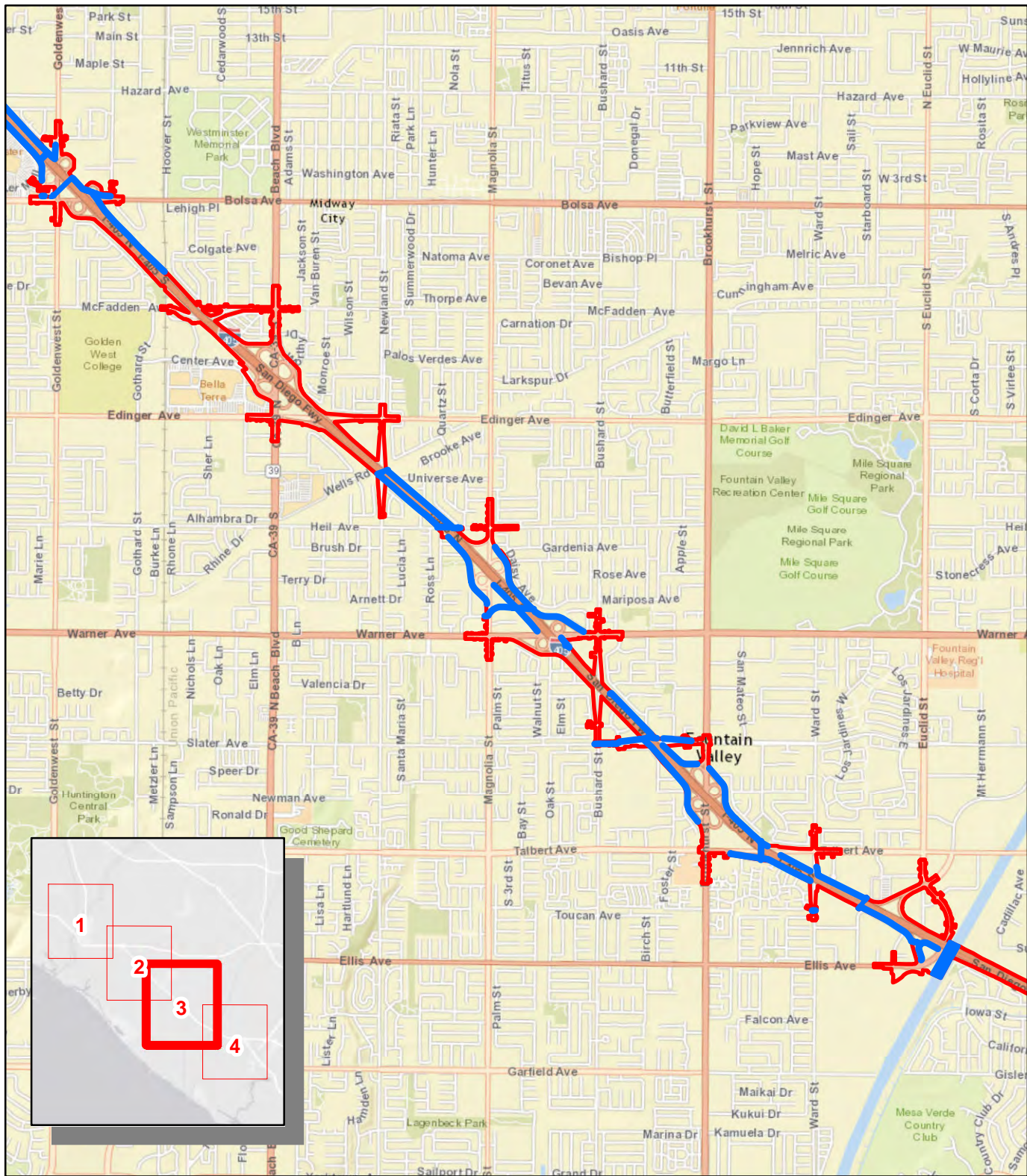


- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Potential Waters of the U.S.

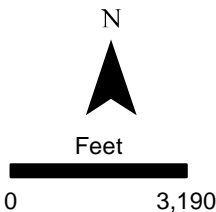


Project K Footprint
Map 2 of 4

Figure 11-2

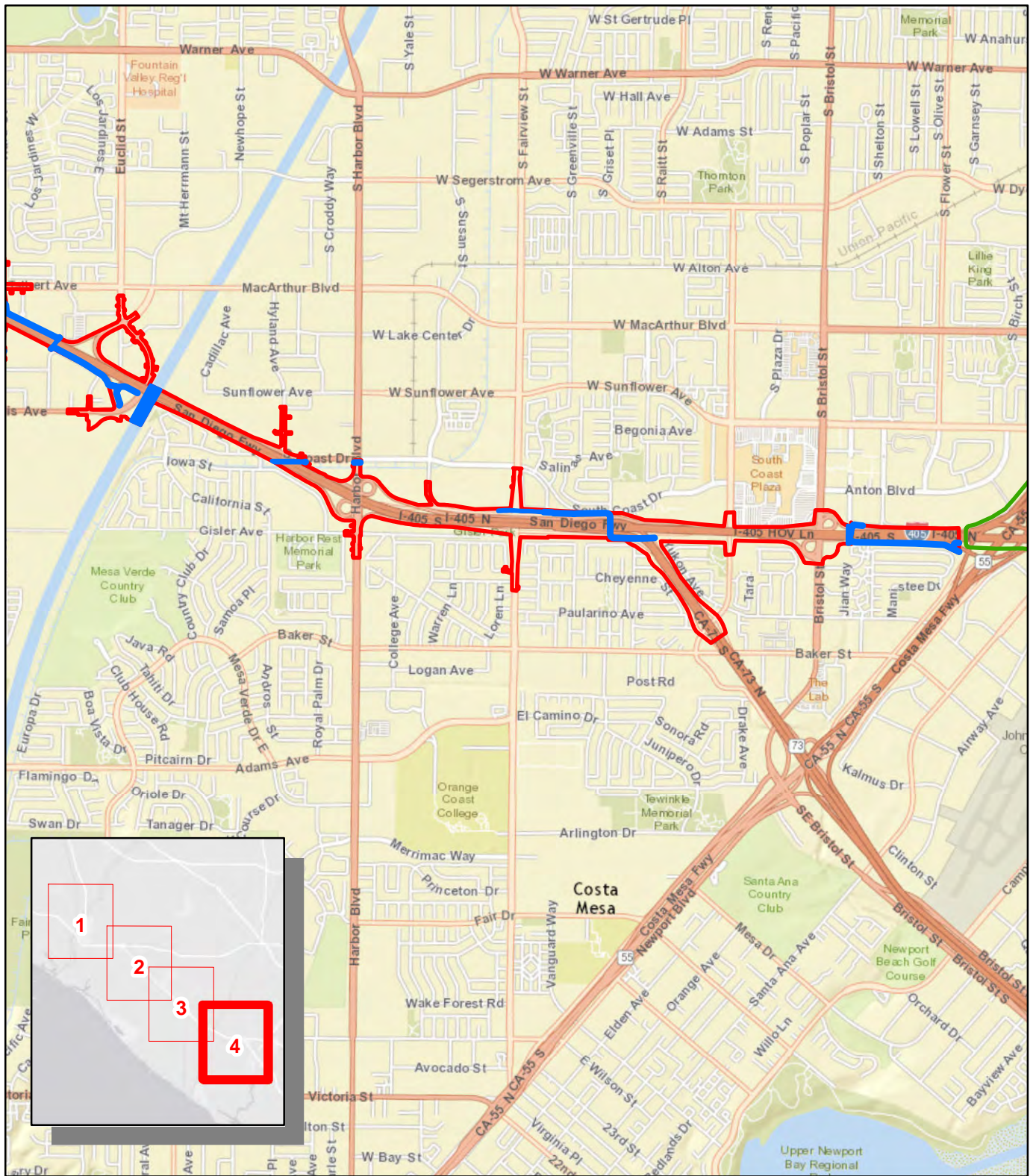


- Legend**
- ▭ Project Survey Area
 - ▭ Other Survey Areas
 - ~ Potential Waters of the U.S.

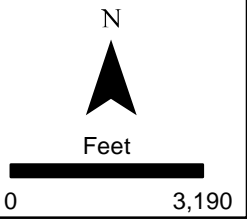


Project K Footprint
Map 3 of 4

Figure 11-3



- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Potential Waters of the U.S.

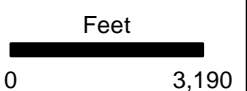


Project K Footprint
Map 4 of 4

Figure 11-4



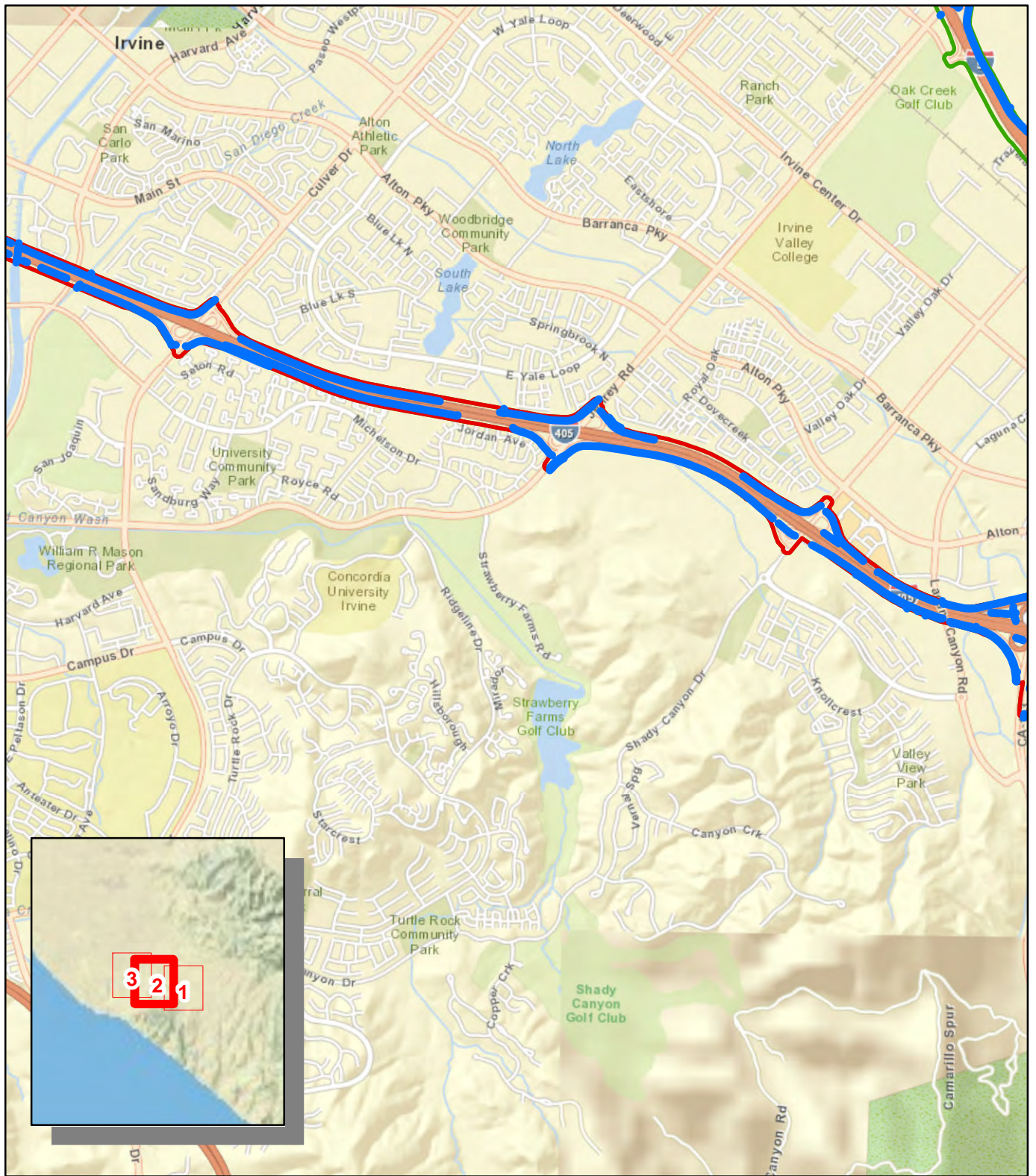
- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



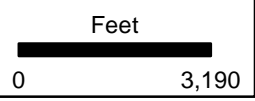
Project L Study Area

Map 1 of 3

Figure 12-1



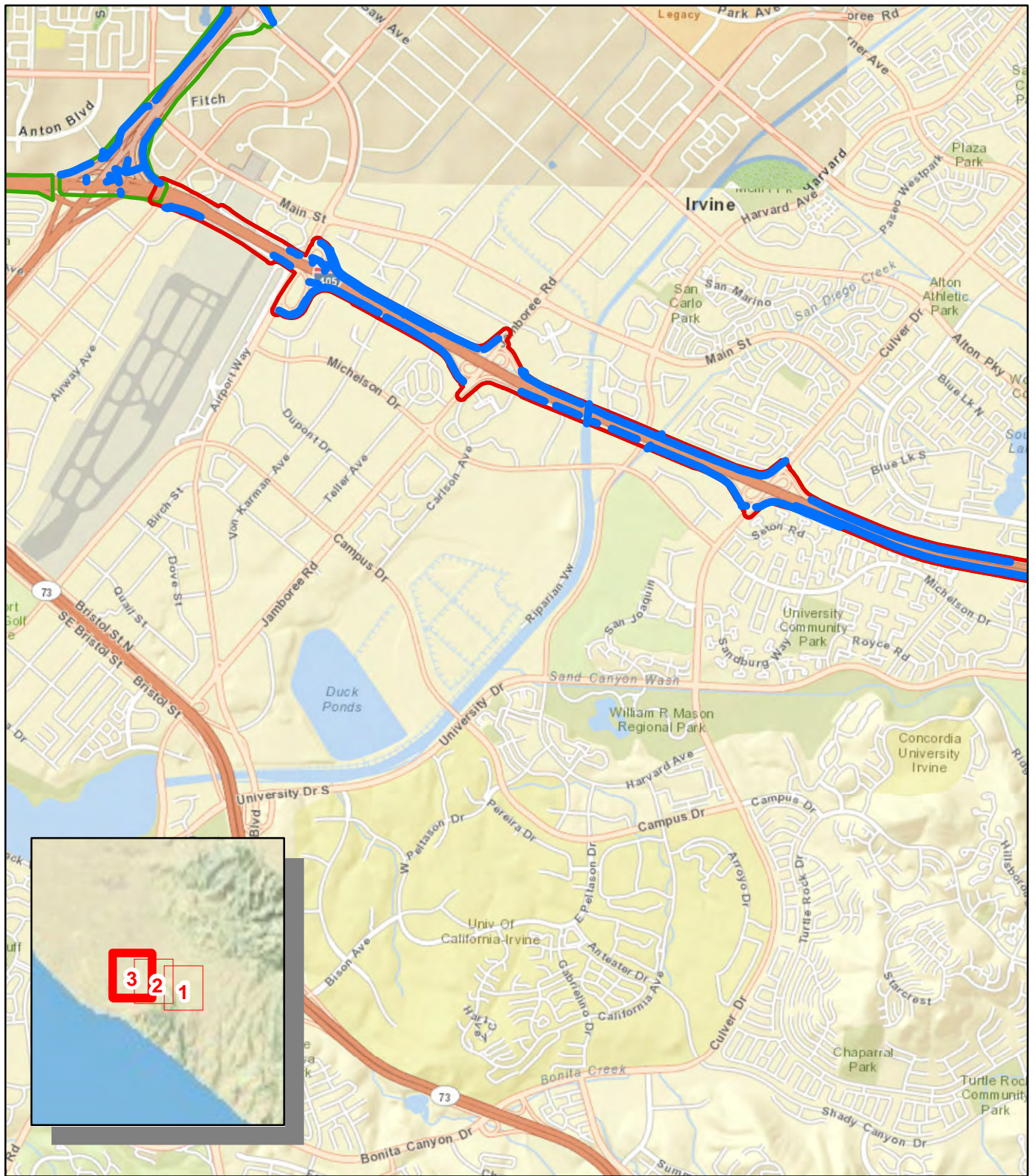
- Legend**
- ▭ Project Survey Area
 - ▭ Other Survey Areas
 - ~ Waters of the U.S.



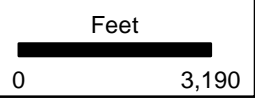
Project L Study Area

Map 2 of 3

Figure 12-2



- Legend**
- Project Survey Area
 - Other Survey Areas
 - ~ Waters of the U.S.



Project L Study Area

Map 3 of 3

Figure 12-3

Enclosure 4: Project Description and Schedule

Project ¹	Project Description	Estimated Schedule for Construction Date ²	Estimated Project Duration ²
Project A:	<p>Santa Ana Freeway (Interstate 5) Improvements between Costa Mesa Freeway (State Route 55) and “Orange Crush” Area (State Route 57) (33.758942° N, -117.860865°W)</p> <p>Project A is proposed to increase freeway capacity and reduce congestion on the Santa Ana Freeway (I-5). Project A would affect two segments: Segment 1, extending from SR-55 to SR-57, and Segment 2, located at the I-5/SR-55 interchange. These Improvements would increase capacity on I-5 between SR-55 and SR-57 and relieve congestion at the I-5/SR-57 interchange, an area known as the “Orange Crush.” Proposed construction would take place generally within the existing right-of-way. Interchange improvements would occur between the Fourth Street and Newport Boulevard ramps on I-5, between Fourth Street and Edinger Avenue on SR-55 as it crosses SR-55 and SR-57.</p>	FY17-18 (Q4)	2 years
Project B:	<p>I-5 Improvements from SR-55 to El Toro “Y” Area (33.701636°N, -117.776810°W)</p> <p>The purpose of Project B is to increase freeway capacity and reduce congestion on I-5 as it extends from SR-55 to the interchange area between SR-55 and SR-133, an area known as the El Toro “Y.” Proposed improvements include the construction of new lanes and improvements to existing interchanges. Project B construction would take place generally within the existing right-of-way.</p>	TBD	TBD
Project C:	<p>North Portion of I-5 Improvements between El Toro Interchange and SR-73 (33.578487°N, -117.671779°W)</p> <p>Project C is proposed to reduce freeway congestion in south Orange County and improve and update key interchanges on I-5 to relieve street congestion around older interchanges and on-ramps. The North Portion of Project C would improve I-5 south of the El Toro “Y” by constructing new lanes from the vicinity of the El Toro interchange in Lake Forest to the vicinity of SR-73 in Mission Viejo. Project C also involves major improvements to local interchanges. Project C includes the I-5/Avery interchange and the I 5/La Paz interchange. Project construction takes place generally within the existing right-of-way.</p>	FY18-19 (Q3)	5 years
Project D:	<p>I-5 Local Interchange Improvement (33.614743°N, -117.707694°W)</p> <p>Project D updates and improves El Toro Road interchange on I-5, located in Lake Forest and Laguna Hills.</p>	TBD	TBD
Project E:	<p>Garden Grove Freeway (SR-22) Access Improvements (33.766037°N, -117.937727°W)</p> <p>Project E would improve interchanges along SR-22 at Euclid Street, Brookhurst Street, and Harbor Boulevard in order to reduce freeway and surface street congestion near these interchanges. Specific improvements are subject to approved plans developed in cooperation with local jurisdictions and affected communities.</p>	FY04-05 (Q2)	3 years
Project F:	<p>SR-55 Improvements (33.808197°N, -117.831925°W)</p> <p>Project F-South would increase freeway capacity and reduce congestion through the addition of new lanes to SR-55 between the Garden Grove Freeway (SR-22) and the San Diego Freeway (I-405). These improvements include merging lanes between interchanges to smooth traffic flow. Proposed project construction takes place within the existing right-of-way. Project F-North also provides for freeway operational improvements for the portion of SR-55 between SR 91 and SR-22. Construction of these improvements would also take place generally within the existing right-of-way.</p>	South: FY20-21 (Q4) North: TBD	South: 4 Years North: TBD
Project G:	<p>SR-57 between Orangewood Avenue and Lambert Road Northbound—General-Purpose Lane Improvements (33.800319°N, -117.878108°W)</p> <p>Project G is proposed to increase freeway capacity and reduce congestion associated with SR 57. This project is composed of two segments.</p> <p>G-South: Addition of a northbound lane between Orangewood Avenue and Katella Avenue.</p> <p>G-North: Addition of a northbound truck climbing lane between Lambert Road and Tonner Canyon Road and improvements to the Lambert interchange.</p> <p>The improvements are designed and coordinated specifically to reduce congestion at the SR-57/SR-91 interchange. All improvements associated with Project G would generally occur within the existing right-of way.</p>	South: TBD North: TBD	South: TBD North: TBD
Project I:	<p>SR-91 Improvements from SR-57 to the SR-55 Interchange (33.850158°N, -117.846339°W)</p> <p>Project I would increase freeway capacity to SR-91 between SR-57 and SR-55. Project I would also improve the SR-91/SR-55 and SR-91/SR-57 interchange complexes and nearby local interchanges such as Tustin Avenue and Lakeview Avenue. Project construction generally occurs within the existing right-of-way.</p>	TBD	TBD
Project K:	<p>San Diego Freeway (I-405) Widening Project from SR-55 to San Gabriel River Freeway (I-605) (33.732734°N, -117.989593°W)</p> <p>Project K increases freeway capacity and reduces congestion associated with I-405. The proposed project adds new lanes to the San Diego Freeway between I-605 and SR-55, generally within the existing right-of-way. The project would update interchanges and widen all local overcrossings according to city and regional master plans. The proposed improvements are coordinated with other planned I-405 improvements, including improvements to the I-405/SR-22/I-605 interchange area to the north and I-405/SR-73 improvements to the south. The improvements adhere to the recommendation of the I-405 major investment study, adopted by the OCTA in October 2005, and are developed in coordination with local jurisdictions and affected communities.</p>	FY16-17 (Q3)	4 years
Project L:	<p>I-405 Improvements between SR-55 and I-5 (33.663738°N, -117.796673°W)</p> <p>Project L would increase freeway capacity and reduce congestion associated with I-405. The proposed project adds new lanes to I-405 from SR-55 to I-5. The project eases chokepoints at interchanges and adds merging lanes near on- and off-ramps, such as those at Lake Forest Drive, Irvine Center Drive, and SR-133, to improve overall freeway operations in the I-405/I-5 El Toro “Y” area. Project L is constructed generally within the existing right-of-way.</p>	TBD	TBD
Project M:	<p>I-605 Freeway Access Improvements (33.663738°N, -117.796673°W)</p> <p>Project M improves freeway access and arterial connections to I-605 that serve the communities of Los Alamitos and Cypress. The project is coordinated with other planned improvements along SR-22 and I-405. This improvement connects to interchange improvements at I-405 and SR-22 as well as new freeway lanes between I-405 and I-605. Project M occurs within the Project K footprint and is considered a part of that project. Project M is not addressed separately in this permit application.</p>	TBD	TBD

¹ Projects may be split into separate LOPs.

² Estimated schedule based on OCTA’s Capital Action Plan; schedule dated September 2017. Dates based on Fiscal Year.

ENCLOSURE 5: Table 2: Potential Permanent Impacts by Feature

Table 2. Potential Permanent Jurisdictional Impacts by Feature

Feature Name	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure to Be Modified	Anticipated Proposed Activity	Estimated Perm Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Perm Impacts Wetland Waters of the U.S. (acres)	Estimated Impacts Waters of the U.S. (linear feet)	Estimated Width at Impact Location	Feature Width (feet)	Current Proposed Mitigation	Potential Minimization Measure
A-21 Santiago Creek	A/1-5	A4	Santiago Creek	Santa Ana	Confined channel/perennial/earthen bottom with partial concrete and riprap banks/unvegetated/flows under freeway	Bridge/1 wall pier or multiple cylindrical piers are present	Widen road/bridge by adding cylindrical piers or extending wall piers; assumed permanent impacts include area under bridge and 75-80' upstream and downstream from bridge deck to include any potential grading, riprap, or concrete	0.21	0	183	Upstream: 52 Downstream: 52	27-52	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Current channel design is trapping sediment; reduce channel width in a portion of the bridge so that sediment and water are conveyed more efficiently.
C-9 Oso Creek (Drainage 3 in NES)	C/1-5	C14, C15	San Juan Creek?	San Juan	Perennial earthen channel with abundant riprap/wetland/riparian areas present/flows under and parallel to freeway Upstream: Unconfined Downstream: Confined	Bridge	Widen bridge over Oso Creek to accommodate additional capacity	0.05	0.04	27	Upstream: 125 Downstream: 125	10-125	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)/SAMP Area Preservation: Ferber Ranch (San Juan Creek Watershed HUC 10)	Measures BIO-10 and BIO-11 from Project C MND/FONSI
C-35 Aliso Creek (Drainage 3 in NES)	C/1-5	C3, C4	Aliso Creek-Frontal Gulf of Santa Catalina	San Juan	Perennial earthen-bottom channel with natural and grouted riprap banks/unvegetated within impact areas/flows under freeway/concrete areas present under bridge Upstream: Aggraded/Unconfined Channel Downstream: Eroded/Confined Channel	Bridge/2 wall piers	Widen road/extend wall piers	0.03	0	45	Upstream: 50 Downstream: 10	10-50	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)/SAMP Area Preservation: Ferber Ranch (San Juan Creek Watershed HUC 10)	Measures BIO-10 and BIO-11 from Project C MND/FONSI
F-25 Santiago Creek	F North/SR-55	F11, F12	Santiago Creek	Santa Ana	Perennial earthen channel/flows under freeway Upstream: Confined channel/wetland/riparian areas present Downstream: Confined/unvegetated/rock-lined on east bank	Bridge/4 wall piers	Widen road/bridge by extending wall piers; assumed permanent impacts include area under bridge and 15' upstream from bridge deck to include any potential grading, riprap, or concrete	0.003	0.14	25	Upstream: 160 Downstream: 160	160	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Minimize impacts to riparian areas by shifting impacts to unvegetated areas; remove invasive species; restore slopes with native vegetation. Potential downstream erosion/sedimentation issues to address.

ENCLOSURE 5: Table 2: Potential Permanent Impacts by Feature

Feature Name	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure to Be Modified	Anticipated Proposed Activity	Estimated Perm Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Perm Impacts Wetland Waters of the U.S. (acres)	Estimated Impacts Waters of the U.S. (linear feet)	Estimated Width at Impact Location	Feature Width (feet)	Current Proposed Mitigation	Potential Minimization Measure
G-1 Santa Ana River	G South/SR-57	G13	Lower Santa Ana River	Santa Ana	Confined channel/perennial/earthen bottom with riprap and concrete banks/unvegetated/routinely maintained/flows under freeway	Bridge/3 rectangular piers	Widen road/bridge by extending rectangular piers (northbound only)/assumed permanent impacts to include 35'-foot area under bridge and 25' upstream from bridge deck to include any potential grading, riprap, or concrete	0.62	0	69	294	294	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	None; maintained channel; impacts minimal.
G-11 Tonner Canyon	G North/SR-57	G2	Lower San Gabriel River	San Gabriel	Unconfined earthen channel/perennial/wetland/riparian areas present/flows under freeway	Bridge/multiple cylindrical piers	Widen road/bridge by adding piers (northbound only)/assumed permanent impacts include area under bridge and 10-18' upstream from bridge deck to include any potential grading, riprap, or concrete	0.08	0.01	96	40	40	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Remove invasive species.
I-6 Carbon Canyon Diversion Channel	I/SR-91	I3, I4	Lower Santa Ana River	Santa Ana	Confined channel/perennial/earthen bottom with riprap banks/concrete aprons/unvegetated/routinely maintained/flows under freeway	Trapezoid box culvert	Widen road by extending box culvert and concrete wing walls/apron/assumed permanent impact area includes the earthen portion 30' upstream and downstream from concrete apron	0.06	0	63	44	44	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	None; maintained channel; impacts minimal.
I-10 Santa Ana River	I/SR-91	I6	Lower Santa Ana River	Santa Ana	2 channels present/confined earthen bottoms/rip-rap slopes/unvegetated/routinely maintained/flows under freeway	Bridge/13 wall piers	Widen road/bridge by extending wall piers	0.16 ⁵	0	20 ³	180,385	180-385	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	None; maintained channel; impacts minimal.
4-1 Los Alamitos Channel	K/I-405	6-14, 6-15, 6-17, 6-22, 6-23	Lower San Gabriel River	San Gabriel	Earthen channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert	0.06	0	84	220	220	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Measures BIO-2 and BIO-3 from Project K EIR/EIS
7-2 Montecito Channel	K/I-405	6-14, 6-23	Lower San Gabriel River	San Gabriel	Concrete east of I-405/earthen west of I-405/flows under freeway and 2 on/off ramps	Box culverts	Relocate or Underground AND/OR widen road/ lengthen box culvert	0.42	0	1,085	25	3-25	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Measures BIO-2 and BIO-3 from Project K EIR/EIS
10-1 Bolsa Chica Channel	K/I-405	6-12, 6-21	Bolsa Chica - Frontal HH	Santa Ana	Concrete north of I-405/concrete, earthen, rip rap south of I-405; flows under freeway	Triple box culvert	Widen road/lengthen box culvert	0.04	0	49	38	38	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Measures BIO-2 and BIO-3 from Project K EIR/EIS

ENCLOSURE 5: Table 2: Potential Permanent Impacts by Feature

Feature Name	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure to Be Modified	Anticipated Proposed Activity	Estimated Perm Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Perm Impacts Wetland Waters of the U.S. (acres)	Estimated Impacts Waters of the U.S. (linear feet)	Estimated Width at Impact Location	Feature Width (feet)	Current Proposed Mitigation	Potential Minimization Measure
25-4 Fountain Valley Channel	K/I-405	6-5	Lower Santa Ana River	Santa Ana	Earthen, rock, and rip rap channel; flows under freeway and under 2 on/off ramps	Double box culvert	Widen road/lengthen box culvert	0.06	0	120	9	9	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Measures BIO-2 and BIO-3 from Project K EIR/EIS
27-1 Greenville Banning Channel	K/I-405	6-4	Lower Santa Ana River	Santa Ana	Earthen, rock, and rip rap channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert	0.11	0	170	30	30	Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	Measures BIO-2 and BIO-3 from Project K EIR/EIS
L-45 Old San Diego Creek	L/I-405	L8, L9	San Diego Creek!	Santa Ana	Earthen trapezoidal channel with concrete box culverts; riprap banks; perennial; unvegetated	Box culvert	Widen road/lengthen box culvert on the northbound side only; assumed permanent impact includes extending existing concrete pad 15' upstream	0.02	0	15	24	24-37	SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None; maintained channel; impacts minimal.
L-47 San Diego Creek	L/I-405	L8	San Diego Creek!	Santa Ana	Confined earthen channel/riprap banks/perennial/upstream unwegetated and maintained/downstream wetland/riparian areas present	Bridge/2 wall piers	Widen road/bridge by extending wall piers on the northbound side only; assumed permanent impact extends 15' upstream from the bridge deck	0.05	0.01	17	160	148-160	SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	Downstream supports riparian vegetation; minimize impacts to downstream areas by shifting impacts upstream, which is regularly maintained, where possible.
Total Named Earthen Features								1.97	0.20	2,068				
B-20	B/I-5	B17	San Diego Creek!	Santa Ana	Earthen ditch/unwegetated/parallel to freeway	N/A	Relocate or Underground	0.14	0	559	11	11	None if relocated; 1:1 if piped underground SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
B-30	B/I-5	B13	San Diego Creek!	Santa Ana	Earthen ditch/unwegetated/ gore area	N/A	Relocate or Underground	0.04	0	541	3-4	3-4	None if relocated; 1:1 if piped underground SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified

ENCLOSURE 5: Table 2: Potential Permanent Impacts by Feature

Feature Name	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure to Be Modified	Anticipated Proposed Activity	Estimated Perm Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Perm Impacts Wetland Waters of the U.S. (acres)	Estimated Impacts Waters of the U.S. (linear feet)	Estimated Width at Impact Location	Feature Width (feet)	Current Proposed Mitigation	Potential Minimization Measure
B-35	B/I-5	B7	San Diego Creek ¹	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.04	0	274	5-6	5-6	None if relocated; 1:1 if piped underground SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
F-24	F North/SR-55	F10	Lower Santa Ana River	Santa Ana	Earthen/concrete v-ditch/assumed flows under freeway	Assumed culvert	Widen road/lengthen culvert	0.0003	0	6	2	2	1:1 if impact occurs within earthen area- Rehabilitation: Aliso Creek (San Juan Watershed HUC 8); none if impact occurs within concrete area	Earthen area - none identified; concrete area - N/A
I-5	I/SR-91	I4	Lower Santa Ana River	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.003	0	144	1	1	None if relocated; 1:1 if piped underground- Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	None identified
I-7	I/SR-91	I4	Lower Santa Ana River	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.02	0	182	4	4	None if relocated; 1:1 if piped underground- Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	None identified
L-1	L/I-405	L28, L29	San Diego Creek ¹	Santa Ana	Earthen ditch/unvegetated/ parallel to freeway	N/A	Relocate or Underground	0.01	0	333	1-3	1-3	None if relocated; 1:1 if piped underground-SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
L-17	L/I-405	L22	San Diego Creek ¹	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.004	0	168	1	1	None if relocated; 1:1 if piped underground-SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
L-30	L/I-405	L20-L22	San Diego Creek ¹	Santa Ana	Earthen ditch/herbaceous vegetation present/ gore area	N/A	Relocate or Underground	0.07	0	886	1-9	1-9	None if relocated; 1:1 if piped underground-SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified

ENCLOSURE 5: Table 2: Potential Permanent Impacts by Feature

Feature Name	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure to Be Modified	Anticipated Proposed Activity	Estimated Perm Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Perm Impacts Wetland Waters of the U.S. (acres)	Estimated Impacts Waters of the U.S. (linear feet)	Estimated Width at Impact Location	Feature Width (feet)	Current Proposed Mitigation	Potential Minimization Measure
L-65	L/I-405	L26	San Diego Creek ¹	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.01	0	217	1-2	1-2	None if relocated; 1:1 if piped underground-SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
L-66	L/I-405	L26	San Diego Creek ¹	Santa Ana	Earthen ditch/unvegetated/ gore area	N/A	Relocate or Underground	0.001	0	17	2	2	None if relocated; 1:1 if piped underground-SAMP Area Enhancement: Agua Chinon (San Diego Creek HUC 10)	None identified
Total Earthen Ditches								0.34	0	3,327				
E-6 Constructed Detention Basin	E/SR-22	E3 and E4	Bolsa Chica Channel-Frontal Huntington Harbour	Santa Ana	Earthen detention basin/maintained/gore area	N/A	Relocate OR Fill w/ Justification	0.19	0	N/A	N/A – Basin	N/A – Basin	None if relocated; 1:1 if permanently impacted- None if relocated; 1:1 if piped underground-Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	N/A – man-made basin anticipated to be replaced or will be mitigated
E-14 Constructed Detention Basin	E/SR-22	E6	Bolsa Chica Channel-Frontal Huntington Harbour	Santa Ana	Earthen detention basin/maintained/gore area	N/A	Relocate OR Fill w/ Justification	0.07	0	N/A	N/A – Basin	N/A – Basin	None if relocated; 1:1 if permanently impacted- None if relocated; 1:1 if piped underground-Rehabilitation: Aliso Creek (San Juan Watershed HUC 8)	N/A – man-made basin anticipated to be replaced or will be mitigated
Total Earthen Detention Basins								0.26	0	N/A				
Total All Feature Types								2.57	0.20	5,395				

Notes:

- ¹ Located within the San Diego Creek Watershed SAMP.
- ² Located within the San Juan Creek SAMP
- ³ Estimated using Project I eastbound (previously approved/permitted) acreage number and buffering by 20%. Linear feet were adjusted to match the target acreage.

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Table 6. Potential Temporary Jurisdictional Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
Named Earthen Features											
A-21 Santiago Creek	A/I-5	A4	Santiago Creek	Santa Ana	Confined channel/ perennial/earthen bottom with partial concrete and riprap banks/ unvegetated/flows under freeway	Bridge/1 wall pier or multiple cylindrical piers are present	Widen road/bridge by adding cylindrical piers or extending wall piers; assumed permanent impacts include area under bridge and 75-80' upstream and downstream from bridge deck to include any potential grading, riprap, or concrete - any temporary impacts would occur beyond this estimated permanent footprint.	Likely substantial access impacts but access generally unknown; may have to drive equipment through a significant portion of the channel. Potential water diversion/water displacement activities.	0.36	0	300
C-9 Oso Creek (Drainage 3 in NES)	C/I-5	C14, C15	San Juan Creek?	San Juan	Perennial earthen channel with abundant riprap/ wetland/riparian areas present/flows under and parallel to freeway Upstream: Unconfined Downstream: Confined	Bridge	Widen bridge	Construction access	0.05	0	93
F-25 Santiago Creek	F North/ SR-55	F11, F12	Santiago Creek	Santa Ana	Perennial earthen channel/flows under freeway Upstream: Confined channel/wetland/riparia n areas present Downstream: Confined/ unvegetated/rock-lined on east bank	Bridge/4 wall piers	Widen road/bridge by extending wall piers; assumed permanent impacts include area under and 15' upstream from bridge deck to include any potential grading, riprap, or concrete - any temporary impacts would occur beyond this estimated permanent footprint.	Access does not appear to be a significant issue; however, temporary impacts including restoring vegetation are anticipated. Potential water diversion/water displacement activities.	0.61	0.16	158
G-1 Santa Ana River	G South/ SR-57	G13	Lower Santa Ana River	Santa Ana	Confined channel/ perennial/earthen bottom with riprap and concrete banks/unvegetated/ routinely maintained/flows under freeway	Bridge/3 rectangular piers	Widen road/bridge by extending rectangular piers (northbound only)/ assumed permanent impacts to include 35'-foot area under bridge and 25' upstream from bridge deck to include any potential grading, riprap, or concrete - any temporary impacts would occur beyond this estimated permanent footprint.	No access issues; ramps present; unvegetated/routinely maintained. Potential water diversion/water displacement activities.	0.71	0	82
G-11 Tonner Canyon	G North/ SR-57	G2	Lower San Gabriel River	San Gabriel	Unconfined earthen channel/perennial/ wetland/riparian areas present/flows under freeway	Bridge/ multiple cylindrical piers	Widen road/bridge by adding piers (northbound only)/assumed permanent impacts include area under bridge and 10-18' upstream from bridge deck to include any potential grading, riprap, or concrete - any temporary impacts would occur beyond this estimated permanent footprint.	Access does not appear to be a significant issue; however, minor temporary impacts including the need to restore vegetation is anticipated. Potential water diversion/water displacement activities.	0.03	0.003	30

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
I-6 Carbon Canyon Diversion Channel	I/SR-91	13, 14	Lower San Gabriel River	San Gabriel	Confined channel/perennial/earthen bottom with riprap banks/concrete aprons/unvegetated/routinely maintained/flows under freeway	Trapezoid box culvert	Widen road by extending box culvert/and concrete wing walls/apron; assumed permanent impact area includes the earthen portion 30' upstream and downstream from the concrete apron and the temporary impacts include areas within the concrete box culvert footprint.	Structures may occur within the concrete box culvert footprint. No access issues; ramps present; unvegetated/routinely maintained Potential water diversion/water displacement activities.	0.25	0	250
I-10 Santa Ana River	I/SR-91	I6	Lower Santa Ana River	Santa Ana	2 channels present/ confined earthen bottoms/rip-rap slopes/unvegetated/ routinely maintained/flows under freeway	Bridge/13 wall piers	Widen road/bridge by extending wall piers (eastbound only); permanent impact numbers (acreage and linear feet) were estimated using Project I eastbound (previously approved/permitted) numbers and buffering by 20%. Any temporary impacts would occur beyond this estimated permanent footprint.	No access issues; ramps present; unvegetated/routinely maintained Potential water diversion/water displacement activities.	2.45	0	480
4-1 Los Alamitos Channel	K/I-405	6-14, 6-15, 6-17, 6-22, 6-23	Lower San Gabriel River	San Gabriel	Earthen channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.03	0	14
7-2 Montecito Channel	K/I-405	6-14, 6-23	Lower San Gabriel River	San Gabriel	Concrete east of I-405/earthen west of I-405/flows under freeway and 2 on/off ramps	Box culverts	Relocate or Underground AND/OR widen road/ lengthen box culvert	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.03	0	79
10-1 Bolsa Chica Channel	K/I-405	6-12, 6-21	Bolsa Chica - Frontal HH	Santa Ana	Unclear if earthen or concrete north of I-405 /concrete, earthen, rip rap south of I-405; flows under freeway	Triple box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.12	0	140
25-4 Fountain Valley Channel	K/I-405	6-5	Lower Santa Ana River	Santa Ana	Earthen, rock, and rip rap channel; flows under freeway and under 2 on/off ramps	Double box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.06	0	40
27-1 Greenville Banning Channel	K/I-405	6-4	Lower Santa Ana River	Santa Ana	Earthen, rock, and rip rap channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.01	0	21
28-2 Gisler Channel	K/I-405	6-3	Lower Santa Ana River	Santa Ana	Concrete west of Fairview Rd/earthen east of Fairview Rd/flows under Fairview Rd parallel to freeway	Box culvert	Temporary construction impacts	Source: Project K Docs Assumed temporary access and/or construction impacts and/or dewatering/diversion activities.	0.46	0	830

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
L-45 Old San Diego Creek	L/I-405	L8, L9	San Diego Creek ¹	Santa Ana	Earthen trapezoidal channel with concrete box culverts; riprap banks; perennial; unvegetated	Box culvert	Widen road/lengthen box culvert on the northbound side only; assumed permanent impact includes extending existing concrete pad 15'; assumed temporary impacts to concrete areas includes extension of box culvert over existing concrete pad and temporary construction access within the concrete pad; assumed temporary construction impacts to earthen bottom area.	Lengthen culvert over existing concrete box; temporary construction impacts (concrete and earthen areas). Potential water diversion/water displacement activities.	0.03	0	60
L-47 San Diego Creek	L/I-405	L8	San Diego Creek ¹	Santa Ana	Confined earthen channel/riprap banks/perennial/upstream unvegetated and maintained/downstream wetland/riparian areas present	Bridge/2 wall piers	Widen road/bridge by extending wall piers on the northbound side only; assumed permanent impact extends 15' upstream from the bridge deck; assumed temporary impacts occur under and extend beyond the existing bridge deck	Temporary construction impacts. Potential water diversion/water displacement activities.	0.38	0.01	107
Named Concrete Channels											
B-5 Bee Canyon Wash	B/I-5	B23	San Diego Creek ¹	Santa Ana	Concrete box channel/flows under freeway/northern channel supports willows	Triple box culvert	Widen road/lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.03	0	65
B-21 Central Irvine Channel	B/I-5	B11-B13	San Diego Creek ¹	Santa Ana	Concrete box channel/flows under freeway/flows directly into B-22, Peters Canyon Channel	Box culvert	Widen road/lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.01	0	13
B-22 Peters Canyon Wash	B/I-5	B11	San Diego Creek ¹	Santa Ana	Concrete box channel with low-flow channel/flows under freeway	Box culvert	Widen road/ lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.01	0	5
B-33 El Modena\ Irvine Channel	B/I-5	B8 and B9	San Diego Creek ¹	Santa Ana	Concrete channel with low-flow channel (trapezoidal north of I-5 and box south of I-5)	Box culvert	Widen road/ lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.01	0	10
F-48 Lane Channel	F South/ SR-55	F28-F30	San Diego Creek ¹	Santa Ana	Concrete trapezoidal channel/flows perpendicular and under freeway, then parallel to freeway	Double box culvert	Relocate or Underground AND/OR widen road/ lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.39	0	1210

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
16-2 Anaheim Barber City Channel	K/I-405	6-11	Bolsa Chica - Frontal HH	Santa Ana	Concrete box channel; flows under freeway	Quadruple box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	0.17	0	176
16-3 Westminster Avenue Channel	K/I-405	6-11	Bolsa Chica - Frontal HH	Santa Ana	Concrete channel; flows parallel to freeway	N/A	Pipe Underground	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	0.12	0	1571
18-4 Westminster Channel	K/I-405	6-9, 6-10	Bolsa Chica - Frontal HH	Santa Ana	Concrete box channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert AND/OR Pipe Underground	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	0.20	0	255
21-2 East Garden Grove Wintersburg Channel	K/I-405	6-8	Bolsa Chica - Frontal HH	Santa Ana	Concrete box channel; flows under freeway	Triple box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	0.14	0	151
23-1 Ocean View Channel	K/I-405	6-7	Bolsa Chica - Frontal HH	Santa Ana	Concrete box channel; flows under freeway	Double box culvert	Widen road/lengthen box culvert	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	0.60	0	838
26-1 Santa Ana River	K/I-405	6-4, 6-5	Lower Santa Ana River	Santa Ana	Concrete box channel; flows under freeway	Bridge with 3 wall piers	Widen road/wall piers	Source: Project K Docs Assume impact numbers include fill or covering the open concrete channel and any additional impacts for staging and potential water diversion/water displacement activities.	3.86	0	810
Unnamed Concrete Features											
A-2	A/I-5	A2 and A3	Lower Santa Ana River	Santa Ana	Concrete box channel/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.12	0	624
A-5	A/I-5	A3	Lower Santa Ana River	Santa Ana	Concrete trapezoidal channel/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	103
A-6	A/I-5	A3 and A4	Lower Santa Ana River	Santa Ana	Concrete trapezoidal channel/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.16	0	856
A-17	A/I-5	A12 and A13	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	951

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
A-18	A/I-5	A13	San Diego Creek ¹	Santa Ana	Concrete box channel/flows under freeway	Double box culvert	Widen road/lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.003	0	11
A-19	A/I-5	A13	San Diego Creek ¹	Santa Ana	Concrete v-ditch/adjacent to freeway in a parking lot	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	38
B-1	B/I-5	B25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/ parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	474
B-2	B/I-5	B25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	45
B-3	B/I-5	B25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.003	0	127
B-4	B/I-5	B23-B25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.18	0	2563
B-9	B/I-5	B23	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.003	0	69
B-10	B/I-5	B24 and B25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.08	0	1727
B-11	B/I-5	B21 and B22	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	785
B-14 Marshburn Channel	B/I-5	B20 and B21	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	423
B-15	B/I-5	B17-B20	San Diego Creek ¹	Santa Ana	Concrete trapezoidal channel/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.05	0	531
B-18	B/I-5	B17	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	195
B-19	B/I-5	B17	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.004	0	175
B-25	B/I-5	B10	San Diego Creek ¹	Santa Ana	Concrete storm drain inlet/adjacent to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	2
B-28	B/I-5	B13	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.05	0	684
B-29	B/I-5	B13	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	86
B-34	B/I-5	B9	San Diego Creek ¹	Santa Ana	Concrete box channel/double box culvert/flows directly into B-33 - El Modena/Irvine Channel	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	13
B-41	B/I-5	B1, B2, and F21	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	889
C-4 (Drainage 7 in NES)	C/I-5	C17, C18, and C18a	San Juan Creek ²	San Juan	Concrete trapezoidal channel/perpendicular to freeway	N/A	Northbound off-ramp to Crown Valley Parkway will be realigned, so portion of existing trapezoidal channel will be covered by the realigned ramp.	See proposed activity	0.003	0	15

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
D-1 (Drainage 9B in NES)	C/I-5	C1	Aliso Creek- Frontal Gulf of Santa Catalina	San Juan	Concrete v-ditch/gore area	N/A	Northbound off-ramp to El Toro Road will be realigned, so existing ditch will be reconstructed outside the realigned ramp.	See proposed activity	0.002	0	15
D-2 (Drainage 9A in NES)	C/I-5	C1	Aliso Creek- Frontal Gulf of Santa Catalina	San Juan	Concrete v-ditch/gore area	N/A	A portion of the trap channel will be reconstructed due to the realignment of the northbound loop on-ramp from El Toro Road and so that a biofiltration swale can be utilized in this area.	See proposed activity	0.002	0	28
E-1	E/SR-22	E2	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.002	0	87
E-3	E/SR-22	E1 and E2	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.11	0	913
E-4	E/SR-22	E3 and E4	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete box channel/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.41	0	2998
E-5	E/SR-22	E4	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	107
E-7	E/SR-22	E5	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete shallow box channel/freeway slope	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	21
E-11	E/SR-22	E6	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.004	0	85
E-12	E/SR-22	E6	Bolsa Chica Channel- Frontal Huntington Harbour	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	482
F-1 ³	I/SR-91	F1	Lower Santa Ana River	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	548
F-3	F North/ SR-55	F1	Lower Santa Ana River	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	250
F-5	F North/ SR-55	F4	Lower Santa Ana River	Santa Ana	Concrete v-ditch/freeway slope	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	24

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
F-6	F North/SR-55	F3 and F4	Lower Santa Ana River	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	272
F-8	F North/SR-55	F4	Lower Santa Ana River	Santa Ana	Concrete/v-ditch/perpendicular to freeway/unclear connection under freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.0004	0	16
F-9	F North/SR-55	F4	Lower Santa Ana River	Santa Ana	Concrete box channel/flows under freeway	Double box culvert	Widen road/lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.0004	0	2
F-13	F North/SR-55	F6	Lower Santa Ana River	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	461
F-14	F North/SR-55	F6 and F7	Lower Santa Ana River	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.004	0	170
F-15	F North/SR-55	F6	Lower Santa Ana River	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.004	0	78
F-16	F North/SR-55	F6	Lower Santa Ana River	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	277
F-17	F North/SR-55	F7	Lower Santa Ana River	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	16
F-18	F North/SR-55	F7	Lower Santa Ana River	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	63
F-19	F North/SR-55	F7	Lower Santa Ana River	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	689
F-26	F North/SR-55	F13	Santiago Creek	Santa Ana	Concrete trapezoidal channel/flows under freeway	Box culvert	Widen road/lengthen box culvert	Impact numbers are estimated based on fill or covering the open concrete channel. Additional impacts may occur for staging and potential water diversion/water displacement activities.	0.001	0	3
F-34 ⁴	A/I-5	F21	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	252
F-38	F South/SR-55	F30, F31, and F33	San Diego Creek ¹	Santa Ana	Concrete channel/v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.22	0	1795
F-41	F South/SR-55	F33	San Diego Creek ¹	Santa Ana	Concrete box channel/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.09	0	229
F-42	F South/SR-55	F23	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.0001	0	4
F-43	F South/SR-55	F31, F33, and L1	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	422
F-44	F South/SR-55	F33	San Diego Creek ¹	Santa Ana	Concrete v-ditch/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.10	0	488
F-45	F South/SR-55	F33	San Diego Creek ¹	Santa Ana	Concrete v-ditch/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	276
F-46	F South/SR-55	F33	San Diego Creek ¹	Santa Ana	Concrete v-ditch/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.06	0	384

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/Route	Impact Figure	HUC 10	HUC 8	Channel Description/Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non-Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
F-47	F South/SR-55	F33	San Diego Creek ¹	Santa Ana	Concrete v-ditch/spaghetti area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.002	0	85
F-49	F South/SR-55	F30	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	286
F-50	F South/SR-55	F28	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.09	0	857
G-7	G North/SR-57	G5	Lower San Gabriel River	San Gabriel	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.002	0	50
G-12	G North/SR-57	G2	Lower San Gabriel River	San Gabriel	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.001	0	57
G-15	G North/SR-57	G1	Lower San Gabriel River	San Gabriel	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	248
G-16	G North/SR-57	G5	Lower San Gabriel River	San Gabriel	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	493
G-17	G North/SR-57	G5	Lower San Gabriel River	San Gabriel	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	263
G-18	G North/SR-57	G4 and G5	Lower San Gabriel River	San Gabriel	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.06	0	1240
L-2	L/I-405	L28 and L29	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	709
L-3	L/I-405	L28	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	842
L-5	L/I-405	L27	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.003	0	68
L-6	L/I-405	L25 and L26	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.18	0	2749
L-7	L/I-405	L25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	820
L-8	L/I-405	L24	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.003	0	39
L-9	L/I-405	L24	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.002	0	64
L-21	L/I-405	L24 and L25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	585
L-23	L/I-405	L25	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	545
L-24	L/I-405	L25, L26 and L30	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.26	0	3494
L-26	L/I-405	L26	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	477
L-33	L/I-405	L18	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	404
L-43	L/I-405	L11-L13	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.04	0	1560
L-51	L/I-405	L8	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	609
L-52	L/I-405	L8	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	556

ENCLOSURE 6: Table 3: Potential Temporary Impacts by Feature

Feature	Project/ Route	Impact Figure	HUC 10	HUC 8	Channel Description/ Location Relative to Freeway	Existing Structure	Anticipated Proposed Activity	Temporary Impact Description	Estimated Temp Impacts Non- Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Wetland Waters of the U.S. (acres)	Estimated Temp Impacts Waters of the U.S. (linear feet)
L-53	L/I-405	L7	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.01	0	524
L-56	L/I-405	L2-L4	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.0002	0	8
L-57	L/I-405	L3	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.03	0	659
L-61	L/I-405	L3	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.0001	0	6
L-62	L/I-405	L3-L6	San Diego Creek ¹	Santa Ana	Concrete v-ditch/parallel to freeway	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	526
L-63	L/I-405	L3	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.02	0	222
L-67	L/I-405	L26	San Diego Creek ¹	Santa Ana	Concrete v-ditch/gore area	N/A	Relocate or Underground	Entire feature assumed to be impacted.	0.05	0	751
Total All Feature Types									14.22	0.17	166,216

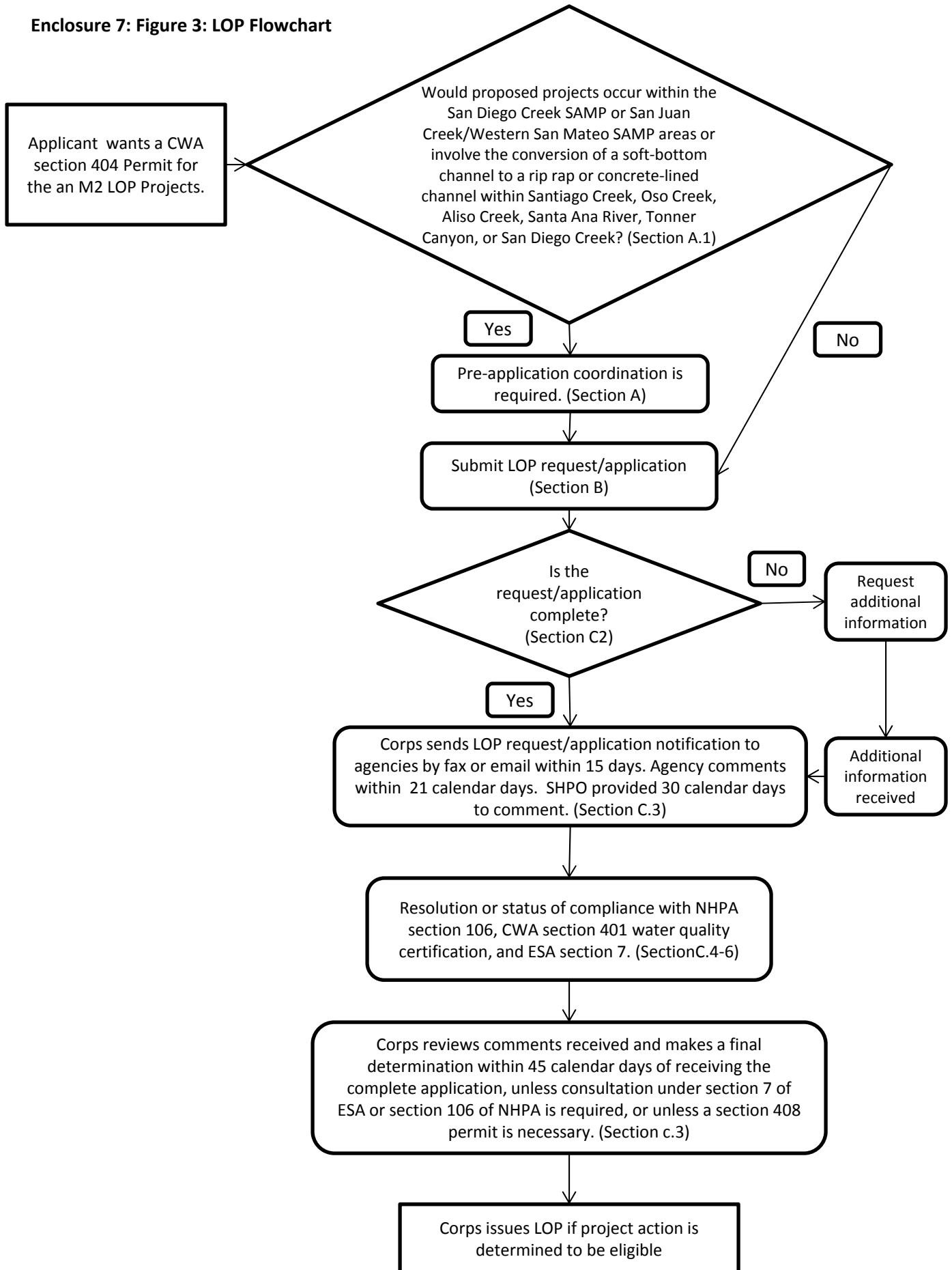
¹ Located within the San Diego Creek Watershed SAMP.

² Located within the San Juan Creek and Western San Mateo Creek Watershed SAMP.

³ Feature F-1 is concrete lined (impacts total 0.03 ac WoUS/not CDFW jurisdictional/548 linear feet) and is included in Project I totals (based on project schedules) (Lower Santa Ana Watershed).

⁴ Feature F-34 is concrete lined (impacts total 0.006 ac WoUS/0.02 CDFW/252 linear feet) and is included in Project A totals (based on project schedules) (San Diego Creek Watershed).

Enclosure 7: Figure 3: LOP Flowchart



Enclosure 8: Mitigation Tracking Spreadsheets
Program Mitigation Worksheet A

Mitigation Sites			Aliso Creek		Agua Chinon	Ferber Ranch	
			Wetland	Nonwetland	Nonwetland	Wetland	Nonwetland
Project	Impact	Mitigation Ratio					
B							
B-20	0.14	0.05 at Agua Chinon: 5.95:1 0.09 at Aliso: 1.73:1		0.16	0.28		
B-30	0.04	0.01 at Agua Chinon: 5.95:1 0.03 at Aliso: 1.73:1		0.05	0.08		
B-35	0.04	0.01 at Agua Chinon: 5.95:1 0.03 at Aliso: 1.73:1		0.05	0.08		
Total Mitigation Project B				0.26	0.44		
C							
C-9 nonwetland	0.05	0.05 at Ferber: 15.20:1					0.76
C-9 wetland	0.04	0.003 at FerberWet: 13.2:1 0.037 at FerberNon: 16.2:1				0.04	0.60
C-35	0.05	Aliso: 2.96:1		0.15			
Total Mitigation Project C				0.15		0.04	1.36
E							
E-6	0.19	Aliso: 2.98:1		0.57			
E-14	0.07	Aliso: 2.98:1		0.21			
Total Mitigation Project E				0.77			
F							
F-24	0.01	Aliso: 1.61:1		0.02			
F-25 nonwetland	0.01	Aliso: 4.24:1		0.04			
F-25 wetland	0.14	Aliso: 4.24:1	0.59				
Total Mitigation Project F			0.59	0.06			
G							
G-1	0.62	Aliso: 2.87:1		1.78			
G-11 nonwetland	0.08	Aliso: 2.87:1		0.23			
G-11 wetland	0.01	Aliso: 2.87:1	0.03				
Total Mitigation Project G			0.03	2.01			
I							
I-5	0.01	Aliso: 2.05:1		0.02			
I-6	0.06	Aliso: 3.65:1		0.22			
I-7	0.02	Aliso: 2.05:1		0.04			
I-10	0.16	Aliso: 2.96:1		0.47			
Total Mitigation Project I				0.75			
K							
K 4-1	0.06	Aliso: 3.86:1		0.23			
K 7-2	0.42	Aliso: 3.86:1		1.62			
K 10-1	0.04	Aliso: 3.86:1		0.15			
K 25-4	0.06	Aliso: 3.86:1		0.23			
K 27-1	0.11	Aliso: 3.86:1		0.42			
Total Mitigation Project K				2.66			
L							
L-1	0.01	0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		0.01	0.02		
L-17	0.01	0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		0.01	0.02		
L-30	0.07	0.025 at Agua Chinon: 5.7:1 0.045 at Aliso: 1.61:1		0.07	0.14		
L-45	0.02	0.007 at Agua Chinon: 5.7:1 0.013 at Aliso: 1.61:1		0.02	0.04		
L-47 nonwetland	0.05	Agua Chinon: 5.2:1			0.26		
L-47 wetland	0.01	Agua Chinon: 6.2:1			0.06		
L-65	0.01	0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		0.01	0.02		
L-66	0.01	0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		0.01	0.02		
Total Mitigation Project L				0.13	0.58		
Total at Mitigation Site				0.62	6.02	1.02	0.04
Total Remaining			1.18	3.37	0.11	0.10	1.61
Agua Chinon					1.13		
Aliso Creek			1.80	9.39			
Ferber Ranch						0.14	1.61
Total Remaining			1.18	3.37	0.11	0.10	0.25

Enclosure 8: Mitigation Tracking Spreadsheets
Mitigation Availability Worksheet B

Mitigation Sites	Aliso Creek		Agua Chinon	Ferber Ranch ¹	
	Wetland	Nonwetland	Nonwetland	Wetland	Nonwetland
Total WoUS Acres	1.80	9.39	1.13	0.14	1.61
Percent Meeting PS - 2016	100%	100%	100%		
Available WoUS Acres	1.80	9.39	1.13		
Percent Meeting PS - 2017					
Available WoUS Acres					
Percent Meeting PS - 2018					
Available WoUS Acres					
Percent Meeting PS - 2019					
Available WoUS Acres					

¹Ferber mitigation consists of preservation and the amount of available mitigation will not change.

Enclosure 8: Mitigation Tracking Spreadsheets
LOP Project Tracking Worksheet C

Mitigation Sites			Aliso Creek		Agua Chinon	Ferber Ranch	
			Wetland	Nonwetland	Nonwetland	Wetland	Nonwetland
Project	Reported Impact	Required Mitigation Ratio					
B							
B-20		0.05 at Agua Chinon: 5.95:1 0.09 at Aliso: 1.73:1		#DIV/0!	0.00		
B-30		0.01 at Agua Chinon: 5.95:1 0.03 at Aliso: 1.73:1		#DIV/0!	0.00		
B-35		0.01 at Agua Chinon: 5.95:1 0.03 at Aliso: 1.73:1		#DIV/0!	0.00		
Total Mitigation Project B				#DIV/0!	0.00		
C							
C-9 nonwetland		0.05 at Ferber: 15.20:1					0.00
C-9 wetland		0.003 at FerberWet: 13.2:1 0.037 at FerberNon: 16.2:1				0.00	#DIV/0!
C-35		Aliso: 2.96:1		0.00			
Total Mitigation Project C				0.00		0.00	#DIV/0!
E							
E-6		Aliso: 2.98:1		0.00			
E-14		Aliso: 2.98:1		0.00			
Total Mitigation Project E				0.00			
F							
F-24		Aliso: 1.61:1		0.00			
F-25 nonwetland		Aliso: 4.24:1		0.00			
F-25 wetland		Aliso: 4.24:1	0.00				
Total Mitigation Project F			0.00	0.00			
G							
G-1		Aliso: 2.87:1		0.00			
G-11 nonwetland		Aliso: 2.87:1		0.00			
G-11 wetland		Aliso: 2.87:1	0.00				
Total Mitigation Project G			0.00	0.00			
I							
I-5		Aliso: 2.05:1		0.00			
I-6		Aliso: 3.65:1		0.00			
I-7		Aliso: 2.05:1		0.00			
I-10		Aliso: 2.96:1		0.00			
Total Mitigation Project I				0.00			
K							
K 4-1		Aliso: 3.86:1		0.00			
K 7-2		Aliso: 3.86:1		0.00			
K 10-1		Aliso: 3.86:1		0.00			
K 25-4		Aliso: 3.86:1		0.00			
K 27-1		Aliso: 3.86:1		0.00			
Total Mitigation Project K				0.00			
L							
L-1		0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		#DIV/0!	0.00		
L-17		0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		#DIV/0!	0.00		
L-30		0.025 at Agua Chinon: 5.7:1 0.045 at Aliso: 1.61:1		#DIV/0!	0.00		
L-45		0.007 at Agua Chinon: 5.7:1 0.013 at Aliso: 1.61:1		#DIV/0!	0.00		
L-47 nonwetland		Agua Chinon: 5.2:1			0.00		
L-47 wetland		Agua Chinon: 6.2:1			0.00		
L-65		0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		#DIV/0!	0.00		
L-66		0.004 at Agua Chinon: 5.7:1 0.006 at Aliso: 1.61:1		#DIV/0!	0.00		
Total Mitigation Project L				#DIV/0!	0.00		

Enclosure 8: Mitigation Tracking Spreadsheets
Deficit-Surplus Tracking Worksheet D

LOP Tracking Table (Note: the data below will not populate correctly until the LOP Project Tracking Spreadsheet data is input)

Mitigation Sites			Aliso Creek		Agua Chinon	Ferber Ranch	
			Wetland	Nonwetland	Nonwetland	Wetland	Nonwetland
Project	Preliminary Impact	Reported Impact					
B							
B-20	0.14	0		#DIV/0!	0.28		
B-30	0.04	0		#DIV/0!	0.08		
B-35	0.04	0		#DIV/0!	0.08		
Total Mitigation Project B				#DIV/0!	0.44		
C							
C-9 nonwetland	0.05	0					0.76
C-9 wetland	0.04	0				0.04	#DIV/0!
C-35	0.05	0		0.15			
Total Mitigation Project C				0.15		0.04	#DIV/0!
E							
E-6	0.19	0		0.57			
E-14	0.07	0		0.21			
Total Mitigation Project E				0.77			
F							
F-24	0.01	0		0.02			
F-25 nonwetland	0.01	0		0.04			
F-25 wetland	0.14	0	0.59				
Total Mitigation Project F			0.59	0.06			
G							
G-1	0.62	0		1.78			
G-11 nonwetland	0.08	0		0.23			
G-11 wetland	0.01	0	0.03				
Total Mitigation Project G			0.03	2.01			
I							
I-5	0.01	0		0.02			
I-6	0.06	0		0.22			
I-7	0.02	0		0.04			
I-10	0.16	0		0.47			
Total Mitigation Project I				0.75			
K							
K 4-1	0.06	0		0.23			
K 7-2	0.42	0		1.62			
K 10-1	0.04	0		0.15			
K 25-4	0.06	0		0.23			
K 27-1	0.11	0		0.42			
Total Mitigation Project K				2.66			
L							
L-1	0.01	0		#DIV/0!	0.02		
L-17	0.01	0		#DIV/0!	0.02		
L-30	0.07	0		#DIV/0!	0.14		
L-45	0.02	0		#DIV/0!	0.04		
L-47 nonwetland	0.05	0			0.26		
L-47 wetland	0.01	0			0.06		
L-65	0.01	0		#DIV/0!	0.02		
L-66	0.01	0		#DIV/0!	0.02		
Total Mitigation Project L				#DIV/0!	0.58		

Enclosure 8: Mitigation Tracking Spreadsheets
Rollover Worksheet E

Mitigation Sites	Aliso Creek		Agua Chinon	Ferber Ranch	
	Wetland	Nonwetland	Nonwetland	Wetland	Nonwetland
Project K					
Total	0.00	0.00	0.00	0.00	0.00