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Exhibit C

CEQA/NEPA Documentation

Exhibit C4 – NEPA Categorical Exclusion

NEPA Categorical Exclusion
Section 771.117(c)
for
OC Loop
Segments O, P, and Q
Coyote Creek Bikeway Project

Prepared for:

Caltrans District 12
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January 2021

NEPA Categorical Exclusion
Section 771.117(c)
for
Caltrans District 12
OC Loop Segments O, P, and Q
Coyote Creek Bikeway Project

(Federal Project No. ATPL-59559[112])

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January 2021

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
1.1 NEPA Requirements and Legal Authority 1-1
1.2 Purpose and Organization of this Document 1-3

2.0 FHWA CATEGORICAL EXCLUSION CHECKLIST – SECTION B 2-1

3.0 CHECKLIST RESPONSES SUPPORTING INFORMATION 3-1
3.1 FSTIP (Federal Statewide Transportation Improvement Program) 3-1
3.1.1 Project Description in the FSTIP and RTP 3-1
3.1.2 Project Description 3-1
3.1.3 Project Characteristics 3-6
3.2 Air Quality 3-21
3.2.1 Conformity Exemption 3-21
3.2.2 Air Quality Conformity Findings Checklist 3-21
3.3 Cultural Resources 3-21
3.4 Noise 3-23
3.5 Waters, Wetlands 3-24
3.5.1 Section 404 of the Clean Water Act 3-24
3.5.2 Section 401 of the Clean Water Act 3-25
3.5.3 Wetland Protection (Executive Order #11990) 3-25
3.6 Biology 3-25
3.6.1 USFWS, Species List Date: (must be < 180 days old) 3-25
3.6.2 NOAA Fisheries, Species List Date: (must be < 180 days old) 3-29
3.6.3 Essential Fish Habitat (Magnuson-Stevens Act) Findings (Effect determination): 3-29
3.7 Floodplains 3-29
3.8 Section 4(f) Transportation Act (23 CFR 774) 3-30
3.9 Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants 3-30
3.10 Coastal Zone 3-31
3.11 Coast Guard – Bridge Over Navigable Waters of the U.S. 3-31
3.12 Relocation and Right-of-Way 3-31
3.12.1 Relocations 3-31
3.12.2 Right-of-Way Acquisitions/Easements 3-31
3.13 Hazardous Waste and Materials 3-32

4.0 REFERENCES 4-1

LIST OF FIGURES

Figure 3.1-1 - Regional Location Map 3-2
Figure 3.1-2 - Project Vicinity 3-3
Figure 3.1-3 - Project Location 3-4
Figure 3.1-4 - OC Loop Segment O Improvement Plan 3-7
Figure 3.1-5 - OC Loop Segment P Improvement Plan 3-9
Figure 3.1-6 - OC Loop Segment Q Improvement Plan 3-12
Figure 3.1-7 - Permanent Project Easements- Segment P 3-18

Figure 3.1-8 - Permanent Project Easements - Segment Q.....3-19

LIST OF TABLES

Table 3.1-1 - Permits and Approvals.....3-20
Table 3.5-1 - Summary of Impacts to Waters of the U.S. 3-25

APPENDICES

A FSTIP Project Page/RTP Project Page

B Caltrans (FHWA) Categorical Exclusion Checklist

C CEQA Initial Study/Mitigated Negative Declaration

D Transportation Air Quality Conformity Analysis Checklist

E USFWS Consultation Letter

1.0 INTRODUCTION

The California Department of Transportation (Caltrans) (District 12), is the Lead Agency under the National Environmental Policy Act (NEPA) for the proposed project. Caltrans District 12 is required to complete both California Environmental Quality Act (CEQA) and NEPA environmental review prior to receiving state and/or Federal Highway Administration (FHWA) funding or approvals for projects.

Caltrans District 12 is processing a request from County of Orange for federal funding and to implement discretionary actions that would allow for the construction of the OC Loop Segment O, P, and Q Coyote Creek Bikeway project, referred to as the proposed project. The project proposes construction of a new 2.7-mile bikeway that would connect existing bikeways to close a gap in a larger 66-mile regional bikeway corridor called the OC Loop. The project site would be located in California, along the northwest Orange County/southwest Los Angeles County border from its point of origin along the Coyote Creek Flood Control Channel (Coyote Creek Channel) in the City of Cerritos, extending northeast to the City of La Mirada and ending in the City of Buena Park to the north.

The proposed project is included in the Southern California Association of Governments (SCAG) 2019 Federal Transportation Improvement Program (FTIP) document as an Orange County Local Highway Project (FTIP ID ORA151508/Regional Transportation Plan [RTP] ID 2L220) (SCAG, 2018, Local Highway Project Listing for Orange County, p.4). See **Appendix A**.

The FTIP is a federally mandated four-year program of all surface transportation projects that will receive federal funding or are subject to a federally required action. The SCAG 2019 FTIP is a comprehensive listing of such transportation projects proposed over fiscal years (FY) 2018/19 – 2023/24 for the region. As the Metropolitan Planning Organization (MPO) for six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), SCAG is responsible for developing the FTIP for submittal to the California Department of Transportation (Caltrans) and the federal funding agencies (SCAG, 2018). A project receiving federal funding and programmed in MPOs FTIP must be included in an approved Federal Statewide Transportation Improvement Program (FSTIP) before it can receive funding commitment and federal authorization to proceed (Caltrans, 2018). The SCAG 2019 FTIP is included in the Caltrans 2019 FSTIP, approved on December 17, 2018 (Caltrans, 2018, p. 28).

The project is subject to federal, as well as state environmental review requirements because Orange County Public Works proposes the use of federal funds from the FHWA and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with NEPA. Orange County Public Works is the project proponent and the lead agency under CEQA. FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) (a five-year NEPA Memorandum of Understanding [MOU] dated December 30, 2016) and 23 USC 326 (a three-year MOU effective April 18, 2019) (Caltrans, 2020a).

1.1 NEPA Requirements and Legal Authority

NEPA requires Federal agencies to consider and disclose the environmental impacts of their proposed actions as part of their decision-making. NEPA established the requirements and processes Federal agencies must consider related to the environmental effects of FHWA proposals and actions. For recipients of Federal funds, environmental consequences must be disclosed and alternatives that

would avoid or lessen your project's impacts must be evaluated prior to final design, right-of-way acquisition, and construction. (FHWA, 2020a)

The Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508) address the basic decision-making framework and action forcing provisions established in NEPA. The principles or essential elements of NEPA decisionmaking include:

- Assessment of the social, economic, and environmental impacts of a proposed action or project;
- Analysis of a range of reasonable alternatives to the proposed project, based on the applicants defined purpose and need for the project;
- Consideration of appropriate impact mitigation: avoidance, minimization and compensation;
- Interagency participation: coordination and consultation;
- Public involvement including opportunities to participate and comment; and,
- Documentation and disclosure.

FHWA adopted the policy of managing the NEPA project development and decision-making process as an "umbrella," under which all applicable environmental laws, executive orders, and regulations are considered and addressed prior to the final project decision and document approval. Conclusion of the NEPA process results in a decision that addresses multiple concerns and requirements. The FHWA NEPA process allows transportation officials to make project decisions that balance engineering and transportation needs with social, economic, and natural environmental factors. (FHWA, 2020b)

Caltrans NEPA Assignment

FHWA's NEPA Assignment to states streamlines the federal environmental review and approval process by eliminating FHWA's project-specific review and approval. In reviewing and approving projects under NEPA, Caltrans is responsible for complying with all applicable federal environmental laws and with FHWA NEPA regulations, policies, and guidance, and is legally responsible and liable for the environmental decisions made on projects under the NEPA Assignment (Caltrans, 2020a).

The NEPA responsibilities have been assigned to Caltrans by FHWA pursuant to two Memoranda of Understanding (MOU) signed by FHWA. The 23 USC 326 MOU allows Caltrans to approve specific Categorical Exclusions (CEs) listed under 23 USC 326; the 23 USC 327 MOU allows Caltrans to approve Environmental Assessments (EA), and Environmental Impact Statements (EIS), and CEs that cannot be approved as 326 CEs (Caltrans, 2020a).

FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being carried out by Caltrans pursuant to 23 United States Code Section 326 (23 USC 326) and the Memorandum of Understanding signed and executed by FHWA and Caltrans on April 18, 2019. This MOU contains the FHWA CEs listed in 23 CFR 771.117, as described below.

FHWA categorical exclusions

23 CFR 771.117 - FHWA categorical exclusions, subsection (a), states that "CEs are actions that meet the definition contained in 40 CFR 1508.4, and, based on FHWA's past experience with similar actions, do not involve significant environmental impacts. They are actions that: Do not induce significant impacts to planned growth or land use for the area; do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually or cumulatively, have any significant environmental impacts."

23 CFR 771.117(c) lists types of projects that are categorically excluded by the FHWA, and § 771.117(b) specifically lists the types of projects that would be designated as a CE only after FHWA approval. Approval would be predicated on documentation submitted by the applicant that demonstrates that the specific conditions or criteria for a CE have been satisfied and that significant environmental effects will not result.

The Caltrans Preliminary Environment Study (PES) prepared for the proposed project (Caltrans, 2019) indicated the project meets the criteria for preparation of a CE, with required technical studies, under Section 23 CFR 771.117, activity (c)(3) "Construction of bicycle and pedestrian lanes, paths, and facilities".

1.2 Purpose and Organization of this Document

This document is based on a CE checklist provided by Caltrans on behalf of the FHWA (Caltrans, 2020b). The purpose of this document is to provide additional information to support each answer in the checklist as appropriate. The completed checklist is included in **Appendix B** and the items in Section B of the checklist are presented in **Section 2.0** of this document with responses following each item. Many of the checklist items have been addressed in the CEQA Initial Study/Mitigated Negative Declaration (IS/MND) that has been prepared for the proposed project by UltraSystems Environmental, Inc., 2020a). For those items, the reader is referred to specific sections of the IS/MND, which is attached to this document in **Appendix C**. Additional information to support the responses is provided in **Section 3.0**.

2.0 FHWA CATEGORICAL EXCLUSION CHECKLIST – SECTION B

Categorical Exclusion Checklist

SECTION B: Compliance with FHWA NEPA policy to complete all other applicable environmental requirements[5] prior to making the NEPA determination:

During the environmental review process for which this CE was prepared, all applicable environmental requirements were evaluated. Outcomes for the following requirements are identified below and fully documented in the project file. [NOTE: EVERY SECTION BELOW MUST BE COMPLETED, DO NOT SKIP ANY SECTIONS.]

FSTIP

☒ The project description on the Categorical Exemption/Categorical Exclusion Form matches the project description in the FSTIP and RTP, and the appropriate page of the FSTIP is in the project file.

Air Quality

☒ Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.
☐ For 23 USC 326 projects which require an air quality conformity determination (this will apply to certain projects under 23 CFR 771.117(c)(22), (c)(23), (c)(26), (c)(27), and (c)(28)), list the date of the Caltrans conformity determination: _____
☐ For 23 USC 327 projects, list date of FHWA concurrence on conformity determination: _____

Cultural Resources

☐ Section 106 compliance is complete. ☐ Screened Undertaking
Select appropriate finding: ☐ No Historic Properties Affected ☐ No Adverse Effect with Standard Conditions
☐ No Adverse Effect without Standard Conditions ☐ Adverse Effect/MOA ☐ Phasing/Project PA

Noise

23 CFR 772
☐ Is this a Type 1 project? ☐ Yes ☒ No (skip this section.)
☐ Future noise levels with project either approach or exceed NAC or result in a substantial increase.
If yes, ☐ Abatement is reasonable and feasible ☐ Abatement is not reasonable or feasible

Waters, Wetlands

- **Section 404 of the Clean Water Act**
  Impacts to Waters of the U.S.: ☒ Yes ☐ No; If yes, approval anticipated:
  ☒ Nationwide Permit ☐ Individual Permit ☐ Regional General Permit ☐ Letter of Permission
- **Section 401 of the Clean Water Act**
  ☐ Exemption ☒ Certification ☐ Not Applicable
- **Wetland Protection (Executive Order #11990)**
  ☒ No Wetland Impact
  ☐ Permanent Wetland Impact; Only Practicable Alternative Finding is included in a separate document in the project file

Biology

- **USFWS,** Species List Date: February 12, 2020 (must be < 180 days old)
  ☒ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with USFWS Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with USFWS Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **NOAA Fisheries,** Species List Date: _____ (must be < 180 days old) ☒ N/A: Project outside of NOAA jurisdiction
  ☐ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with NOAA Fisheries Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with NOAA Fisheries Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **Essential Fish Habitat (Magnuson-Stevens Act)** Findings (Effect determination):
  ☒ Magnuson-Stevens Fishery Conservation and Management Act does not apply
  ☐ No Adverse Effect ☐ Adverse Effect and consultation with NOAA Fisheries

[5] Please consult the SER for a complete list of applicable laws, statutes, regulations, and executive orders that must be considered before completing the CE.

Categorical Exclusion Checklist

Floodplains

Floodplains (Executive Order #11988)
☐ No Floodplains ☒ No Significant Encroachment ☐ Significant Encroachment

Section 4(f) Transportation Act (23 CFR 774)

Section 4(f) regulation was considered as a part of the review for this project and a determination was made:
☒ Section 4(f) does not apply
(*Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)*
☐ Section 4(f) applies
☐ *De Minimis*
☐ Programmatic: Type _____ (List one of the five appropriate categories as defined in 23 CFR 774.3)
☐ Individual: ☐ Legal Sufficiency Review complete ☐ HQ Coordinator Review Complete

Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants

Was the above property purchased with grant funds from the Land and Water Conservation Fund?
☒ No, Section 6(f) does not apply. No additional documentation required.
☐ Yes ☐ Documentation of approval from National Park Service Director (through California State Parks) has been received for the conversion/and replacement of 6(f) property.

Coastal Zone

Coastal Zone Management Act of 1972
☒ Not in Coastal Zone ☐ Qualifies for Exemptions ☐ Qualifies for Waiver ☐ Coastal Permit Required
☐ Consistent with Federal State and Local Coastal Plans ☐ Federal Consistency

Coast Guard – Bridge Over Navigable Waters of the U.S.

☒ Not applicable
☐ 23 USC 144(c) USCG Bridge Permit Exception
☐ 33 CFR 115.70 Advance Approval
☐ USCG Bridge Permit

Relocation and Right of Way

- **Relocations**

☒ No Relocations
☐ Project involves _____ (#) relocations and will follow the provisions of the Uniform Relocation Act.

- **Right of Way Acquisitions/Easements**

☐ No right of way acquisitions or easements
☒ Project involves ___0___ (#) acquisitions and ___2___ (#) easements.

Hazardous Waste and Materials

- Are hazardous materials or contamination exceeding regulatory thresholds (as set by U.S. EPA, Cal EPA, County Environmental Health, etc.) present? ☒ Yes ☐ No
- If yes, is the nature and extent of the hazardous materials or contamination fully known? ☐ Yes ☒ No

If no, briefly discuss the plan for securing information: As detailed in Section 4.9 of the IS/MND, an initial site assessment (ISA) was prepared for the proposed project. The project site is adjacent to the land uses such as commercial, industrial and public rights-of-way such as the I-5 freeway. Therefore, there may be contaminated soils that could potentially release lead or volatile organic compounds that could be hazardous. However, the proposed project would implement the recommended mitigation measures HAZ-1 to HAZ-3 from the ISA to ensure that hazardous conditions would be less than significant.

FSTIP

- *The project description on the Categorical Exemption/Categorical Exclusion Form matches the project description in the FSTIP and RTP, and the appropriate page of the FSTIP is in the project file.*

Response: Checked

Air Quality

- *Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.*
- *For 23 USC 326 projects which require an air quality conformity determination (this will apply to certain projects under 23 CFR 771.117(c)(22), (c)(23), (c)(26), (c)(27), and (c)(28)), list the date of the Caltrans conformity determination:*
- *For 23 USC 327 projects, list date of FHWA concurrence on conformity determination:*

Response: Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.

Cultural Resources

- ____*Section 106 compliance is complete.* ____*Screened Undertaking*
- *Select appropriate finding:*
  - *No Historic Properties Affected*
  - *No Adverse Effect with Standard Conditions*
  - No Adverse Effect without Standard Conditions
  - Adverse Effect/MOA Phasing/Project PA

Response: The project is currently in the Section 106 process. This section will be revised when it is complete. Please see **Section 3.3** of this document for more information.

Noise

23 CFR 772

- *Is this a Type 1 project? ___Yes _X_ No (skip this section.)*
- *Future noise levels with project either approach or exceed NAC or result in a substantial increase. If yes,*
  - *Abatement is reasonable and feasible*
  - *Abatement is not reasonable or feasible*

Response: *Is this a Type 1 project?* No (skip this section.)

Waters, Wetlands

- *Section 404 of the Clean Water Act*
  - *Impacts to Waters of the U.S.: ___Yes _X_No; If yes, approval anticipated:*
    - *Nationwide Permit*
    - *Individual Permit*

- *Regional General Permit*
- *Letter of Permission*

- *Section 401 of the Clean Water Act*
  - *Exemption*
  - *Certification*
  - *Not Applicable*

- *Wetland Protection (Executive Order #11990)*
  - *No Wetland Impact*
  - *Permanent Wetland Impact; Only Practicable Alternative Finding is included in a separate document in the project file*

Response: Impacts to Waters of the U.S.: Yes, Approval anticipated: Nationwide Permit 14 for Linear Transportation Projects.

Biology

- *USFWS, Species List Date: February 12, 2020 (must be < 180 days old)*
  - *No Effect Section 7 (Federal Endangered Species Act)*
  - *Consultation with USFWS Findings (Effect determination):*
  - *Not Likely to Adversely Affect with USFWS Concurrence. Date:*
  - *Likely to Adversely Affect with Biological Opinion Date:*

- *NOAA Fisheries, Species List Date: _____ (must be < 180 days old)*
  - *N/A: Project outside of NOAA jurisdiction*
  - *No Effect Section 7 (Federal Endangered Species Act)*
  - *Consultation with NOAA Fisheries Findings (Effect determination):*
  - *Not Likely to Adversely Affect with NOAA Fisheries Concurrence. Date:*
  - *Likely to Adversely Affect with Biological Opinion Date:*

- *Essential Fish Habitat (Magnuson-Stevens Act) Findings (Effect determination):*
  - *Magnuson-Stevens Fishery Conservation and Management Act does not apply*
  - *No Adverse Effect Adverse Effect and consultation with NOAA Fisheries*

Response: USFWS: Species List Date: February 12, 2020. No Effect Section 7 (Federal Endangered Species Act)
NOAA: N/A: Project outside of NOAA jurisdiction.
Essential Fish Habitat (Magnuson-Stevens Act) Findings (Effect determination): Magnuson-Stevens Fishery Conservation and Management Act does not apply.

Floodplains

- *Floodplains (Executive Order #11988)*
  - *No Floodplains*
  - *No Significant Encroachment*
  - *Significant Encroachment*

Response: No Significant Encroachment.

Section 4(f) Transportation Act (23 CFR 774)

- *Section 4(f) regulation was considered as a part of the review for this project and a determination was made:*
  - *Section 4(f) does not apply (Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)*
  - *Section 4(f) applies*
    - *De Minimis*
    - *Programmatic: Type (List one of the five appropriate categories as defined in 23 CFR 774.3)*
    - *Individual: Legal Sufficiency Review complete*
    - *HQ Coordinator Review Complete*

Response: Section 4(f) does not apply (Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)

Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants

- *Was the above property purchased with grant funds from the Land and Water Conservation Fund?*
  - *No, Section 6(f) does not apply. No additional documentation required.*
  - *Yes, Documentation of approval from National Park Service Director (through California State Parks) has been received for the conversion/and replacement of 6(f) property.*

Response: No, Section 6(f) does not apply. No additional documentation required.

Coastal Zone

- *Coastal Zone Management Act of 1972*
  - *Not in Coastal Zone*
  - *Qualifies for Exemptions*
  - *Qualifies for Waiver*
  - *Coastal Permit Required*
  - *Consistent with Federal State and Local*
  - *Coastal Plans Federal Consistency*

Response: Not in Coastal Zone.

Coast Guard – Bridge Over Navigable Waters of the U.S.

- *Not applicable*
- *23 USC 144(c) USCG Bridge Permit Exception*
- *33 CFR 115.70 Advance Approval*
- *USCG Bridge Permit*

Response: Not applicable.

Relocation and Right of Way

- *Relocations*
  - *No Relocations*
  - *Project involves (#) relocations and will follow the provisions of the Uniform Relocation Act.*
- *Right of Way Acquisitions/Easements*
  - *No right of way acquisitions or easements*
  - *Project involves (0) acquisitions and (2) easements.*

Response: No Relocations. Project involves (0) acquisitions and (2) easements.

Hazardous Waste and Materials

- *Are hazardous materials or contamination exceeding regulatory thresholds (as set by U.S. EPA, Cal EPA, County Environmental Health, etc.) present? _X_ Yes ___ No*
- *If yes, is the nature and extent of the hazardous materials or contamination fully known? _X_ Yes ___ No*
  - If no, briefly discuss the plan for securing information:

Response: Yes, Yes. As detailed in Section 4.9 of the IS/MND (UltraSystems Environmental Inc., 2020a), an initial site assessment (ISA) was prepared for the proposed project. The project site is adjacent to land uses such as commercial, industrial and public rights-of-way such as the I-5 freeway. Therefore, there may be contaminated soils that could potentially release lead or volatile organic compounds that could be hazardous. However, the proposed project would implement the recommended mitigation measures MM HAZ-1 to MM HAZ-3 from the IS/MND to ensure that hazardous conditions would be less than significant.

3.0 CHECKLIST RESPONSES SUPPORTING INFORMATION

This section provides additional supporting information for the Caltrans checklist Section B responses, as identified in **Section 2.0** of this document.

3.1 FSTIP (Federal Statewide Transportation Improvement Program)

The project description on the Categorical Exemption/Categorical Exclusion Form matches the project description in the FSTIP and RTP, and the appropriate page of the FSTIP is in the project file.

3.1.1 Project Description in the FSTIP and RTP

The proposed project is included in the Southern California Association of Governments (SCAG) 2019 Federal Transportation Improvement Program (FTIP) adopted September 6, 2018 (SCAG, 2018), which was incorporated into the 2019 Caltrans approved Federal Statewide Transportation Improvement Program (FSTIP), approved on December 17, 2018 (Caltrans, 2018). The project is also included as an Orange County Local Highway Project (FTIP ID ORA151508/Regional Transportation Plan [RTP] ID 2L220) (SCAG, 2018, Local Highway Project Listing for Orange County, p.4). The RTP the proposed project is included in as "RTP ID 2L220" is the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted April 4, 2012 (SCAG, 2012). **Appendix A** includes the pages from the FTIP and the RTP that list the proposed project.

The description of the proposed project presented in the FSTIP and FTIP is "*The Coyote Creek Class I Bikeway Segments O, P, Q - From La Mirada Boulevard and continuing south to the confluence of North and East Coyote Creek Flood Channel. PA&ED and PS&E ONLY*." PA&ED (Environmental Document/Pre-Design) and PS&E (Engineering/Plans, Specification and Estimate) refers to project phases programmed in the FTIP, See **Appendix A**.

A detailed description of the proposed project is presented in Section 3.0 of the IS/MND (UltraSystems Environmental Inc., 2020a), included in **Appendix C** of this document and a brief description is included below.

3.1.2 Project Description

OC Loop Segments O, P, and Q Coyote Creek Bikeway Project (proposed project) involves the construction of a 2.7-mile bikeway along the Coyote Creek Channel in the City of Cerritos on the south, through the City of La Mirada, to the City of Buena Park to the north. The 2.7-mile bikeway is a component of a 66-mile regional bikeway corridor called the OC Loop. The proposed project would be located along the northwest Orange County/southwest Los Angeles County border. **Figure 3.1-1** and **Figure 3.1-2** show the location of the project area in a regional context.

The southern terminus of the alignment would be located at the existing Coyote Creek Bikeway (in the City of Cerritos) at the confluence of the north and east forks of the Coyote Creek Channel. As presented on **Figure 3.1-3** the alignment of the proposed project trends in a northeast direction for approximately 2.7 miles, where it connects to Segment R of the Coyote Creek Bikeway at La Mirada Boulevard in the City of Buena Park.

Figure 3.1-1
REGIONAL LOCATION MAP

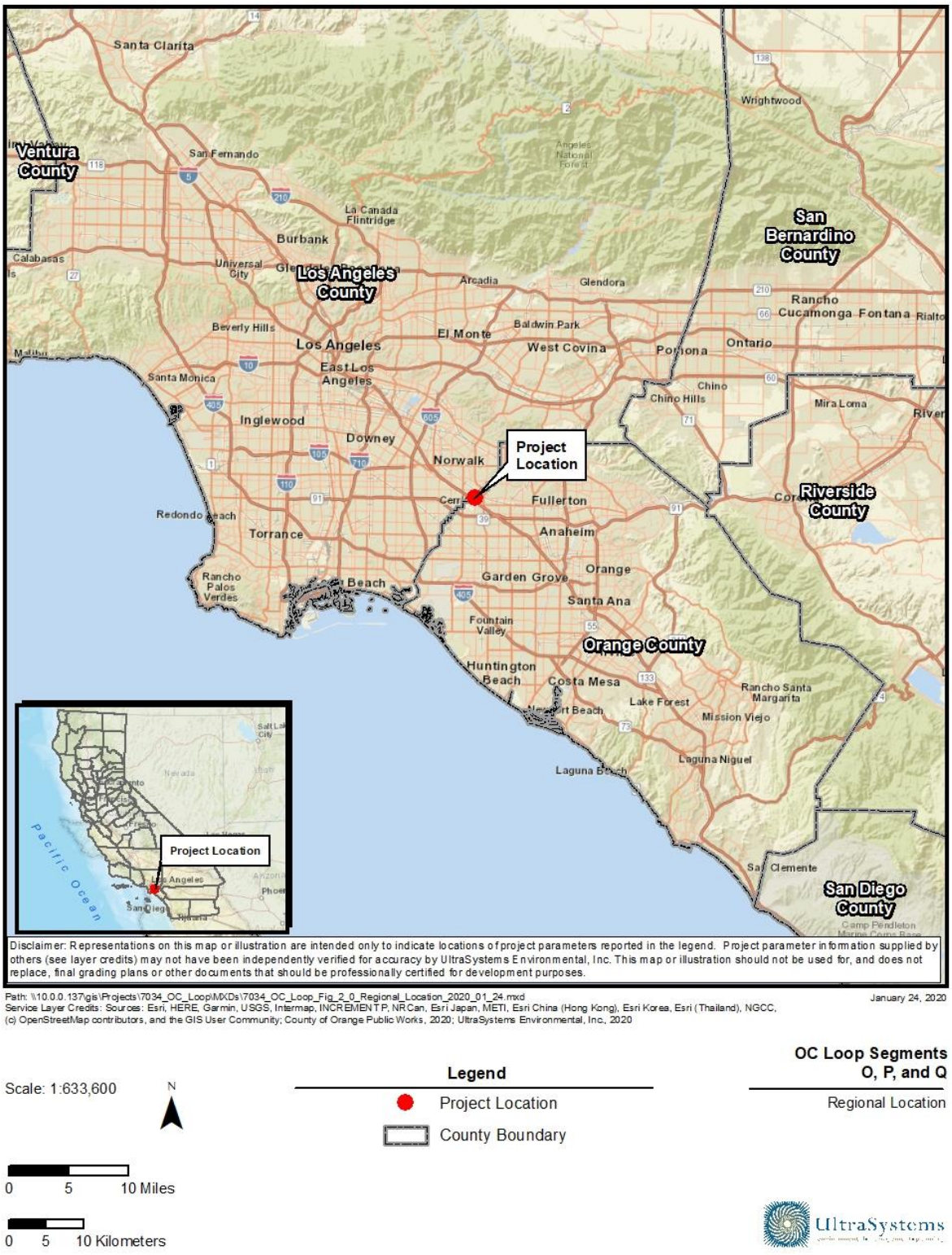


Figure 3.1-2
PROJECT VICINITY

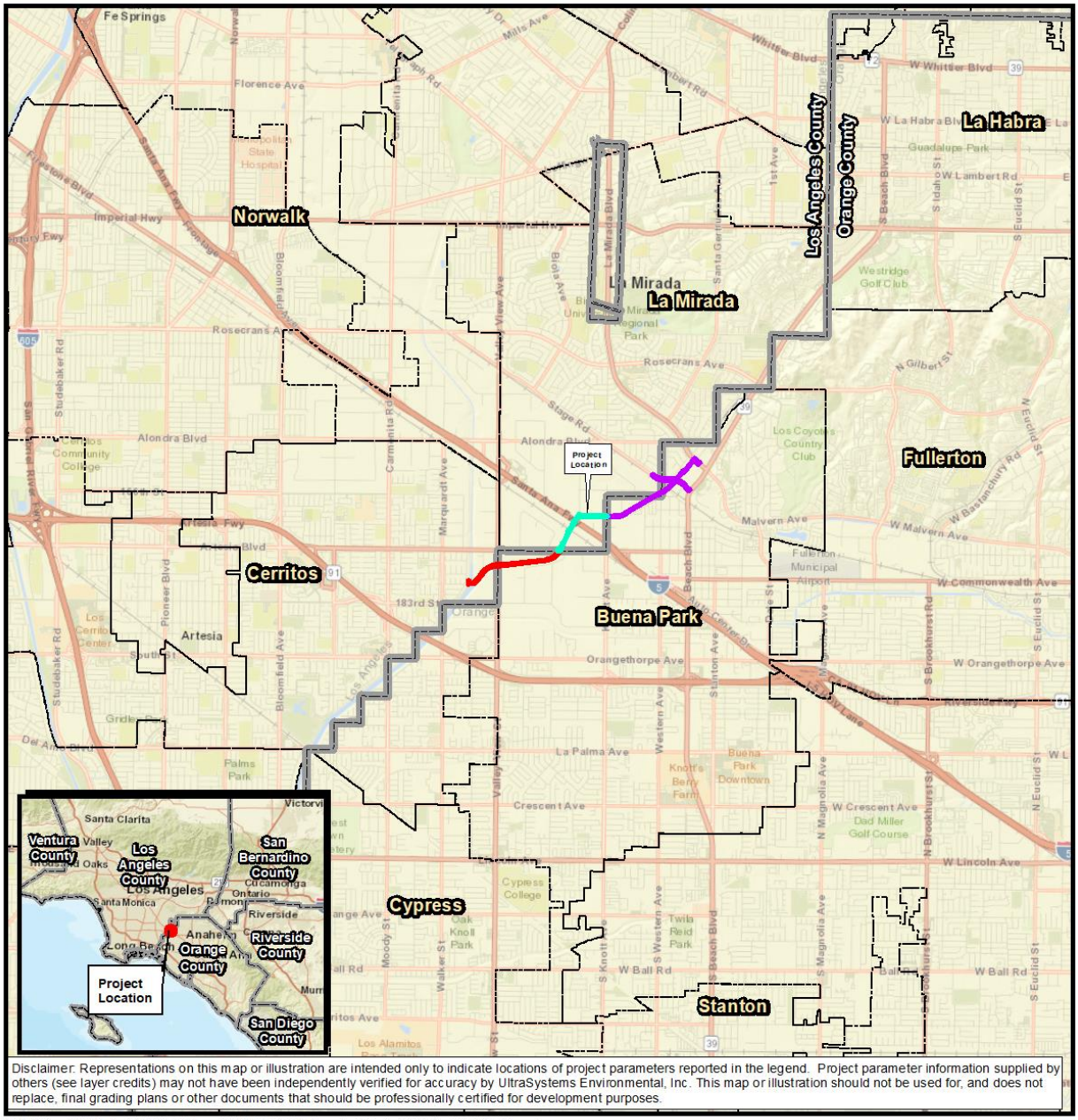
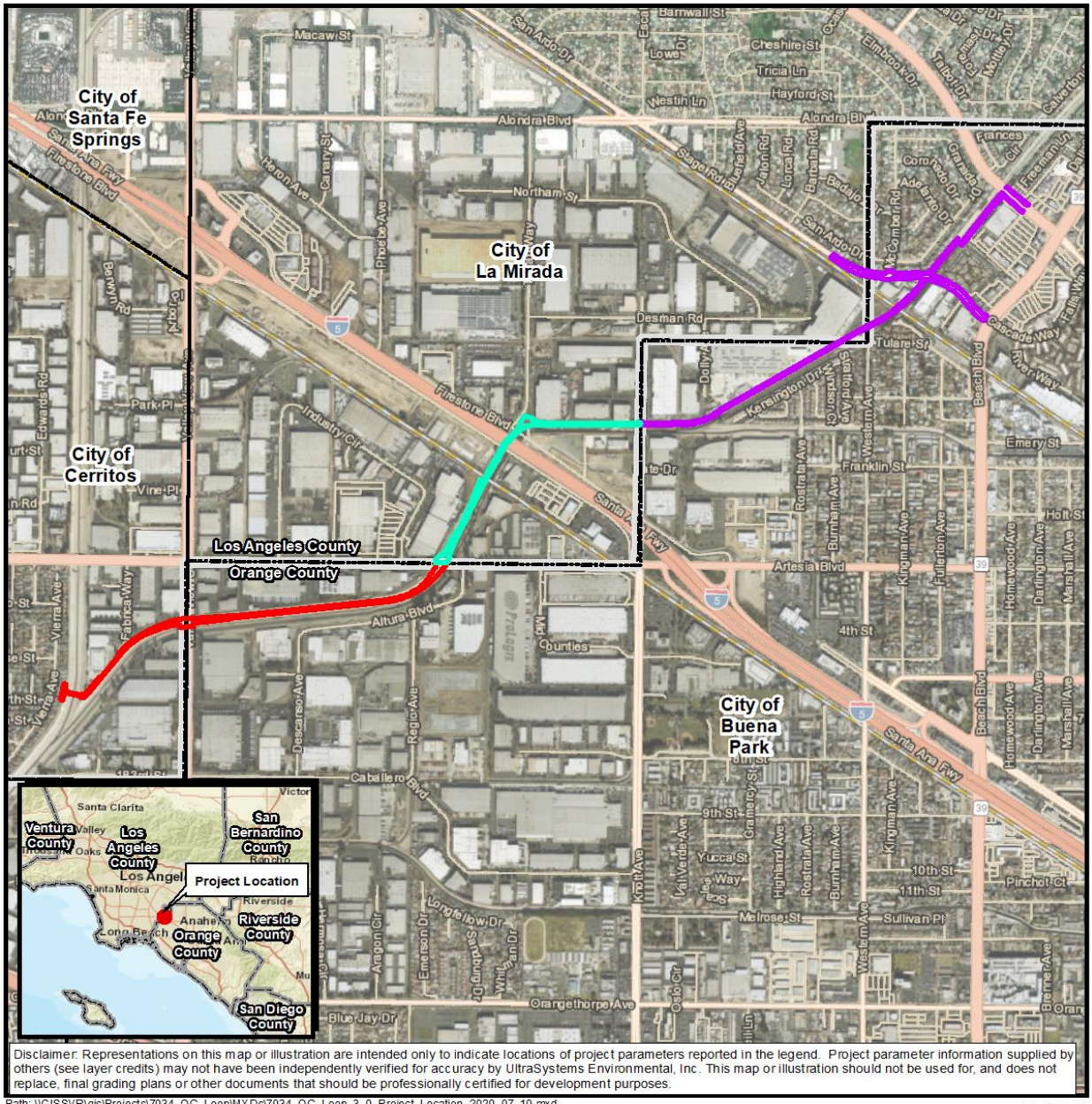


Figure 3.1-3
PROJECT LOCATION



3.1.2.1 Need

Areas along the OC Loop corridor that are open for bicycle traffic are in poor condition and the bikeway surface is not marked clearly. Bicycle traffic at the junction of the Coyote Creek Bikeway and the San Gabriel River Bikeway does not continue along the Coyote Creek Bikeway (Stantec Consulting Services Inc., 2015, p. 40). In some areas, the bikeway is improved on one bank, while in other areas it is improved on both sides. Bicyclists can find themselves at the end of a bikeway facing a heavily used arterial highway with a high speed-limit. In addition, there may be no traffic signals to facilitate crossing, a raised median may prohibit crossing, and no suitable way to use the roadway bridge to ride across the creek to reach the bikeway on the opposite bank (Stantec Consulting Services Inc., 2015, pp. 40-41).

3.1.2.2 Purpose

As discussed previously, the proposed project is listed as an Orange County Local Highway "Active Transportation Program" project in the 2019 FTIP (FTIP ID ORA151508/Regional Transportation Plan [RTP] ID 2L220) (SCAG, 2018, Local Highway Project Listing for Orange County, p.4). See **Appendix A**. Although the project is also located in Los Angeles County, it is only listed as an Orange County local highway project. The Active Transportation Program was created by Senate Bill 99 to encourage increased use of active modes of transportation, such as walking and biking, and consolidated various transportation programs into a single program. The goals of the Active Transportation Program include, but are not limited to, increasing the proportion of trips accomplished by walking and biking, increasing the safety and mobility of non-motorized users, advancing efforts of regional agencies to achieve greenhouse gas reduction goals, enhancing public health, and providing a broad spectrum of projects to benefit many types of users including disadvantaged communities. (California Transportation Commission, 2020)

As discussed in Section 3.0 of the IS/MND, once constructed, the proposed project would close an existing bikeway gap along the OC Loop with a bikeway/path physically separated from vehicular traffic. As an alternative mode of transportation, the proposed project would also increase the use of active transportation travel modes, enhance safety and mobility for non-motorized users, advance efforts to achieve greenhouse gas reduction goals, improve access and maintenance to the Coyote Creek Channel, and enhance public health. In addition, the proposed project is a safety and mobility enhancement for the County of Orange. The proposed project is included in the following regional and local plans.

- 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All, 2008).
- Southern California Association of Governments (SCAG), 2012. 2012-2035 Regional Transportation Plan (SCAG, 2012).
- 2012 Orange County Transportation Authority's (OCTA) Fourth District Bikeways Strategy (IBI Group and KTU+A, 2012).
- 2012 County of Orange General Plan, Transportation Element (as part of the Orange County Seven-Year Plan) (Orange County, 2012).
- 2015 OC Loop Gap Feasibility Study (Stantec Consulting Services Inc. and Alta Planning + Design, 2015).

The proposed project has the following objectives:

- To further establish the OC Loop as a significant regional recreational and alternative transportation facility resource.
- To facilitate increases in the public's use of active transportation travel modes.
- To enhance the safety and mobility for non-motorized users.
- To advance efforts to achieve greenhouse gas reduction goals.
- To improve the maintenance of, and access to, the Coyote Creek Channel.
- To enhance public health via the facilitation of increased public use of active transportation travel modes.
- To serve as a viable contributor to County policies and physical improvements designed to promote safety and mobility enhancement.
- To accurately serve its stated purpose in various adopted County/OCTA policy and planning documents including the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA/County of Orange Fourth District Bikeways Strategy Report, 2014 County of Orange General Plan, and the 2015 OC Loop Gap Feasibility Study.

3.1.3 Project Characteristics

The proposed project is divided into three Segments (O, P and Q) of the overall OC Loop (see **Figure 3.1-3**). From south to north, OC Loop Segment O extends northeasterly from the point of origin near the north fork of the Coyote Creek Channel to Artesia Boulevard. OC Loop Segment P extends northerly from Artesia Boulevard to Knott Avenue, while OC Loop Segment Q extends northerly from Knott Avenue to the terminus of the proposed project at La Mirada Boulevard. Conceptual drawings showing all of the improvements associated with the proposed project are provided as Appendix A of the IS/MND, which is included as **Appendix C** of this document, Plans for Improvement of Coyote Creek Bikeway Segments O, P and Q (OCFCD Facility No. A01). The plans originate at Station 10+00.0 (Coyote Creek Channel/North Fork) and terminate at Station 147+22.83 (La Mirada Boulevard/Malvern Avenue).

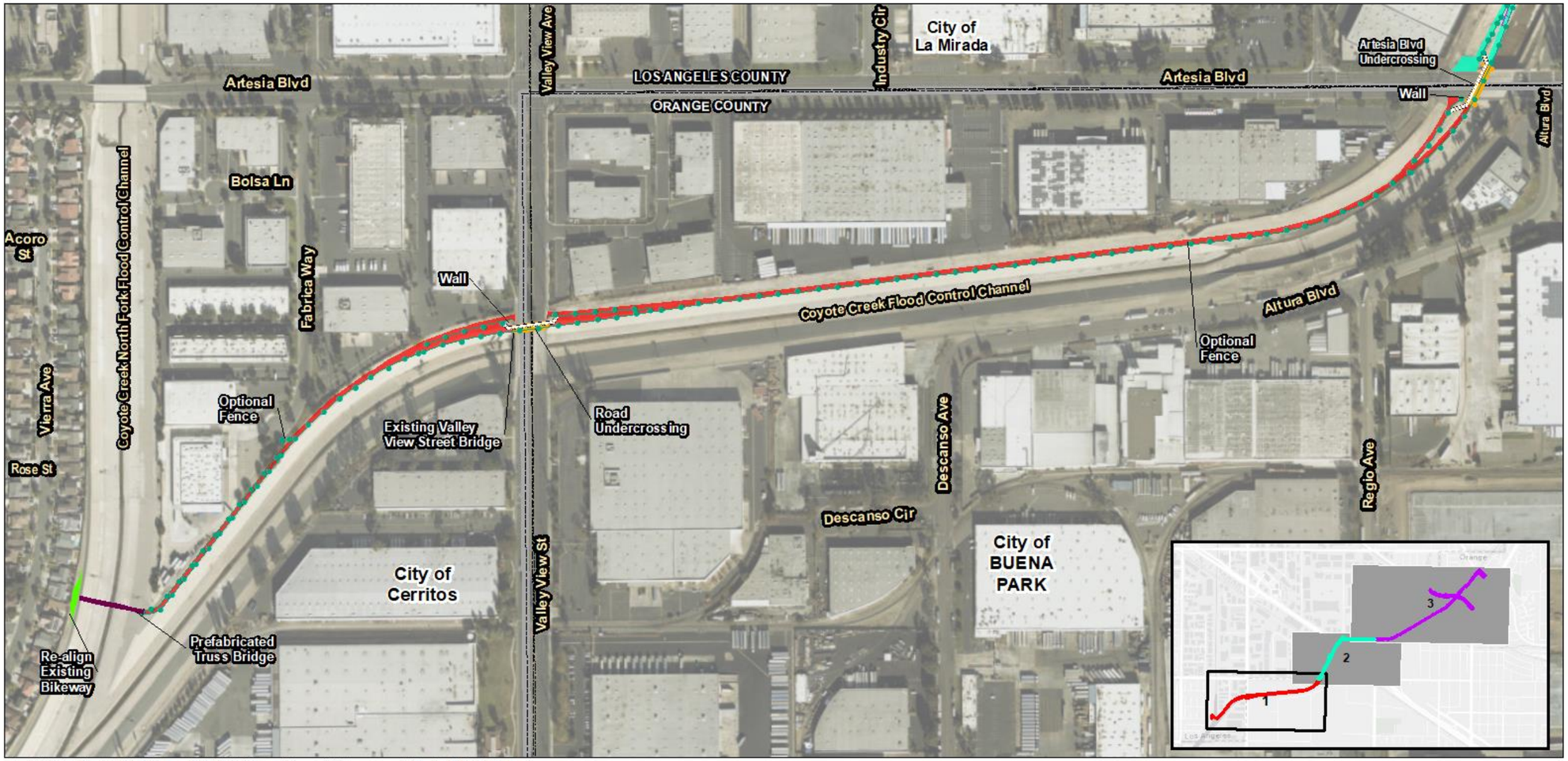
Following are summary descriptions of the main improvements planned as part of the proposed project, presented on a segment by segment basis. A number of utility crossings would be necessary to accommodate the proposed project. Existing flood control maintenance road ramps from the Coyote Creek Channel to existing roadways would be improved for bicycle access as well. Chain link or wire fencing would be provided where safety dictates on one or both sides of the bikeway.

3.1.3.1 Summary of Segment O Improvements

Location

Segment O is the southernmost portion of the project area and is located within the cities of Cerritos and Buena Park. Segment O begins at the existing Coyote Creek Bikeway at the confluence of the channel's east and north forks. The segment runs east-northeast for approximately 4,800 feet, or 0.91 mile, along the east fork of the Coyote Creek Channel to Artesia Boulevard. A plan view of the proposed improvements within OC Loop Segment O is depicted in **Figure 3.1-4**.

Figure 3.1-4
OC LOOP SEGMENT O IMPROVEMENT PLAN



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Los Angeles County, 2018; Orange County 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 01, 2020



N
Scale: 1:3,600
1 inch = 300 feet
1 cm = 36 meters
0 150 300 Feet
0 30 60 Meters

Legend

- Segment O Class I Bikeway
- Segment P Class I Bikeway
- City Boundary
- County Boundary

Proposed Features

- Optional Fence
- Prefabricated Truss Bridge
- Re-align Existing Bikeway
- Wall
- Undercrossing

OC Loop Segments O, P, and Q
Segment O

Map 1 of 3

UltraSystems

Pedestrian/Cyclist Bridge

At Station 10+00, at the confluence of the north and east forks of the Coyote Creek Channel, a 200-foot-long and 12-foot-wide pre-fabricated truss bridge would be installed across Coyote Creek at the north fork. Approximately four 18-wheeled flatbed trucks would deliver the bridge in several sections and workers would bolt the bridge together onsite. The pre-fabricated bridge would be bolted together on the floor of the concrete Coyote Creek Channel. It is estimated to take about two days to assemble the bridge onsite. Reinforced concrete end bents would be constructed (cast in place) prior to delivery of the bridge. The bridge would be lifted and placed on the end bents by two large cranes. Only pedestrians and cyclists would use the bridge, as it would not be rated for the weight of motor vehicles. The bridge would be steel and designed to have a rust patina ("weathered steel" look), to eliminate the need for future painting. The deck of the pedestrian bridge would be wood.

Approximately 1,570 linear feet of 12- to 16-foot-wide asphalt would be placed upstream of the pre-fabricated bridge to Valley View Avenue. About 1,750 cubic feet of asphaltic concrete used for the existing maintenance road would be removed and recycled before any new asphalt paving would be placed. The new asphalt would be approximately four inches thick over six inches of crushed aggregate base. Fencing, such as a five-foot-high chain link fence or four-foot tall cable fence with six strands of cable may be installed on one or both sides. The fencing may be installed along the entire 2.7 miles of new bikeway if necessary. The location of the fencing (either on one or both sides of the bikeway) would be determined later in the design process.

Valley View Avenue Bridge Undercrossing

The next feature of Segment O would be an undercrossing of Valley View Avenue that would be constructed into the side of the existing sloped bank of the concrete Coyote Creek Channel. An under-bridge bundle of AT&T conduit will need to be relocated. The existing concrete slope under the Valley View Bridge would be removed and steepened to near vertical to accommodate the new 12-foot-wide trail undercrossing. A tieback wall would be installed under the bridge and the construction would be located above the existing outfalls. Upstream of the Valley View undercrossing to Artesia Boulevard, approximately 3,010 feet of 14- to 16-foot-wide asphalt paving would be placed adjacent to the Coyote Creek Channel.

Artesia Boulevard Ramp

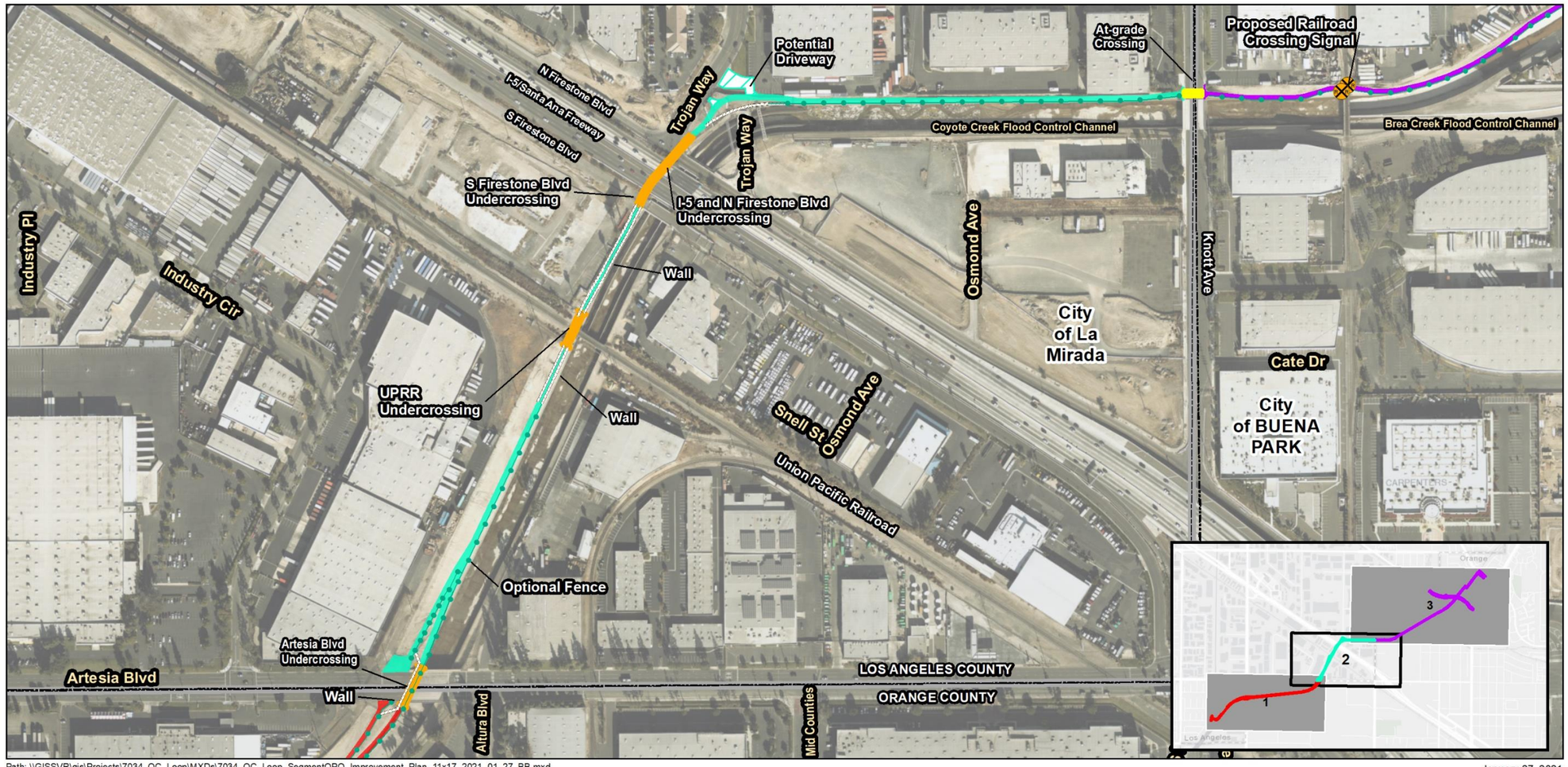
The bikeway ramp up to the south side of Artesia Blvd would generally follow the existing maintenance access road.

3.1.3.2 Summary of Segment P Improvements

Location

Segment P is located generally within the City of La Mirada in Los Angeles County and runs parallel to the north side of the Coyote Creek channel from the Artesia Boulevard undercrossing to Knott Avenue. It is approximately 3,000 feet long (equivalent to 0.57 mile) and crosses under the Interstate 5 (I-5) freeway, its frontage roads (South and North Firestone Boulevard), and the Union Pacific Railroad (UPRR) industrial lead. It includes 1,085 linear feet of new 14- to 16-foot-wide asphalt trail. A plan view of the proposed improvements within OC Loop Segment P is provided in **Figure 3.1-5**.

Figure 3.1-5
OC LOOP SEGMENT P IMPROVEMENT PLAN



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2021_01_27_BB.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

January 27, 2021

Undercrossing at Artesia Boulevard

Segment P begins at the Artesia Boulevard undercrossing, where there is currently a six-foot-wide strip of exposed dirt under the bridge between the bridge abutment and the vertical wall of the Coyote Creek Channel. Several concrete columns would be installed into the six-foot-wide strip of exposed soil between the bridge abutment wall and the concrete channel wall. The concrete columns would support a 13-foot-wide concrete deck, six to seven feet of which would cantilever over the Coyote Creek Channel. Approximately two to three feet of the top of the concrete flood control wall would be removed to ensure that there would be sufficient vertical clearance between the new bikeway and the bridge soffit. The existing concrete bridge abutment wall would be used as the flood control wall. Upstream from the Artesia Boulevard undercrossing would be about 1,200 feet of new 12- to 16-foot-wide asphalt paving.

Union Pacific Railroad Box Jack (Concrete Box) Underground Tunnel

The next feature in Segment P would be a 120-foot-long box jack construction of a reinforced concrete box culvert underground tunnel under the UPRR Industrial Lead. The box jacking operation would take two months and involve jacking a linear 134-foot-long, 12-foot-wide, and 10-foot-tall[1] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Upstream from the UPRR undercrossing to the South Firestone Boulevard undercrossing, the bikeway elevation remains below the top of the channel. Between the UPRR crossing and South Firestone Boulevard would be an open concrete U-channel to contain the new trail. The vertical U-channel walls would vary from 0 feet to about 13 feet high. This channel would slope down into the tunnel, with the wall height increasing as the depth increases, and then would slope upwards as it leaves the tunnel, with its walls decreasing in height. One method to construct this depressed cross-section is to make use of the existing channel wall and then excavate away from it toward the right-of-way line. A wall would then be needed on the opposite side to support the below-grade bikeway. It is anticipated that this wall's height most likely cannot be supported without ground anchors (or tiebacks) that extend beyond the right-of-way line. Therefore, a top-down wall without tiebacks could be constructed (such as a secant or tangent pile wall). Another method is to use shoring to excavate the "u-shape" then construct a "U-wall" similar to what is done for creek channels.

On the downstream side of this crossing are two abandoned fuel lines, a U.S. Navy jet fuel line and a Kinder Morgan oil pipeline. The project would cut, cap and remove the Chevron Oil fuel pipeline and the Navy jet fuel line.

South Firestone Boulevard Undercrossing

The project proposes an open cut of South Firestone Boulevard west of Coyote Creek and the installation of a 12-foot-wide by 9.25-foot-tall precast concrete box. The box under South Firestone Boulevard would be completed by closing all lanes of the road for approximately three weeks. A detour can be provided for each direction since South Firestone Boulevard has access on both ends. There are no residences within 2,400 feet of this site (the nearest residence is approximately 2,400 feet east of the site at the westerly end of the Kensington Drive cul-de-sac). After the concrete box has been installed, it would be covered with road base and paved to its original elevation. The existing Southern California Edison pole at South Firestone Boulevard may need to be relocated as

1 Inside dimensions.

part of the proposed project. If it is relocated, it would be moved within the ROW to the north side of the box culvert.

I-5 and North Firestone Boulevard Undercrossing

The 1-5 and North Firestone Boulevard undercrossing would be located upstream, northeast, of South Firestone Boulevard in the city of La Mirada. The I-5 Widening Project, which is separate from the proposed project, provides sufficient width for the tunnel between two bridge abutments at both the I-5 and North Firestone Boulevard. This section under the 1-5 and North Firestone Boulevard would need to be excavated to accommodate the proposed 12-foot-wide bikeway. Upstream of the l-5 and North Firestone Boulevard, the trail would continue adjacent to the top of the Coyote Creek Channel. Approximately 1,550 linear feet of 14- to 16-foot-wide asphalt trail would be placed between North Firestone Boulevard and Knott Avenue.

3.1.3.3 Summary of Segment Q Improvements

Location

Segment Q begins in the city of Buena Park, extends northwest into the city of La Mirada and ends in the city of Buena Park. More specifically, Segment Q extends from Knott Avenue to Stage Road and ends at La Mirada Boulevard in Buena Park and is approximately one mile long. It crosses a Burlington Northern Santa Fe Railway Company (BNSF) industrial lead, the heavily used Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor, and Stage Road before ending at La Mirada Boulevard. A plan view of the proposed improvements within OC Loop Segment P is provided in **Figure 3.1-6**.

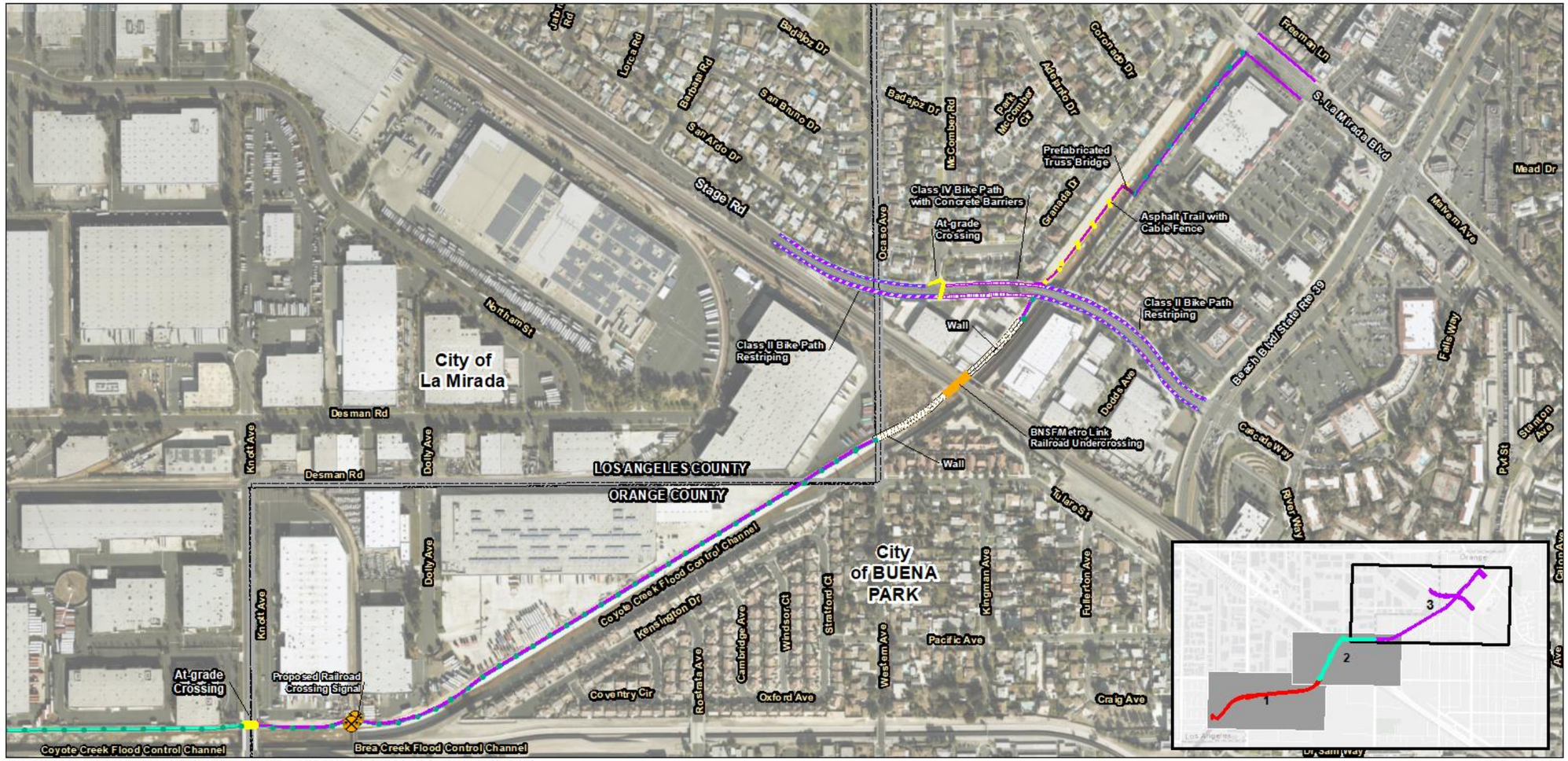
Knott Avenue at-Grade Crossing

The first component of Segment Q would be a signalized at-grade crossing at Knott Avenue. Traffic signals with push-button activation and crosswalk striping would be installed. Approximately 420 linear feet of 12- to 14-foot-wide asphalt trail would be installed upstream of Knott Avenue.

At-Grade Crossing of Burlington Northern Santa Fe Railway (BNSF) Railway Lead

Additionally, upstream of Knott Avenue (downstream of the confluence of Coyote Creek and Brea Creek) would be an at-grade crossing of a railroad industrial lead that serves only a few customers. BNSF is evaluating if this lead can be closed to the north of this crossing. If not closed, then because of the low volume, the California Public Utilities Commission and BNSF would not require warning signals; rather, zigzag fencing would be constructed on both sides so bicyclists are made to look in both directions before crossing. Upstream of this railroad crossing would be approximately 2,900 feet of 14- to 16-foot-wide new asphalt pavement along the Coyote Creek Channel.

Figure 3.1-6
OC LOOP SEGMENT Q IMPROVEMENT PLAN



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 01, 2020



N

Scale: 1:4,800
1 inch = 400 feet
1 cm = 48 meters

0 200 400 Feet

0 40 80 Meters

Legend

- Segment P Class I Bikeway
- Segment Q Class I Bikeway
- Segment Q Class II Bikeway
- Segment Q Class IV Bikeway with Concrete Barriers
- City Boundary
- County Boundary

Proposed Features

- Asphalt Trail and Cable Fence
- Optional Fence
- Wall
- At-grade Crossing
- Undercrossing
- Prefabricated Truss Bridge
- Proposed Railroad Crossing Signal

OC Loop Segments O, P, and Q

Segment Q

Map 3 of 3

UltraSystems

Undercrossing of the BNSF/Metrolink Railway Line

The next feature in Segment Q would be a 144-foot-long bore and jack of a reinforced concrete box culvert tunnel under an existing BNSF and Metrolink railway corridor, which carries three tracks at as well as a railroad turnout (i.e., railroad switch).[2] It is anticipated that the bridge would be widened for a fourth railroad track in a couple of years. The box jacking operation would take two months and involve jacking a linear 144-foot-long, 12-foot-wide, and 10-foot-tall[3] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Various utility lines are located in this area. On the downstream side of the existing railroad corridor, there is an abandoned Chevron fuel line. On the upstream side of the bridge are telecommunication lines in a concrete box girder conduit, but the fuel line and the telecommunication lines would not be in conflict with the proposed tunnel because they are above ground rather than underground. The project would cut, cap and remove the Chevron Oil fuel pipeline. A conflict with utilities would be avoided by relocating the abandoned Chevron Oil fuel line and jacking the RCB under the existing AT&T conduit (which is supported just above grade).A vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

Upstream of the BNSF/Metrolink Undercrossing

Upstream of the box section, between the BNSF/Metrolink undercrossing and Stage Road, would be an open U-channel to contain the new trail. The vertical U channel walls would vary from 0 feet to about 13 feet high. This portion of the trail would provide safe passage for pedestrian and bicyclists from the BNSF Metrolink undercrossing to the at-grade crossing of Stage Road described below.

At-Grade Crossing of Stage Road

The next feature in Segment Q would be an at-grade crossing of Stage Road in Buena Park. The fully signalized intersection would be located at McComber Road approximately 500 feet west of the channel. A typical fully functional "T intersection" traffic signal and crosswalk would be installed. This option would involve restriping the existing roadway to allow for a 12-foot-wide, barrier-separated, bikeway on both sides of Stage Road between McComber Road and the Coyote Creek Channel. A Class IV bikeway would be located between McComber and the Stage Road crossing and Class II striping transition would be located along Stage Road to the east of the Coyote Creek Channel and along Stage Road to the west of the intersection of McComber Road and Stage Road, as follows: restriping Class II bikeways would occur along Stage Road between Beach Boulevard to the east and approximately 300 feet west of the intersection of McComber Road and Stage Road. Additionally, new curb ramps would be installed at McComber Road and at the Coyote Creek Channel.

Pedestrian/Cyclist Bridge North of Stage Road Crossing Coyote Creek Channel

Upstream from Stage Road would be about 560 feet of new 12- to 16-foot-wide asphalt paving along the right bank of the Coyote Creek Channel. To meet up with the already constructed OC Loop Segment R on the other side of the channel, a pre-fabricated truss bridge, similar to the one being installed at the beginning of the project but much shorter, would be installed across the

2 A railroad turnout is a mechanical installation enabling railway trains to be guided from one track to another, such as at a railway junction or where a spur or siding branches off.

3 Inside dimensions.

Coyote Creek Channel. The bridge would be approximately 50 feet long, no more than about five to eight feet high, and 12 feet wide. Installation of the bridge would be completed in one day by using a large crane. Prior to the arrival of the bridge, the reinforced concrete bridge abutments would be formed and poured. Upstream from the pedestrian bridge would be 640 feet of new 12- to 16-foot-wide asphalt paving along the left bank of the Coyote Creek Channel.

La Mirada Boulevard Detour

The new and existing bikeway would be connected by directing cyclists onto La Mirada Boulevard and constructing a new 12-foot wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Several ornamental trees (up to 22 trees) would be removed (and replaced if desired by landowners/ or required by the city) and minor grading would be conducted to install the new Class I trail. The existing sidewalks for this 280-foot reach of La Mirada Boulevard would be included in the Class I trail.

Improvements at La Mirada Boulevard/Malvern Avenue

Along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor would "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities would remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on each side.

3.1.3.4 Landscaping

Other than an existing 280-foot-long by about 20-foot-wide strip of landscaping on both sides of La Mirada Boulevard, no other existing landscaping would be removed. No new or replacement landscaping is proposed (unless desired by landowner/or required by the City at La Mirada Boulevard) as part of this project. Signage and maps would be installed along the trail to direct users.

3.1.3.5 Stormwater

A Water Quality Management Plan (WQMP) that may include constructed stormwater quality enhancements would be prepared as a part of this project. The project would add impervious area. During project design, pervious pavement or impervious pavement with bioswale will be used for the bikeway to meet Regional Water Quality Control Board requirements. If bioswales are incorporated, periodic drainage pipes will be installed to the channel. Storm drain pipes would be placed at the lowest elevation of undercrossings to allow storm water to drain into the adjacent channel. Bioswales for water quality treatment would be employed at the downstream sides of both railroad undercrossings.

3.1.3.6 Lighting

The only lighting associated with the proposed project for the approximately 200 feet of bikeway under North and South Firestone Boulevard and the I-5 and the two railroad underpasses. The project does not propose any trail lighting. Light would be produced from signals (such as traffic signals) along the project alignment, as well as from existing street lighting in the vicinity of the bikeway.

3.1.3.7 Signage

Only standard and minimal bike signage and location maps conforming to OC Parks signage codes and criteria are required. There is additional detail in the 2015 OC Loop Gap Feasibility Study (Stantec Consulting Services Inc. and Alta Planning + Design, 2015) for Wayfinding signage guidelines.

3.1.3.8 Bikeway

Where the bikeway is at grade, the path would be asphalt and be 14 to 16 feet wide inclusive of the two-foot shoulders on each side, wherever a chain link fence or cable railing is added for safety. Where the bikeway would travel beneath-grade, the bikeway surface would be concrete and 10 to 14 feet wide with no shoulders.

3.1.3.9 Project Construction

Construction is anticipated to take between 18 months and two years and occur sometime between January 2023 and December 2024. Construction would occur in one stage. Construction workers would be able to park within the Coyote Creek Channel right-of-way via the street crossings (Valley View, Artesia, Firestone, Stage Road). All lanes of South Firestone Boulevard would be closed for approximately three weeks to install the precast box culvert for the bikeway.

Depending upon funding, project construction would occur in one, two or three phases; for example, the three segments (O, P, and Q) could be done one at a time. The project includes three contiguous gap closure segments; O, P, and Q. Because of the significant cost of the project overall and the need for state/federal grant funds to move forward, it is possible that grant funds will come in separate years for separate segments. The State has indicated that the County should simultaneously submit grant requests for the entire project and for each of the three segments separately for their next grant cycle. Therefore, the project may be done in two or three phases in different fiscal years, depending upon annual grant funding cycles. In general, construction phases could include:

- Demolition.
- Grading and excavation.
- Installing prefabricated bridges, walls and box jacking under both railroads.
- Placing concrete and asphalt.
- Final items (striping, signage, etc.).

It is anticipated that an average of about 20 construction employees would be onsite over 24 months.

Several utilities would be protected in place and the abandoned fuel lines mentioned previously on the downstream sides of the two railroad undercrossings would be cut, capped and removed. A power pole in the northwest quadrant at South Firestone Boulevard may require relocating. This pole supports a Southern California Edison power line and communications lines that may require relocating.

Construction Equipment

Proposed equipment anticipated to be used during project construction includes, but is not limited to, the following:

- Grading equipment for preparing the bikeway for paving.
- Excavation equipment (concrete saws, bulldozers, excavators, dump trucks) for going under Valley View Avenue, Artesia Boulevard, North and South Firestone Boulevard, and the I-5.
- Drilling rigs for end bents for the pedestrian bridge over the north fork of the Coyote Creek Channel, the tieback wall at Valley View Avenue, the piles for the bikeway foundation slab under Artesia Boulevard and the temporary shoring walls at both railroad undercrossings.
- Box-jacking equipment in pits for jacking the RCB under the two railroad corridors.
- Flatbed trucks and cranes for installing the steel prefabricated pedestrian bridges.
- Asphalt paving equipment for installing the bikeway surface where the bikeway is at grade.
- Concrete trucks for pouring the end bents for the pedestrian bridge over the north fork of the Coyote Creek Channel, and concrete walls on either side of the railroad undercrossings.
- Two cranes to install the two prefabricated bridges, with a period of use of approximately two weeks for each bridge.

Construction Staging

Construction staging would involve detouring traffic for the closure of South Firestone Boulevard for installation of the RCB. Additionally, a vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

3.1.3.10 Right-of-way Requirements

The proposed project would not require acquisition of rights-of-way or require relocation of residences or businesses. However, the project would require three permanent easements (one in Segment P and two in Segment Q) as described below and shown on **Figures 3.1-7** and **3.1-8**:

- **Segment P:** A permanent driveway easement for access to the Flood Control Channel at Trojan Way may be required. The Los Angeles County Flood Control District maintenance access driveway that Caltrans constructed needs to be reconnected after the bikeway is constructed. However, because of the difference in grade between the access driveway and the proposed bikeway, this reconstructed driveway may have a slope as steep as 15 percent, subject to future final design. Therefore, if the grade is not acceptable for the type of vehicles using it, then a permanent access easement would need to be obtained from the property owner so that the Los Angeles Flood Control District could use the property owner's driveway to access the Coyote Creek Channel when needed. See **Figure 3.1-7**.

- **Segment Q:** Two easements (one along the north side and one along the south side) on La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way. The contractor would "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities would remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on both sides. See **Figure 3.1-8**.

Figure 3.1-7
PERMANENT PROJECT EASEMENTS- SEGMENT P

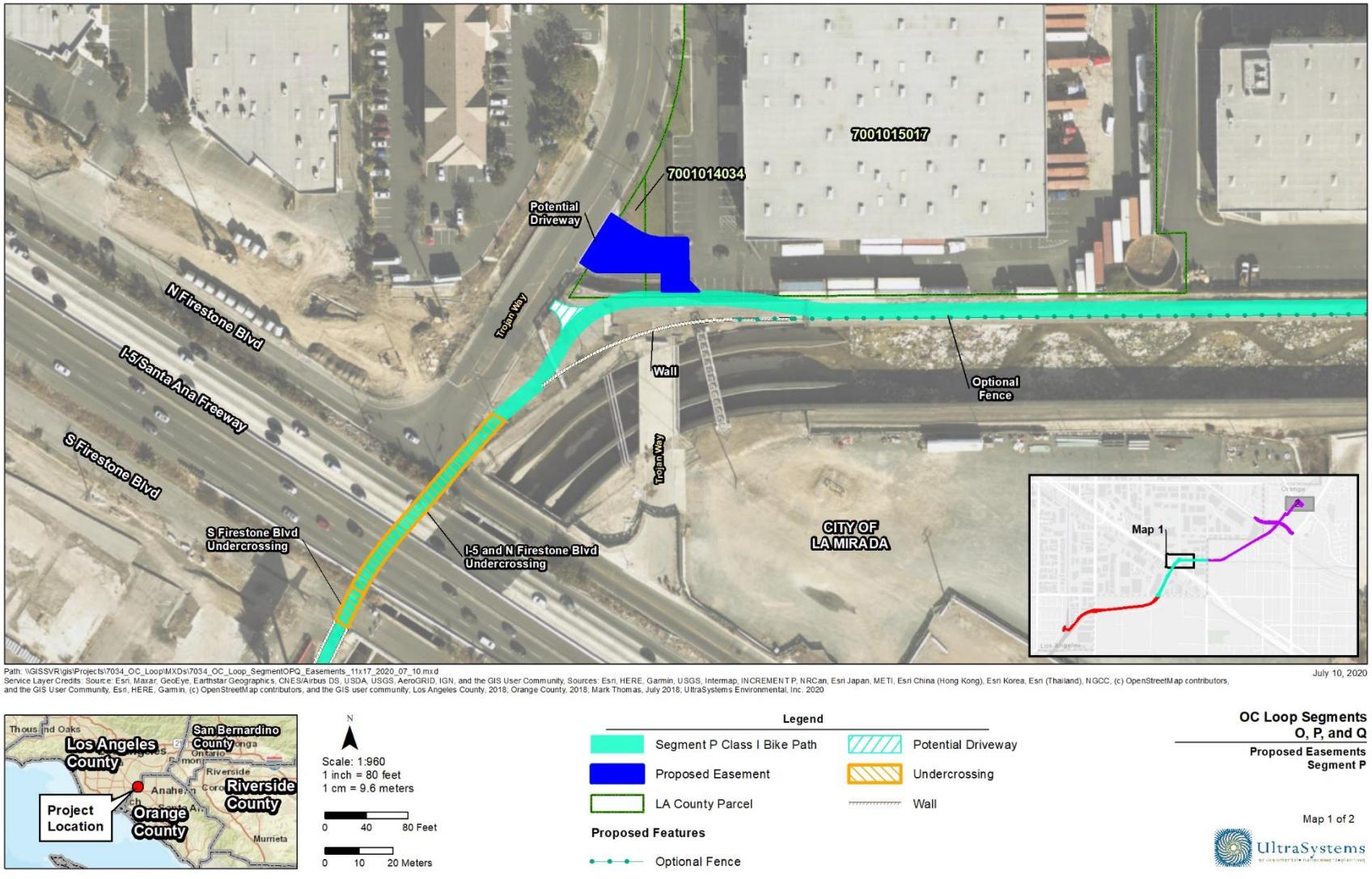
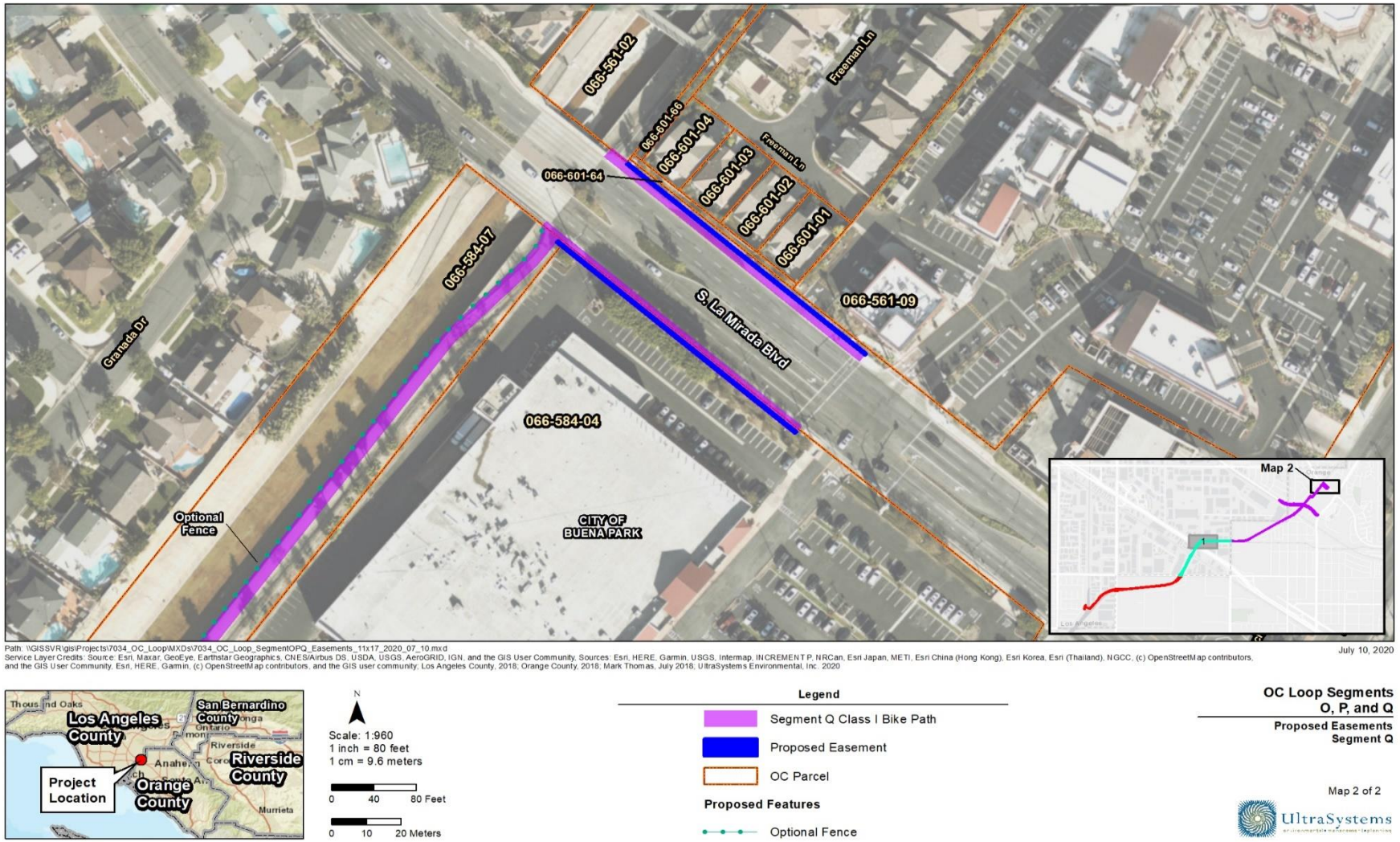


Figure 3.1-8
PERMANENT PROJECT EASEMENTS - SEGMENT Q



The right-of-way and agency permits, approvals, and/or agreements required for the project are listed in **Table 3.1-1** below:

Table 3.1-1
PERMITS AND APPROVALS

Federal	
Agency	**Required Permit and/or Agreements**
U.S. Army Corps of Engineers (USACE), Los Angeles District	• 404 Dredge and Fill permit • 408 Authorization to Alter a "Civil Works" project
State	
Agency	**Required Permit and/or Agreements**
Caltrans	• Construction and Encroachment permit
California Department of Fish and Wildlife (CDFW)	• 1602 Streambed Alteration Agreement
California Public Utilities Commission (CPUC)	• Approval of GO-88b permits at all three railroad crossings
Metrolink/Southern California Regional Rail Authority (SCRRA)	• Plan specification and estimate (PS&E) review and approval
State Water Resources Control Board (SWRCB)	• 401 Water Quality Certification
Regional	
Agency	**Required Permit and/or Agreements**
Los Angeles County Flood Control District (LACFCD)	• Construction and Encroachment permit
Orange County Flood Control District (OCFCD)	• Construction and Encroachment permit
Los Angeles Regional Water Quality Control Board (LARWQCB)	• 401 Water Quality Certification
Santa Ana Regional Water Quality Control Board (SARWQCB)	• 401 Water Quality Certification
Local	
Agency	**Required Permit and/or Agreements**
Orange County Public Works	• Construction permit
City of Cerritos	• Construction and Encroachment permit
City of Buena Park	• Construction and Encroachment permit
City of La Mirada	• Construction and Encroachment permit
Railroads and Utilities	
Agency	**Required Permit and/or Agreements**
Union Pacific Railroad (UPRR) and CPUC	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements
Burlington Northern and Santa Fe (BNSF) Railway and CPUC	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements • Plan specification and estimate (PS&E) review and approval
Chevron	• Agreement for Removal
Kinder-Morgan & U.S. Navy	• Agreement for Removal

3.2 Air Quality

Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.

3.2.1 Conformity Exemption

Certain types of projects are exempt from conformity requirements. These project types are found by U.S. EPA to be neutral from an air quality or emissions standpoint, and are listed in the Conformity Regulations at 40 CFR 93.126, 40 CFR 93.127, and 40 CFR 93.128. If a project fits one of the listed types, it may need little or no conformity analysis, and does not need to be individually listed and considered in regional conformity modeling (Caltrans, 2020b).The proposed project is listed in SCAG's 2019 as exempt under 40 CFR 93.126 (SCAG, 2018). Projects defined as exempt projects in §93.126 of the Transportation Conformity Regulations are exempt from the requirement to determine conformity (not required for regional and project level analysis). Exempt projects are listed in the 40 CFR 93.126 Transportation Conformity Regulations as Table 2--Exempt Projects and are listed in the Caltrans Local Assistance Procedure Manual, Chapter 6, Environmental Procedures (Caltrans, 2020c) under the heading of "Air Quality" as "Bicycle and pedestrian facilities".

3.2.2 Air Quality Conformity Findings Checklist

The Air Quality Conformity Findings Checklist is included in **Appendix D**. As stated previously, the proposed project is included in the SCAG 2019 FTIP (SCAG, 2018), which was incorporated into the Caltrans approved FSTIP, approved on December 17, 2018 (Caltrans, 2018). The letter from the FHWA dated December 17, 2018, the conformity analysis submitted indicates that all air quality conformity requirements have been met. This letter is also included in **Appendix D**.

Additional details regarding Air Quality are presented in Section 4.2 of the IS/MND, included in **Appendix C** of this document.

3.3 Cultural Resources

As of this writing, the National Historic Preservation Act (NHPA) Section 106 compliance process for this project has not been completed. Preparation and approval of an Historic Property Survey Report (HPSR) fulfills the Section 106 process for this project. The project is currently in the Section 106 process with the preparation and eventual approval of the HPSR. Revised draft sections (attachments to the HPSR), the Area of Potential Effect (APE) map and the Archaeological Survey Report (ASR), are currently being submitted by the County for review by Caltrans. Following Caltrans review and approval of the APE map and ASR, the HPSR itself will be drafted and submitted for Caltrans review. Caltrans approval of the forthcoming HPSR with standard conditions will complete the required Section 106 compliance. It is anticipated the project would have no adverse effect (with standard conditions) to cultural resources.

A Phase I Cultural Resources Inventory (O'Neil et. al, 2020) and an Archaeological Survey Report (ASR) (O'Neil, 2020) were prepared for the project. Refer to Section 4.5 of the IS/MND and Appendices D1 and D2 of the IS/MND.

The scope of the study included a historical/archaeological resources records search, historical and geoarchaeological background research, consultation with Native American and local community representatives, and a systematic field survey. Throughout the course of the study, no prehistoric

archaeological features or artifact deposits were encountered within the Area of Potential Effect (APE), and the subsurface alluvial sediments within the vertical extent of the APE appear to be low in sensitivity for potentially significant archaeological remains of prehistoric origin in buried deposits. There are two historic cultural resources that cross the APE, segments of the UPRR and the Burlington Northern Santa Fe Railway; the UPRR (19-186110/30-176630) intersects Segment P and the BNSF Railway (19-186804/30-176663) intersects Segment Q.

The UPRR site (19-186110/30-176630) intersects Segment P in Los Angeles County. See **Figure 3.1-5**. This segment of the UPRR was evaluated and determined to be eligible for the National Register of Historic Places (NRHP) listing. It was not assessed for eligibility under the California Register of Historical Resources (CRHR). The proposed project includes construction of a 120-foot-long reinforced concrete box underground tunnel under the UPRR line. The box jacking operation would take two months and involve jacking a linear 134-foot-long, 12-foot-wide, and 10-foot-tall[4] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks. The project would not remove or change the use of the railroad line.

The BNSF Railway (19-186804/30-176663) intersects Segment Q in Orange County. See **Figure 3.1-6**. This segment of the UPRR was evaluated for the NRHP and determined to not meet the criteria to qualify. It was not assessed for eligibility under the CRHR. The proposed project would have only an at-grade crossing at this location.

A Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search was conducted on and within a 0.5-mile buffer around the project site. The NAHC letter of February 11, 2020 indicated that there are no records documenting the presence of traditional cultural properties within this area.

The result of the pedestrian survey was negative for both prehistoric sites and isolates on the project site. Based on the results of the records search, tribal consultation, and the onsite field survey, it is unlikely that prehistoric cultural resources or tribal resources would be adversely affected by construction of the project.

Based on these findings, the present ASR concludes that no archaeological resources would be affected by the proposed project. It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop within 60 feet of the discovery until a qualified archaeologist can evaluate the nature and significance of the find. Additional surveys would be required if the project changes to include areas not previously surveyed.

With the presence of two historic cultural resources within the project site boundary, the UPRR and the Burlington Northern Santa Fe Railway, there may be an indirect impact to historic resources from construction of the proposed project. Project operations would have no impacts to historical cultural resources.

With implementation of Mitigation Measures **CUL-1** and **CUL-2** below, potential impacts related to historic and archaeological resources would be less than significant. (Assumes concurrence will be provided by Caltrans.)

4 Inside dimensions.

Mitigation Measure

MM CUL-1 Potential historical archaeological resources consisting of eight street bridges, three railroad bridges, and an oil pipeline crossing the Coyote Creek Channel are present within the project site. A qualified archaeologist/architectural historian shall be retained to prepare California Department of Parks and Recreation (DPR) site records and National Register of Historic Places (NRHP) evaluations of these several built features. The archaeologist/architectural historian, upon evaluation of the features and study of the trail construction plans, will determine if there is need for monitoring of these features during construction and if warranted, the archaeologist/architectural historian shall prepare a monitoring plan.

MM CUL-2 If prehistorical and/or historical archaeological resources are discovered during construction, the contractor shall halt construction activities within a 60-foot radius of the discovery and notify the County. An on-call qualified archaeologist shall be notified and afforded the necessary time to recover, analyze, and curate the find(s). The qualified archaeologist shall recommend the extent of archaeological monitoring necessary to ensure the protection of any other resources that may be in the area and afforded the necessary time and funds to recover, analyze, and curate the find(s). Construction activities may continue on other parts of the construction site while evaluation and treatment of historical or unique archaeological resources takes place.

3.4 Noise

23 CFR 772: Is this a Type 1 project? No (skip this section.)

23 CFR 772 defines a Type I project as.

> *"(1) The construction of a highway on new location; or,*
> *(2) The physical alteration of an existing highway where there is either:*
> > *(i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,*
> > *(ii) Substantial Vertical Alteration. A project that removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,*
>
> *(3) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,*
> *(4) The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,*
> *(5) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,*
> *(6) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,*
> *(7) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.*

(8) If a project is determined to be a Type I project under this definition then the entire project area as defined in the environmental document is a Type I project.

Since the proposed project is a bikeway, it does not fit into any of the categories listed above, and is therefore, not a Type I facility.

3.5 Waters, Wetlands

Impacts to Waters of the U.S.: Yes/Nationwide Permit 14 for Linear Transportation Projects

3.5.1 Section 404 of the Clean Water Act

The project alignment is located primarily adjacent to the Coyote Creek Channel. The Coyote Creek North Fork Channel is part of the U.S. Army Corps of Engineers (USACE) San Gabriel River/Coyote Creek 2 (SGR/CC2) Levee System and listed on the National Levee Database (NLD) as Coyote Creek SGR/CC2 (Segment ID 3804010114). The portion of the Coyote Creek channel located just south of the west end of the project alignment is listed as Coyote Creek 3 Levee System (Segment ID 3805010025). The remainder of the channel in the project area are Los Angeles County Levees. From southwest to northeast, these include Los Angeles County Levees 128, 86, and 129 (USACE, 2020a).

A Jurisdictional Delineation report (UltraSystems Environmental Inc., 2020b) was prepared for the proposed project and is included in Appendix F of the IS/MND. A desktop jurisdictional delineation and reconnaissance-level survey were conducted for the project. The entire Coyote Creek Channel within the study area is a concrete-lined flood control channel and is a "waters of the U.S." No wetlands were observed within the study area.

As discussed in the Jurisdictional Delineation report, the channels in the project area convey nuisance runoff and storm drain flow, which comprise the current (and historic) Coyote Creek Channel. The southernmost portion of the project area is the confluence of Coyote Creek Channel and the North Fork of Coyote Creek Channel, both tributaries to the San Gabriel River, ultimately terminating at the Pacific Ocean, in Long Beach, California. All flows within the channel are considered "jurisdictional" waters of the U.S. and protected under Sections 401 and 404 of the Clean Water Act (UltraSystems Environmental Inc., 2020b).

Section 4.4 of the IS/MND discusses proposed impacts to waters of the U.S. The proposed project includes the construction of two bridges across the Coyote Creek Channel, one on the west end of the project alignment (Segment O), across the Coyote Creek North Fork Channel, as shown on **Figure 3.1-4** and one located east of Stage Road (Segment Q) across the main Coyote Creek Channel, as shown on **Figure 3.1-6**.

No permanent impacts to waters of the U.S. are expected to occur as a result of the project. Temporary impacts to waters of the U.S. are defined as "Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, [and] are not in the measurement of loss of waters of the United States" (WTI, 2017, p. 337). Project-related impacts to waters of the U.S. (e.g. placement of scaffolding) would be restored to their preconstruction contours and elevations before construction is complete; therefore, all impacts to waters of the U.S. would be temporary impacts.

As shown on **Table 3.5-1**, temporary impacts include 0.69 acre to waters of the U.S. Direct, temporary impacts include areas adjacent to the project footprint that would be disturbed during construction but would be restored to preconstruction contours and elevations when construction is complete.

Table 3.5-1
SUMMARY OF IMPACTS TO WATERS OF THE U.S.

Project Segment	Temporary Impact (acres)	Permanent Impact (acres)	Total Impacts (acres)
Segment O	0.48	0	0.48
Segment P	0.05	0	0.05
Segment Q	0.15	0	0.12
Total	**0.69**	**0**	**0.69**

The project would require a Clean Water Act Section 404 Nationwide Permit (NWP 17 for Linear Transportation Crossings) for each crossing. As stated in the 2017 NWP Program for NWP 14 Linear Transportation Projects, "The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands." The project complies with USACE Los Angeles District Regional Conditions for the 2017 Nationwide Permits Program, and to all General Conditions. Due to the lack of permanent impacts (i.e., losses of waters of the U.S.), the project is not required to submit a Preconstruction Notification (PCN) pursuant to General Condition 32; however, in the interest of transparency, it is recommended that the project submit a PCN to the USACE, Los Angeles District.

Additionally, the project would require a Section 408 Authorization from the USACE to alter a "Civil Works" project, and a CWA Section 401 Water Quality Certification (under § 401 CWA, and in compliance with the Porter-Cologne Water Quality Control Act) from the State Water Resources Control Board (SWRCB).

3.5.2 Section 401 of the Clean Water Act

Certification. The project would require a CWA Section 401 Water Quality Certification since a 404 CWA permit is required. The SWRCB would be the permitting agency office for this project.

3.5.3 Wetland Protection (Executive Order #11990)

No Wetland Impact. According to the Jurisdictional Delineation report prepared for the project, (UltraSystems Environmental Inc., 2020b) no wetlands are located within the project alignment or within the proposed temporary work areas. Therefore, no wetlands would be impacted as a result of the proposed project.

3.6 Biology

3.6.1 USFWS, Species List Date: (must be < 180 days old)

No Effect Section 7 (Federal Endangered Species Act)

The list of threatened and endangered species that may occur in the proposed project location, and/or may be affected by the proposed project (official species list) was provided by the U.S. Fish and Wildlife Service (USFWS) pursuant the Federal Endangered Species Act for the proposed project. This list was issued by the Carlsbad Fish and Wildlife Office in a letter dated February 12, 2020 (USFWS, 2020). The species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under Section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). This letter is included in **Appendix E**. The project list is identified with Consultation Code: 08ECAR00-2020-SLI-0590, Event Code: 08ECAR00-2020-E-01404, and Project Name: OC Loop Segments O, P, and Q Coyote Creek Bikeway Project.

This letter stated there is a total of seven threatened, endangered, or candidate species on this species list and no critical habitats within the project area (USFWS, 2020). The seven species and their federal listing status include:

- Pacific Pocket Mouse (*Perognathus longimembris pacificus*), Endangered
- California Least Tern Sterna (*antillarum browni*), Threatened
- Coastal California Gnatcatcher (*Polioptila californica californica*), Endangered
- Least Bell's Vireo (*Vireo bellii pusillus*), Endangered
- Western Snowy Plover (*Charadrius nivosus nivosus*), Endangered
- Salt Marsh Bird's-beak (*Cordylanthus maritimus* ssp. *Maritimus*), Endangered
- Ventura Marsh Milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), Endangered

Section 4.4 of the IS/MND (included in **Appendix C** of this document) discusses existing biological resources and potential impacts to sensitive species. A Natural Environment Study (Minimal Impacts) (NES/MI) (UltraSystems Environmental Inc., 2020c) was prepared for the project and is included in Appendix C of the IS/MND. A reconnaissance-level biological resource field review was conducted for the proposed project alignment and a 150-foot buffer or Biological Study Area (BSA) on February 21 and March 6, 2020. Additional surveys included a tree inventory conducted on March 6 and focused acoustic bat surveys conducted on July 14 and 15, 2020. No federally listed endangered, threatened, or candidate species were observed within the BSA during the field surveys conducted.

A majority of the birds observed during the field surveys and those birds that could potentially breed within the BSA are protected by the Migratory Bird Treaty Act (MBTA) of 1918 (Title 16, U.S.C. §§ 703 - 712), as amended, which includes provisions for protection of migratory birds, including basic prohibitions against any take not authorized by federal regulation. The administering agency for the MBTA is the USFWS. Furthermore, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.).

The project site is primarily a concrete-lined flood control channel with adjacent compacted dirt right-of-way that is currently used as a maintenance access road. No natural communities or sensitive habitats were observed within the BSA during the field surveys; therefore, no direct impacts to natural communities or sensitive habitats are anticipated as a result of construction of the project. The BSA supports trees, vegetation, and other physical features that could potentially provide

foraging, nesting, and cover habitats to support a diverse assortment of bird species (year-round residents, seasonal residents, and migrants). Up to 22 ornamental trees would be removed on La Mirada Boulevard (up to eight on the north side and up to 14 on the south side). There are two rows of trees on the south side of La Mirada Boulevard and only one of the rows would be impacted; the other row of trees would not be removed. The removed trees may be replaced if desired by landowners or if required by the city of La Mirada. Therefore, the project has the potential to directly and indirectly take individual breeding birds, their nests, young, or eggs. Project development is not expected to cause a substantial impact to bird species that only forage at the site or occur as transient visitors. The NES/MI (UltraSystems Environmental Inc., 2020c) includes the following Mitigation Measures **BIO-5: Nesting Bird Surveys**, and **BIO-6: General Wildlife Avoidance and Protection Measures,** to minimize or avoid potential direct and indirect effects on MBTA-protected bird species.

MM BIO-5 Nesting Bird Surveys

To be in compliance with the MBTA and the California Fish and Game Code, and to minimize or avoid direct and indirect impacts to migratory non-game breeding birds, and their nests, young, and eggs, the following measures shall be implemented.

- Project activities that will remove or disturb potential nest sites should be scheduled outside the nesting bird season, if feasible. The nesting bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions. Raptors are known to begin nesting early in the year. The raptor nesting bird season begins January 31.

- If project activities that will remove or disturb potential nest sites cannot be avoided during January 31 through September 15, a qualified biologist shall conduct a pre-construction survey for breeding bird activity or active nests within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. A lapse of no more than seven days shall occur between nesting bird surveys.

- If no breeding bird activity or active nests are observed during the pre-construction survey(s), or if they are observed and will not be affected, then project activities may begin and no further nesting bird monitoring shall be required.

- If an active bird nest is located during the pre-construction survey and potentially will be affected, a no-activity buffer zone shall be delineated on maps and marked by fencing, stakes, flagging, or other means up to 500 feet for special-status avian species and raptors, or up to 100 feet for non-special status avian species. Materials used to demarcate the nests shall be removed as soon as work is complete or the fledglings have left the nest. The biologist shall determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones shall not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or

the young will no longer be affected by project activities. Periodic monitoring by a biologist shall be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone.

- If special-status bird species, such as the Least Bell's Vireo, are observed within the project site during the pre-construction surveys, then a qualified biologist shall delineate individual species' nesting territories, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary, and (2) select suitable mitigation measures. Project activities shall not begin within the area until concurrence is received from the appropriate resource agencies.

MM BIO-6 General Wildlife Avoidance and Protection Measures

The project site contains habitats which have the potential to support some wildlife species. Although not much wildlife has been observed utilizing this urban area[5] (please see Section 4.4.2 of the IS/MND for full list) during the two field surveys, including bats at Stage Road and the Coastal Whiptail, Orange County Public Works or its contractor shall implement the following general avoidance and protection measures to protect wildlife, to the extent practical.

- To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. If nighttime work is required, the Qualified Biologist shall assess the construction area to determine if there are any biological concerns for nighttime work. Nighttime work (and use of artificial lighting) shall not be permitted unless specifically authorized by the wildlife agencies. If required, night lighting shall be directed away from the preserved open space areas. All unnecessary lights shall be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats.

- If any wildlife is encountered during project activities, it shall be allowed to freely leave the area unharmed.

- Wildlife shall not be disturbed, captured, harassed, or handled. Fishing shall be prohibited at the project site. Animal nests, burrows and dens shall not be disturbed without prior survey and authorization from a qualified biologist.

- Active nests shall not be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist.

- To avoid impacts to wildlife, Orange County Public Works or its contractor, shall comply with all litter and pollution laws and shall institute a litter control program throughout project construction. All contractors, subcontractors, and employees shall adhere to this program. Trash and food items shall be disposed of promptly in predator-proof containers with resealing lids, or removed offsite

5 Wildlife survey limitations include: (1) A two-day survey cannot be used to conclusively determine presence or absence of a wildlife species, (2) biological surveys were conducted during daylight hours to maximize the ability to observe most wildlife, and (3) Many species are nocturnal, move about a territory, may have become dormant for the season, or are less active during weather extremes.

each day. These covered trash receptacles shall be placed at each designated work site and the contents shall be properly disposed at least once a week. Trash removal would reduce the attractiveness of the area to opportunistic predators such as common ravens (*Corvus corax*), northern raccoons (*Procyon lotor*), Virginia opossums (*Didelphis virginiana*), and coyotes (*Canis latrans*).

- Contractors, subcontractors, employees, and site visitors shall be prohibited from feeding wildlife and collecting wildlife.

- To avoid the potential for mortality and harassment of wildlife, all non security-related firearms, weapons, and domestic dogs shall be prohibited from the project site.

- All pitfalls (trenches, holes, bores, detention basins, and other excavations) greater than two feet deep shall be completely covered at the end of each work day, or escape ramps provided.

In conclusion, based on the results of the field surveys, construction and operation of the proposed project would result in no effect to federally listed species and habitats. With implementation of the above mitigation measures during construction, the proposed project would not likely adversely affect birds under the protection of the MBTA.

3.6.2 NOAA Fisheries, Species List Date: (must be < 180 days old)

N/A: Project outside of NOAA jurisdiction. The project site is not located within the NOAA jurisdiction.

The project is located outside of the jurisdiction of the NOAA; therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries are anticipated.

3.6.3 Essential Fish Habitat (Magnuson-Stevens Act) Findings (Effect determination):

Magnuson-Stevens Fishery Conservation and Management Act does not apply. The project site is not located within an essential fish habitat.

3.7 Floodplains

Floodplains (Executive Order #11988)/No Significant Encroachment.

Additional information is included in Section 4.10, Hydrology and Water Quality, of the IS/MND (UltraSystems Environmental Inc., 2020a), included as **Appendix C** of this document.

The proposed alignment is located in Zone X, *Areas determined to be outside the 0.2% annual chance* [500-year] *floodplain*, as shown on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) Map Numbers 06037C2000F, 06059C0107J, 06037C1844F, 06059C0019J and 06059C0038J (FEMA, 2009). The 500-year Flood Zone describes a flood event that has a 0.2 percent chance of occurring in any year.

The project proposes undercrossings via the use of box culverts and pedestrian bridge crossings. A *Hydraulics Study for Artesia Boulevard & Valley View Street Undercrossings (Revision 1*; Hydraulics Study*)* was prepared for OC Loop Segments O, P, and Q (GHD, 2020; Appendix I of the IS/MND) to

establish the existing flow rates along the project limits with a focus on the two bridge undercrossings that require encroachment into and modification of the existing Coyote Creek Channel. The purpose of the study was to ascertain whether the construction of the proposed bike undercrossings at Valley View Street and Artesia Boulevard would result in increased water surface levels or capacity exceedance within the Coyote Creek Channel at each undercrossing, and one thousand feet upstream and downstream of each undercrossing.

The Hydraulics Study concluded that the proposed improvements would have minimal impact to the water surface elevation within Coyote Creek Channel at the proposed under crossings at Valley View Street and Artesia Boulevard. Implementation of the proposed project at these undercrossings would not result in increased water levels such that the water surface would impact existing infrastructure or tributary improvements (GHD, 2020, p. 9; Brandon Willnecker, *personal communication*, August 21, 2020). Therefore, development of the project would not impede or redirect flood flows. The project would have no impact and no effect in this regard.

3.8 Section 4(f) Transportation Act (23 CFR 774)

Section 4(f) does not apply (Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)

According to Caltrans Standard Environmental Reference, Volume I, Chapter 20 - Section 4(f) (Caltrans, 2020b), Section 4(f) properties include:

- Publicly-Owned Public Parks, Recreational Areas, or Wildlife or Waterfowl Refuges

- Historic sites on or eligible for the National Register of Historic Places and archaeological sites on or eligible for the National Register of Historic Places and which warrant preservation in place as determined by the Department and the official(s) with jurisdiction.

See **Section 3.3** above, Section 4.5 of the IS/MND, and Appendices D1 and D2 of the IS/MND. The UPRR site (19-186110/30-176630) intersects Segment P in Los Angeles County. See **Figure 3.1-5**. This segment of the UPRR was evaluated and determined to be eligible for the National Register of Historic Places (NRHP) listing. It was not assessed for eligibility under the California Register of Historical Resources (CRHR). The proposed project includes construction of a 120-foot-long reinforced concrete box underground tunnel under the UPRR line. The box jacking operation would take two months and involve jacking a linear 134-foot-long, 12-foot-wide, and 10-foot-tall[6] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks. The project would not remove or change the use of the railroad line.

3.9 Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants

Was the above property purchased with grant funds from the Land and Water Conservation Fund?
No, Section 6(f) does not apply. No additional documentation required.

6 Inside dimensions.

3.10 Coastal Zone

Coastal Zone Management Act of 1972: Not in Coastal Zone

The project site is not located within or near a coastal zone area. The closest coastal zone is located approximately eight miles south and southwest of the project site.

3.11 Coast Guard – Bridge Over Navigable Waters of the U.S.

Not applicable.

The two proposed bridges would be constructed over the Coyote Creek Channel, which is not a navigable water of the U.S. The closest navigable Waters of the U.S. is the San Gabriel River up to the 7th Street bridge in Orange County (USACE, 2020b), which is located approximately 7.5 miles southwest of the project site.

3.12 Relocation and Right-of-Way

3.12.1 Relocations

No Relocations. The proposed project alignment is primarily within existing public rights-of-way adjacent to the Coyote Creek Channel and within roadways. No existing buildings would be impacted and no relocations of business or residences would be required. There are utilities that would need to be moved. At the Valley View Avenue bridge, an under-bridge bundle of AT&T conduit would be relocated. The existing Southern California Edison pole at South Firestone Boulevard may need to be relocated as part of the proposed project. If it is relocated, it would be moved within the ROW to the north side of the proposed box culvert.

3.12.2 Right-of-Way Acquisitions/Easements

Project involves (0) acquisitions and (2) easements. As stated previously, the proposed project would not require acquisition of rights-of-way or require relocation of residences or businesses. However, the project would require three permanent easements (one in Segment P and two in Segment Q) as described below and shown on **Figures 3.1-7** and **3.1-8**:

- **Segment P:** A permanent driveway easement for access to the Flood Control Channel at Trojan Way may be required. The Los Angeles County Flood Control District maintenance access driveway that Caltrans constructed needs to be reconnected after the bikeway is constructed. However, because of the difference in grade between the access driveway and the proposed bikeway, this reconstructed driveway may have a slope as steep as 15 percent, subject to future final design. Therefore, if the grade is not acceptable for the type of vehicles using it, then a permanent access easement would need to be obtained from the property owner so that the Los Angeles Flood Control District could use the property owner's driveway to access the Coyote Creek Channel when needed. See **Figure 3.1-7**.

- **Segment Q:** Two easements (one along the north side and one along the south side) on La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way. The contractor would "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any

surface-evident utilities would remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on both sides. See **Figure 3.1-8**.

3.13 Hazardous Waste and Materials

Are hazardous materials or contamination exceeding regulatory thresholds (as set by U.S. EPA, Cal EPA, County Environmental Health, etc.) present? Yes

If yes, is the nature and extent of the hazardous materials or contamination fully known? Yes

If no, briefly discuss the plan for securing information:

As detailed in Section 4.9 of the IS/MND, an Initial Site Assessment (ISA), dated March 23, 2020 (Citadel, 2020a), was prepared by Citadel EHS (herein referred to as Citadel) for the OC Loop Segment O, P, and Q Coyote Creek Bikeway Project. Citadel also prepared an Addendum (dated June 26, 2020) to the ISA (Citadel, 2020b) to address permanent easements for the project. The ISA report and addendum are included in Appendices E1 and E2 of the IS/MND. The purpose of the ISA and addendum was to review past and present land use practices and to evaluate the presence, or likely presence, of any hazardous substances or petroleum products that have been discharged into the ground, groundwater, or surface water. This qualitative assessment was accomplished by a review of current and readily available information regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the project site. Additionally, a site visit was conducted by Citadel staff to observe existing conditions (Citadel, 2020a, p. 1). The ISA focuses on properties along the Coyote Creek Channel that may adversely impact the vicinity of the construction areas and workers. The radius of the ISA extends approximately 100 feet from the project path although select properties located beyond the 100-foot radius were reviewed in light of their potential environmental impact to the segments (Citadel, 2020a, p. i).

An Addendum to the ISA dated June 26, 2020 (Citadel, 2020b) was prepared to address the proposed permanent easements for the project. The one easement at Trojan Way is located in Segment P and the two easements on La Mirada Boulevard are located at the north end of Segment Q.

The following is a summary of the findings of the ISA and Addendum to the ISA by project segment (Citadel, 2020a, pp ii-iii; 2020b):

Segment O

Several of the properties along the channel were identified with former underground storage tanks (USTs) and leaking underground storage tanks (LUSTs). However, most of the cases for the LUSTs have been closed or are eligible for closure. For those LUST cases that are open and/or ineligible for closure, based on location or remediation efforts, they were not expected to represent a significant environmental concern to the project site (Citadel, 2020a, p. 11). No environmental concerns were identified for Segment O (Citadel, 2020a, p. ii).

Segment P

Several of the properties along the channel were identified with former USTs and LUSTs, the cases for the LUST have been closed. However, the property located at 14730 Firestone Boulevard was occupied by print shops with spray booths in 2004 and 2006. Aquatic Stands and More occupied the

space in 2004; and California Ink Printing occupied the space in 2006. Solvent-based inks were identified in 2006. No further information was provided. Based on the use of spray booths and solvent-based inks, this property may be a vapor encroachment condition (VEC) concern to Segment P (Citadel, 2020a, p. ii).

In addition, the exposure to the fuel pipelines by the railway tracks may be an environmental concern; however, the pipelines are aboveground and crosses over the channel. The proximity of the Interstate 5 Freeway to Segment P and to the easement at Trojan Way may be a recognized environmental condition (REC) due to possible shallow soil contamination of aerially deposited lead (ADL) from vehicle exhaust (Citadel, 2020a, p. ii; 2020b).

Segment Q

Several of the properties along the channel were identified with releases and LUSTs, the cases for the leaks have been closed. However, the proximity to the underground Chevron fuel pipeline along Segment Q may represent a REC due to possible future releases (Citadel, 2020a, pp. ii-iii).

The two easements on La Mirada Boulevard are located at the north end of Segment Q and are landscaped areas. The proximity of La Mirada Boulevard to the easements along the road may be RECs due to possible shallow soil contamination of ADL from vehicle exhaust (Citadel, 2020b, p. 1).

Summary of Potential Impacts and Mitigation Measures

The ISA determined that there are several recognized environmental conditions[7] (RECs) in connection with the project site, and that there is a source of a release that would be likely to contribute to a vapor encroachment condition[8] (VEC), as described below (Citadel, 2020a, p. 21):

- The property located at 14730 Firestone Boulevard along Segment P was occupied by print shops with spray booths in 2004 and 2006. Based on the use of spray booths and solvent-based inks, this property may represent a VEC concern to Segment P;

- The proximity of the Interstate 5 Freeway to Segment P may be a REC due to possible shallow soil contamination of ADL from vehicle exhaust; and

- The proximity of the underground Chevron fuel pipeline along Segment Q may present a REC due to possible future releases.

As discussed in Section 4.9 of the IS/MND, recommendations from the ISA have been incorporated as mitigation measures **HAZ-1** through **HAZ-3** below. These measures would reduce potential impacts to a less than significant level and thus construction and operation of the project is not likely to adversely affect the project area due to hazardous materials.

7 A recognized environmental condition means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (Citadel, 2020a. p. 20).

8 A vapor encroachment condition is the presence or likely presence of chemicals of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater or both either on or near the target property (Citadel, 2020a p. 21).

Mitigation Measures

MM HAZ-1 Prior to commencement of project construction, the project applicant shall prepare a soil management plan to identify and manage any contaminated soils and/or subsurface features encountered during the development of the proposed project.

MM HAZ-2 Prior to commencement of project construction, the project applicant shall prepare an aerially deposited lead plan to manage shallow surface soils in proximity to freeways that may be contaminated with lead from vehicle exhaust.

MM HAZ-3 During excavation activities of the areas identified with environmental concerns in the March 23, 2020 Initial Site Assessment Prepared by Citadel EHS for the proposed project, the project applicant shall implement soil monitoring for volatile organic compounds, including the former print shop along Segment P, areas near pipelines in Segment Q, as well as the permanent easement areas identified in the Addendum to the Initial Site Assessment prepared by Citadel EHS dated June 26, 2020.

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APPENDIX A

FSTIP PROJECT PAGE/RTP PROJECT PAGE

Section 6 – MPO FTIPs

MPOs adopted new FTIPs that have been approved by the state for inclusion in the 2019 FSTIP. Each of these approved FTIPs, together with any approved FTIP amendments are incorporated into the FSTIP by reference. To view projects located in an MPO region, click on the website link listed on the MPO FTIPs table below. Projects located in non-MPO areas are directly listed in Exhibit I of the FSTIP.

MPO FTIPs are synchronized with the FSTIP programming period. Each FTIP begins with FFY 2019, which is identified as year one for project priority selection purposes. The FTIP programming period may vary. Some FTIPs replicate the FSTIP four-year programming period, while others include additional years beyond the fourth year of the FSTIP. Projects in MPOs' FTIPs that are not within the quadrennial period (FFY 2019 – 2022) of the FSTIP are listed for informational and/or environmental document purposes and are not considered part of the FSTIP.

MPO FTIPs For FFY 2019 to 2022		
MPO/Website Link	**Counties Represented**	**MPO Adoption Date**
Association of Monterey Bay Area Governments (AMBAG) http://ambag.org/programs-services/planning/metropolitan-transportation-improvement-plan-mtip	Monterey, San Cruz, San Benito	September 26, 2018
Butte County Association of Governments (BCAG) http://www.bcag.org/Planning/FTIP/index.html	Butte	September 27, 2018
*Fresno Council of Governments (FCOG) (COFCG) https://www.fresnocog.org/project/federal-transportation-improvement-program-ftip/	Fresno	October 1, 2018
Kern Council of Governments (KCOG) http://www.kerncog.org/category/docs/ftip/	Kern	September 24, 2018

Kings County Association of Governments (KCAG) https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/Adopted_2019_FTIP_FinalPrint.pdf	Kings	August 22, 2018
Madera County Transportation Commission (MCTC) http://www.maderactc.org/programming/federal-transportation-improvement-plan/	Madera	September 19, 2018
Merced County Association of Governments (MCAG) https://www.mcagov.org/215/Federal-Transportation-Improvement-Progr	Merced	August 16, 2018
Metropolitan Transportation Commission (MTC) https://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program	Alameda, Contra Costa, Marin, Napa, San Francisco, Santa Clara, Solano, Sonoma	September 26, 2018
Sacramento Area Council of Governments (SACOG) https://www.sacog.org/2019-22-mtip	Placer, El Dorado, Sacramento, Sutter, Yolo, Yuba,	September 20, 2018
*San Joaquin Council of Governments (SJCOG) http://www.sjcog.org/110/Federal-Transportation-Improvment-Progra	San Joaquin	September 27, 2018
San Luis Obispo Council of Governments (SLOCOG) https://slocog.org/programs/funding-programming/federal-transportation-improvement-program-ftip	San Luis Obispo	September 5, 2018
*Santa Barbara County Association of Governments (SBCAG) http://www.sbcag.org/2019-ftip.html	Santa Barbara	September 20, 2018

San Diego Association of Governments (SANDAG) https://www.sandag.org/index.asp?classid=13&projectid=547&fuseaction=projects.detail	San Diego	September 28, 2018
*Shasta Regional Transportation Agency (SRTA) http://www.srta.ca.gov/156/Federal-Transportation-Improvement-Progr	Shasta	September 26, 2018
*Southern California Association of Governments (SCAG) http://ftip.scag.ca.gov/Pages/2019/adopted.aspx	Imperial, Los Angeles, Orange, Riverside, San Bernardino, Ventura	September 6, 2018
Stanislaus Council of Governments (StanCOG) http://www.stancog.org/pdf/2019-ftip.pdf	Stanislaus	August 15, 2018
*Tulare County Association of Governments (TCAG) http://www.tularecog.org/federaltip/	Tulare	September 26, 2018
Tahoe Metropolitan Planning Organization (TMPO) www.trpa.org/transportation/	Portions of El Dorado and Placer	September 26, 2018

*2019 FTIP Includes Amendment(s)

Final 2019 Federal Transportation Improvement Program

Orange County Project Listing
Local Highway
(in $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA113011	Orange	SCAB		7020004	NCN26						L	TCM Committed	0
Description:							PTC	1,321			Agency	LA HABRA	

La Habra Union Pacific Railroad Bikeway. ENG for Union Pacific Railroad right-of-way between La Habra West City Limits and La Habra East City Limits. ROW for La Habra West City Limits to Beach Boulevard. Toll Credit Match for ATP-MPO.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
CMAQ	453			453	453							453
AIR BOARD		92		92		92						92
CITY FUNDS	68			68	68							68
ACTIVE TRANSPORTATION PROGRAM - MPO		708		708		708						708
ORA113011 Total	521	800		1,321	521	800						1,321

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA000173	Orange	SCAB		ORA000173	CAR63						L	NON-EXEMPT	0
Description:							PTC	10,824			Agency	MISSION VIEJO	

LA PAZ RD (MURILANDS/I-5 TO CHRISANTA DR) WIDENING FROM 4 TO 6 LANES BRIDGE # 55C0215

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
AGENCY			2,452	2,452		2,452						2,452
CITY FUNDS	245	72	702	1,019	317	702						1,019
ORANGE M - GMA	200			200	200							200
ORANGE CO. MEASURE M2 - REGIONAL CAPACITY		193		193	193							193
BRIDGE - LOCAL	980	560	5,420	6,960	1,540	5,420						6,960
ORA000173 Total	1,425	825	8,574	10,824	2,250	8,574						10,824

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA151508	Orange	SCAB		2L220	PLN40						L	EXEMPT - 93.126	0
Description:							PTC	5,294			Agency	ORANGE COUNTY	

The Coyote Creek Class I Bikeway Segments O, P, Q - From La Mirada Boulevard and continuing south to the confluence of North and East Coyote Creek Flood Channel. PA&ED and PS&E ONLY.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
AGENCY	3,008			3,008		2,359	649					3,008
ACTIVE TRANSPORTATION PROGRAM - MPO	2,286			2,286		871	1,415					2,286
ORA151508 Total	5,294			5,294		3,230	2,064					5,294

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA152209	Orange	SCAB		2L220	NCR26						L	NON-REPORTABLE TCM	0
Description:							PTC	2,063			Agency	ORANGE COUNTY	

OC Loop Carbon Creek Channel (Segment D) Bikeway Gap Closure - Future construction of Class I Bikeway along Carbon Creek Flood Channel within City of Placentia and along Orange County Flood Control District spanning a half mile from Imperial Hwy to Bastanchury Road.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
CMAQ	1,056	495		1,551	1,056			495				1,551
CITY FUNDS	178	68		246	178			68				246
ACTIVE TRANSPORTATION PROGRAM - MPO	266			266	266							266
ORA152209 Total	1,500	563		2,063	1,500			563				2,063

APPENDIX B

CALTRANS (FHWA)
CATEGORICAL EXCLUSION CHECKLIST

Categorical Exclusion Checklist

Dist/Co/Rte/PM:	12/Ora/Orange county	Fed. Aid No. (Local Project):	ATPL-5955 (112)	EA/Project No.:	N/A

SECTION A: TYPE OF CE: Use the information in this section to determine the applicable CE and corresponding activity for this project.

1. Project is a CE under CE Assignment 23 USC 326. ☒ Yes ☐ No

If "yes", check applicable activity in one of the three tables below (activity must be listed in 23 CFR 771.117 (c) or (d) list or included in activities listed in Appendix A of the CE Assignment MOU to be eligible for 23 USC 326).

Activity Listed in 23 CFR 771.117(c)	
1 ☐	Activities that do not involve or lead directly to construction, such as planning and research activities; grants for training; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions that establish classes of highways on the Federal-aid highway system.
2 ☐	Approval of utility installations along or across a transportation facility.
3 ☒	Construction of bicycle and pedestrian lanes, paths, and facilities.
4 ☐	Activities included in the State's *highway safety plan* under 23 U.S.C 402.
5 ☐	Transfer of Federal lands pursuant to 23 U.S.C. 107(d) and/or 23 U.S.C. 317 when the land transfer is in support of an action that is not otherwise subject to FHWA review under NEPA.
6 ☐	The installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction.
7 ☐	Landscaping.
8 ☐	Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.
9[1]	The following actions for transportation facilities damaged by an incident resulting in an emergency declared by the Governor of the State and concurred in by the Secretary, or a disaster or emergency declared by the President pursuant to the Robert T. Stafford Act (42 U.S.C 5121):[2]
☐	(i) Emergency repairs under 23 U.S.C 125;
☐	(ii) The repair, reconstruction, restoration, retrofitting, or replacement of any road, highway, bridge, tunnel, or transit facility (such as a ferry dock or bus transfer station), including ancillary transportation facilities (such as pedestrian/bicycle paths and bike lanes), that is in operation or under construction when damaged and the action: (A) Occurs within the existing right-of-way and in a manner that substantially conforms to the preexisting design, function, and location as the original (which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction); and (B) Is commenced within a 2-year period beginning on the date of the declaration.
10 ☐	Acquisition of scenic easements.
11 ☐	Determination of payback under 23 U.S.C 156 for property previously acquired with Federal-aid participation.
12 ☐	Improvements to existing rest areas and truck weigh stations.
13 ☐	Ridesharing activities.
14 ☐	Bus and rail car rehabilitation.
15 ☐	Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons.
16 ☐	Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.
17 ☐	The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities that themselves are within a CE.
18 ☐	Track and railbed maintenance and improvements when carried out within the existing right-of-way.
19 ☐	Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.

[1] On the CE form, distinguish between c9i or c9ii

[2] Include copy of the emergency declaration in the file

Categorical Exclusion Checklist

Dist/Co/Rte/PM: 12/Ora/Orange county	Fed. Aid No. (Local Project): ATPL-5955 (112)	EA/Project No.: N/A

20 ☐	Promulgation of rules, regulations, and directives.
21 ☐	Deployment of electronics, photonics, communications, or information processing used singly or in combination, or as components of a fully integrated system, to improve the efficiency or safety of a surface transportation system or to enhance security or passenger convenience. Examples include, but are not limited to, traffic control and detector devices, lane management systems, electronic payment equipment, automatic vehicle locaters, automated passenger counters, computer-aided dispatching systems, radio communications systems, dynamic message signs, and security equipment including surveillance and detection cameras on roadways and in transit facilities and on buses.
22[3] ☐	Projects, as defined in 23 U.S.C. 101, that would take place entirely within the existing operational right-of-way. Existing operational right-of-way means all real property interests acquired for the construction, operation, or mitigation of a project. This area includes the features associated with the physical footprint of the project including but not limited to the roadway, bridges, interchanges, culverts, drainage, clear zone, traffic control signage, landscaping, and any rest areas with direct access to a controlled access highway. This also includes fixed guideways, mitigation areas, areas maintained or used for safety and security of a transportation facility, parking facilities with direct access to an existing transportation facility, transportation power substations, transportation venting structures, and transportation maintenance facilities. Note: As a clarifying example, if title 23 (or certain title 49) funds were authorized for the acquisition of the real property, then that property was acquired for an eligible purpose, which was construction, operation, or mitigation, and thus is part of the operational right-of-way. Real property interests acquired with title 23 funds, or otherwise conveyed for title 23 purposes, are eligible for this categorical exclusion as long as the interests are devoted exclusively to the purposes of that facility and the facility is preserved free of all other public or private alternative uses, unless such non-highway alternative uses are permitted by Federal law (including regulations) or the FHWA (23 CFR 710.403(b)).
23[4] ☐ ☐	Federally-funded projects: Enter project cost $ and Federal funds $ (i) That receive less than $5,500,515.05 of Federal funds; or (ii) With a total estimated cost of not more than $33,003,090.30 and Federal funds comprising less than 15 percent of the total estimated project cost.
24 ☐	Localized geotechnical and other investigation to provide information for preliminary design and for environmental analysis and permitting purposes, such as drilling test bores for soil sampling; archeological investigations for archeology resources assessment or similar survey; and wetland surveys.
25 ☐	Environmental restoration and pollution abatement actions to minimize or mitigate the impacts of any existing transportation facility (including retrofitting and construction of stormwater treatment systems to meet Federal and State requirements under sections 401 and 402 of the Federal Water Pollution Control Act (33 U.S.C. 1341; 1342) carried out to address water pollution or environmental degradation.
26 ☐	Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** **Complete Section A, Item 2 below.**
27 ☐	Highway safety or traffic operations improvement projects, including the installation of ramp metering control devices and lighting, if the project meets the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** **Complete Section A, Item 2 below.**
28 ☐	Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in paragraph (e) of this section [771.117(e)]. **Note: In order to use this CE, certain constraints must be met.** **Complete Section A, Item 2 below.**
29 ☐	Purchase, construction, replacement, or rehabilitation of ferry vessels (including improvements to ferry vessel safety, navigation, and security systems) that would not require a change in the function of the ferry terminals and can be accommodated by existing facilities or by new facilities that themselves are within a CE.
30 ☐	Rehabilitation or reconstruction of existing ferry facilities that occupy substantially the same geographic footprint, do not result in a change in their functional use, and do not result in a substantial increase in the existing facility's capacity. Example actions include work on pedestrian and vehicle transfer structures and associated utilities, buildings, and terminals.
Activity Listed in Examples in 23 CFR 771.117(d)	
1	*Reserved.*
2	*Reserved.*
3	*Reserved.*
4 ☐	Transportation corridor fringe parking facilities.
5 ☐	Construction of new truck weigh stations or rest areas.

[3] On the CE form, identify in the project description that all work is within operation right-of-way.

[4] On the CE form, distinguish between c23i or c23ii.

Categorical Exclusion Checklist

Dist/Co/Rte/PM: 12/Ora/Orange county	Fed. Aid No. (Local Project): ATPL-5955 (112)	EA/Project No.: N/A

6 ☐	Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7 ☐	Approvals for changes in access control.
8 ☐	Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9 ☐	Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required, and there is not a substantial increase in the number of users.
10 ☐	Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11 ☐	Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning, and where there is no significant noise impact on the surrounding community.
12 ☐	Acquisition of land for hardship or protective purposes. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed. (i) Hardship acquisition is early acquisition of property by the applicant at the property owner's request to alleviate particular hardship to the owner, in contrast to others, because of an inability to sell his property. This is justified when the property owner can document on the basis of health, safety or financial reasons that remaining in the property poses an undue hardship compared to others. (ii) Protective acquisition is done to prevent imminent development of a parcel that may be needed for a proposed transportation corridor or site. Documentation must clearly demonstrate that development of the land would preclude future transportation use and that such development is imminent. Advance acquisition is not permitted for the sole purpose of reducing the cost of property for a proposed project.
13 ☐	Actions described in paragraphs (c)(26), (c)(27), and (c)(28) of this section that do not meet the constraints in paragraph (e) of this section.
Activity Listed in Appendix A of the CE Assignment MOU for State Assumption of Responsibilities for Categorical Exclusions	
1 ☐	Construction, modification, or repair of storm water treatment devices (e.g., detention basins, bioswales, media filters, infiltration basins), protection measures such as slope stabilization and other erosion control measures throughout California.
2 ☐	Replacement, modification, or repair of culverts or other drainage facilities.
3 ☐	Projects undertaken to assure the creation, maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife (e.g., revegetation of disturbed areas with native plant species; stream or river bank revegetation; construction of new, or maintenances of existing fish passage conveyances or structures; restoration or creation of wetlands).
4 ☐	Routine repair of facilities due to storm damage, including permanent repair, to return the facility to operational condition that meets current standards of design and public health and safety without expanding capacity (e.g., slide repairs, construction or repair of retaining walls).
5 ☐	Routine seismic retrofit of facilities to meet current seismic standards and public health and safety standards without expansion of capacity.
6 ☐	Air space leases that are subject to Subpart D, Part 710, title 23, Code of Federal Regulations.
7 ☐	Drilling of test bores/soil sampling to provide information for preliminary design and for environmental analyses and permitting purposes.

Categorical Exclusion Checklist

Dist/Co/Rte/PM: 12/Ora/Orange county **Fed. Aid No. (Local Project):** ATPL-5955 (112) **EA/Project No.:** N/A

2. This section must be completed in order to use a CE under 23 CFR 771.117(c)(26), (c)(27), or (c)(28).

☒ The action **DOES NOT** include any of the following constraints found in 23 CFR 771.117(e):

A.
- An acquisition of more than a minor amount of right-of-way or that would result in any residential or nonresidential displacements

B.
- A bridge permit from the U.S. Coast Guard; OR
- An action that does not meet the terms and conditions of a U.S. Army Corps of Engineers nationwide or general permit under section 404 of the Clean Water Act (i.e., does the project require a Standard 404 permit [Individual Permit or Letter of Permission]?) AND/OR
- A permit required under Section 10 of the Rivers and Harbors Act of 1899

C.
- A finding of ''adverse effect'' to historic properties under the National Historic Preservation Act; OR
- The use of a resource protected under 23 U.S.C. 138 or 49 U.S.C. 303 (section 4(f)) except for actions resulting in *de minimis* impacts; OR
- A finding of ''may affect, likely to adversely affect'' threatened or endangered species or critical habitat under the Endangered Species Act

D.
- Construction of temporary access or the closure of existing road, bridge, or ramps that would result in major traffic disruptions

E.
- Changes in access control

F.
- A floodplain encroachment other than functionally dependent uses (e.g., bridges, wetlands) or actions that facilitate open space use (e.g., recreational trails, bicycle and pedestrian paths); OR
- Construction activities in, across, or adjacent to a river component designated or proposed for inclusion in the National System of Wild and Scenic Rivers

If the action includes any of the constraints listed above, it **MAY NOT** be processed under 23 CFR 771.117(c)(26), (c)(27), or (c)(28), however, the project may qualify for a CE under 23 CFR 771.117(d)(13).

3. Project is a CE for a highway project under NEPA Assignment 23 USC 327. ☐ Yes ☒ No

(Use only if project does not qualify under CE Assignment 23 USC 326 [activities not included in three previous lists above].)

4. Independent Utility and Logical Termini

☒ The project complies with NEPA requirements related to connected actions and segmentation (i.e. the project must have independent utility, connect logical termini when applicable, be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made and not restrict further consideration of alternatives for other reasonably foreseeable transportation improvements). (FHWA Final Rule, "Background," *Federal Register* Vol. 79, No. 8, January 13, 2014.)

5. Categorical Exclusions Defined (23 CFR 771.117[a]).

FHWA regulation 23 CFR 771.117(a) defines categorical exclusions as actions which:

- do not induce significant impacts to planned growth or land use for the area;
- do not require the relocation of significant numbers of people;
- do not have a significant impact on any natural, cultural, recreational, historic or other resources;
- do not involve significant air, noise, or water quality impacts;
- do not have significant impacts on travel patterns; or
- do not otherwise, either individually or cumulatively, have any significant environmental impacts.

☒ Checking this box certifies that project meets the above definition for a Categorical Exclusion.

6. Exceptions to Categorical Exclusions/Unusual Circumstances (23 CFR 771.117[b]).

FHWA regulation 23 CFR 771.117(b) provides that any action which normally would be classified as a CE but could involve *unusual circumstances* requires the Department to conduct appropriate environmental studies to determine if the CE classification is proper. Unusual circumstances include actions that involve:

- Significant environmental impacts;
- Substantial controversy on environmental grounds;
- Significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action.

All of the above unusual circumstances have been considered in conjunction with this project. (Please select one.)

☒ Checking this box certifies that **none of the above conditions apply** and that the project qualifies for a Categorical Exclusion.

☐ Checking this box certifies that unusual circumstances **are involved.** However, the appropriate studies/analysis have been completed, and it has been determined that the CE classification is still appropriate.

Categorical Exclusion Checklist

SECTION B: Compliance with FHWA NEPA policy to complete all other applicable environmental requirements[5] prior to making the NEPA determination:

During the environmental review process for which this CE was prepared, all applicable environmental requirements were evaluated. Outcomes for the following requirements are identified below and fully documented in the project file. [NOTE: EVERY SECTION BELOW MUST BE COMPLETED, DO NOT SKIP ANY SECTIONS.]

FSTIP

☒ The project description on the Categorical Exemption/Categorical Exclusion Form matches the project description in the FSTIP and RTP, and the appropriate page of the FSTIP is in the project file.

Air Quality

☒ Air Quality Conformity Findings Checklist has been completed and project meets all applicable AQ requirements.
☐ For 23 USC 326 projects which require an air quality conformity determination (this will apply to certain projects under 23 CFR 771.117(c)(22), (c)(23), (c)(26), (c)(27), and (c)(28)), list the date of the Caltrans conformity determination: _____
☐ For 23 USC 327 projects, list date of FHWA concurrence on conformity determination: _____

Cultural Resources

☒ Section 106 compliance is complete. ☐ Screened Undertaking
Select appropriate finding: ☐ No Historic Properties Affected ☒ No Adverse Effect with Standard Conditions
☐ No Adverse Effect without Standard Conditions ☐ Adverse Effect/MOA ☐ Phasing/Project PA

Noise

23 CFR 772
☐ Is this a Type 1 project? ☐ Yes ☒ No (skip this section.)
☐ Future noise levels with project either approach or exceed NAC or result in a substantial increase.
If yes, ☐ Abatement is reasonable and feasible ☐ Abatement is not reasonable or feasible

Waters, Wetlands

- **Section 404 of the Clean Water Act**
  Impacts to Waters of the U.S.: ☒ Yes ☐ No; If yes, approval anticipated:
  ☒ Nationwide Permit ☐ Individual Permit ☐ Regional General Permit ☐ Letter of Permission
- **Section 401 of the Clean Water Act**
  ☐ Exemption ☒ Certification ☐ Not Applicable
- **Wetland Protection (Executive Order #11990)**
  ☒ No Wetland Impact
  ☐ Permanent Wetland Impact; Only Practicable Alternative Finding is included in a separate document in the project file

Biology

- **USFWS,** Species List Date: February 12, 2020 (must be < 180 days old)
  ☒ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with USFWS Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with USFWS Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **NOAA Fisheries,** Species List Date: _____ (must be < 180 days old) ☒ N/A: Project outside of NOAA jurisdiction
  ☐ No Effect Section 7 (Federal Endangered Species Act)
  Consultation with NOAA Fisheries Findings (Effect determination):
  ☐ Not Likely to Adversely Affect with NOAA Fisheries Concurrence. Date: _____
  ☐ Likely to Adversely Affect with Biological Opinion Date: _____
- **Essential Fish Habitat (Magnuson-Stevens Act)** Findings (Effect determination):
  ☒ Magnuson-Stevens Fishery Conservation and Management Act does not apply
  ☐ No Adverse Effect ☐ Adverse Effect and consultation with NOAA Fisheries

[5] Please consult the SER for a complete list of applicable laws, statutes, regulations, and executive orders that must be considered before completing the CE.

Categorical Exclusion Checklist

Floodplains

Floodplains (Executive Order #11988)

☐ No Floodplains ☒ No Significant Encroachment ☐ Significant Encroachment

Section 4(f) Transportation Act (23 CFR 774)

Section 4(f) regulation was considered as a part of the review for this project and a determination was made:

☒ Section 4(f) does not apply

(*Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for the temporary occupancy exception.)*

☐ Section 4(f) applies

☐ *De Minimis*

☐ Programmatic: Type _____ (List one of the five appropriate categories as defined in 23 CFR 774.3)

☐ Individual: ☐ Legal Sufficiency Review complete ☐ HQ Coordinator Review Complete

Section 6(f) – Properties Acquired with Land and Water Conservation Fund grants

Was the above property purchased with grant funds from the Land and Water Conservation Fund?

☒ No, Section 6(f) does not apply. No additional documentation required.

☐ Yes ☐ Documentation of approval from National Park Service Director (through California State Parks) has been received for the conversion/and replacement of 6(f) property.

Coastal Zone

Coastal Zone Management Act of 1972

☒ Not in Coastal Zone ☐ Qualifies for Exemptions ☐ Qualifies for Waiver ☐ Coastal Permit Required

☐ Consistent with Federal State and Local Coastal Plans ☐ Federal Consistency

Coast Guard – Bridge Over Navigable Waters of the U.S.

☒ Not applicable

☐ 23 USC 144(c) USCG Bridge Permit Exception

☐ 33 CFR 115.70 Advance Approval

☐ USCG Bridge Permit

Relocation and Right of Way

- **Relocations**

☒ No Relocations

☐ Project involves _____ (#) relocations and will follow the provisions of the Uniform Relocation Act.

- **Right of Way Acquisitions/Easements**

☐ No right of way acquisitions or easements

☒ Project involves ___0___ (#) acquisitions and ___2___ (#) easements.

Hazardous Waste and Materials

- Are hazardous materials or contamination exceeding regulatory thresholds (as set by U.S. EPA, Cal EPA, County Environmental Health, etc.) present? ☒ Yes ☐ No
- If yes, is the nature and extent of the hazardous materials or contamination fully known? ☐ Yes ☒ No

  If no, briefly discuss the plan for securing information: As detailed in Section 4.9 of the IS/MND, an initial site assessment (ISA) was prepared for the proposed project. The project site is adjacent to the land uses such as commercial, industrial and public rights-of-way such as the I-5 freeway. Therefore, there may be contaminated soils that could potentially release lead or volatile organic compounds that could be hazardous. However, the proposed project would implement the recommended mitigation measures HAZ-1 to HAZ-3 from the ISA to ensure that hazardous conditions would be less than significant.

Categorical Exclusion Checklist

SECTION C: Certification

Based on the information obtained during environmental review process and included in this checklist, the project is determined to be a Categorical Exclusion pursuant to the National Environmental Policy Act and is in compliance with all other applicable environmental laws, regulations, and Executive Orders.

Prepared by (print name): _____

Title: _____

Signature: _____ Date: _____

APPENDIX C

CEQA INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Initial Study and Mitigated Negative Declaration (IS/MND) for the OC Loop Segments O, P, and Q Coyote Creek Bikeway Project

Prepared for:

OC Public Works

Jim Volz
601 N. Ross Street
Santa Ana, CA 92701
Telephone: 714-647-3904

Prepared by:

UltraSystems Environmental Inc.
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Irvine, CA 92618-4355
Telephone: 949.788.4900
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www.ultrasystems.com

November 2020

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PROJECT INFORMATION SHEET

1. Project Title	OC Loop Segments O, P, and Q Coyote Creek Bikeway Project
2. CEQA Lead Agency and Address	**County of Orange (CEQA Lead Agency)** OC Public Works 601 North Ross Street Santa Ana, CA 92701
3. Contact and Phone Number	Jim Volz 601 N. Ross Street Santa Ana, CA 92701 Telephone: 714-647-3904
4. Project Applicant	County of Orange OC Public Works 601 North Ross Street Santa Ana, CA 92701
5. Project Location	The location of OC Loop Segments O, P, and Q Coyote Creek Bikeway Project (proposed project) is along a gap in the 66-mile regional bikeway corridor called the OC Loop, designated Segments O, P, and Q. The proposed project is located along the length of Coyote Creek Channel, upstream and downstream of the Santa Ana Freeway (I-5 Freeway). The proposed project begins at the existing Coyote Creek Bikeway (in the City of Cerritos) where the Coyote Creek flood channel divides into north and east forks, the length is 2.7 miles connecting to another portion of the Coyote Creek Bikeway at La Mirada Boulevard/Malvern Avenue in the cities of Buena Park and La Mirada.
6. Project Site General Plan Designation(s)	**<u>OC Loop Segment O</u>** City of La Mirada: Industrial City of Buena Park: Industrial, Office Manufacturing City of Cerritos: Low Density, Light Industrial **<u>OC Loop Segment P</u>** City of La Mirada: Commercial, Industrial City of Buena Park: Industrial **<u>OC Loop Segment Q</u>** City of La Mirada: Low Density Residential

City of Buena Park: Low-Density Residential, Planned Development, Open Space, Light Industrial

7. Project Site Zoning Designation(s)

OC Loop Segment O
City of La Mirada: M2-Industrial
City of Buena Park: MH Heavy Industrial
City of Cerritos: M-1 Emergency Shelter Overlay, RS-5000 Single Family Residential

OC Loop Segment P
City of La Mirada: M-2 Industrial, C-4 General Commercial
City of Buena Park: ML Light Industrial, MH Heavy Industrial

OC Loop Segment Q
City of La Mirada: R-1 Single Family Residential
City of Buena Park: RS-6 One Family Residential, ML Light Industrial, MH Heavy Industrial

8. Surrounding Land Uses and Setting

A variety of land uses are adjacent to the project site, including commercial, residential, open space, office, manufacturing, flood control channels, and industrial.

9. Description of Project

OC Loop Segment O, P, and Q Coyote Creek Bikeway Project involves the construction of a 2.7-mile bikeway along the Coyote Creek flood control channel (i.e., Coyote Creek Channel) in the City of Cerritos on the south, through the City of La Mirada, to the City of Buena Park to the north. The 2.7-mile bikeway is a component of a 66-mile regional bikeway corridor called the OC Loop. The proposed project would, at its southern terminus, begin at the existing Coyote Creek Bikeway (in the City of Cerritos) at the confluence of the north and east forks of the Coyote Creek Channel. The proposed project would trend in a northeast direction for approximately 2.7 miles, where it connects to Segment R of the Coyote Creek Bikeway at La Mirada Boulevard in the City of Buena Park.

When constructed, the proposed project will close an existing bikeway gap in the OC Loop, increase the use of active transportation travel modes, enhance safety and mobility for non-motorized

users, advance efforts to achieve greenhouse gas reduction goals, improve aesthetics, access and maintenance to the Coyote Creek Channel, and enhance public health. In addition, the proposed project is a safety and mobility enhancement for the County of Orange. Refer to **Section 3.0** of this document for additional details.

10. Coordinating Agencies

Federal:

U.S. Army Corps of Engineers (USACE)

State:

California Department of Transportation (Caltrans)

California Department of Fish and Wildlife (CDFW)

California Public Utilities Commission (CPUC)

Metrolink/Southern California Regional Rail Authority (SCRRA)

State Water Resources Control Board (SWRCB)

Regional:

Los Angeles County Flood Control District (LACFCD)

Orange County Flood Control District (OCFCD)

Los Angeles Regional Water Quality Control Board - Region 4(LARWQCB)

Santa Ana Regional Water Quality Control Board - Region 8 (SARWQCB)

Local:

OC Public Works

City of Cerritos

City of Buena Park

City of La Mirada

Railroads and Utilities:

Union Pacific Railroad (UPRR) and California Public Utilities Commission (CPUC)

Burlington Northern and Santa Fe (BNSF) Railway and CPUC

Chevron

Kinder-Morgan & U.S. Navy

AT&T & SCE

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code § 21080.3.1? If so, has consultation begun?	Letters were sent by OC Public Works (OCPW), the Lead Agency, on May 21, 2020 to the four local Native American tribes on the recommended list maintained by OCPW. These were to the Gabrielino/Tongva San Gabriel Band of Mission Indians, the Gabrieleño Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians, and the Soboba Band of Luiseño Indians, as well as to the Fernandeño Tataviam Band of Mission Indians, the San Manuel Band of Mission Indians and the Tejon Tribe. One tribe replied stating that they did not wish to consult on the project, and the remaining six tribes did not respond to the OCPW's letter within the request period. Consultation has been completed. Refer to Section 4.18, Tribal Cultural Resources, of the document for additional information.

TABLE OF CONTENTS

Project Information Sheet ..... **i**

Acronyms and Abbreviations ..... **ix**

1.0 Introduction **1-1**
1.1 Proposed Project 1-1
1.2 Lead Agencies – Environmental Review Implementation 1-1
1.3 CEQA Overview 1-1
1.4 Purpose of Initial Study 1-2
1.5 Review and Comment by Other Agencies 1-3
1.6 Impact Terminology 1-3
1.7 Organization of Initial Study 1-4
1.8 Findings from the Initial Study 1-5

2.0 Environmental Setting **2-1**
2.1 Project Location 2-1
2.2 Existing Characteristics of the Site 2-20

3.0 Project Description **3-1**
3.1 Project Location and Context 3-1
3.2 Project Objectives 3-1
3.3 Project Characteristics 3-4
3.4 Project Construction 3-14
3.5 Construction Staging 3-15
3.6 Easements 3-15
3.7 Discretionary Actions 3-19

4.0 Environmental Checklist **4-1**
Environmental Factors Potentially Affected 4-1
Determination (To Be Completed by the Lead Agency) 4-1
Evaluation of Environmental Impacts 4-2
4.1 Aesthetics 4.1-1
4.2 Agriculture and Forestry Resources 4.2-1
4.3 Air Quality 4.3-1
4.4 Biological Resources 4.4-1
4.5 Cultural Resources 4.5-1
4.6 Energy 4.6-1
4.7 Geology and Soils 4.7-1
4.8 Greenhouse Gas Emissions 4.8-1
4.9 Hazards and Hazardous Materials 4.9-1
4.10 Hydrology and Water Quality 4.10-1
4.11 Land Use and Planning 4.11-1
4.12 Mineral Resources 4.12-1
4.13 Noise 4.13-1
4.14 Population and Housing 4.14-1
4.15 Public Services 4.15-1
4.16 Recreation 4.16-1
4.17 Transportation 4.17-1

4.18 Tribal Cultural Resources 4.18-1
4.19 Utilities and Service Systems 4.19-1
4.20 Wildfire 4.20-1
4.21 Mandatory Findings of Significance 4.21-1

5.0 References 5-1

6.0 List of Preparers 6-1
6.1 County of Orange- Lead Agency (CEQA) and Project Applicant 6-1
6.2 UltraSystems Environmental, Inc. 6-1
6.3 GHD 6-2
6.4 Cabrinha, Hearn & Associates 6-2

7.0 Mitigation Monitoring and Reporting Program 7-1

LIST OF FIGURES

Figure 2.1-1 - Project Vicinity 2-2
Figure 2.1-2 - Project Location 2-3
Figure 2.1-3 - Topographic Map 2-4
Figure 2.1-4a - Project Site Photographs Location Map - Segment O 2-5
Figure 2.1-4b - Project Site Photographs – Segment O Photos 1-4 2-6
Figure 2.1-4c - Project Site Photographs - Segment O Photos 5-8 2-7
Figure 2.1-4d - Project Site Photographs Location Map - Segment P 2-10
Figure 2.1-4d - Project Site Photographs Location Map - Segment P 2-10
Figure 2.1-4e - Project Site Photographs - Segment P Photos 9-12 2-11
Figure 2.1-4f - Project Site Photographs Location Map - Segment Q 2-14
Figure 2.1-4g - Project Site Photographs - Segment Q Photos 13-16 2-15
Figure 2.1-4h - Project Site Photographs - Segment Q Photos 17-20 2-16
Figure 2.1-4i - Project Site Photographs - Segment Q Photos 21-22 2-17
Figure 3.1-1 - Regional Location Map 3-2
Figure 3.1-2 - Project Vicinity 3-3
Figure 3.3-1 - OC Loop Segments O, P, and Q 3-5
Figure 3.3-2 - OC Loop Segment O Improvement Plan 3-6
Figure 3.3-3 - OC Loop Segment P Improvement Plan 3-8
Figure 3.3-4 - OC Loop Segment Q Improvement Plan 3-11
Figure 3.6-1 - Permanent Project Easements- Segment P 3-17
Figure 3.6-2 - Permanent Project Easements - Segment Q 3-18
Figure 4.1-1 - Scenic Highways 4.1-5
Figure 4.1-2 - Visual Renderings 4.1-11
Figure 4.2-1 - Important Farmland 4.2-2
Figure 4.2-2 - Williamson Act Lands 4.2-4
Figure 4.3-1 - Sensitive Receptors in Segment O 4.3-7
Figure 4.3-2 - Sensitive Receptors in Segment Q 4.3-8
Figure 4.4-1 - Project Boundary and BSA 4.4-20
Figure 4.4-2 - CNDDB Plant Species 4.4-21
Figure 4.4-3 - CNDDB Wildlife Species 4.4-23
Figure 4.4-4 - Site Photos 4.4-26
Figure 4.4-5 - Potential Bat Roosts 4.4-29

Figure 4.4-6 - USFWS Critical Habitats 4.4-40
Figure 4.4-7 - Land Cover Types 4.4-41
Figure 4.4-8a - Impacts on Jurisdictional Waters Overview (Segment O) 4.4-44
Figure 4.4-8b - Impacts on Jurisdictional Waters Overview (Segment P) 4.4-45
Figure 4.4-8c - Impacts on Jurisdictional Waters Overview (Segment Q) 4.4-46
Figure 4.4-9 - CDFW Wildlife Corridors 4.4-48
Figure 4.4-10 - Tree Inventory Map 4.4-51
Figure 4.5-1 - Topographic Map 4.5-2
Figure 4.7-1 - Alquist-Priolo Earthquake Fault Zones 4.7-3
Figure 4.7-2 - Regionally Active Faults 4.7-4
Figure 4.7-3 - Landslide and Liquefaction Hazards Zones 4.7-6
Figure 4.9-1 - Fullerton Municipal Airport 4.9-8
Figure 4.9-2 - Fullerton Municipal Airport – Airport Obstruction Imaginary Surfaces Zone 4.9-9
Figure 4.9-3 - Fire Hazard Severity Zones 4.9-12
Figure 4.9-4 - Fire Hazard Severity Zones - Local Responsibility Area 4.9-13
Figure 4.10-1 - FEMA Flood Hazard Zones 4.10-8
Figure 4.12-1 - Mineral Resources 4.12-2
Figure 4.12-2 - Oil and Gas Wells and Fields 4.12-3
Figure 4.12-3 - Geothermal Wells 4.12-4
Figure 4.13-1 - Ambient Noise Monitoring Locations in the Project Area 4.13-3
Figure 4.13-2 - Sensitive Noise Receivers in Segment O 4.13-4
Figure 4.13-3 - Sensitive Noise Receivers in Segment Q (Buena Park) 4.13-7
Figure 4.20-1 - Fire Hazard Severity Zone - Local Responsibility Area 4.20-2
Figure 4.20-2 - Fire Hazard Severity Zone - State Responsibility Area 4.20-3

LIST OF TABLES

Table 2.1-1 - Land Uses in the Project Vicinity 2-1
Table 3.7-1 - Discretionary Actions 3-19
Table 4.1-1 - Project Compliance with City of Cerritos General Plan Policies Regarding Scenic Quality and Aesthetics 4.1-7
Table 4.1-2 - Project Compliance with City of Buena Park General Plan Policies Regarding Scenic Quality and Aesthetics 4.1-7
Table 4.1-3 - Project Compliance with City of Buena Park Municipal Code Regulations Regarding Scenic Quality and Aesthetics 4.1-7
Table 4.1-4 - Project Compliance with City of La Mirada General Plan Policy Regarding Scenic Quality and Aesthetics 4.1-8
Table 4.3-1 - Federal and State Attainment Status 4.3-4
Table 4.3-2 - Ambient Air Quality Monitoring Data (Long Beach) 4.3-5
Table 4.3-3 - Ambient Air Quality Monitoring Data (Pico Rivera) 4.3-5
Table 4.3-4 - Ambient Air Quality Monitoring Data (La Habra) 4.3-6
Table 4.3-5 - Regional Thresholds of Significance 4.3-10
Table 4.3-6 - SCAQMD Localized Thresholds for Construction 4.3-10
Table 4.3-7 - Construction Activities, by Segment 4.3-11
Table 4.3-8 - Estimated Construction Emissions 4.3-13
Table 4.3-9 - Localized Significance Analysis Results 4.3-14
Table 4.4-1 - Field Survey Information 4.4-3
Table 4.4-2 - Plant Literature Review Results 4.4-5
Table 4.4-3 - Wildlife Literature Review Results 4.4-10

Table 4.4-4 - Bridges Surveyed and Bats Observed....4.4-24
Table 4.4-5 - Area of Anticipated Direct Impacts to Land Cover in the BSA....4.4-42
Table 4.4-6 - Jurisdictional Areas and Impacts Summary Table....4.4-43
Table 4.4-7 - Protected Tree Inventory....4.4-49
Table 4.6-1 - Project Compliance with City of Cerritos General Plan Policy Regarding Energy....4.6-2
Table 4.6-2 - Project Compliance with City of Buena Park General Plan Policy Regarding Energy....4.6-3
Table 4.6-3 - Project Compliance with City of La Mirada General Plan Policies Regarding Energy....4.6-3
Table 4.6-4 - Estimated Project Operational Energy Use....4.6-3
Table 4.8-1 - Project Construction-Related GHG Emissions....4.8-7
Table 4.10-1 - Total Maximum Daily Loads for Coyote Creek and Coyote Creek North Fork....4.10-2
Table 4.11-1 - Project Compliance with City of Cerritos General Plan Policies Regarding Land Use....4.11-2
Table 4.11-2 - Project Compliance with City of Buena Park General Plan Policies Regarding Land Use....4.11-2
Table 4.11-3 - Project Compliance with City of La Mirada General Plan Policies Regarding Land Use....4.11-3
Table 4.13-1 - Sensitive Receivers in Segment O (Cerritos)....4.13-5
Table 4.13-2 - Ambient Noise Measurement Results in Segment O....4.13-5
Table 4.13-3 - Sensitive Receivers in Segment Q (Buena Park)....4.13-8
Table 4.13-4 - Modeled 24-Hour Average Noise Levels in Project Area....4.13-8
Table 4.13-5 - Ambient Noise Measurement Results....4.13-9
Table 4.13-6 - Construction Equipment Noise Characteristics....4.13-14
Table 4.13-7 - Estimated Increases in Unmitigated Noise Exposure Due to Construction....4.13-15
Table 4.13-8 - Vibration Levels of Typical Construction Equipment....4.13-17
Table 7.0-1 - Mitigation Monitoring and Reporting Program....7-2

APPENDICES

Appendix A1	Segment O, P, and Q Improvement Plans
Appendix A2	2018 Project Plans
Appendix A3	2020 Updated Crossings Plans
Appendix A4	Bridge Type Selection Report
Appendix B1	Air Quality & Greenhouse Gas Emissions Technical Summary
Appendix B2-1	Total Emissions with UPRR Undercrossing
Appendix B2-2	Total Emissions with UPRR Overcrossing
Appendix C	Natural Environment Study (Minimal Impacts)
Appendix D1	Phase I Cultural Resources Inventory
Appendix D2	Paleontological Resources Records Search
Appendix E1	Initial Site Assessment Report
Appendix E2	Initial Site Assessment - Addendum
Appendix F	Jurisdictional Delineation
Appendix G	Noise Measurement Data
Appendix H	Information Request Letters
Appendix I	Draft Hydraulics Study for Undercrossing

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Term
AB	Assembly Bill
AB 939	California Integrated Waste Management Act of 1989 (CIWMA)
ADL	aerially-deposited lead
AELUP	Airport Environs Land Use Plan
amsl	above mean sea level
APE	area of potential effect
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BAU	business as usual
BEMP	Bat Exclusion and Monitoring Program
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe Railway
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAOs	Cleanup and Abatement Orders
CAPCOA	California Air Pollution Control Officers Association
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CDOs	Cease and Desist Orders
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CH_4	methane
CHRIS	California Historic Resources Inventory System
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Natural Plant Society
CO	Carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel scale

Acronym/Abbreviation	Term
DOC	California Department of Conservation
DOSH	California Division of Safety and Health
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EDCO	Park Disposal
EIR	Environmental Impact Report
EMS	Emergency Medical Service
EO	Executive Order
ESA	Endangered Species Act
ESA(s)	Environmentally Sensitive Area(s)
EZRIM	Earthquake Zones of Required Investigation Maps
FEMA	Federal Emergency Management Agency
FHSVs	Fire Hazard Severity Zones
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FRAP	CAL FIRE Fire Resource and Assessment Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
GS-WS	ground surface to water surface
GWP	global warming potential
HCP	Habitat Conservation Plan
HEC-RAS	USACE's Hydrologic Engineering Center's River Analysis System
HFCs	hydrofluorocarbons
Hz	hertz
IPaC	Information, Planning, and Conservation
IPCC	Intergovernmental Panel on Climate Change
ISA	Initial Site Assessment
IS/MND	Initial Study/Mitigated Negative Declaration
L_{90}	noise level that is exceeded 90% of the time
L_{eq}	equivalent noise level
LACFCD	Los Angeles County Flood Control District
LACFPD	Los Angeles County Fire Protection District
LARWQCB	Los Angeles Regional Water Quality Control Board
LID	Low Impact Development
L_{max}	root mean square maximum noise level
LOSSAN	Los Angeles-San Diego-San Luis Obispo Rail Corridor
LRA	local responsibility area
LSTs	Localized Significance Thresholds
LUSTs	leaking underground storage tanks
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	mitigation measure
MMRP	Mitigation Monitoring and Reporting Program
$MMTCO_2e$	million metric tons of CO_2e
MND	Mitigated Negative Declaration

Acronym/Abbreviation	Term
MRZ	Mineral Resource Zone
Mw	maximum movement magnitude
MWD	Metropolitan Water Department
MX-D	Downtown Mixed-Use Zoning designation
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
ND	Negative Declaration
NHPA	National Historic Preservation Act
N_2O	nitrous oxide
NO	nitric oxide
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NPPA	California Native Plant Protection Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OCC	Orange County Coroner
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCPW	OC Public Works
OCWD	Orange County Water District
OCTA	Orange County Transportation Authority
OHWM	ordinary high water mark
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PFCs	perfluorocarbons
PHB	Pedestrian Hybrid Beacon
PM	particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	respirable particulate matter
Porter-Cologne	California Porter-Cologne Water Quality Control Act
ppm	parts per million
PPV	peak particle velocity
Qya2	Young Alluvium, Unit 2
Qvof	Very Old alluvial fan deposits
Qyf	Young Alluvial Fan Deposits
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMS	root mean square
ROG	Reactive organic gases
ROW	right-of-way
RPS	Renewables Portfolio Standard

Acronym/Abbreviation	Term
RWQCB	Regional Water Quality Control Board
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCRRA	Metrolink/Southern California Regional Rail Authority
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLF	Sacred Lands File
SMP	soil management plan
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SRA	state responsibility area
SRAs	source receptor areas
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCRs	tribal cultural resources
TDMLs	Total Maximum Daily Loads
TMP	Traffic Management Plan
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USTs	underground storage tanks
VdB	vibration decibels
VEC	vapor encroachment condition
VHFHSZs	very high fire hazard severity zones
VMT	vehicle miles traveled
VOC	volatile organic compound
WEAP	Worker Environmental Awareness Program
WEG	wind erodibility group
WQMP	Water Quality Management Plan
ybp	years before present

1.0 INTRODUCTION

1.1 Proposed Project

Orange County is proposing the development of a 2.7-mile bikeway component to close a gap in a larger 66-mile regional bikeway corridor called the OC Loop. The OC Loop Segments O, P, and Q Coyote Creek Bikeway Project (referred to as the "proposed project" or "project") will become part of the existing Coyote Creek Bikeway. The proposed project site goes through the City of La Mirada, City of Buena Park, and City of Cerritos.

This Initial Study/Mitigated Negative Declaration (IS/MND) examines all elements and potential environmental impacts, in accordance with the California Environmental Quality Act (CEQA), regarding the development of the proposed project. The proposed project would be constructed beginning at the existing Coyote Creek Bikeway in the City of Cerritos where the flood channel divides into north and east forks. The bikeway would traverse 2.7 miles, connecting to another portion of the Coyote Creek Bikeway at La Mirada Boulevard/Malvern Avenue in the City of Buena Park.

1.1.1 Project Components

The proposed project consists of construction of a paved 2.7-mile bikeway component of the OC Loop. This section of the OC Loop would be broken into three segments, OC Loop Segments O, P, and Q. OC Loop Segment O would be 1.1 miles long and extend from Coyote Creek North Fork to Artesia Boulevard. OC Loop Segment P would be 0.6 mile long and extend from Artesia Boulevard to Knott Avenue. OC Loop Segment Q would be one mile long and extend from Knott Avenue to Malvern Avenue. Refer to **Section 3.0**, Project Description, of this document for a detailed project description.

1.1.2 Estimated Construction Schedule

Project construction is anticipated to begin in January 2023 and would last approximately 18 to 24 months, ending in December 2024, dependent upon federal funding approvals.

1.2 Lead Agencies – Environmental Review Implementation

Orange County is the Lead Agency for the proposed project.

1.3 CEQA Overview

1.3.1 Purpose of CEQA

All discretionary projects within California are required to undergo environmental review under CEQA. A project is defined in CEQA Guidelines § 15378 as the whole of the action having the potential to result in a direct physical change or a reasonably foreseeable indirect change to the environment and is any of the following:

- An activity directly undertaken by any public agency, including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local general plans or elements thereof.

- An activity undertaken by a person which is supported in whole or in part through public agency contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- An activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

CEQA Guidelines § 15002 lists the basic purposes of CEQA as:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.3.2 Authority to Mitigate under CEQA

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible. Under CEQA Guidelines § 15041 a Lead Agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the "nexus"[1] and "rough proportionality"[2] standards.

CEQA allows a Lead Agency to approve a project even though the project would cause a significant effect on the environment if the agency makes a fully informed and publicly disclosed decision that there is no feasible way to lessen or avoid the significant effect. In such cases, the Lead Agency must specifically identify expected benefits and other overriding considerations from the project that outweigh the policy of reducing or avoiding significant environmental impacts of the project.

1.4 Purpose of Initial Study

The CEQA process begins with a public agency making a determination as to whether the project is subject to CEQA at all. If the project is exempt, the process does not need to proceed any further. If the project is not exempt, the Lead Agency takes the second step and conducts an Initial Study to determine whether the project may have a significant effect on the environment.

The purposes of an Initial Study, as listed in § 15063(c) of the CEQA Guidelines, are to:

- Provide the Lead Agency with information necessary to decide if an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND) should be prepared.
- Enable a Lead Agency to modify a project to mitigate adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a ND or MND.
- Assist in the preparation of an EIR, if required, by focusing the EIR on adverse effects determined to be significant, identifying the adverse effects determined not to be significant,

1 A nexus (i.e., connection) must be established between the mitigation measure and a legitimate governmental interest.
2 The mitigation measure must be "roughly proportional" to the impacts of the Project.

explaining the reasons for determining that potentially significant adverse effects would not be significant, and identifying whether a program EIR, or other process, can be used to analyze adverse environmental effects of the project.
- Facilitate an environmental assessment early during project design.
- Provide documentation in the ND or MND that a project would not have a significant effect on the environment.
- Eliminate unnecessary EIRs.
- Determine if a previously prepared EIR could be used for the Project.

In cases where no potentially significant impacts are identified, the Lead Agency may issue a ND, and no mitigation measures would be needed. Where potentially significant impacts are identified, the Lead Agency may determine that mitigation measures would adequately reduce these impacts to less than significant levels. The Lead Agency would then prepare an MND for the proposed project. If the Lead Agency determines that individual or cumulative effects of the proposed project would cause a significant adverse environmental effect that cannot be mitigated to less than significant levels, then the Lead Agency would require an EIR to further analyze these impacts.

1.5 Review and Comment by Other Agencies

Other public agencies are provided the opportunity to review and comment on the IS/MND. Each of these agencies is described briefly below.

- A Responsible Agency (14 CCR § 15381) is a public agency, other than the Lead Agency, that has discretionary approval power over the Project, such as permit issuance or plan approval authority.
- A Trustee Agency[3] (14 CCR § 15386) is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California.
- Agencies with Jurisdiction by Law (14 CCR § 15366) are any public agencies who have authority (1) to grant a permit or other entitlement for use; (2) to provide funding for the project in question; or (3) to exercise authority over resources which may be affected by the project. Furthermore, a city or county will have jurisdiction by law with respect to a project when the city or county having primary jurisdiction over the area involved is: (1) the site of the project; (2) the area in which the major environmental effects will occur; and/or (3) the area in which reside those citizens most directly concerned by any such environmental effects.

1.6 Impact Terminology

The following terminology is used to describe the level of significance of potential impacts:

- A finding of ***no impact*** is appropriate if the analysis concludes that the project would not affect the particular environmental threshold in any way.
- An impact is considered ***less than significant*** if the analysis concludes that the project would cause no substantial adverse change to the environment and requires no mitigation.

3 The four Trustee Agencies in California listed in CEQA Guidelines § 15386 are California Department of Fish and Wildlife, State Lands Commission, State Department of Parks and Recreation, and University of California.

- An impact is considered ***less than significant with mitigation incorporated*** if the analysis concludes that the project would cause no substantial adverse change to the environment with the inclusion of environmental commitments, or other enforceable measures, that would be adopted by the lead agency.
- An impact is considered potentially significant if the analysis concludes that the project could have a substantial adverse effect on the environment.

An EIR is required if an impact is identified as ***potentially significant***.

1.7 Organization of Initial Study

This IS/MND is organized to satisfy CEQA Guidelines § 15063(d), and includes the following sections:

- **Section 1.0 - Introduction**, which identifies the purpose and scope of the IS/MND.
- **Section 2.0 - Environmental Setting**, which describes location, existing site conditions, land uses, zoning designations, topography, and vegetation associated with the project site and surrounding area.
- **Section 3.0 - Project Description**, which provides an overview of the project, a description of the proposed development, project phasing during construction, and discretionary actions for the approval of the project.
- **Section 4.0 - Environmental Checklist**, which presents checklist responses for each resource topic to identify and assess impacts associated with the proposed project, and proposes mitigation measures, where needed, to render potential environmental impacts less than significant, where feasible.
- **Section 5.0 - References**, which includes a list of documents cited in the IS/MND.
- **Section 6.0 - List of Preparers**, which identifies the primary authors and technical experts who prepared the Initial Study.
- **Section 7.0 – Mitigation, Monitoring, and Reporting Program (MMRP)**, which identifies mitigation measures and level of significance after mitigation. The mitigation measures contained in the MMRP table in this section are prescriptive and are provided for use by the implementing agency.

Technical studies and other documents, which include supporting information or analyses used to prepare the IS/MND, are included in the following appendices:

- Appendix A1 Segment O, P and Q Improvement Plans
- Appendix A2 2018 Project Plans
- Appendix A3 2020 Updated Crossings Plans
- Appendix A4 Bridge Type Selection Report
- Appendix B1 Air Quality & Greenhouse Gas Emissions Technical Summary
- Appendix B2-1 Total Emissions with UPRR Undercrossing
- Appendix B2-2 Total Emissions with UPRR Overcrossing
- Appendix C Natural Environment Study (Minimal Impacts)
- Appendix D1 Phase I Cultural Resources Inventory
- Appendix D2 Paleontological Resources Records Search
- Appendix E1 Initial Site Assessment Report
- Appendix E2 Initial Site Assessment - Addendum
- Appendix F Jurisdictional Delineation

- Appendix G Noise Measurement Data
- Appendix H Information Request Letters
- Appendix I Draft Hydraulics Study for Undercrossing

1.8 Findings from the Initial Study

1.8.1 No Impact or Impacts Considered Less than Significant

The project would have no impact or a less than significant impact on the following environmental categories listed from Appendix G of the CEQA Guidelines.

- Air Quality
- Agriculture and Forestry Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Utilities and Service Systems
- Wildfire

1.8.2 Impacts Considered Less than Significant with Mitigation Measures

Based on IS findings, the project would have a less than significant impact on the following environmental categories listed in Appendix G of the CEQA Guidelines when proposed mitigation measures are implemented.

- Aesthetics
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Noise
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Mandatory Findings of Significance

2.0 ENVIRONMENTAL SETTING

2.1 Project Location

The entire 2.7-mile proposed project is located along the Coyote Creek Channel within the cities of Cerritos, Buena Park and La Mirada. The project site is located in an area that is characterized by flat topography and urban development. The project site is adjacent to parcels with commercial, industrial and residential land uses. Refer to **Figure 2.1-1**, which shows the project vicinity and **Figure 2.1-2**, which depicts the project's location. Refer to **Figure 2.1-3**, which shows a Topographic Map of the project site. **Table 2.1-1**, which provides the land uses in the project vicinity. Photographs depicting the project site are provided in **Figure 2.1-4a** through **Figure 2.1-4i**. The descriptions below for each segment are quoted directly from the Stantec Consulting Services OC Loop Gap Feasibility Study prepared in March 2015.

Table 2.1-1
LAND USES IN THE PROJECT VICINITY

Segment	Project Vicinity Land Uses
Segment O	Residential, commercial and industrial.
Segment P	Commercial and industrial.
Segment Q	Residential, commercial and industrial.

Source: UltraSystems, 2020

Figure 2.1-1
PROJECT VICINITY

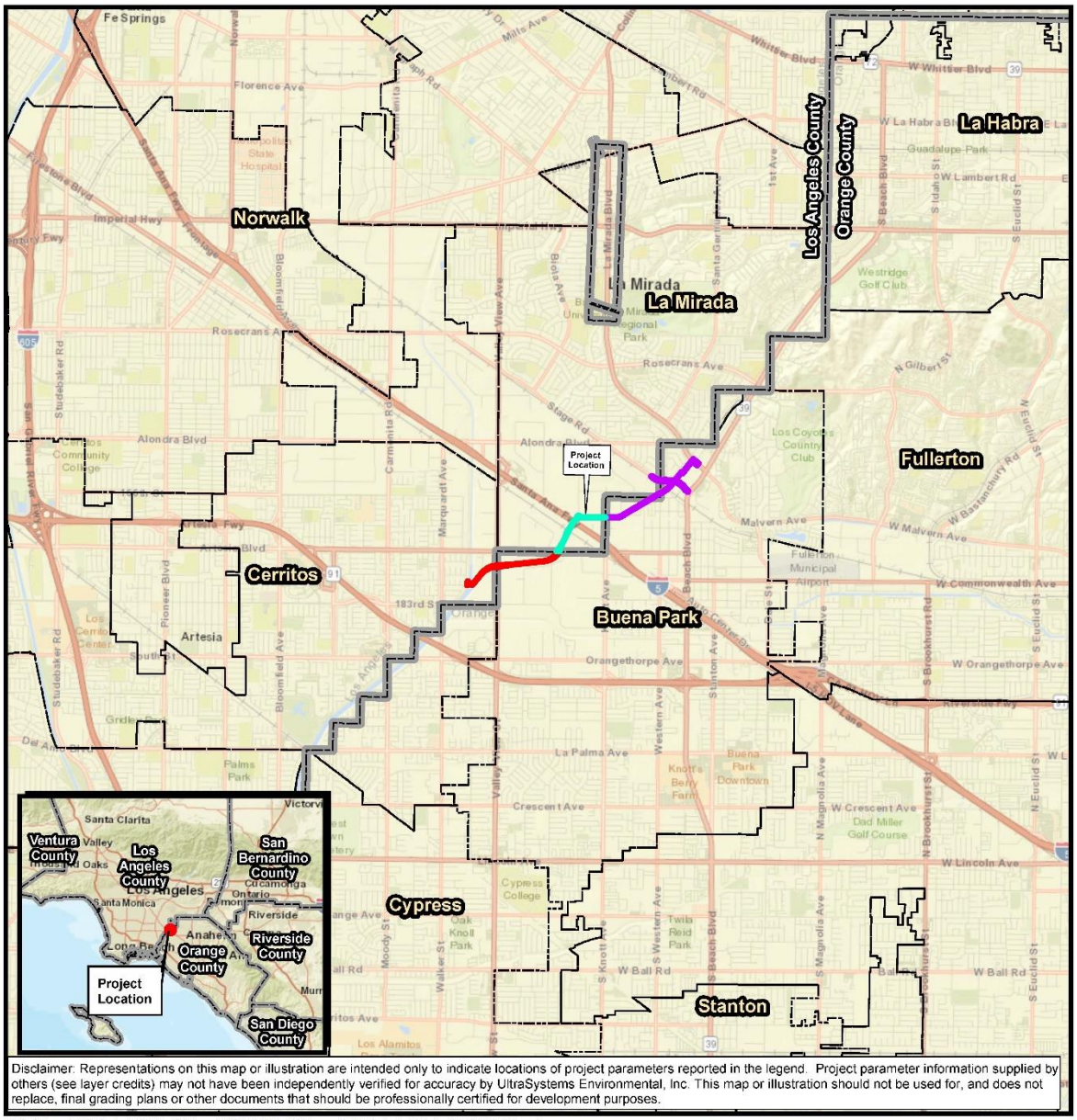


Figure 2.1-2
PROJECT LOCATION

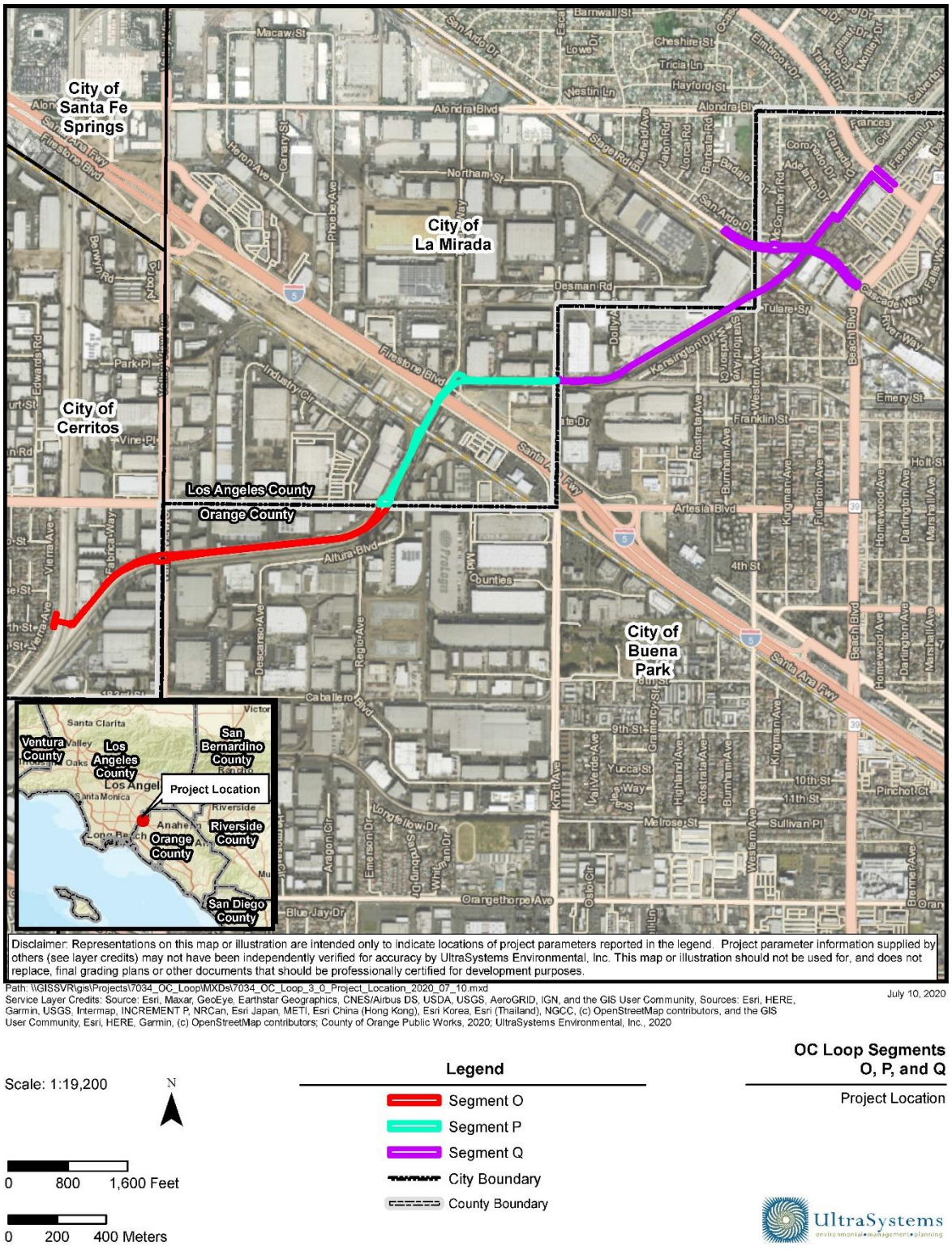


Figure 2.1-3
TOPOGRAPHIC MAP

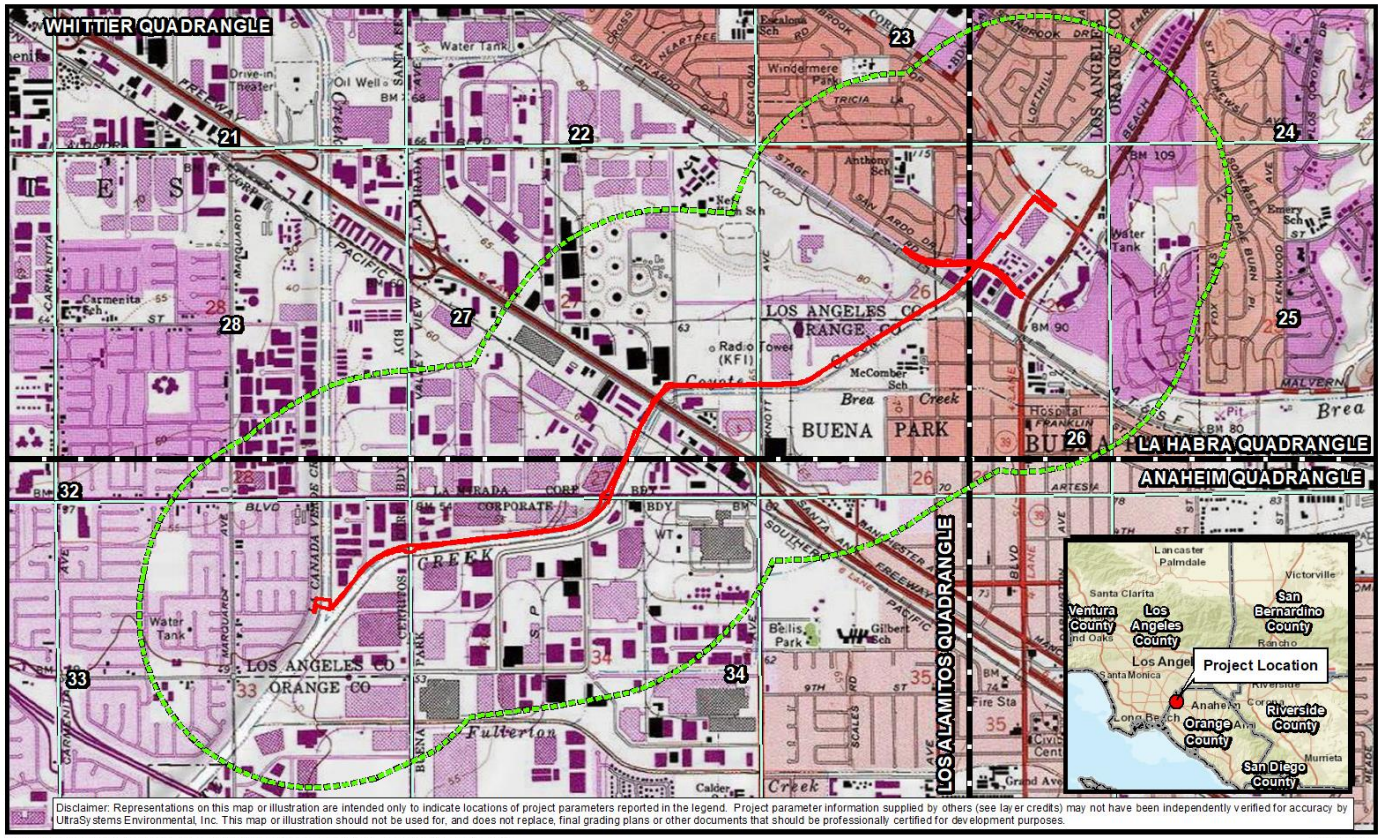


Figure 2.1-4a
PROJECT SITE PHOTOGRAPHS LOCATION MAP - SEGMENT O

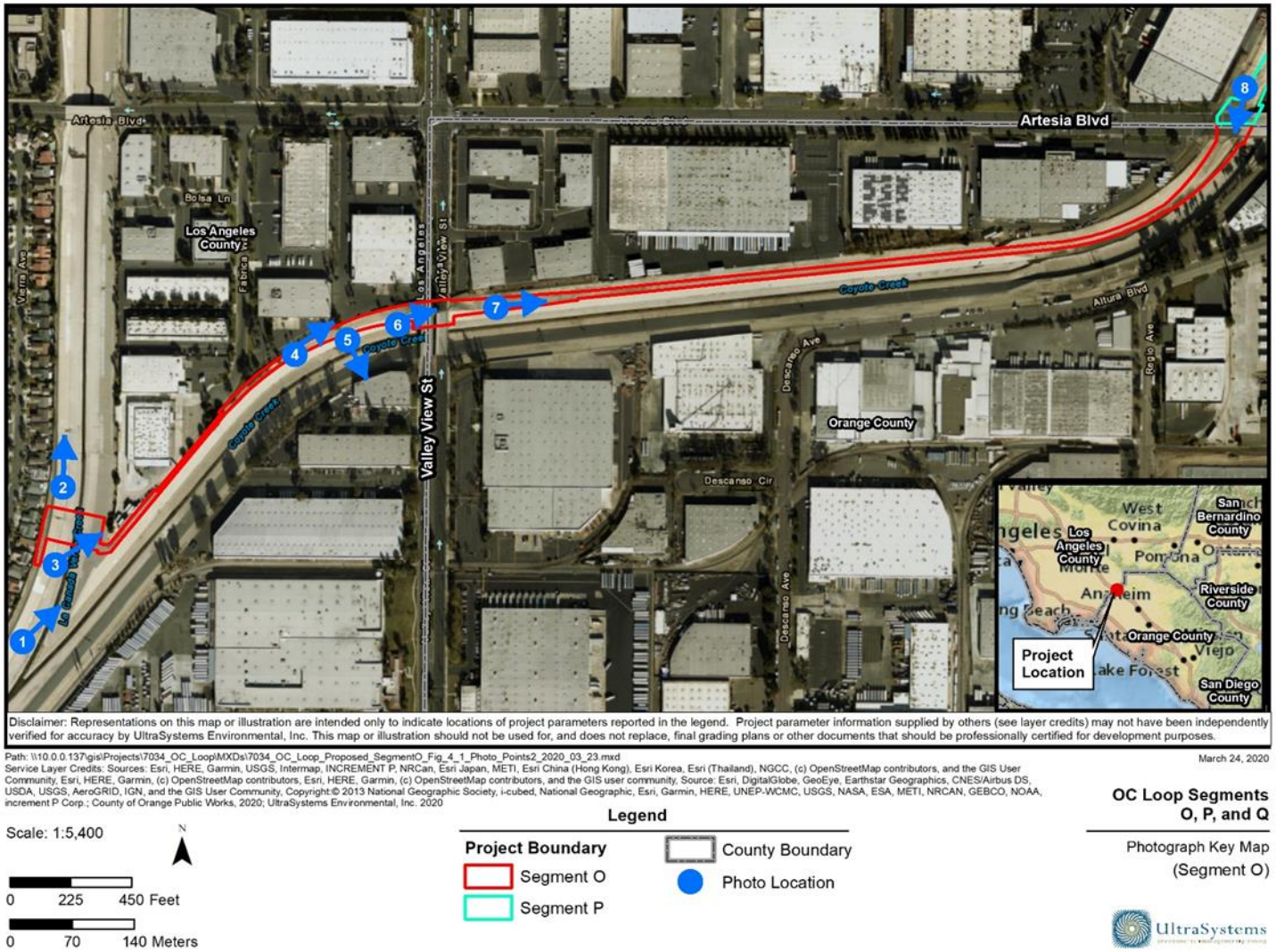


Figure 2.1- 4b
PROJECT SITE PHOTOGRAPHS - SEGMENT O PHOTOS 1-4



PHOTO 1: View looking northeast at Coyote Creek at the confluence of its east and north forks.



PHOTO 2: View looking north of residences on the west side of Coyote Creek.

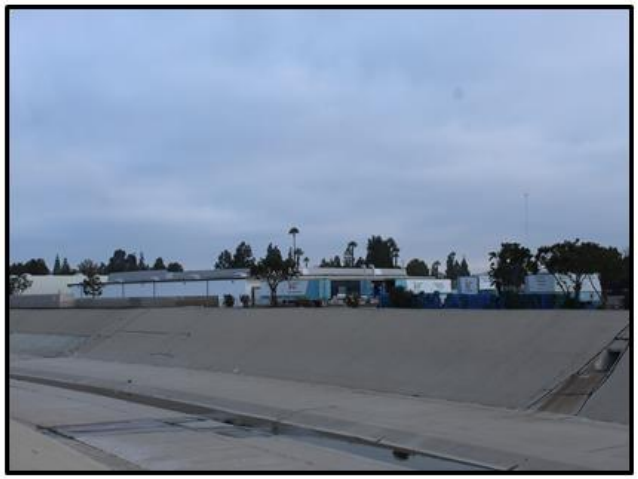


PHOTO 3: View looking northeast of industrial buildings to the east of Coyote Creek.



PHOTO 4: View looking east of the proposed bikeway path and industrial buildings to the west of Coyote Creek.

Source: Ultrasystems, 2020

Figure 2.1-4c
PROJECT SITE PHOTOGRAPHS- SEGMENT O PHOTOS 5-8



PHOTO 5: View looking southeast of commercial/industrial buildings east of Coyote Creek.



PHOTO 6: View looking east of the Valley View bridge over Coyote Creek.



PHOTO 7: View looking east of industrial/commercial buildings to the west and east of Coyote Creek.



PHOTO 8: View looking south of the Artesia Boulevard bridge over Coyote Creek.

Source: Ultrasystems, 2020

Segment O

Segment O is the beginning and southernmost portion of the proposed project. Segment O begins at the existing Coyote Creek Bikeway where the Coyote Creek Channel divides into its east and north forks. The segment runs east/northeast for 4,800 feet, or 0.91 miles, along the east fork of the Coyote Creek Channel to Artesia Boulevard. The majority of Segment O is located within the City of Buena Park with a portion of Segment O located in the City of Cerritos in Los Angeles County (Stantec Consulting Services Inc., 2015, p. 43).

In general, the land use surrounding Segment O is comprised of light industrial. Unity Courier Services, East West Home Health, Mediaid, Rock-Tenn, and Nelson Dunn, Inc. are some of the larger businesses. The Coyote Creek Channel right-of-way (ROW) is separated from existing land uses by a chain link fence (Stantec Consulting Services Inc., 2015, p. 43).

"The existing Coyote Creek Bikeway is located along the west levee of the Coyote Creek Channel at the confluence of main/east and north/west tributaries. The east fork consists of a concrete lined trapezoidal flood control channel at this point." A 12-foot-wide concrete service road is located atop the north levee along the east fork from the confluence north and east to Valley View Avenue (Stantec Consulting Services Inc., 2015, p. 43).

Valley View Avenue Coyote Creek Channel Crossing

Valley View Avenue is a north/south arterial highway. This road has three northbound through lanes, three southbound through lanes, and a 14-foot-wide raised median. Valley View Avenue carries 20,000 vehicles per day. The existing bridge for Valley View Avenue is approximately 20 feet higher than the bottom of the Coyote Creek Channel. The Coyote Creek Channel levee service road rises and makes a grade crossing via existing driveways at Valley View Avenue (Stantec Consulting Services Inc., 2015, p. 43).

Valley View Avenue to Artesia Boulevard

The east fork of Coyote Creek continues from Valley View Avenue to Artesia Boulevard in the city of Buena Park. Proceeding east from Valley View, Coyote Creek is within a concrete-lined trapezoidal channel. Large office manufacturing buildings are located along the north side of the Coyote Creek Channel. These businesses are separated from the Coyote Creek Channel by a chain-link fence. A stub of an apparently abandoned railroad serving goods movement ends along the frontage of two manufacturing buildings west of the intersection with Artesia Boulevard. The rail line appears disconnected north of Artesia Boulevard (Stantec Consulting Services Inc., 2015, pp. 43-44).

"The [Coyote Creek] Channel and its parallel service road continue east from Valley View Avenue to Artesia Boulevard. The existing dirt and crushed rock surface is narrow and not well-defined; however, there is sufficient space within the [Coyote Creek] channel right-of-way for a full-width Class I bikeway. Approximately 1,000 feet south of Artesia Boulevard, the trapezoidal [Coyote Creek] channel narrows to form a vertical wall box channel. The [Coyote Creek] channel right-of-way remains wide and usable as a Class I bikeway" (Stantec Consulting Services Inc., 2015, p. 44).

Artesia Boulevard Crossing

"The service road continues to follow the edge of the [Coyote Creek] channel and rises to an asphalt driveway at Artesia Boulevard. Artesia Boulevard, at its intersection with the [Coyote Creek] channel,

is an east-west arterial highway that has three lanes in each direction with sidewalks at the bridge crossing over the [Coyote Creek] channel. Artesia Boulevard carries approximately 25,000 vehicles per day. Artesia Boulevard crosses the vertical wall channel on a bridge. There is ample space on both sides of the [Coyote Creek] channel to accommodate a Class I bikeway, but the vertical wall channel does not readily allow for a dip undercrossing. A perimeter fence prevents the public from entering flood control ROW from its several access points at the Artesia Boulevard bridge crossing" (Stantec Consulting Services Inc., 2015, p. 44).

Figure 2.1-4d
PROJECT SITE PHOTOGRAPHS LOCATION MAP – SEGMENT P

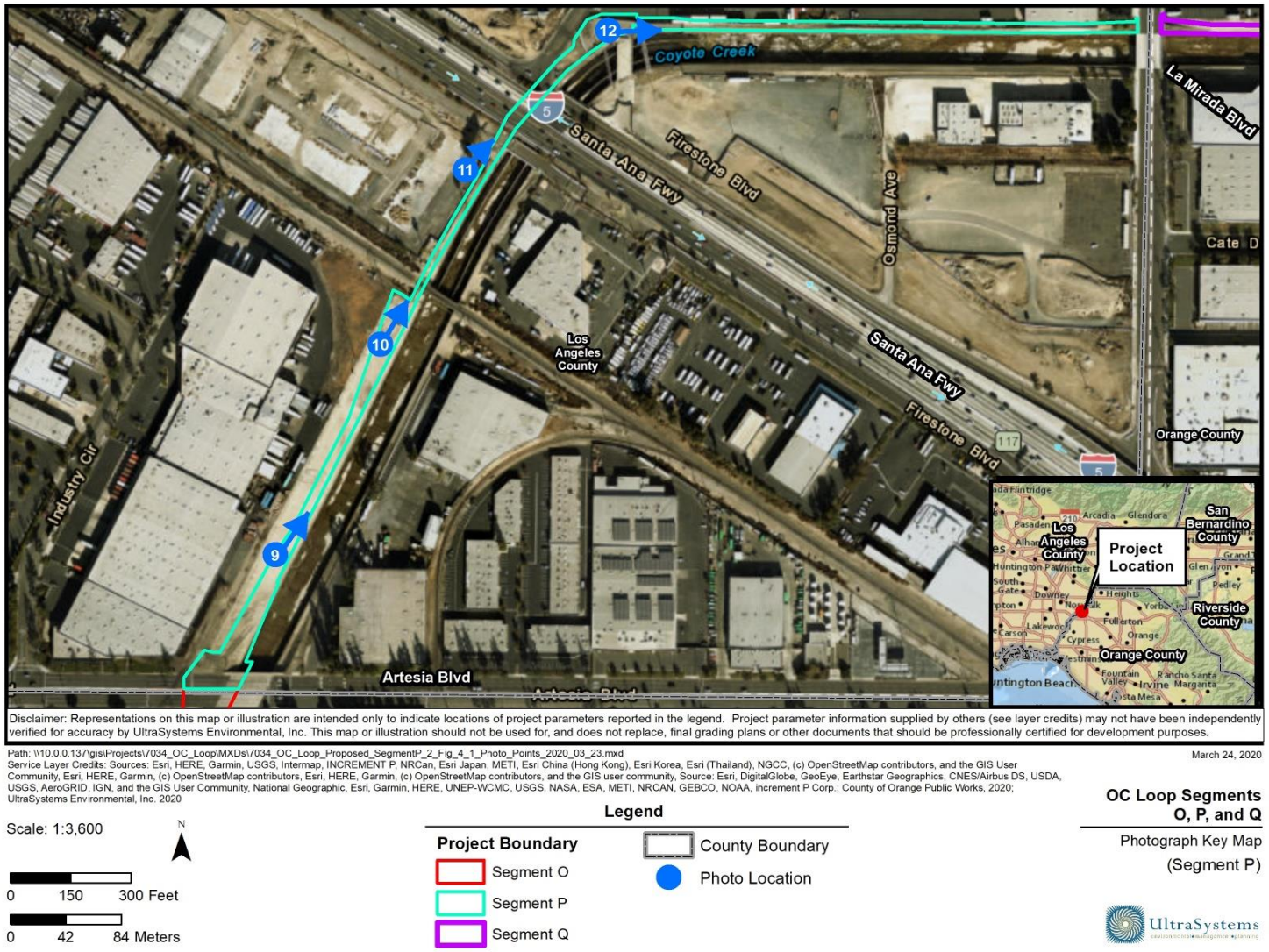


Figure 2.1-4e
PROJECT SITE PHOTOGRAPHS – SEGMENT P PHOTOS 9-12



PHOTO 9: View looking northeast of the proposed bikeway path.



PHOTO 10: View looking northeast of the Union Pacific (UP) railroad and gas utility pipeline.



PHOTO 11: View looking northeast of Firestone Boulevard and the I-5 freeway.



PHOTO 12: View looking east of the Crimson gas utility line over the Coyote Creek channel.

Source: GHD, 2019 and Ultrasystems, 2020

Segment P

"Segment P runs parallel to Coyote Creek Channel from Artesia Boulevard to Knott Avenue. It is located entirely within the City of La Mirada in Los Angeles County. Segment P is 3,250 feet (0.62 miles) long and crosses the Interstate 5 (I-5) freeway, its frontage roads, and the Union Pacific Railroad (UPRR) Anaheim Branch Line" (Stantec Consulting Services Inc., 2015, p. 50).

Artesia Boulevard to UP Railroad Crossing

"The Coyote Creek channel continues as a vertical wall concrete lined channel north of Artesia Boulevard. The service area along the south side of the [Coyote Creek] channel narrows where it is adjacent to development, limiting room for a bikeway. Land uses adjacent to the [Coyote Creek] channel include industrial and commercial uses and parking lots. Businesses include Living Spaces Furniture and Tuff Industries to the West and Forest Plywood Sales to the East" (Stantec Consulting Services Inc., 2015, p. 50).

UPRR Crossing

"A UPRR branch line crosses Coyote Creek about 1,100 feet north of Artesia Boulevard. The configuration of the railroad crossing of Coyote Creek is suitable for construction of a bikeway underpass, but a new separate structure would be required because of the vertical wall configuration of the [Coyote Creek] channel beneath the railroad. The UPRR branch line is estimated to accommodate 2-4 trains daily, and does not serve any passenger trains. The railroad is not expected to allow a grade crossing for the OC Loop at this crossing due to the amount of track activity" (Stantec Consulting Services Inc., 2015, p. 50).

UPRR Crossing to Firestone Boulevard South

"Past the railroad ROW, service roads continue along the edge of the concrete box channel within a wide graded area for about 400 feet to Firestone Boulevard South, which serves as a frontage road for the I-5 Freeway" (Stantec Consulting Services Inc., 2015, p. 50).

Firestone Boulevard South Frontage Road

"Firestone Boulevard South is one lane in each direction. The roadway serves relatively light traffic volumes that could potentially be crossed by OC Loop users at-grade, but the need for grade separations for the UPRR branch line to the south and the I-5 Freeway to the north, generally require that a grade separation would be required to cross under Firestone Boulevard South. At Firestone Boulevard South, the [Coyote Creek] channel service roads approach the street via gated asphalt driveways. Coyote Creek continues as a vertical wall channel beneath Firestone Boulevard South and I-5" (Stantec Consulting Services Inc., 2015, p. 51).

I-5 (Santa Ana) Freeway and Firestone Boulevard North Frontage Road

The Santa Ana Freeway (I-5) is located immediately north of and parallel to Firestone Boulevard South. "It is 105 feet wide and provides three southbound travel lanes, a center median, and four northbound travel lanes. Firestone Boulevard North is aligned parallel to and just north of I-5. It provides a single lane in each direction. Unpaved service roads are located on either side of Coyote Creek north of Firestone Boulevard North. Public access to both service roads is restricted by security fencing" (Stantec Consulting Services Inc., 2015, p. 50).

in the future, the I-5 Freeway is scheduled for widening at the Coyote Creek crossing. OCTA's website does not indicate when this widening will occur. An opening for a bikeway undercrossing is proposed as part of the freeway widening project. Plans include a designated opening to be constructed under three of the four bridges as part of the freeway widening project (I-5 North, I-5 South, and Firestone Boulevard North). "The Firestone Boulevard South bridge is not being reconstructed with the Caltrans project. It does not provide an opening for a bikeway at this time." Additionally, "the freeway plans do not provide for construction of the bikeway, only for construction of openings for a future facility, free of structural supports and utilities within an envelope of space at least 8 feet high and 9 feet wide" (Stantec Consulting Services Inc., 2015 p. 51).

Firestone Boulevard North to Knott Avenue

"Coyote Creek continues north and east from the I-5/Firestone Boulevard crossing to Knott Avenue, the northern boundary of Segment P. This section of the [Coyote Creek] channel is 1,500 feet long and continues as a vertical wall concrete lined box channel in this area." The Coyote Creek Channel right-of-way is adjacent to commercial and light industrial land uses to the north and south. A 10-foot-wide dirt shoulder is located between the paved service roads and the businesses (Stantec Consulting Services Inc., 2015, p. 52).

"Trojan Way includes a short span bridge across the [Coyote Creek] channel. The road is closed at a barricade located just north of the [Coyote Creek] channel bridge. The crossing is located near Firestone Boulevard North and appears to be the former alignment of Trojan Way before the roadway was constructed at full width to the west of Coyote Creek. Segment P ends at Knott Avenue and connects with Segment Q. Knott Avenue is a 2-lane, low volume street, that carries approximately 3,000 vehicles per day with a 40-mph speed limit" (Stantec Consulting Services Inc., 2015, p. 52).

Figure 2.1-4f
PROJECT SITE PHOTOGRAPHS LOCATION MAP – SEGMENT Q

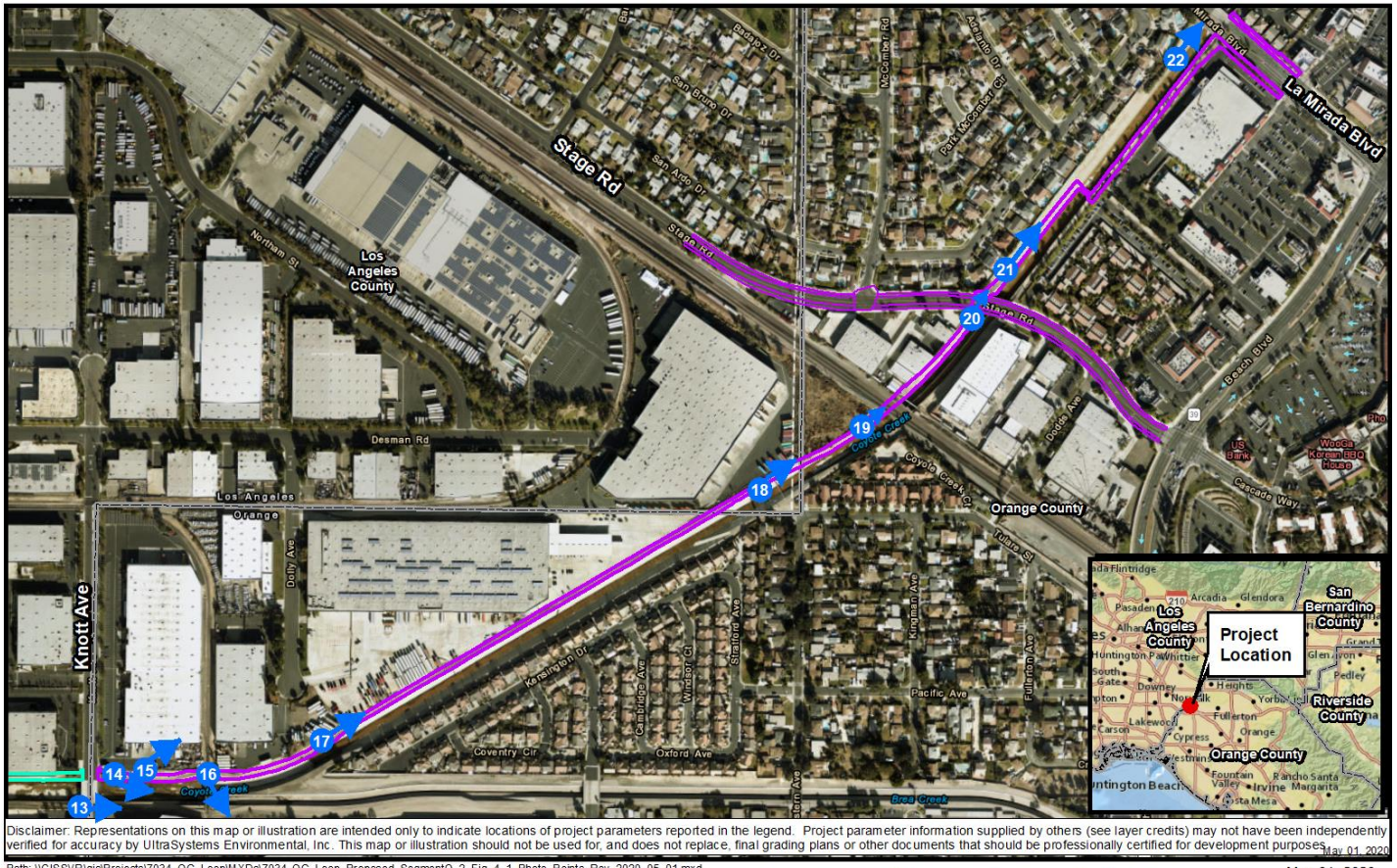


Figure 2.1-4g
PROJECT SITE PHOTOGRAPHS- SEGMENT Q PHOTOS 13-16



PHOTO 13: View looking east of Knott Avenue.



PHOTO 14: View looking east of the proposed bikeway location with industrial/commercial buildings to the east of the Coyote Creek.



PHOTO 15: View looking west of industrial buildings to the east of Coyote Creek.



PHOTO 16: View looking southeast of the Burlington Northern Santa Fe (BNSF) railroad.

Source: Ultrasystems, 2020

Figure 2.1-4h
PROJECT SITE PHOTOGRAPHS - SEGMENT Q PHOTOS 17-20



PHOTO 17: View looking northeast of the proposed bikeway with single-family residences located to the west of Coyote Creek.



PHOTO 18: View looking northeast of a gas utility pipeline.



PHOTO 19: View looking northeast of the abandoned Chevron gas pipeline and the Burlington Northern Santa Fe railroad.



PHOTO 20: View looking northeast of Stage Road.

Source: Ultrasystems, 2020

Figure 2.1-4i
PROJECT SITE PHOTOGRAPHS- SEGMENT Q PHOTOS 21-22



PHOTO 21: View looking northeast of the proposed bikeway with single-family residences to the west.



PHOTO 22: View looking northeast at La Mirada Boulevard.

Source: Ultrasystems, 2020

Segment Q

Segment Q extends from Knott Avenue to La Mirada Boulevard in the City of Buena Park. This Segment is approximately one mile long. "It crosses a Burlington Northern Santa Fe (BNSF) railroad spur, the heavily used Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor, and Stage Road before ending at La Mirada Boulevard" (Stantec Consulting Services Inc., 2015, p. 58).

Knott Avenue Vicinity

"Coyote Creek continues as a vertical wall concrete channel east of Knott Avenue. In this section, the [Coyote Creek] channel is 75 feet wide. Paved flood control service roads are located on both sides of the [Coyote Creek] channel and are 8 feet to 20 feet wide. Light industrial land uses surround the [Coyote Creek] channel. A barbed wire fence encloses the [Coyote Creek] channel and a cement wall separates the shoulders from businesses" (Stantec Consulting Services Inc., 2015, p. 58).

"Knott Avenue is 62 feet wide and travels in a north-south direction with a single lane in each direction. The road is a local industrial collector at this location and carries light traffic volumes (approximately 3,000 vehicles per day)" (Stantec Consulting Services Inc., 2015, p. 58).

BNSF Spur Railroad Crossing

"There is a spur railroad crossing about 300 feet east of Knott Avenue. The spur is lightly used, serving only a few industrial properties on the south side of the creek. The BNSF spur is estimated to accommodate 2-4 trains daily (or less), and does not serve any passenger trains" (Stantec Consulting Services Inc., 2015 p. 58).

"At the eastern side of Knott Avenue, chain link gates enclose the driveways on both sides of the concrete box channel. The 11-foot-wide service roads begin a short distance beyond the gates and extend upstream along both sides of the concrete channel for approximately 396 feet, where they reach a 17-foot-wide railroad ROW. The railroad spans the [Coyote Creek] channel in a north-south direction" (Stantec Consulting Services Inc., 2015, p. 58).

BNSF Spur Railroad Crossing to BNSF Metrolink LOSSAN Rail Corridor Crossing

"The confluence of the east fork of Coyote Creek and the Brea Creek concrete box channels is located immediately east of the BNSF railroad crossing. At this point, the service road on the south side of the Coyote Creek channel follows Brea Creek to the east. The service road along the northern side of Coyote Creek continues northeast. The concrete box channel for Coyote Creek widens into a trapezoidal concrete channel just upstream of the confluence." Twelve-foot-wide "crushed rock service roads flank both sides of this 2,900-foot-long section of channel between the railroad near Knott Avenue and the BNSF/Metrolink LOSSAN Rail Corridor. The [Coyote Creek] channel changes from a trapezoid shape to a vertical wall configuration as it approaches the BNSF/Metrolink railroad corridor" (Stantec Consulting Services Inc., 2015, p. 59).

BNSF/Metrolink LOSSAN Rail Corridor Crossing

"Metrolink/Southern California Regional Rail Authority operates and maintains the three-track main line railroad that connects Los Angeles, Orange County, and San Diego counties (LOSSAN) and connects to the main Burlington Northern Santa Fe (BNSF) line to the east. The LOSSAN Rail Corridor

is heavily used by trains operating at relatively high speeds. The feasibility of providing a fourth track is under consideration" (Stantec Consulting Services Inc., 2015, p. 59).

"A single-family residential housing tract exists adjacent to and southeast of the [Coyote Creek] channel as does light industrial buildings (State Logistics Services and Xpedx) and associated surface parking to the immediate northwest. A perimeter fence separates the [Coyote Creek] channel right-of-way from adjacent land uses." There are five feet to eight feet "of additional shoulder adjoining the levee service road in this area. Both the eastern and western asphalt service roads are separated from the railroad by gates and fencing" (Stantec Consulting Services Inc., 2015, p. 59).

BNSF/Metrolink LOSSAN Rail Corridor to Stage Road

"The Coyote Creek Channel continues north beyond the LOSSAN Rail Corridor crossing for 460 feet to Stage Road. Commercial buildings (i.e., Classic Auto Management to the north and Fore-Par Group to the south) are located adjacent to the [Coyote Creek] channel" (Stantec Consulting Services Inc., 2015, p. 60).

Stage Road Crossing

"Stage Road is 70 feet wide with two lanes in each direction carrying 10,000 vehicles per day. Channel service roads connect with Stage Road via four asphalt driveways. The [Coyote Creek] channel service roads are gated and locked which prevents the public from entering" (Stantec Consulting Services Inc., 2015, p. 60).

Stage Road to La Mirada Boulevard/Malvern Avenue

"The 1,277-foot segment of [Coyote Creek] channel between Stage Road and La Mirada Boulevard passes between two residential developments and a school. The asphalt service roads are 10 feet to 12 feet wide and parallel the concrete box channel on both sides. The service road and shoulder on the east channel levee is 24 feet wide. Ornamental trees are located outside of channel right-of-way to separate homes from the [Coyote Creek] channel. A wide dirt shoulder exists on the west side of the [Coyote Creek] channel adjacent to the service road" (Stantec Consulting Services Inc., 2015, p. 60).

"On the east side of the [Coyote Creek] channel, an apartment development exists near Stage Road and a commercial strip mall exists on the eastern side of the [Coyote Creek] channel near La Mirada Boulevard. The [Coyote Creek] channel right-of-way is enclosed by fencing and the service road and adjacent land uses are separated by a low wall" (Stantec Consulting Services Inc., 2015, p. 60).

La Mirada Boulevard Crossing

"La Mirada Boulevard is approximately 90 feet wide with three travel lanes in each direction carrying 33,000 vehicles per day. At La Mirada Boulevard, the service roads slope upwards and connect to the street via concrete driveways. A gate and fence prevent the public from using the [Coyote Creek] channel service road" (Stantec Consulting Services Inc., 2015, p. 61).

"Beyond La Mirada Boulevard, the OC Loop continues as the newly constructed Segment R from La Mirada Boulevard to Hillsborough Drive. Segment R opened in September 2014" (Stantec Consulting Services Inc., 2015, p. 61).

"An existing pedestrian overcrossing is located just north of La Mirada Boulevard. It was constructed to provide circulation between two sides of a residential community located on both sides of Coyote Creek" (Stantec Consulting Services Inc., 2015 p. 61).

2.2 Existing Characteristics of the Site

2.2.1 Climate and Air Quality

The annual average temperature in Cerritos is approximately 63.8 degrees Fahrenheit (°F). The annual rainfall is approximately 12.0 inches, which occurs mostly during the winter (Climate Data, 2020a). The annual average temperature in Buena park is 63.9 °F. The rainfall is around 12.2 inch per year (Climate Data, 2020b). The annual average temperature in La Mirada is approximately 64 °F, and annual average total precipitation is approximately 13 inches, which occurs mostly during the winter. Winds in this region are generally light (Climate Data, 2020c).

The project site is located within the South Coast Air Basin (SCAB), a 6,600 square mile area encompassing all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Based on regional monitoring data and the National Ambient Air Quality Standards (NAAQS), the SCAB is currently designated as an extreme nonattainment area for 8-hour ozone (O_3); attainment for nitrogen dioxide (NO_2); attainment for carbon monoxide (CO); attainment for particulate matter PM_{10}; nonattainment for lead (Pb); serious nonattainment for particulate matter $PM_{2.5}$; and attainment for sulfur dioxide (SO_2) (AQMD, 2018).

The SCAB is currently designated nonattainment for O3 and particulate matter PM_{10} and $PM_{2.5}$; attainment for CO, NO_2, sulfates, and Pb; and attainment for hydrogen sulfides under the California Ambient Air Quality Standards (CAAQS) (AQMD, 2018).

2.2.2 Geology and Soils

The project site is located in Southern California, which is a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone; however, the Lower Elysian Park thrust fault and the Puente Hills blind thrust system trend through the project site (refer to **Section 4.7** of this document).

2.2.3 Hydrology

The project site is relatively flat to gently sloping with surface elevations ranging from approximately 25 to 87 feet above mean sea level (Google Earth Pro, 2020). The site is within the jurisdiction of the Santa Ana (Region 8) and Los Angeles (Region 4) Regional Water Quality Control Boards. The nearest surface water body is Coyote Creek located adjacent to the proposed project site.

2.2.4 Biology

The cities of Cerritos, Buena Park and La Mirada are urbanized and the existing vegetation is largely ornamental. The dominant land use in the project vicinity is urban development with ornamental landscaping. Dirt/gravel, paved asphalt, and concrete are located on the project site.

2.2.5 Public Services

City of Cerritos

Fire prevention, fire protection and emergency medical service (EMS) for the City of Cerritos is provided by the Los Angeles County Fire Protection District. There are four different fire stations that serve the City of Cerritos, two of which are located within the city; Fire Station #30 and Fire Station #35. Fire Station #30 is located at 19030 South Pioneer Boulevard and Fire Station #35 is located at 13717 East Artesia Boulevard. The other two stations that serve Cerritos are Fire Station #34, located at 21207 South Norwalk Boulevard, and Fire Station #115, located at 11317 Alondra Boulevard.

The Cerritos Sheriff's Station/Community Safety Center, located at 18135 Bloomfield Avenue, provides law enforcement services to Cerritos. The Cerritos Sheriff's Station/Community Safety Center was opened in 1997 to provide a full range of public safety services for Cerritos residents, 24 hours a day, seven days a week. The station serves as headquarters for Los Angeles County Sheriff's Department personnel serving Cerritos and the City's Community Safety Division. Emergency 911 dispatching for the City is also located at this facility (RBF Consulting, 2004, SAF-23 – SAF-27).

The City of Cerritos Recreation Services Division provides recreational and educational activities and programs for all ages. The City of Cerritos offers recreation facilities, including Community Centers, neighborhood parks, the Cerritos Olympic Swim and Fitness Center, Cerritos Sports Complex, Cerritos Skate Park at the Cerritos Sports Complex, Community Gymnasiums at Whitney and Cerritos High Schools, and Cerritos Iron-Wood Nine Golf Course (City of Cerritos Recreation, 2020). Library services within the city are provided by the City of Cerritos Library, located at 18025 Bloomfield Avenue (County of LA Services Locator, 2020).

City of Buena Park

The City of Buena Park is a member of the Orange County Fire Authority (OCFA) Joint Powers Authority. The OCFA provides fire protection and emergency medical services response to the City. Services include structural fire protection, emergency medical and rescue services, hazardous inspections and response, fire prevention planning and inspection, and public education activities. OCFA also participates in disaster planning as it relates to emergency operations, which includes high-occupant areas and school sites and may participate in community disaster drills planned by others. There are three fire stations that service the city; Fire Station 61, located at 8081 Western Avenue; Fire station 62, located at 7780 Artesia Boulevard; and Fire Station 63, located at 9120 Holder Street (RBF Consulting, 2010b, 2010, p. 5.13-1).

The Buena Park Police Department, located at 6640 Beach Boulevard, provides police protection services to the City, 24 hours a day, seven days a week, and 365 days a year. The police services are divided into two divisions; the Operations Division, and the Support Services Division (RBF Consulting, 2010b, p. 5.14-1).

The City of Buena Park Recreation, Parks and Community Services Department offers a variety of recreation, sports and cultural activities, senior programs, services, and events for all age groups. The Department is responsible for maintaining the parks and recreation facilities within Buena Park. The Department operates 11 parks and several recreational facilities within city parks and schools (RBF Consulting, 2010b, p. 5.16-1). Library services are provided by the Buena Park Library, located at 7150 La Palma Avenue.

City of La Mirada

Fire protection services are provided through La Mirada's participation in the Los Angeles County Consolidated Fire District. Fire stations strategically located in La Mirada and adjacent communities provide adequate response times to emergency calls. The Fire District has an extensive program of safety examinations that allow Fire personnel to work with businesses to minimize fire hazards (Cotton/Bridges/Associated, 2003, p. SCS-24).

The City contracts with the Los Angeles County Sheriff's Department for the provision of law enforcement services. The local La Mirada Community Sheriff's station facilitates law enforcement coordination in the City. The City augments its law enforcement services with non-sworn public safety officers. In addition, the resources of the entire Los Angeles County Sheriff's Department, are available to the City (Cotton/Bridges/Associated, 2003, p. SCS-24).

An integrated network of neighborhood parks, community parks, regional parks, trails, and private open space make up the La Mirada recreation system. In addition, joint-use agreements between the City and local school districts allow school grounds to be used for recreation when schools are not in session. This open space system totals almost 500 acres, affording residents diverse passive and active recreation opportunities (Cotton/Bridges/Associated, 2003, OSC-4). The La Mirada Library, located at 13800 La Mirada Boulevard, is managed by the LA County Library Department and provides library services to the city (LA County Library, 2020).

2.2.6 Utilities

City of Cerritos

The City of Cerritos is provided internet by Charter Spectrum and Frontier FiOS; gas from Southern California Gas Company; water from the Metropolitan Water District (MWD); solid waste disposal by CalMet Services, Inc.; and electricity from Southern California Edison (City of Cerritos Utilities, 2020).

City of Buena Park

The City of Buena Park receives its cable television/wireless services from Time Warner Cable; electricity from Southern California Edison; gas from Southern California Gas Company; solid waste disposal from Park Disposal (EDCO); and water from MWD and the City of Buena Park (City of Buena Park Utilities, 2020).

City of La Mirada

The City of La Mirada receives its cable television/wireless services from AT&T, DirecTV, Frontier Communications, and Spectrum; solid waste disposal from EDCO Disposal; its water from Golden State Water Company and Suburban Water Systems; gas from Southern California Gas Company; and electricity from Southern California Edison (City of La Mirada Utilities, 2020).

3.0 PROJECT DESCRIPTION

3.1 Project Location and Context

OC Loop Segments O, P, and Q Coyote Creek Bikeway Project (proposed project) involves the construction of a 2.7-mile bikeway along the Coyote Creek flood control channel (herein referred to as the Coyote Creek Channel) in the City of Cerritos on the south, through the City of La Mirada, to the City of Buena Park to the north. The 2.7-mile bikeway is a component of a 66-mile regional bikeway corridor called the OC Loop. The proposed project would be located along the northwest Orange County/southwest Los Angeles County border. **Figure 3.1-1** depicts the location of the project area in a regional context.

The proposed project would, at its southern terminus, begin at the existing Coyote Creek Bikeway (in the City of Cerritos) at the confluence of the north and east forks of the Coyote Creek Flood Control Channel. As indicated on **Figure 3.1-2** the proposed project trends in a northeast direction for approximately 2.7 miles, where it connects to Segment R of the Coyote Creek Bikeway at La Mirada Boulevard in the City of Buena Park.

3.2 Project Objectives

Areas along the OC Loop corridor that are open for bicycle traffic are in poor condition and the bikeway surface is not marked clearly. Bicycle traffic at the junction of the Coyote Creek Bikeway and the San Gabriel River Bikeway does not continue along the Coyote Creek Bikeway (Stantec Consulting Services Inc., 2015, p. 40). In some areas, the bikeway is improved on one bank, while in other areas it is improved on both sides. Bicyclists can find themselves at the end of a bikeway facing a heavily used arterial highway with a high speed limit. In addition, there may be no traffic signals to facilitate crossing, a raised median may prohibit crossing, and no suitable way to use the roadway bridge to ride across the creek to reach the bikeway on the opposite bank (Stantec Consulting Services Inc., 2015, pp. 40-41).

Once constructed, the proposed project would close an existing bikeway gap along the OC Loop with a Class I bikeway/path physically separated from vehicular traffic. As an alternative mode of transportation, the proposed project would also increase the use of active transportation travel modes, enhance safety and mobility for non-motorized users, advance efforts to achieve greenhouse gas reduction goals, improve access and maintenance to the Coyote Creek Channel, and enhance public health. In addition, the proposed project is a safety and mobility enhancement for the County of Orange, and is included in the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA/County of Orange Fourth District Bikeways Strategy Report, 2014 County of Orange General Plan Transportation Element (as part of the Orange County Seven-Year Plan), and the 2015 OC Loop Gap Feasibility Study (OC Parks).

The proposed project has the following objectives:

- To further establish the OC Loop as a significant regional recreational and alternative transportation facility resource.

- To facilitate increases in the public's use of active transportation travel modes.

Figure 3.1-1
REGIONAL LOCATION MAP

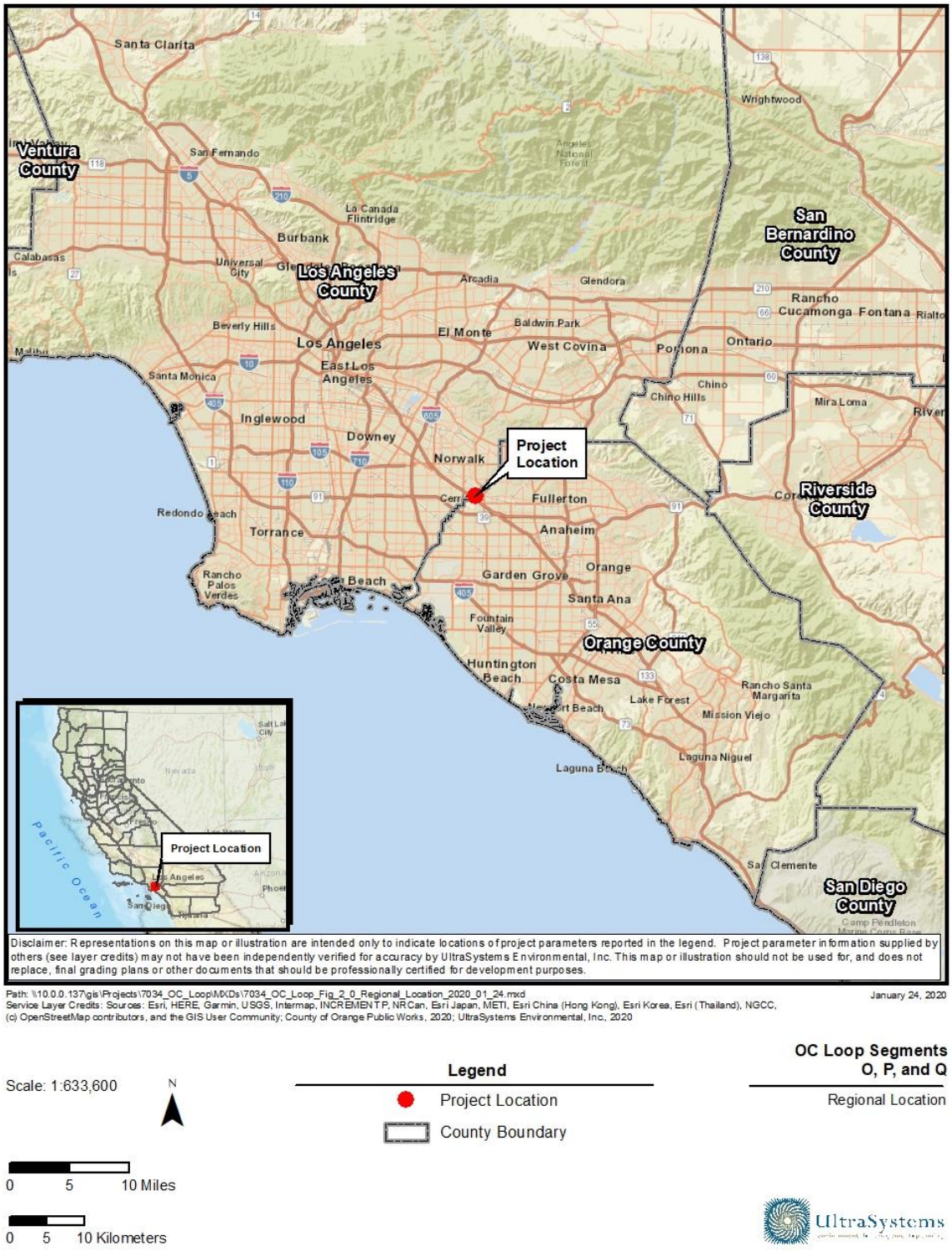
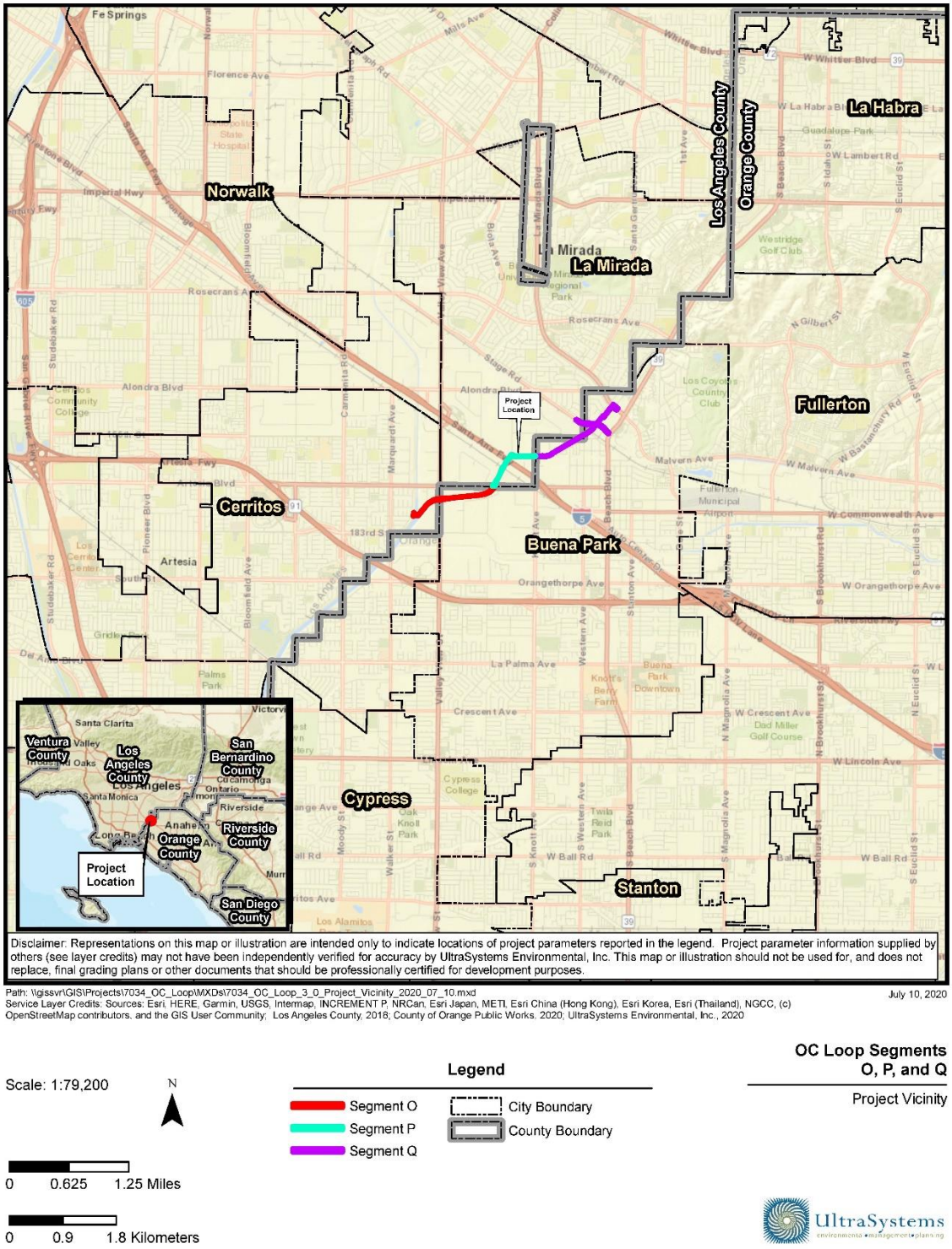


Figure 3.1-2
PROJECT VICINITY



- To enhance the safety and mobility for non-motorized users.
- To advance efforts to achieve greenhouse gas reduction goals.
- To improve the maintenance of, and access to, the Coyote Creek Channel.
- To enhance public health via the facilitation of increased public use of active transportation travel modes.
- To serve as a viable contributor to County policies and physical improvements designed to promote safety and mobility enhancement.
- To accurately serve its stated purpose in various adopted County/OCTA policy and planning documents including the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA/County of Orange Fourth District Bikeways Strategy Report, 2014 County of Orange General Plan, and the 2015 OC Loop Gap Feasibility Study.

3.3 Project Characteristics

The proposed project is divided into three Segments (O, P, and Q) of the overall OC Loop (see **Figure 3.3-1**). From south to north, OC Loop Segment O extends northeasterly from the point of origin near the north fork of the Coyote Creek Channel to Artesia Boulevard. OC Loop Segment P extends northerly from Artesia Boulevard to Knott Avenue, while OC Loop Segment Q extends northerly from Knott Avenue to the terminus of the proposed project at La Mirada Boulevard. Conceptual drawings showing all of the improvements associated with the proposed project are provided herein as **Appendix A (A1, A2, A3, and A4)**, Plans for Improvement of Coyote Creek Class I Bikeway Segments O, P and Q (OCFCD Facility No. A01). The plans originate at Station 10+00.0 (Coyote Creek/North Fork) and terminate at Station 147+22.83 (La Mirada Boulevard/Malvern Avenue).

Following are summary descriptions of the main improvements planned as part of the proposed project, presented on a segment-by-segment basis. A number of utility crossings would be necessary to accommodate the proposed project. Existing flood control maintenance road ramps from the Coyote Creek Channel to existing roadways would be improved for bicycle access as well. Chain link or wire fencing would be provided where safety dictates, on one or both sides of the bikeway.

3.3.1 Summary of Segment O Improvements

Location

Segment O is the southernmost portion of the project area and is located within the cities of Cerritos and Buena Park. Segment O begins at the existing Coyote Creek Bikeway at the confluence of the Coyote Creek channel's east and north forks. The segment runs east-northeast for approximately 4,800 feet, or 0.91 mile, along the east fork of the Coyote Creek Channel to Artesia Boulevard. A plan view of the proposed improvements within OC Loop Segment O is depicted in **Figure 3.3-2**.

Figure 3.3-1
OC LOOP SEGMENTS O, P, AND Q

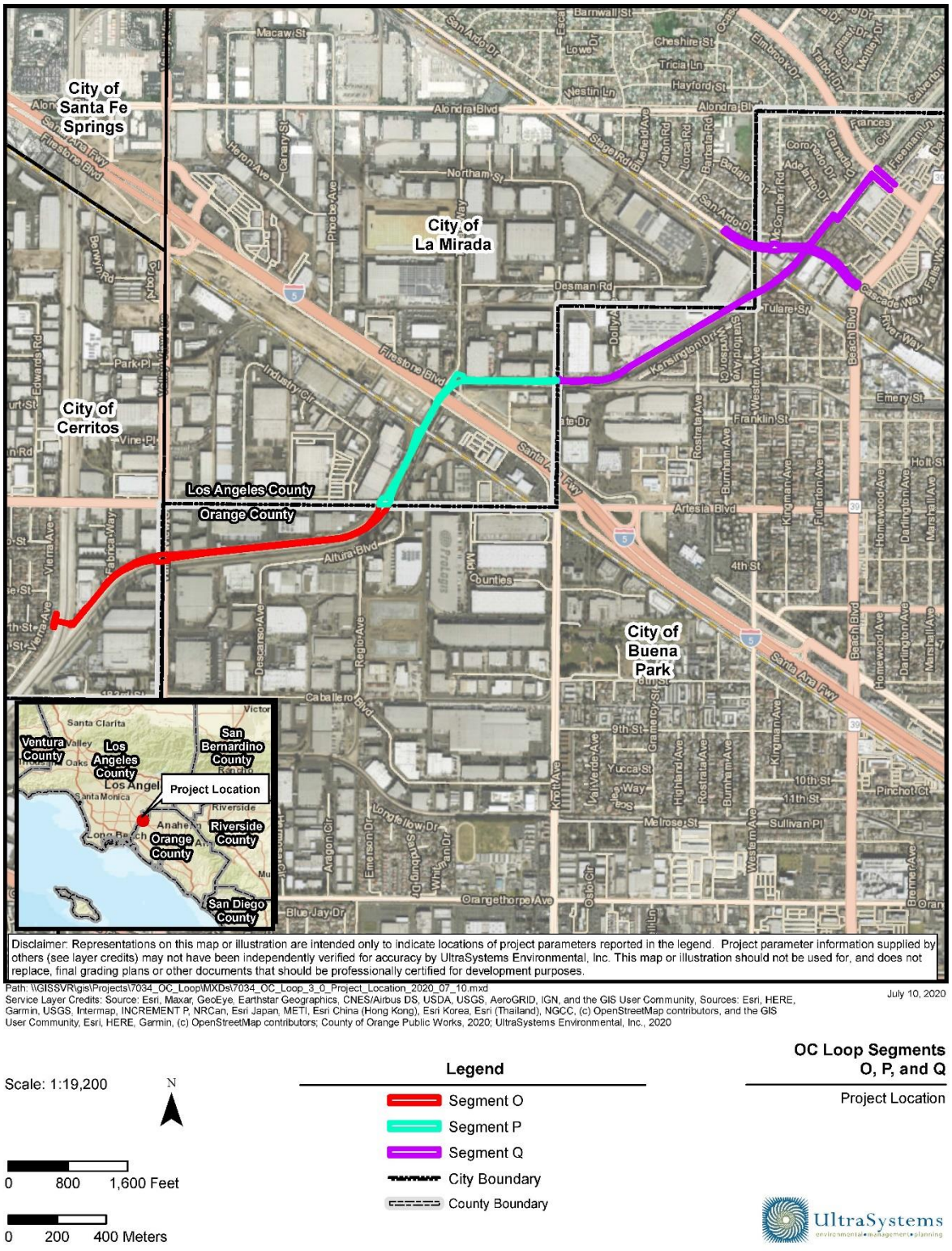
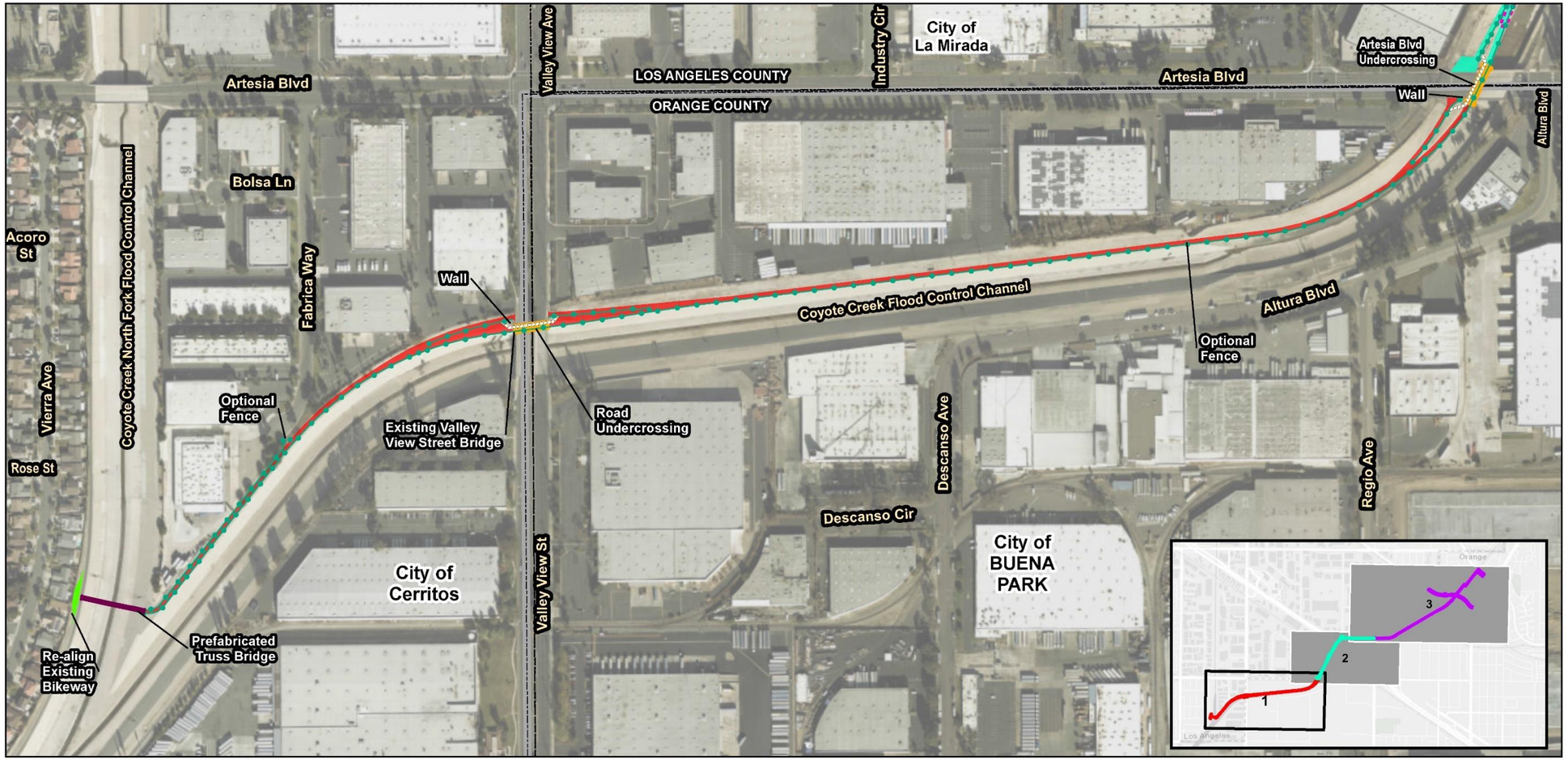


Figure 3.3-2
OC LOOP SEGMENT O IMPROVEMENT PLAN



Pedestrian/Cyclist Bridge

At Station 10+00, at the confluence of the north and east forks of the Coyote Creek channel, a 200-foot-long and 12-foot-wide pre-fabricated truss bridge would be installed across the Coyote Creek channel at the north fork. Approximately four 18-wheeled flatbed trucks would deliver the bridge in several sections and workers would bolt the bridge together onsite. The pre-fabricated bridge would be bolted together on the floor of the concrete Coyote Creek Channel. It is estimated to take about two days to assemble the bridge onsite. Reinforced concrete end bents would be constructed (cast in place) prior to delivery of the bridge. The bridge would be lifted and placed on the end bents by two large cranes. Only pedestrians and cyclists would use the bridge, as it would not be rated for the weight of motor vehicles. The bridge would be steel and designed to have a rust patina ("weathered steel" look), to eliminate the need for future painting. The deck of the pedestrian bridge would be wood.

Approximately 1,570 linear feet of 12 to 16 foot-wide asphalt would be placed upstream of the pre-fabricated bridge to Valley View Avenue. About 1,750 cubic feet of asphaltic concrete used for the existing maintenance road would be removed and recycled before any new asphalt paving would be placed. The new asphalt would be approximately four inches thick over six inches of crushed aggregate base. Fencing, such as a five-foot-high chain link fence or four-foot tall cable fence with six strands of cable may be installed on one or both sides. The fencing may be installed along the entire 2.7 miles of new bikeway if necessary. The location of the fencing (either on one or both sides of the bikeway) would be determined later in the design process.

Valley View Avenue Undercrossing Coyote Creek Channel Crossing

The next feature of Segment O would be an undercrossing of Valley View Avenue that would be constructed into the side of the existing sloped bank of the concrete Coyote Creek Channel. An under-bridge bundle of AT&T conduit will need to be relocated. The existing concrete slope under the Valley View Bridge would be removed and steepened to near vertical to accommodate the new 12-foot-wide trail undercrossing. A tieback wall would be installed under the bridge and the construction would be located above the existing outfalls. Upstream of the Valley View undercrossing to Artesia Boulevard, approximately 3,010 feet of 14 to 16 foot-wide asphalt paving would be placed adjacent to the Coyote Creek Channel.

Artesia Boulevard Ramp

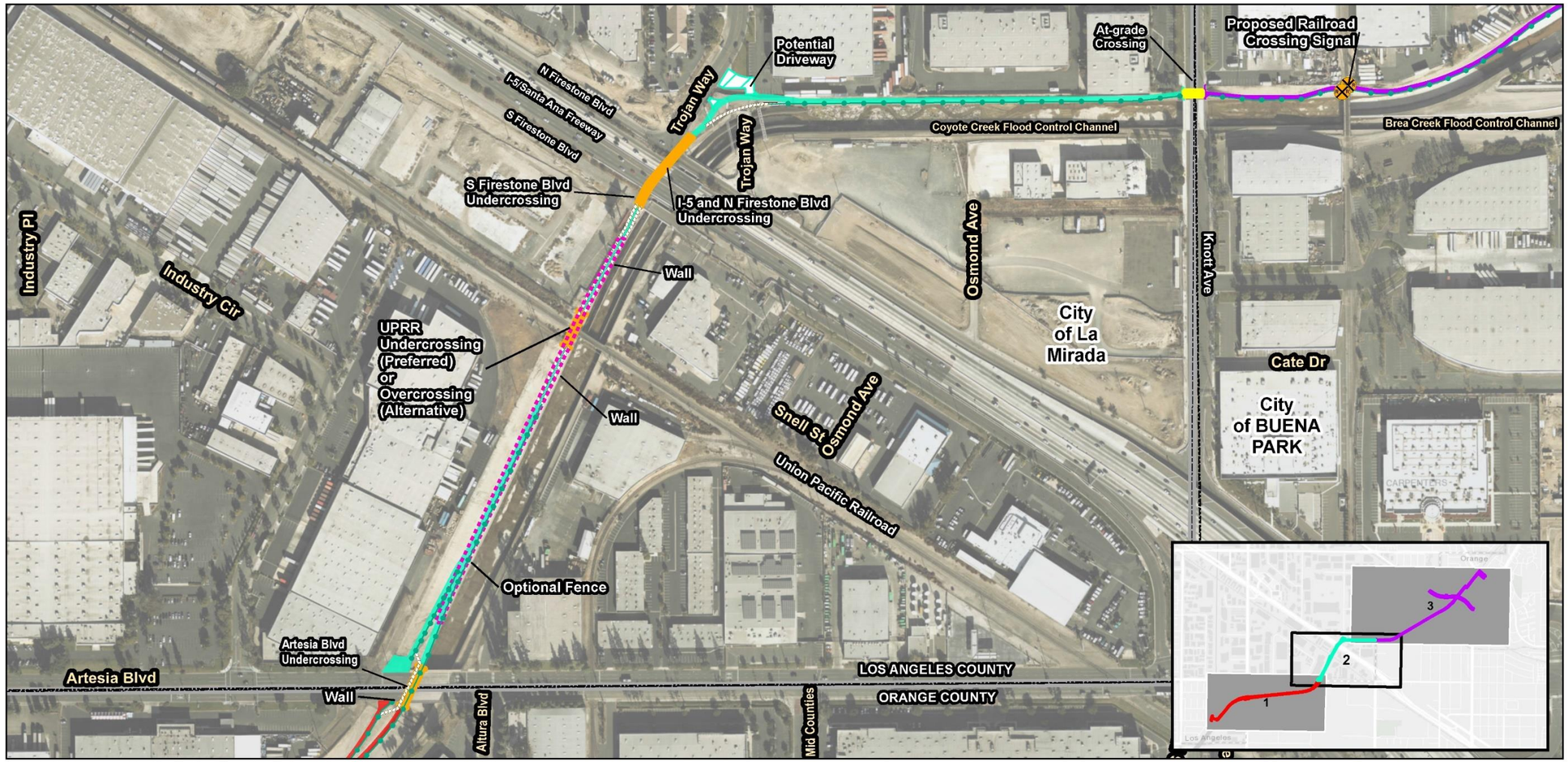
The bikeway ramp up to the south side of Artesia Blvd would generally follow the existing maintenance access road.

3.3.2 Summary of Segment P Improvements

Location

Segment P is located generally within the City of La Mirada in Los Angeles County and runs parallel to the north side of the Coyote Creek channel from the Artesia Boulevard undercrossing to Knott Avenue. It is approximately 3,000 feet long (equivalent to 0.57 mile) and crosses under the Interstate 5 (I-5) freeway, its frontage roads (South and North Firestone Boulevard), and the Union Pacific Railroad (UPRR) industrial lead. It includes 1,085 linear feet of new 14 to 16-foot-wide asphalt trail. A plan view of the proposed improvements within OC Loop Segment P is provided in **Figure 3.3-3**.

Figure 3.3-3
OC LOOP SEGMENT P IMPROVEMENT PLAN



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 14, 2020



N

Scale: 1:3,300
1 inch = 275 feet
1 cm = 33 meters

0 140 280 Feet

0 30 60 Meters

Legend

- Segment O Class I Bikeway
- Segment P Class I Bikeway
- Segment Q Class I Bikeway
- City Boundary
- County Boundary
- **Proposed Features**
- Optional Fence
- Potential Driveway
- Wall
- At-grade Crossing
- Undercrossing
- Alternative UPRR Overcrossing
- Proposed Railroad Crossing Signal

OC Loop
Segments O, P, and Q
Segment P

Map 2 of 3

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Undercrossing at Artesia Boulevard

Segment P begins at the Artesia Boulevard undercrossing, where there is currently a six-foot-wide strip of exposed dirt under the bridge between the bridge abutment and the vertical wall of the Coyote Creek Channel. Several concrete columns would be installed into the six-foot-wide strip of exposed soil between the bridge abutment wall and the concrete channel wall. The concrete columns would support a 13-foot-wide concrete deck, six to seven feet of which will cantilever over the Coyote Creek Channel. Approximately two to three feet of the top of the concrete flood control wall would be removed to ensure that there would be sufficient vertical clearance between the new bikeway and the bridge soffit. The existing concrete bridge abutment wall will act as the new flood control wall. Upstream from the Artesia Boulevard undercrossing would be about 1,200 feet of new 12 to 16 foot-wide asphalt paving.

Union Pacific Railroad Box Jack (Concrete Box) Underground Tunnel or Overcrossing

The next feature in Segment P would be a 120-foot-long box jack construction of a reinforced concrete box culvert underground tunnel under the UPRR railroad line. The box jacking operation would take two months and involve jacking a linear 134-feet-long, 12-foot-wide and 10-foot-tall[4] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Upstream from the UPRR undercrossing to the South Firestone Boulevard undercrossing, the bikeway elevation remains below the top of the Coyote Creek Channel. Between the UPRR crossing and South Firestone Boulevard would be an open concrete U-channel to contain the new trail. The vertical U-channel walls would vary from 0 feet to about 13 feet high. This channel would slope down into the tunnel, with the wall height increasing as the depth increases, and then would slope upwards as it leaves the tunnel, with its walls decreasing in height. One method to construct this depressed cross-section is to make use of the existing channel wall and then excavate away from it toward the ROW line. A wall would then be needed on the opposite side to support the below-grade bikeway. It is anticipated that this wall's height most likely cannot be supported without ground anchors (or tiebacks) that extend beyond the ROW line. Therefore, a top-down wall without tiebacks could be constructed (such as a secant or tangent pile wall). Another method is to use shoring to excavate the "u-shape" then construct a "U-wall" similar to what is done for creek channels.

On the downstream side of this crossing are two abandoned fuel lines, a U.S. Navy jet fuel line and a Kinder Morgan oil pipeline. The project would cut, cap and remove the Kinder Morgan fuel pipeline and the Navy jet fuel line.

UPRR has preliminarily indicated its policies may not be able to support an underpass. Therefore, a 1,200-foot-long, 35-foot-high pedestrian/cyclist truss bridge over the UPRR tracks has been included as an alternative to the underpass. However, the slope on the northeast end of the bridge would reach a minimum of 9.6% to allow for the South Firestone underpass entrance and would be extremely difficult for cyclists.

South Firestone Boulevard Undercrossing

The project proposes an open cut of South Firestone Boulevard west of Coyote Creek and the installation of a 12-foot-wide by 9.25-foot-tall precast concrete box. The box under South Firestone

4 Inside dimensions.

Boulevard would be completed by closing all lanes of the road for approximately three weeks. A detour can be provided for each direction since South Firestone Boulevard has access on both ends. There are no residences within 2,400 feet of this site (the nearest residence is approximately 2,400 feet east of the site at the westerly end of the Kensington Drive cul-de-sac). After the concrete box has been installed, it would be covered with road base and paved to its original elevation. The existing Southern California Edison pole at South Firestone Boulevard may need to be relocated as part of the proposed project. If it is relocated, it would be moved within the ROW to the north side of the box culvert.

I-5 and North Firestone Boulevard Undercrossing

The 1-5 and North Firestone Boulevard undercrossing would be located upstream, northeast, of South Firestone Boulevard in the city of La Mirada. The I-5 Widening Project, which is separate from the proposed project, provides sufficient width for the tunnel between two bridge abutments at both the I-5 and North Firestone Boulevard. This section under the 1-5 and North Firestone Boulevard would need to be excavated to accommodate the proposed 12-foot-wide bikeway. Upstream of the l-5 and North Firestone Boulevard, the trail would continue adjacent to the top of the Coyote Creek Channel. Approximately 1,550 linear feet of 14 to 16 foot wide asphalt trail would be placed between North Firestone Boulevard and Knott Avenue.

3.3.3 Summary of Segment Q Improvements

Location

Segment Q begins in the city of Buena Park, extends northwest into the city of La Mirada and ends in the city of Buena Park. More specifically, Segment Q extends from Knott Avenue to Stage Road and ends at La Mirada Boulevard in Buena Park and is approximately one mile long. It crosses a Burlington Northern Santa Fe Railway Company (BNSF) industrial lead, the heavily used Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor, and Stage Road before ending at La Mirada Boulevard. A plan view of the proposed improvements within OC Loop Segment P is provided in **Figure 3.3-4**.

Knott Avenue at-Grade Crossing

The first component of Segment Q would be a signalized at-grade crossing at Knott Avenue. Traffic signals with push-button activation and crosswalk striping would be installed. Approximately 420 linear feet of 12 to 14 foot-wide asphalt trail would be installed upstream of Knott Avenue.

At-Grade Crossing of BNSF Railway Lead

Additionally, upstream of Knott Avenue (downstream of the confluence of Coyote Creek and Brea Creek) would be an at-grade crossing of a railroad industrial lead that serves only a few customers. BNSF is evaluating if this lead can be closed to the north of this crossing. If not closed, then because of the low volume, the California Public Utilities Commission and BNSF will not require warning signals; rather, zigzag fencing will be constructed on both sides so bicyclists are made to look in both directions before crossing. Upstream of this railroad crossing would be approximately 2,900 feet of 14 to 16 foot-wide new asphalt pavement along the Coyote Creek Channel.

Figure 3.3-4
OC LOOP SEGMENT Q IMPROVEMENT PLAN



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 14, 2020



N
Scale: 1:4,800
1 inch = 400 feet
1 cm = 48 meters
0 200 400 Feet
0 40 80 Meters

Legend

- Segment P Class I Bikeway
- Segment Q Class I Bikeway
- Segment Q Class II Bikeway
- Segment Q Class IV Bikeway with Concrete Barriers
- City Boundary
- County Boundary
- **Proposed Features**
- Asphalt Trail and Cable Fence
- Optional Fence
- Wall
- At-grade Crossing
- Undercrossing
- Prefabricated Truss Bridge
- Proposed Railroad Crossing Signal

OC Loop
Segments O, P, and Q
Segment Q

Map 3 of 3

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Undercrossing of the BNSF/Metrolink Railway Line

The next feature in Segment Q would be a 144-foot-long bore and jack of a reinforced concrete box culvert tunnel under an existing BNSF and Metrolink railway corridor, which carries three tracks at as well as a railroad turnout (i.e., railroad switch).[5] It is anticipated that the bridge will be widened for a fourth railroad track in a couple of years. The box jacking operation would take two months and involve jacking a linear 144 feet long, 12-foot-wide and 10-foot-tall[6] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Various utility lines are located in this area. On the downstream side of the existing railroad corridor there is an abandoned Chevron fuel line. On the upstream side of the bridge are telecommunication lines in a concrete box girder conduit, but the fuel line and the telecommunication lines would not be in conflict with the proposed tunnel because they are above ground rather than underground. The project would cut, cap and remove the Chevron Oil fuel pipeline. A utility conflict can be avoided by jacking the RCB under the existing AT&T conduit (which is supported just above grade).

A vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

Upstream of the BNSF/Metrolink Undercrossing

Upstream of the box section, between the BNSF/Metrolink undercrossing and Stage Road, would be an open U-channel to contain the new trail. The vertical U channel walls would vary from 0 feet to about 13 feet high. This portion of the trail would provide safe passage for pedestrian and bicyclists from the BNSF Metrolink undercrossing to the at-grade crossing of Stage Road described below.

At-Grade Crossing of Stage Road

The next feature in Segment Q would be an at-grade crossing of Stage Road in Buena Park. The fully signalized intersection would be located at McComber Road approximately 500 feet west of the Coyote Creek Channel. A typical fully functional "T intersection" traffic signal and crosswalk would be installed. This option would involve restriping the existing roadway to allow for a 12-foot-wide, barrier-separated, bikeway on both sides of Stage Road between McComber Road and Coyote Creek. This new Class IV bikeway would be located between McComber and the Stage Road overcrossing of the Coyote Creek Channel and Class II striping transition would be located along Stage Road to the east of Coyote Creek and along Stage Road to the west of the intersection of McComber Road and Stage Road, as follows: restriping Class II bikeways would occur along Stage Road between Beach Boulevard to the east and approximately 300 feet west of the intersection of McComber Road and Stage Road. Additionally, new curb ramps would be installed at McComber Road and at Coyote Creek.

Pedestrian/Cyclist Bridge North of Stage Road Crossing Coyote Creek

Upstream from Stage Road would be about 560 feet of new 12 to 16 foot-wide asphalt paving along the right bank of Coyote Creek. To meet up with the already constructed OC Loop Segment R on the other side of the Coyote Creek Channel, a pre-fabricated truss bridge, similar to the one being installed at the beginning of the project but much shorter, would be installed across Coyote Creek. The bridge would be approximately 50 feet long, no more than about five to eight feet high, and

5 A railroad turnout is a mechanical installation enabling railway trains to be guided from one track to another, such as at a railway junction or where a spur or siding branches off.

6 Inside dimensions.

12 feet wide. Installation of the bridge would be completed in one day by using a large crane. Prior to the arrival of the bridge, the reinforced concrete bridge abutments would be formed and poured. Upstream from the pedestrian bridge would be 640 feet of new 12 to 16 foot-wide asphalt paving along the left bank of Coyote Creek.

La Mirada Boulevard Detour

The new and existing bikeway would be connected by directing cyclists onto La Mirada Boulevard and constructing a new 12-foot wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Up to 22 ornamental trees would be removed on La Mirada Boulevard (up to eight on the north side and up to 14 on the south side). There are two rows of trees on the south side of La Mirada Boulevard and only one of the rows would be impacted; the other row of trees would not be removed. The removed trees may be replaced if desired by landowners or if required by the city of La Mirada. Minor grading would be conducted to install the new bike trail. The existing sidewalks for this 280-foot reach of La Mirada Boulevard would be included in the bike trail.

Improvements at La Mirada Boulevard/Malvern Avenue

Along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor will "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities will remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on each side.

Landscaping

Other than an existing 280-foot-long by about 20-foot-wide strip of landscaping on both sides of La Mirada Boulevard, no other existing landscaping would be removed. No new or replacement landscaping is proposed (unless desired by landowner/or required by the City at La Mirada Boulevard) as part of this project. Signage and maps would be installed along the trail to direct users.

Stormwater

A Water Quality Management Plan (WQMP) that may include constructed stormwater quality enhancements will be prepared as a part of this project. The project would add impervious area. During project design, pervious pavement or impervious pavement with bioswale will be used for the bikeway to meet Regional Water Quality Control Board requirements. If bioswales are incorporated, periodic drainage pipes will be installed to the Coyote Creek Channel. Storm drain pipes would be placed at the lowest elevation of undercrossings to allow storm water to drain into the adjacent channel. Bioswales for water quality treatment would be employed at the downstream sides of both railroad undercrossings.

Lighting

The only lighting associated with the proposed project for the approximately 200 feet of bikeway under North and South Firestone Boulevard and the I-5 and the two railroad underpasses. The project does not propose any trail lighting. Light would be produced from signals (such as traffic

signals) along the proposed project , as well as from existing street lighting in the vicinity of the bikeway.

Signage

Only standard and minimal bike signage and location maps conforming to OC Parks signage codes and criteria are required. There is additional detail in the OC Loop Gap Study for Wayfinding signage guidelines.

Bikeway

Where the bikeway is at grade, the path would be asphalt and be 14 to 16 feet wide inclusive of the two-foot shoulders on each side, wherever a chain link fence or cable railing is added for safety. Where the bikeway would travel beneath grade, the bikeway surface would be concrete and 10 to 14 feet wide with no shoulders.

3.4 Project Construction

Construction is anticipated to take between 18 months and two years and occur sometime between January 2023 and December 2024. Construction would occur in one stage, unless federal funding is provided in incremental amounts. Construction workers would be able to park within the Coyote Creek ROW via the street crossings (Valley View, Artesia, Firestone, Stage Road). All lanes of South Firestone Boulevard would be closed for approximately three weeks to install the precast box culvert beneath the roadway for the bikeway.

Depending upon funding, project construction would occur in one, two or three phases; for example, the three segments (O, P, and Q) could be done one at a time. The project includes three contiguous gap closure segments; O, P, and Q. Because of the significant cost of the project overall and the need for state/federal grant funds to move forward, it is possible that grant funds will come in separate years for separate segments. The State has indicated that the County should simultaneously submit grant requests for the entire project and for each of the three segments separately for their next grant cycle. Therefore, the project may be done in two or three phases in different fiscal years, depending upon annual grant funding cycles. In general, construction phases could include:

- Demolition.
- Grading and excavation.
- At-grade crossing construction.
- Installing 2 prefabricated bridges, 2 roadway underpasses, walls and box jacking under both railroads.
- As an alternative to the UPRR underpass, a pedestrian/cyclist truss bridge may be constructed. This would involve construction of cast-in-place concrete abutments on each side of UPRR right-of-way and installation of a pedestrian truss bridge across UPRR ROW.
- Placing asphalt and fencing.
- Final items (striping, signage, etc.).

It is anticipated that an average of about 20 construction employees would be onsite over 24 months.

Several utilities would be protected in place and the abandoned fuel lines mentioned previously on the downstream sides of the two railroad undercrossings would be cut, capped and removed. AT&T conduit must be relocated beneath Valley View Boulevard. A power pole in the northwest quadrant at South Firestone Boulevard may require relocating. This pole supports a Southern California Edison power line and communications lines that may require relocating.

Construction Equipment

Proposed equipment anticipated to be used during project construction includes, but is not limited to, the following:

- Grading equipment for preparing the bikeway for paving.
- Excavation equipment (concrete saws, bulldozers, excavators, dump trucks) for going under Valley View Avenue, Artesia Boulevard, North and South Firestone Boulevard, and the I-5.
- Drilling rigs for end bents for the pedestrian bridge over the north fork of Coyote Creek, the tieback wall at Valley View Avenue, the piles for the bikeway foundation slab under Artesia Boulevard and the temporary shoring walls at both railroad undercrossings.
- Box-jacking equipment in pits for jacking the RCB under the two railroad corridors.
- Flatbed trucks and cranes for installing the steel prefabricated pedestrian bridges.
- Asphalt paving equipment for installing the bikeway surface where the bikeway is at grade.
- Concrete trucks for pouring the end bents for the pedestrian bridge over the north fork of Coyote Creek, and concrete walls on either side of the railroad undercrossings.
- Two cranes to install the two prefabricated bridges, with a period of use of approximately two weeks for each bridge.
- For the UPRR bridge alternative: drilling rig and concrete mixer for the cast-in-place concrete abutments on each side of UPRR right-of-way; two cranes and a welder to install pedestrian truss bridge across UPRR right-of-way.

3.5 Construction Staging

Construction staging would involve detouring traffic for the closure of South Firestone Boulevard for installation of the RCB. Additionally, a vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

3.6 Easements

The project would require the following three permanent easements; one in Segment P on Trojan Way and two in Segment Q on La Mirada Boulevard, as described below:

- **Segment P:** A permanent driveway easement for access to the Flood Control Channel at Trojan Way may be required. The Los Angeles County Flood Control District maintenance access driveway that Caltrans constructed needs to be reconnected after the bikeway is constructed. However, because of the difference in grade between the access driveway and the proposed bikeway, this reconstructed driveway may be as steep as 15 percent subject to future final design. Therefore, if the grade is not acceptable, then a permanent access easement would need to be obtained from the property owner so that the Los Angeles Flood Control District could use the property owner's driveway to access the Coyote Creek Channel when needed. See **Figure 3.6-1.**

- **Segment Q:** One along the north side and one along the south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor would "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities would remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on both sides. See **Figure 3.6-2.**

Refer to **Figure 3.6-1** and **Figure 3.6-2** which shows the permanent easements as described above.

Figure 3.6-1
PERMANENT PROJECT EASEMENTS- SEGMENT P

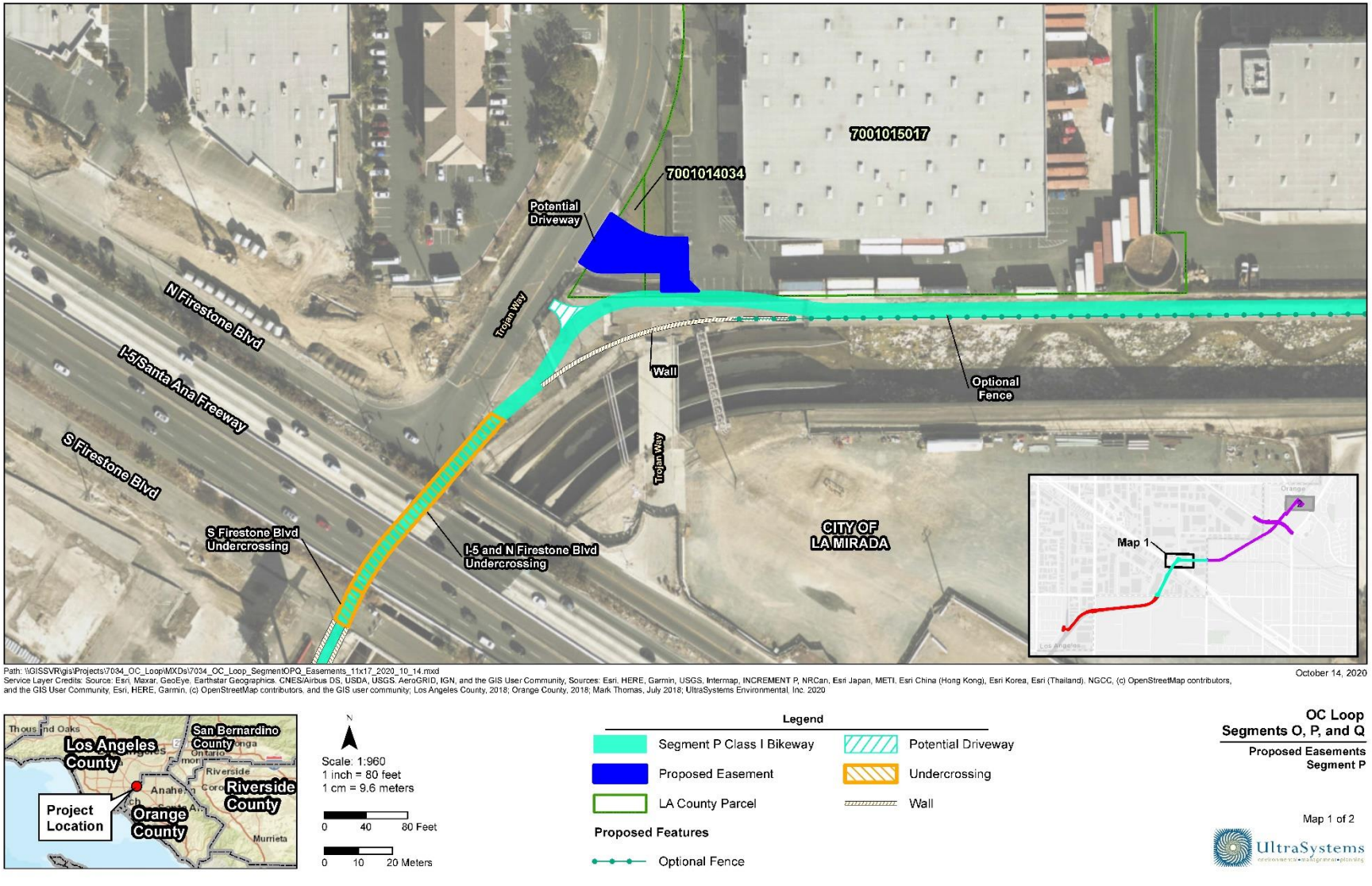
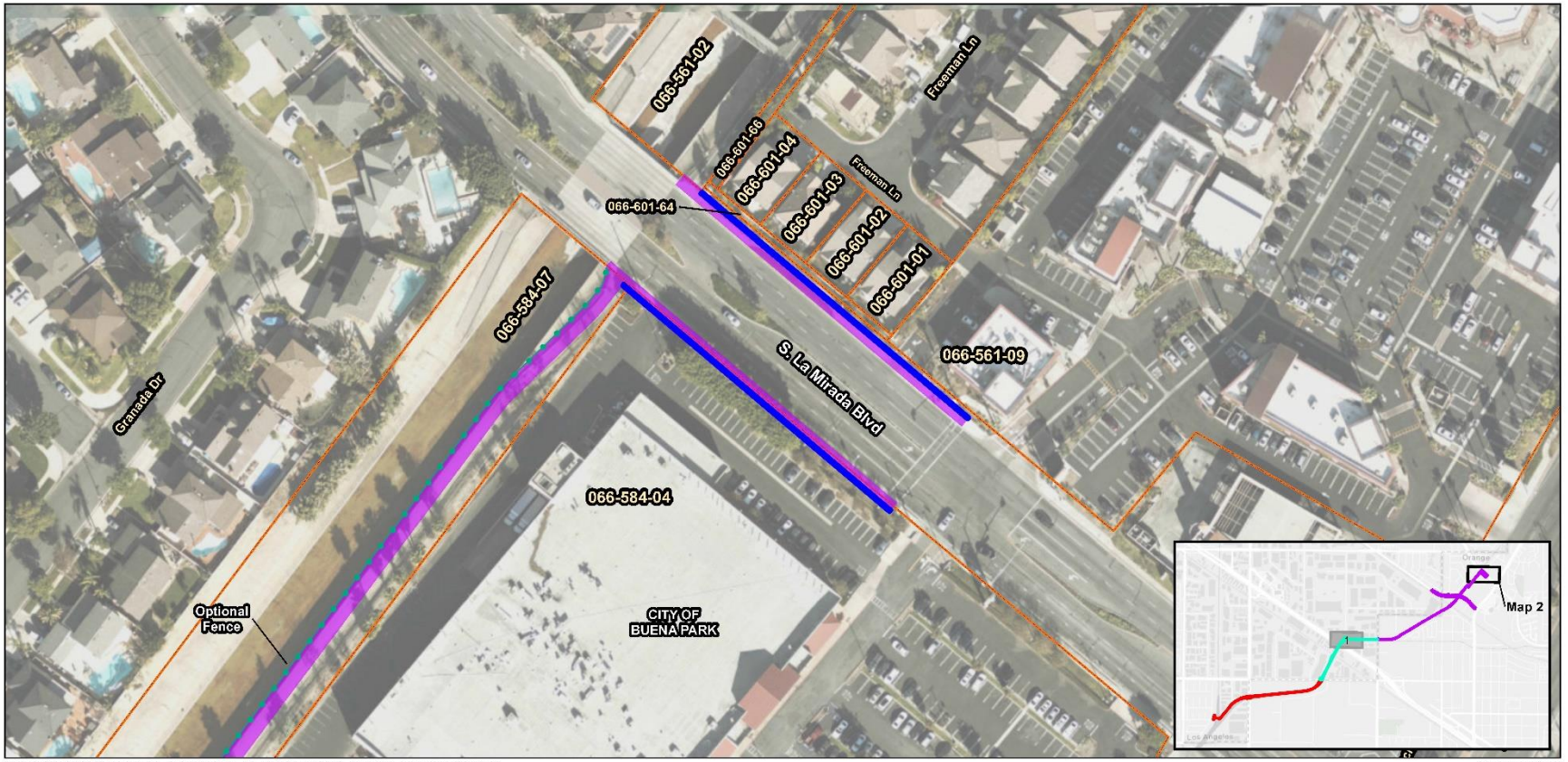


Figure 3.6-2
PERMANENT PROJECT EASEMENTS - SEGMENT Q



3.7 Discretionary Actions

Discretionary actions required for the implementation of the proposed project are provided in **Table 3.7-1**.

Table 3.7-1
DISCRETIONARY ACTIONS

Federal	
Agency	**Required Permit and/or Agreements**
U.S. Army Corps of Engineers (USACE) (Responsible Agency)	• 404 Dredge and Fill permit • 408 Authorization to Alter a "Civil Works" project
State	
Agency	**Required Permit and/or Agreements**
Caltrans (Responsible Agency)[7]	• Construction and Encroachment permit
California Department of Fish and Wildlife (CDFW) (Trustee Agency)[8]	• 1602 Streambed Alteration Agreement
California Public Utilities Commission (CPUC) (Responsible Agency)	• Approval of GO-88b permits at all three railroad crossings
Metrolink/Southern California Regional Rail Authority (SCRRA) (Responsible Agency)	• Plan specification and estimate (PS&E) review and approval
State Water Resources Control Board (SWRCB) (Responsible Agency)	• 401 Water Quality Certification
Regional	
Agency	**Required Permit and/or Agreements**
Los Angeles County Flood Control District (LACFCD) (Responsible Agency)	• Construction and Encroachment permit
Orange County Flood Control District (OCFCD) (Responsible Agency)	• Construction and Encroachment permit
Los Angeles Regional Water Quality Control Board (LARWQCB) (Responsible Agency)	• 401 Water Quality Certification
Santa Ana Regional Water Quality Control Board (SARWQCB) (Responsible Agency)	• 401 Water Quality Certification
Local	
Agency	**Required Permit and/or Agreements**
OC Public Works (Lead Agency)[9]	• Construction permit
City of Cerritos (Responsible Agency)	• Construction and Encroachment permit
City of Buena Park (Responsible Agency)	• Construction and Encroachment permit
City of La Mirada (Responsible Agency)	• Construction and Encroachment permit

7 A Responsible Agency under CEQA is a public agency with some discretionary authority over a project or a portion of it, but which has not been designated the Lead Agency. (State CEQA Guidelines Section 15381.)

8 A Trustee Agency is a State agency having jurisdiction by law over natural resources that are held in trust for the people of California, and which may be affected by a project (State CEQA Guidelines Section 15386). CEQA only identifies four Trustee Agencies: the California Department of Fish and Wildlife (CDFW); the State Lands Commission (SLC); the State Department of Parks and Recreation (State Parks); and the University of California (UC) (State CEQA Guidelines Section 15386(a– d)).

9 The Lead Agency, as defined by CEQA, is the public agency that has the primary responsibility for carrying out or approving a project. (State CEQA Guidelines Section 15367.)

Railroads and Utilities	
Agency	**Required Permit and/or Agreements**
Union Pacific Railroad (UPRR) and CPUC (Responsible Agencies)	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements
Burlington Northern and Santa Fe (BNSF) Railway and CPUC (Responsible Agencies)	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements • Plan specification and estimate (PS&E) review and approval
Chevron, AT&T, SCE (Responsible Agencies)	• Agreement for Removal/Possible relocation of SCE utility pole
Kinder-Morgan & U.S. Navy (Responsible Agencies)	• Agreement for Removal

4.0 ENVIRONMENTAL CHECKLIST

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or as a "Potentially Significant Unless Mitigation Incorporated," as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agricultural and Forest Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology / Soils	☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☒ Noise	☐ Population / Housing	☒ Public Services
☒ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Determination (To Be Completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Kevin Shannon

Signature

November 12, 2020
Date

Kevin Shannon
Printed Name

Evaluation of Environmental Impacts

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the lead agency has determined that a particular physical impact may occur then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

(4) "Negative Declaration: Less than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to less than significant level.

(5) Earlier analyses may be use where, pursuant to the tiering, Program EIR, or other CEQA process, an affect has been adequately analyzed in an earlier EIR or negative declaration. (See Section 15063(c)(3)(D) of the CEQA Guidelines. In this case, a brief discussion should identify the following:

   (a) Earlier Analyses Used. Identify and state where the earlier analysis available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

(a) The significance criteria or threshold, if any, used to evaluate each question; and

(b) The mitigation measure identified, if any, to reduce the impact to less than significant

4.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				**X**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			**X**	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		**X**		

A "visual environment" includes the built environment (development patterns, buildings, parking areas, and circulation elements) and natural environment (such as hills, vegetation, rock outcroppings, drainage pathways, and soils) features. Visual quality, viewer groups and sensitivity, duration, and visual resources characterize views. Visual quality refers to the general aesthetic quality of a view, such as vividness, intactness, and unity. Viewer groups identify who is most likely to experience the view. High-sensitivity land uses include residences, schools, playgrounds, religious institutions, and passive outdoor spaces such as parks, playgrounds, and recreation areas. Duration of a view is the amount of time that a particular view can be seen by a specific viewer group. Visual resources refer to unique views, and views identified in local plans, from scenic highways, or of specific unique structures or landscape features.

a) Except as provided in Public Resources Code Section 21099 would the project have a substantial adverse effect on a scenic vista?

No Impact

Scenic vistas generally include extensive panoramic views of natural features, unusual terrain, or unique urban or historic features, for which the field of view can be wide and extend into the distance, and focal views that focus on a particular object, scene or feature of interest.

Segment O

Segment O is located within the cities of Cerritos and Buena Park. Therefore, the analysis below is performed for each city.

City of Cerritos

Although the City of Cerritos General Plan does not identify any officially designated scenic vistas within the city, the city's community forest[10] is of aesthetic and scenic importance. The urbanized, built out nature of the City of Cerritos limits the existence of naturally occurring native tree stands. In an effort to capture the aesthetic quality of a "community forest," the City of Cerritos has made significant efforts in planting tree resources (RBF Consulting, 2004, p. Con-12). The portion of Segment O of the proposed bikeway that is within the city is located along Coyote Creek, which does not contain a community forest. Additionally, the bikeway does not afford views of distant mountains. The surrounding views are of the adjacent industrial and commercial buildings along Coyote Creek.

As detailed in **Section 3.0**, a 200-foot-long and 12-foot-wide pre-fabricated pedestrian bowstring truss bridge would be installed across Coyote Creek at Station 10+00, where the Coyote Creek Channel divides into the north and east forks. The bridge would not impact the community forest, and would not block scenic views of distant mountains or foothills. Views surrounding the bridge are of industrial and commercial buildings. Therefore, Segment O of the proposed bikeway through the City of Cerritos would have no impact on scenic vistas.

City of Buena Park

The City of Buena Park General Plan does not identify any scenic vistas or other visual resources that are important to the city (RBF Consulting, 2010a). The City's General Plan EIR states, "Because the City's topography is relatively flat and the city is densely developed, distant views are obstructed by existing development. Buildings (including existing residences) and the adjacent roadways are essentially the dominant visual elements in the City's environment" (RBF Consulting, 2010b, p. 5.3-1).

The project area is characterized as urban development. There are no significant scenic views from public thoroughfares and open spaces in the vicinity of Segment O in the city of Buena Park, such as mountains or foothills. Views surrounding Segment O of the proposed bikeway within the City of Buena Park are generally limited to those of adjacent industrial and commercial buildings. Therefore, Segment O of the proposed bikeway through the City of Buena Park would have no impact on scenic vistas.

10 Since the city's incorporation in 1956, the Public Works Department has planted more than 30,000 trees along city sidewalks and medians, next to freeway ramps and throughout the city's many parks and recreation facilities. Cerritos employs a full-time staff of specialists who nurture the City's urban forest (City of Cerritos, 2020).

Segment P

Segment P is located entirely within the City of La Mirada. Therefore, analysis regarding Segment P is based on potential impacts within the City of La Mirada.

City of La Mirada

The City of La Mirada General Plan does not identify any important scenic visual resources. The City of La Mirada is at the base of rolling hills and topography in the city is relatively flat. The city is built out and therefore contains no natural resource areas such as forests, wildlife habitat or agricultural land (Cotton/Bridges/Associates, 2003 p. OSC-1).

The project area is characterized as urban development and there are no significant scenic views from public thoroughfares and open spaces in the vicinity of the project. As described in **Section 3.0** of this document,

UPRR has preliminarily indicated its policies may not be able to support an underpass. Therefore, a 1,200-foot-long, 35-foot-high pedestrian/cyclist truss bridge over the UPRR tracks has been included as an alternative to the underpass. However, the slope on the northeast end of the bridge would reach a minimum of 9.6% to allow for the South Firestone underpass entrance and would be extremely difficult for cyclists. Refer to **Appendix A1***, Segment O, P and Q Improvement Plans*, of this document which shows the location of the truss bridge. If constructed, the bridge would be located within a heavily industrial area, which should pose less than significant visual impacts. Views surrounding Segment P of the proposed bikeway within the City of La Mirada are generally limited to adjacent industrial and commercial development. Therefore, Segment P of the proposed bikeway through the City of La Mirada would have no impact on scenic vistas.

Segment Q

Segment Q is located within the cities of La Mirada and Buena Park. Therefore, the analysis below is performed for each of those cities.

City of La Mirada

The city of La Mirada has no scenic vistas and the project area is characterized as urban development. Views from Segment Q within the City of La Mirada are limited to industrial and commercial buildings, as well as two-story single-family residences. Therefore, Segment Q of the proposed bikeway through the City of La Mirada would have no impact on scenic vistas.

City of Buena Park

To meet up with the already constructed OC Loop Segment R on the other side of the Coyote Creek Channel, a pre-fabricated pedestrian steel cable arch bridge or bowstring arch bridge, similar to the one being installed at the beginning of the project but much shorter, will be installed across Coyote Creek. The bridge would be approximately 50 feet long, no more than about five to eight feet high and 12 feet wide. However, the proposed bridge would not have a significant impact because the City of Buena Park has no scenic vistas and the project area is characterized as urban development. The views surrounding Segment Q are predominantly of industrial and commercial buildings. However, single-family residences are also located adjacent to this portion of the proposed bikeway. Due to

the lack of scenic vistas along this portion of the bikeway through the City of Buena Park, the project would have no impact on scenic vistas.

Conclusion for Segments O, P, and Q

The proposed project would not affect views of scenic vistas within the cities of Cerritos, Buena Park, and La Mirada, where the project is located. Therefore, there would be no impacts in regard to scenic vistas.

b) Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

Segment O

According to the California Department of Transportation, Segment O is not located in the vicinity of an officially designated or eligible state scenic highway, designated as part of the California Scenic Highway Program. As depicted in **Figure 4.1-1** below, the closest officially designated state scenic highway is a portion of State Route 91, located approximately 11.0 miles southeast of the project site (Caltrans, 2015). Therefore, due to the distance between the project site and the closest officially designated scenic highway, the project would not damage any scenic resources and no impacts would occur.

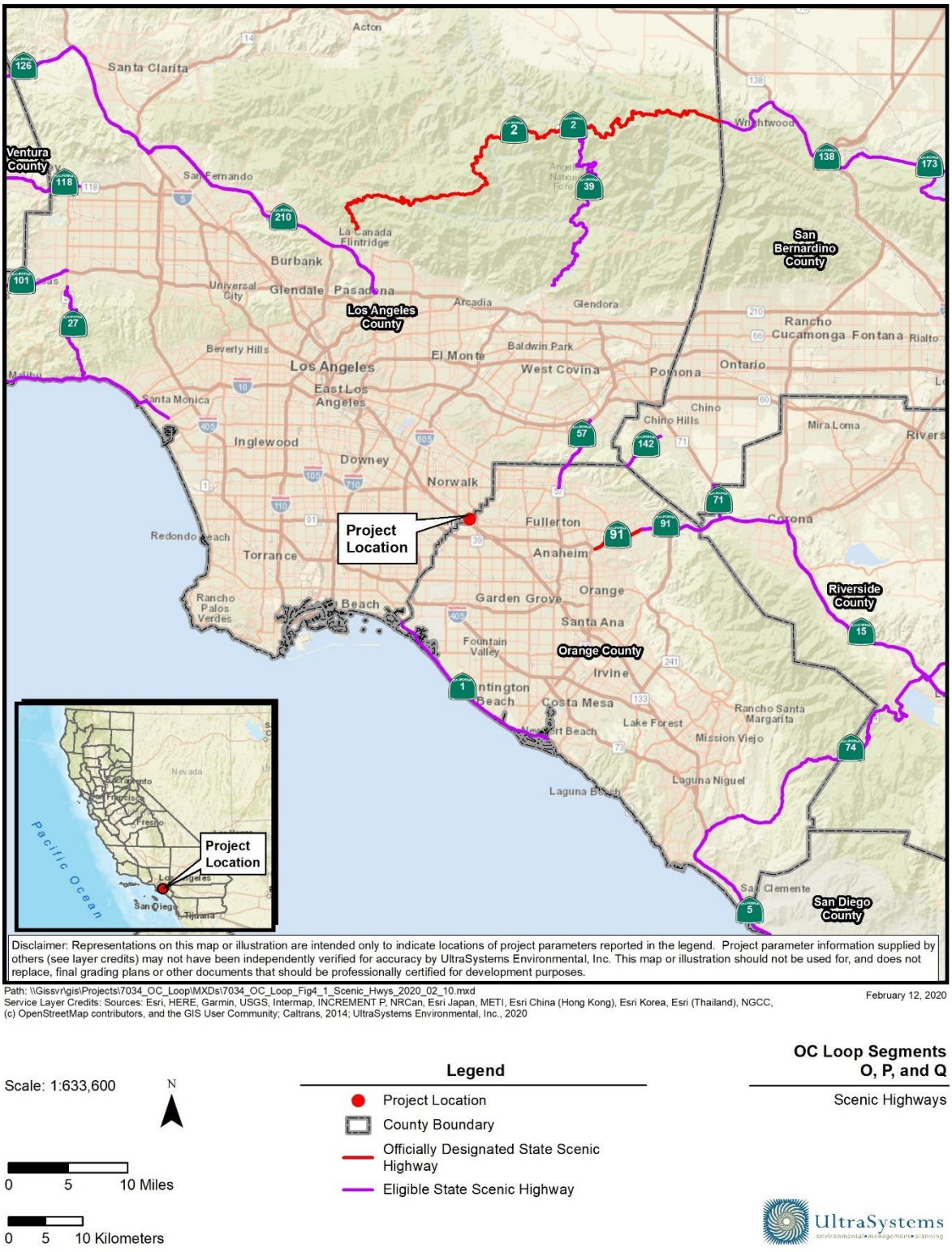
Segment P

According to the California Department of Transportation, Segment P is not located in the vicinity of an officially designated or eligible state scenic highway, designated as part of the California Scenic Highway Program. As depicted in **Figure 4.1-1** below, the closest officially designated state scenic highway is a portion of State Route 91, located approximately 11.0 miles southeast of the project site (Caltrans, 2015). Therefore, due to the distance between the project site and the closest officially designated scenic highway, the project would not damage any scenic resources and no impacts would occur.

Segment Q

The new and existing bikeway would be connected by directing cyclists onto La Mirada Boulevard and constructing a new 12-foot-wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Up to 22 ornamental trees would be removed on La Mirada Boulevard (up to eight on the north side and up to 14 on the south side). There are two rows of trees on the south side of La Mirada Boulevard and only one of the rows would be impacted; the other row of trees would not be removed. The removed trees may be replaced if desired by landowners or if required by the city of La Mirada. Therefore, the removal of these 22 trees would have a less than significant impact because trees would remain in this location.

Figure 4.1-1
SCENIC HIGHWAYS



According to the California Department of Transportation, Segment Q is not located in the vicinity of an officially designated or eligible state scenic highway, designated as part of the California Scenic Highway Program. As depicted in **Figure 4.1-1** above, the closest officially designated state scenic highway is a portion of State Route 91, located approximately 10.0 miles southeast of the project site (Caltrans, 2015). Therefore, due to the distance between the project site and the closest officially designated scenic highway, the project would not damage any scenic resources and no impacts would occur.

Conclusion for Segments O, P, and Q

The proposed project would not affect official scenic highways within the cities of Cerritos, Buena Park, and La Mirada due to the large distance between the project site and the closest official scenic highway. Therefore, there would be no impacts to scenic resources within a state scenic highway.

c) Except as provided in Public Resources Code Section 21099, would the project in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact

Construction

During project construction, there would be elements on the project site that are not compatible with the project vicinity. These features may include construction equipment (e.g., small cranes, pickup trucks), stockpiled materials, and construction-area barriers and fencing. Construction elements would be inconsistent with the visual character of the project vicinity. While these elements would be removed following construction, they would nonetheless result in a temporary impact. Additionally, during project construction, the project would adhere to the following applicable zoning and other regulations governing scenic quality, resulting in less than significant impacts.

Segment O

Segment O is within the cities of Cerritos and Buena Park. As further detailed in **Section 4.11**, the project would not conflict with policies under the current General Plan land use or zoning designation as a ROW. **Tables 4.1-1** through **Table 4.1-3** below provide the applicable policies from the City of Cerritos and City of Buena Park general plans and municipal codes that pertain to aesthetics, along with a description of how the proposed project would be in compliance. The City of Cerritos Municipal Code does not have policies that regulate scenic quality that are applicable to the proposed project; therefore, the following tables for the City of Cerritos do not include an analysis of the project's compliance with the City's municipal code. However, **Table 4.1-3** below shows the project's compliance with the City of Buena Park municipal code.

Table 4.1-1
PROJECT COMPLIANCE WITH CITY OF CERRITOS GENERAL PLAN POLICIES REGARDING SCENIC QUALITY AND AESTHETICS

General Plan Element	Project Compliance
Conservation Element: Goal CON-6: Preserve and enhance the City's "Community Forest"	
Policy CON-6.1: Enforce the City's Tree Preservation Ordinance in order to preserve the City's existing urban forest.	The proposed project would adhere to the City's Tree Preservation Ordinance and the project would not remove any trees or vegetation within the city of Cerritos to construct the proposed project. Therefore, the project would not conflict with this policy.
Land Use Element: Goal LU-6 Remove incompatible and non-conforming uses that detract from the aesthetics and safety of the community.	
Policy LU-6.1: Encourage compatible land uses to locate in appropriate areas of the City.	The proposed project would construct a project that would be compatible with the existing land use as the project would improve and further connect the existing Coyote Creek bikeway. Therefore, the proposed project would not conflict with this policy.
Land Use Element: Goal LU-11 Preserve and enhance existing community and neighborhood character and sense of place.	
Policy LU-11.2: Ensure that new development is a positive addition to the City's environment and does not detract from the nature and character of appropriate nearby established development.	The proposed project would not detract from the character of the project area because it would improve the existing Coyote Creek bikeway. The project would improve and connect the bikeway along Coyote Creek. Therefore, the project would not conflict with this policy.

Source: (RBF Consulting, 2004, p. CON-16, LU-46, LU-49-50)

Table 4.1-2
PROJECT COMPLIANCE WITH CITY OF BUENA PARK GENERAL PLAN POLICY REGARDING SCENIC QUALITY AND AESTHETICS

General Plan Element	Project Compliance
Land Use Element: Goal LU-21: Distinctive and attractive design of the public realm that promotes a positive image and identity.	
Policy LU-21.1: Focus on improving the appearance of corridors in the City by implementing landscaping, enhanced paving, unique streetscape amenities, appropriately-scaled lighting, and placement of utility connections underground.	The project proposes lighting for safety under the I-5 underpass and for the railroad underpasses. Therefore, the project would not conflict with this policy.

Source: (RBF Consulting, 2010, p. 2-99)

Table 4.1-3
PROJECT COMPLIANCE WITH CITY OF BUENA PARK MUNCIPAL CODE REGULATIONS REGARDING SCENIC QUALITY AND AESTHETICS

Municipal Code	Project Compliance
Title 12 Streets, Sidewalks, and Public Property	

Municipal Code	Project Compliance
Chapter 12.20.010: Prohibition against installing, damaging and removing vegetation, ornaments and improvements in and from public property other than parkways. No person other than a city employee shall in any public street, alley, parkway, thoroughfare or place within the city other than a parkway abutting property owned or occupied by such person: A. Plant or cut down, injure, girdle or remove any tree, shrub, bush or other vegetation; B. Install, damage or destroy any ornament or improvement. (Ord. 1505 § 1, 2007)	The proposed project would not remove any trees or vegetation within the city of Buena Park to construct the proposed project. Therefore, the project would not conflict with this chapter of the municipal code.

Source: (City of Buena Park, 2020)

The new and existing bikeway would be connected by directing cyclists onto La Mirada Boulevard and constructing a new 12-foot-wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Up to 22 ornamental trees would be removed on La Mirada Boulevard (up to eight on the north side and up to 14 on the south side). There are two rows of trees on the south side of La Mirada Boulevard and only one of the rows would be impacted; the other row of trees would not be removed. The removed trees may be replaced if desired by landowners or if required by the city of La Mirada. Therefore, the removal of these 22 trees would have a less than significant impact because trees would remain in this location. Therefore, Segment O of the project would not conflict with applicable zoning and other regulations governing scenic quality and there would be no impacts.

Segment P

All of Segment P is located within the city of La Mirada. As further detailed in **Section 4.11**, the project would not conflict with policies under the current General Plan land use or zoning designation as a ROW. **Table 4.1-4** below provides the applicable policies from the City of La Mirada General Plan and Municipal Code that pertain to aesthetics, along with a description of how the proposed project would be in compliance. The City of La Mirada does not have any municipal code sections regarding aesthetics that apply to the project; therefore, the following tables do not include an analysis of the project's compliance with the city's municipal code.

Table 4.1-4
PROJECT COMPLIANCE WITH CITY OF LA MIRADA GENERAL PLAN POLICY REGARDING SCENIC QUALITY AND AESTHETICS

General Plan Element	Project Compliance
Open Space and Conservation Element: Goal 2.0 Preserve and enhance trails and passive open space.	

General Plan Element	Project Compliance
Policy 2.2: Work cooperatively with surrounding jurisdictions to create and maintain the Coyote Creek Multi-Use Trail.	The proposed project would work cooperatively with the cities of Buena Park and La Mirada to improve the Coyote Creek trail. Therefore, the project would not conflict with this policy.

Source: (Cotton/Bridges/Associates, 2003, p. LU-16, OSC-8)

In light of the above, Segment P of the project would not conflict with applicable zoning and other regulations governing scenic quality and there would be no impacts.

Segment Q

Segment Q would be within the cities of La Mirada and Buena Park. As further detailed in **Section 4.11**, the project would not conflict with policies under the current La Mirada or Buena Park general plan land use or zoning designation as a ROW. **Tables 4.1-2** through **4.1-4** above provide the applicable policies from the City of Buena Park or La Mirada general plans and municipal codes that pertain to aesthetics, along with a description of how the proposed project would be in compliance. As seen in the tables, Segment Q of the project would not conflict with applicable zoning and other regulations governing scenic quality and there would be no impacts.

Based on the above analysis, the proposed project is in an urbanized area and would not conflict with applicable zoning and other regulations governing scenic quality during construction. Therefore, there would be no impacts.

Operation

The existing bikeway within OC Loop is in poor condition in many areas and the bikeway surface is not marked clearly (Stantec, 2015, p. 40). The proposed project would improve the bikeway by creating newly paved and marked bicycle lanes, which would improve the scenic quality of the existing area (refer to **Figure 4.1-2** below). Therefore, the project would have no impacts regarding scenic quality during project operation.

d) Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact with Mitigation Incorporated

The project site is located in an urban area, which is characterized by low to medium nighttime ambient light levels. Street lights, traffic on local streets and exterior lighting in surrounding developments are the primary sources of light that contribute to the ambient light levels in the project area. As described in **Section 3.0**, the only section of the proposed project that would contain lighting would be the approximately 200-foot-long bikeway under North and South Firestone Boulevard and the I-5 within the City of La Mirada, as well as lighting for the railroad underpasses. The bikeway is in a tunnel; therefore, there would be lights attached to the underside of the structures (the box culvert under S. Firestone and the bridges under I-5 and N. Firestone). The specific type of light to be installed has not been determined at the time this document was written. Additionally, the proposed project would install a fully signalized at-grade crossing at Knott Avenue and a fully signalized intersection would be installed at McComber Road approximately 500 feet west of the Coyote Creek Channel. Night time illumination resulting from the proposed project would be limited to the proposed additional lighting described above. Additionally, existing lighting sources

such as street lights and lights from existing traffic signals would contribute to night time illumination in the project area. The proposed project would adhere to the respective cities' regulations and policies regarding lighting and glare.

City of Cerritos

Construction

Construction of the project may occur at night time. However, the lighting used during construction would be only the amount necessary to maintain security and adequate lighting levels for construction activities. If night time construction occurs, lighting would adhere to the City of Cerritos' regulations and policies regarding lighting. During project construction additional sources of light could be used to provide security lighting for the construction staging area(s). Equipment used during project construction could produce glare. To ensure that construction lighting and glare do not have a significant impact on residences in the project vicinity, mitigation measure **AES-1** is recommended to reduce potential temporary construction lighting and glare impacts to a less than significant level.

Figure 4.1-2
VISUAL RENDERINGS



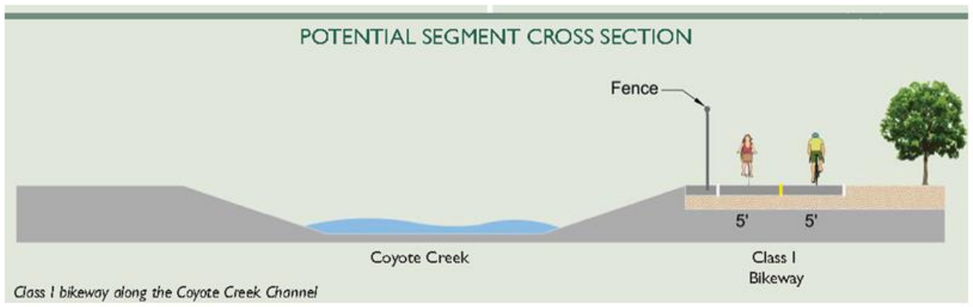
(Segment O) Looking north from Valley View Avenue with proposed OC Loop bikeway excluding wayfinding and landscaping.



(Segment P) Looking south from Firestone Boulevard South with proposed OC Loop excluding wayfinding and landscaping.



(Segment Q) Looking south towards the LOSSAN Rail Corridor from Stage Road with proposed OC Loop Bikeway



Disclaimer: Illustration provided by County of Orange, who has indicated that the information is true and correct. No other warranties are expressed or implied.

Sources: OC Loop Fact Sheet (June 2015), County of Orange OC Loop Gap Feasibility Study (April 2015), OCTA

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OC Loop Segments O, P, and Q
Visual Renderings

Operation

The proposed bikeway that would be developed in the City of Cerritos would not be built with any type of light source (street light, lights from crosswalks, etc.). Therefore, the project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

City of La Mirada

Construction

Construction of the project may occur at night time. However, the lighting used during construction would be only the amount necessary to maintain security and adequate lighting levels for construction activities. If night time construction occurs, lighting would adhere to the City of La Mirada's regulations and policies regarding lighting. During project construction additional sources of light could be used to provide security lighting for the construction staging area(s). Equipment used during project construction could produce glare. To ensure that construction lighting and glare do not have a significant impact on residences in the project vicinity, mitigation measure **AES-1** is recommended to reduce potential temporary construction lighting and glare impacts to a less than significant level.

Operation

The proposed project would add lighting to two different areas within the City of La Mirada. The first area would be 200-feet+ of lighting under North & South Firestone & I-5 freeway for safety purposes. The second area would be at the at-grade crossing at Knott Road, where signalized intersection is proposed to enable bicyclists and pedestrians to cross the road safely. The project would adhere to La Mirada's Municipal Code § 20.16.080, Street Lighting, which states that adequate lighting "shall be provided in all subdivisions along streets, paths or other pedestrian or vehicular ways; street lighting shall be accomplished by installation of standards carrying luminaires mounted over the roadway of size, height and type in accordance with the specifications, as established by the superintendent of streets". With adherence to the City's Municipal Code, impacts from project lighting would be less than significant.

City of Buena Park

Construction

Construction of the project may occur at night time. However, the lighting used during construction would be only the amount necessary to maintain security and adequate lighting levels for construction activities. If night time construction occurs, lighting would adhere to the City of Buena Park's regulations and policies regarding lighting. During project construction additional sources of light could be used to provide security lighting for the construction staging area(s). Equipment used during project construction could produce glare. To ensure that construction lighting and glare do not have a significant impact on residences in the project vicinity, mitigation measure **AES-1** is recommended to reduce potential temporary construction lighting and glare impacts to a less than significant level.

Operation

The proposed project would add lighting to two different areas within the City of Buena Park. The proposed project would add two at-grade crossings with fully signalized intersections at Knott Avenue and Stage Road. The project would adhere to Buena Park's Municipal Code Chapter 19, Zoning, which requires lighting on any premises to be directed, controlled, screened, or shaded in such a manner as not to shine directly on surrounding premises. Lighting on any premises also shall be controlled so as to prevent glare on driveways, walkways, and public thoroughfares. Adherence to applicable city municipal codes would ensure that new sources of light or glare would not adversely affect day or nighttime views in the area. Therefore, impacts from a new source of substantial light or glare would be less than significant.

Mitigation Measure

MM AES-1 During project construction the project applicant shall place construction staging areas as far as away as reasonably possible from adjacent residences so as to minimize, to the maximum extent possible, any potential lighting and/or glare impacts to nearby residences or businesses. The lighting used during project construction shall consist of the minimum amount of light necessary for safety and security on the project site.

Level of Significance After Mitigation

With implementation of **MM AES-1** and given that project construction would be temporary, the proposed project would have a less than significant impact regarding temporary construction lighting and glare.

4.2 Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				**X**
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?				**X**
d) Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				**X**

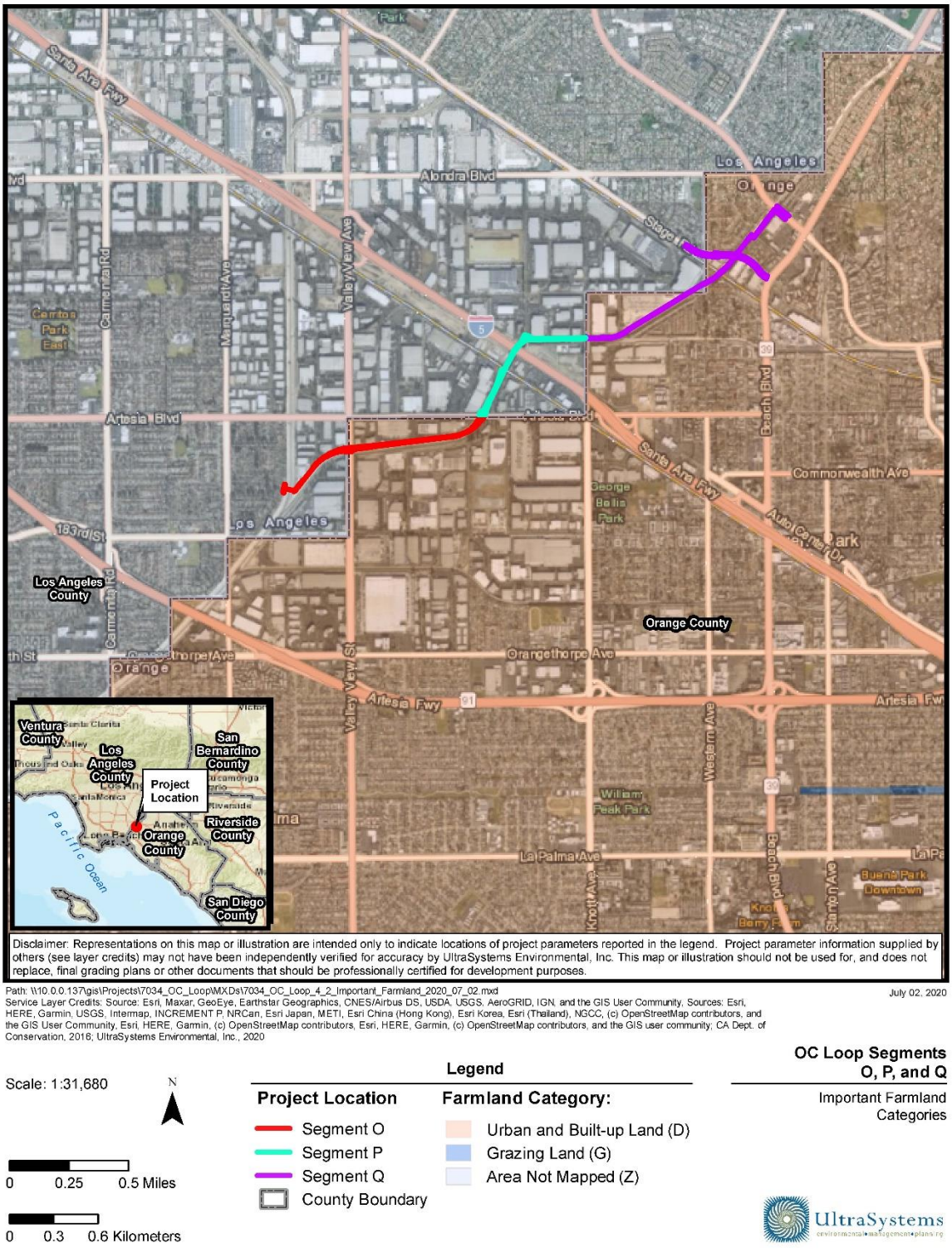
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact

The California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to identify critical agricultural lands and track the conversion of these lands to other uses. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California.

As shown in **Figure 4.2-1**, the project site and surrounding uses are designated by the FMMP as "Urban and Built-Up Land" and "Area Not Mapped" (DOC, 2016). Although some areas are not mapped, UltraSystems staff verified via a project site visit in March 2020 that there is no existing farmland on site. The proposed project is located within an urbanized area and no farmland would be converted to non-agricultural use. The project would have no impact in this regard.

Figure 4.2 -1
IMPORTANT FARMLAND



b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

As shown in **Figure 4.2-2,** the project site and surrounding areas are identified as "Urban and Built-Up Land" and "Non-Enrolled" and do not contain land enrolled in a Williamson Act contract (DOC, 2019). Although some areas are not mapped, UltraSystems staff verified via a project site visit in March 2020 that there is no existing farmland on site. In addition to the proposed project located within an urbanized area and that no farmland would be converted to non-agricultural use, most of the proposed project is located along the Coyote Creek Channel. Therefore, the project would not conflict with existing zoning for agriculture uses or any Williamson Act contracts and no impact would occur.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Codes § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?

No Impact

The project site is located in a highly-urbanized setting and does not contain any forest land or timberland. The project site does not support the definitions provided by PRC § 42526 for timberland, PRC § 12220(g) for forest land, or California Government Code § 51104(g) for timberland zoned for production. PRC § 12220(g) defines forest land as "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." Therefore, the project would not conflict with existing zoning for forest land or timberland, and no impact would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

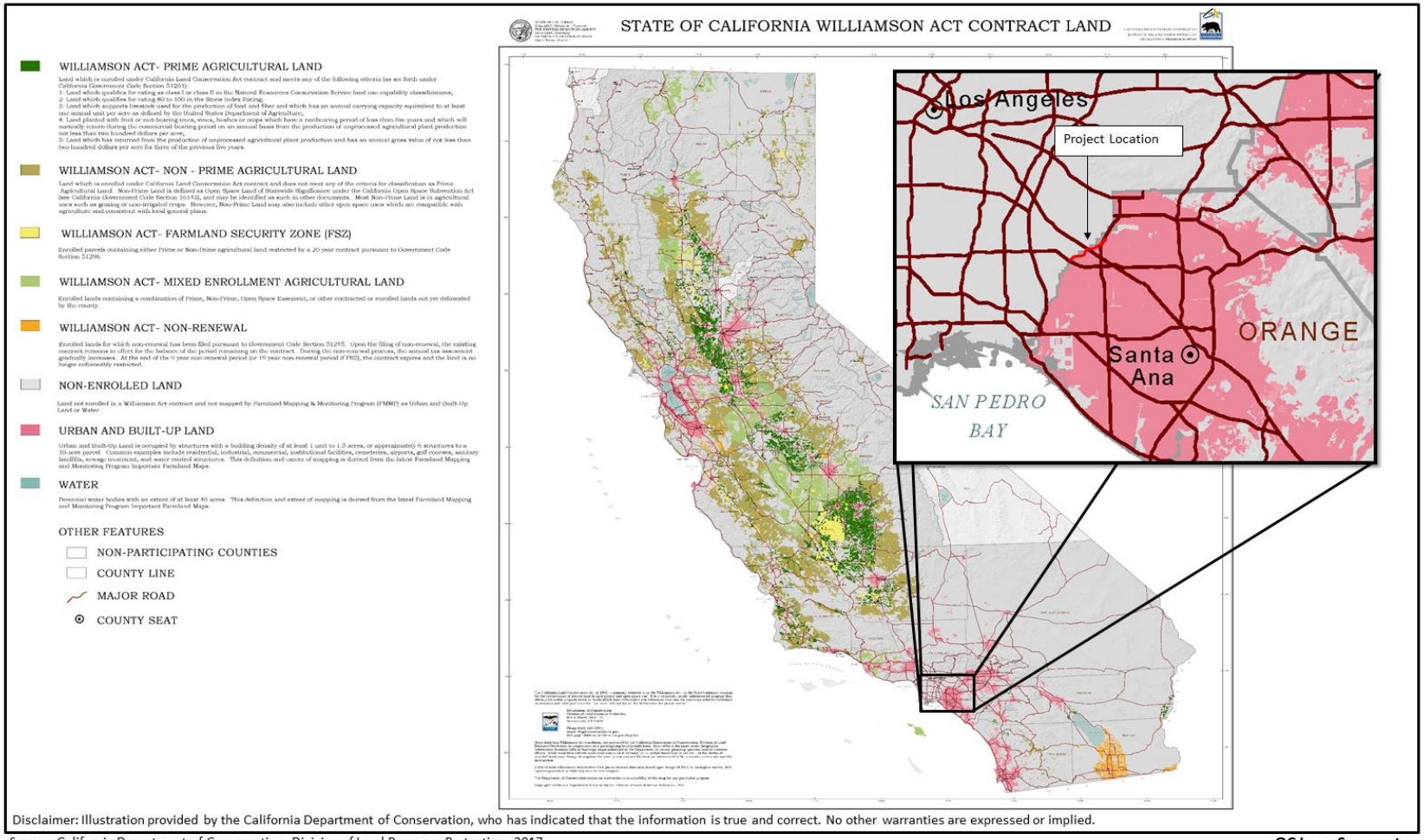
No forest land exists on the project site due to its urban and developed nature. Therefore, project implementation would not result in the loss of forest land or conversion of forest land to non-forest use, and no impact would occur.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact

As depicted in **Figure 4.2-1** and **Figure 4.2-2**, the project site is located within an urbanized setting. The proposed project is surrounded by developed land, including commercial and residential uses. Therefore, implementation of the proposed project would not result in changes to the environment, due to its location or nature, which could result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impacts would occur.

Figure 4.2 -2
WILLIAMSON ACT LANDS



Disclaimer: Illustration provided by the California Department of Conservation, who has indicated that the information is true and correct. No other warranties are expressed or implied.

Source: California Department of Conservation, Division of Land Resource Protection, 2017.

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OC Loop Segments O, P, and Q

Williamson Act Farmland

4.3 Air Quality

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?			**X**	
c) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			**X**	

4.3.1 Pollutants of Concern – Criteria Pollutants

The criteria air pollutants of concern are nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO_2), lead (Pb), and ozone (O_3), and their precursors. Criteria pollutants are air pollutants for which acceptable levels of exposure can be determined and an ambient air quality standard has been established by the U.S. Environmental Protection Agency (USEPA) and/or the California Air Resources Board (ARB). Since the proposed project would not generate appreciable SO_2 or Pb emissions, it is not necessary for the analysis to include those two pollutants. Presented below is a description of the air pollutants of concern and their known health effects.

Nitrogen oxides *(NO_x):* NO_x serve as integral participants in the process of photochemical smog production, and are precursors for certain particulate compounds that are formed in the atmosphere.[11] The two major forms of NO_x are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown pungent gas formed by the combination of NO and oxygen. NO_2 acts as an acute respiratory irritant and eye irritant, and increases susceptibility to respiratory pathogens. A third form of NO_x, nitrous oxide (N_2O), is a greenhouse gas (GHG).

Carbon monoxide *(CO):* CO is a colorless, odorless non-reactive pollutant produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel, and biomass). CO levels tend to be highest during the winter months and low wind speed when the meteorological conditions favor the accumulation of the pollutants. This occurs when relatively low inversion levels trap pollutants near

11 A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an ambient air standard has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more standards.

the ground and concentrate the CO. CO is essentially inert to plants and materials but can have significant effects on human health. The primary adverse health effect associated with CO is its binding with hemoglobin in red blood cells, which decreases the ability of these cells to transport oxygen throughout the body. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium; high concentrations are lethal.

Particulate matter *(PM):* PM is a mixture of microscopic solids and liquid droplets suspended in air. This pollution is made up of a number of components, including acids and their derivatives (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores). Two forms of fine particulate matter are now regulated. Respirable particles, or (PM_{10}), include that portion of the particulate matter with an aerodynamic diameter of 10 micrometers (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles, or ($PM_{2.5}$), have an aerodynamic diameter of 2.5 micrometers (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on the arid landscape also contributes substantially to the local particulate loading. Fossil fuel combustion accounts for a significant portion of $PM_{2.5}$. In addition, particulate matter forms in the atmosphere through reactions of NO_x and other compounds (such as ammonia) to form inorganic nitrates. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Reactive organic gases *(ROG):* ROG are compounds comprised primarily of atoms of hydrogen and carbon that have high photochemical reactivity. The largest source of ROG is the incomplete combustion of fossil fuels in internal combustion engines. Other sources of ROG include the evaporative emissions associated with the use of paints and solvents, the application of asphalt paving and the use of household consumer products. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary pollutants. ROG are also transformed into organic aerosols in the atmosphere, contributing to higher levels of fine particulate matter and lower visibility. The term ROG is used by the ARB for air quality analysis and is defined essentially the same as the federal term volatile organic compound (VOC).

Ozone *(O_3):* O_3 is a secondary pollutant produced through a series of photochemical reactions involving ROG and NO_x. O_3 creation requires ROG and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Because of the long reaction time, peak O_3 concentrations frequently occur downwind of the sites where the precursor pollutants are emitted. Thus, O_3 is considered a regional, rather than a local, pollutant. The health effects of O_3 include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. O_3 is also damaging to vegetation and untreated rubber.

4.3.2 Meteorology and Climate

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The South Coast Air Basin (SCAB) is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around its remaining perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific resulting in

a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. An upper layer of dry air that warms as it descends characterizes high-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located. This upper layer restricts the mobility of cooler marine-influenced air near the ground surface and results in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.

The annual average maximum temperature, as recorded at the Long Beach Airport[12] (approximately nine miles southwest of the project site), is 73.4 degrees Fahrenheit (°F) and the annual average minimum temperature is 56.6°F. The monthly average maximum temperature ranges from 61.3°F in February to 85.5°F in August. The monthly average minimum temperature ranges from 45.1°F in February to 67.5°F in September (Western Regional Climate Center, 2020). The annual average of total precipitation, as recorded at the Long Beach Airport, in the proposed project area is approximately 12.2 inches (US Climate Data, 2020), which occurs mostly during the winter and relatively infrequently during the fall. Approximately 97 percent of the total rainfall occurs from November to March.

Winds in the SCAB are generally light, tempered by afternoon sea breezes. Severe weather is uncommon in the Basin, but strong easterly winds known as the Santa Ana winds can reach 25 to 35 miles per hour below the passes and canyons. During the spring and summer months, air pollution is carried out of the region through mountain passes in wind currents or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From the late summer through the winter months, because of the average lower wind speeds and temperatures in the proposed project area and its vicinity, air contaminants do not readily disperse, thus trapping air pollution in the area.

4.3.3 Regional Air Quality

Table 4.3-1 shows the area designation status of the SCAB for each criteria pollutant for both the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). Based on regional monitoring data, the SCAB is currently designated as a non-attainment area for O_3 and $PM_{2.5}$, a federal maintenance area for CO and NO_2, and an attainment area for PM_{10} and SO_2.[13] Designation of the SCAB as a maintenance area means that, although the Basin has achieved compliance with the NAAQS for CO and NO_2, control strategies that were used to achieve compliance must continue. The Federal ozone classification is "extreme" (USEPA, 2011). An extreme non-attainment area has an 8-hour ozone design value of 0.187 ppm (USEPA, 2011), and has the attainment deadline of June 15, 2024. On June 26, 2013, the USEPA approved, as a revision to the

12 The closest weather monitoring station, Long Beach Airport, has sufficient temperature data.

13 According to the SCAQMD, the "Basin has met the PM10 standards at all stations and a request for re-designation to attainment is pending with U.S.EPA." (SCAQMD Board Meeting, December 7, 2012, Agenda Item 30, p. 6.).

California State Implementation Plan (SIP), the State's request to re-designate the South Coast Air Basin to attainment for the 24-hour PM_{10} NAAQS. The USEPA is also approving the PM_{10} maintenance plan and the associated PM_{10} motor vehicle emissions budgets for use in transportation conformity determinations necessary for the South Coast PM_{10} area. Finally, the USEPA approved the attainment year emissions inventory. The USEPA took these actions because the SIP revision meets the requirements of the Clean Air Act (CAA) and USEPA guidance for such plans and motor vehicle emissions budgets (Federal Register, 2013).

Table 4.3-1
FEDERAL AND STATE ATTAINMENT STATUS

Pollutants	Federal Classification	State Classification
Ozone (O_3)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter (PM_{10})	Maintenance (Serious)	Non-Attainment
Fine Particulate Matter ($PM_{2.5}$)	Non-Attainment (Moderate)	Non-Attainment
Carbon Monoxide (CO)	Maintenance (Serious)	Attainment
Nitrogen Dioxide (NO_2)	Maintenance	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment

Sources:
U.S. Environmental Protection Agency, "8-Hour Ozone (2008) Designated Area State/Area/County Report." Green Book. [www.epa.gov/air/oaqps/greenbook/ca8.html]. Data are current as of June 20, 2017. Accessed July 2017.
U.S. Environmental Protection Agency, "PM-10 (1987) Designated Area State/Area/County Report." Green Book. [https://www3.epa.gov/airquality/greenbook/pbcs.html#CA]. Data are current as of June 20, 2017. Accessed July 2017.
U.S. Environmental Protection Agency, "PM-2.5 (2012) Designated Area State/Area/County Report." Green Book. [https://www3.epa.gov/airquality/greenbook/kbcs.html#CA]. Data are current as of June 20, 2017. Accessed July 2017.
U.S. Environmental Protection Agency, "Carbon Monoxide (1971) Designated Area State/Area/County Report." Green Book. [https://www3.epa.gov/airquality/greenbook/cbcs.html#CA]. Data are current as of June 20, 2017. Accessed July 2017.
U.S. Environmental Protection Agency, "Nitrogen Dioxide (1971) Maintenance Area (Redesignated from Nonattainment) State/Area/County Report." Green Book. [https://www3.epa.gov/airquality/greenbook/nmcs.html]. Data are current as of June 20, 2017. Accessed July 2017.
California Air Resources Board, "Area Designations Maps/State and National." [www.arb.ca.gov/desig/adm/adm.htm]. Accessed July 2017.

4.3.4 Local Air Quality

The South Coast Air Quality Management District (SCAQMD) has divided the SCAB into source receptor areas (SRAs), based on similar meteorological and topographical features. The proposed project site is located in SRA 4 (South Los Angeles Coastal), SRA 5 (Southeast Los Angeles County) and SRA 16 (North Orange County).[14] The nearest ambient air monitoring stations having data for this analysis include Long Beach - 2425 Webster Street (SRA 4), Pico Rivera (SRA 5), and La Habra (SRA 16), respectively. Ambient air quality data recorded at these stations[15] from 2016 to 2018[16] and the applicable state standards are shown in **Tables 4.3-2** through **4.3-4**. Note that CO and NO_2 data are unavailable for any nearby monitoring station.

14 Although no sensitive receptors potentially affected by the project are in SRA 4 (see **Section 4.3.5** and **Section 4.3.7**), ambient air quality monitoring data were included in **Section 4.3.4** to fully characterize air quality throughout the project footprint.
15 Or others as noted.
16 Quality-assured data for years after 2018 are not available.

Table 4.3-2
AMBIENT AIR QUALITY MONITORING DATA (Long Beach - 2425 Webster Street)

Air Pollutant	Standard/Exceedance	2016	2017	2018
Ozone (O_3)	Year Coverage	96%	93%	96%
	Max. 1-hour Concentration (ppm)	0.079	0.082	0.074
	Max. 8-hour Concentration (ppm)	0.059	0.068	0.063
	# Days > Federal 8-hour Std. of 0.070 ppm	0	0	0
	# Days > California 1-hour Std. of 0.09 ppm	0	0	0
	# Days > California 8-hour Std. of 0.07 ppm	0	0	0
Nitrogen Dioxide (NO_2)	*Data for this station are unavailable*			
Respirable Particulate Matter (PM_{10})	Year Coverage	97%	87%	93%
	Max. 24-hour Concentration (µg/m³)	75.0	79.0	84.0
	#Days > Fed. 24-hour Std. of 150 µg/m³	0	0	0
	#Days > California 24-hour Std. of 50 µg/m³	ND	ND	25.8
	Annual Average (µg/m³)	31.9	33.5	32.7
Fine Particulate Matter ($PM_{2.5}$)[a]	Year Coverage	99%	100%	99%
	Max. 24-hour Concentration (µg/m³)	33.3	85.4	103.8
	State Annual Average (µg/m³)	11.9	12.8	ND
	#Days > Fed. 24-hour Std. of 35 µg/m³	0	8.0	9.1
	Federal Annual Average (µg/m³)	12.0	12.8	13.2

Source:
California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam/. Accessed April 28, 2020.
ND: There were insufficient (or no) data available to determine the value.
[a]Monitored at the Long Beach – Route 710 Near Road Station.

Table 4.3-3
AMBIENT AIR QUALITY MONITORING DATA (Pico Rivera-4144 San Gabriel)

Air Pollutant	Standard/Exceedance	2016	2017	2018
Ozone (O_3)	Year Coverage	89%	92%	90%
	Max. 1-hour Concentration (ppm)	0.111	0.118	0.115
	Max. 8-hour Concentration (ppm)	0.092	0.114	0.092
	# Days > Federal 8-hour Std. of 0.070 ppm	26	35	10
	# Days > California 1-hour Std. of 0.09 ppm	9	7	3
	# Days > California 8-hour Std. of 0.07 ppm	6	9	5
Nitrogen Dioxide (NO_2)	*Data for this station are unavailable*			
Respirable Particulate Matter (PM_{10})	*Data for this station are unavailable*			
Fine Particulate Matter ($PM_{2.5}$)	Year Coverage	98%	97%	100%
	Max. 24-hour Concentration (µg/m³)	46.5	49.5	56.3
	State Annual Average (µg/m³)	11.7	12.1	ND
	#Days > Fed. 24-hour Std. of 35 µg/m³	6.2	3.2	6.1
	Federal Annual Average (µg/m³)	11.7	12.2	12.9

Source: California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam. Accessed April 28, 2020.

Table 4.3-4
AMBIENT AIR QUALITY MONITORING DATA (La Habra)

Air Pollutant	Standard/Exceedance	2016	2017	2018
Ozone (O_3)	Year Coverage	95%	94%	96%
	Max. 1-hour Concentration (ppm)	0.103	0.113	0.111
	Max. 8-hour Concentration (ppm)	0.078	0.086	0.077
	# Days > Federal 8-hour Std. of 0.070 ppm	6	12	4
	# Days > California 1-hour Std. of 0.09 ppm	3	5	3
	# Days > California 8-hour Std. of 0.07 ppm	7	12	4
Nitrogen Dioxide (NO_2)	*Data for this station are unavailable*			
Respirable Particulate Matter (PM_{10})	*Data for this station are unavailable*			
Fine Particulate Matter ($PM_{2.5}$)	*Data for this station are unavailable*			

Source:
California Air Resources Board, "iADAM Air Quality Data Statistics." Internet URL: http://www.arb.ca.gov/adam/. Accessed April 28, 2020.

4.3.5 Sensitive Receptors

Some people, such as individuals with respiratory illnesses or impaired lung function because of other illnesses, persons over 65 years of age, and children under 14, are particularly sensitive to certain pollutants. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified to be sensitive receptors by SCAQMD in the CEQA Handbook include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors may be at risk of being affected by air emissions released from the construction and operation of the proposed project.

The proposed project is located in a predominantly industrial and commercial area. The nearest sensitive receptors are residential neighborhoods immediately west of the confluence of the north and east forks of Coyote Creek (Segment O); east of Knott Avenue and southeast of the east fork of Coyote Creek (Segment Q); and on both sides of the east fork of Coyote Creek, between Stage Road and La Mirada Boulevard (Segment Q) (See **Figure 4.3-1** and **Figure 4.3-2**.) No other types of sensitive receivers near the project were identified, and none at all were near Segment P.

Figure 4.3-1
SENSITIVE RECEPTORS IN SEGMENT O

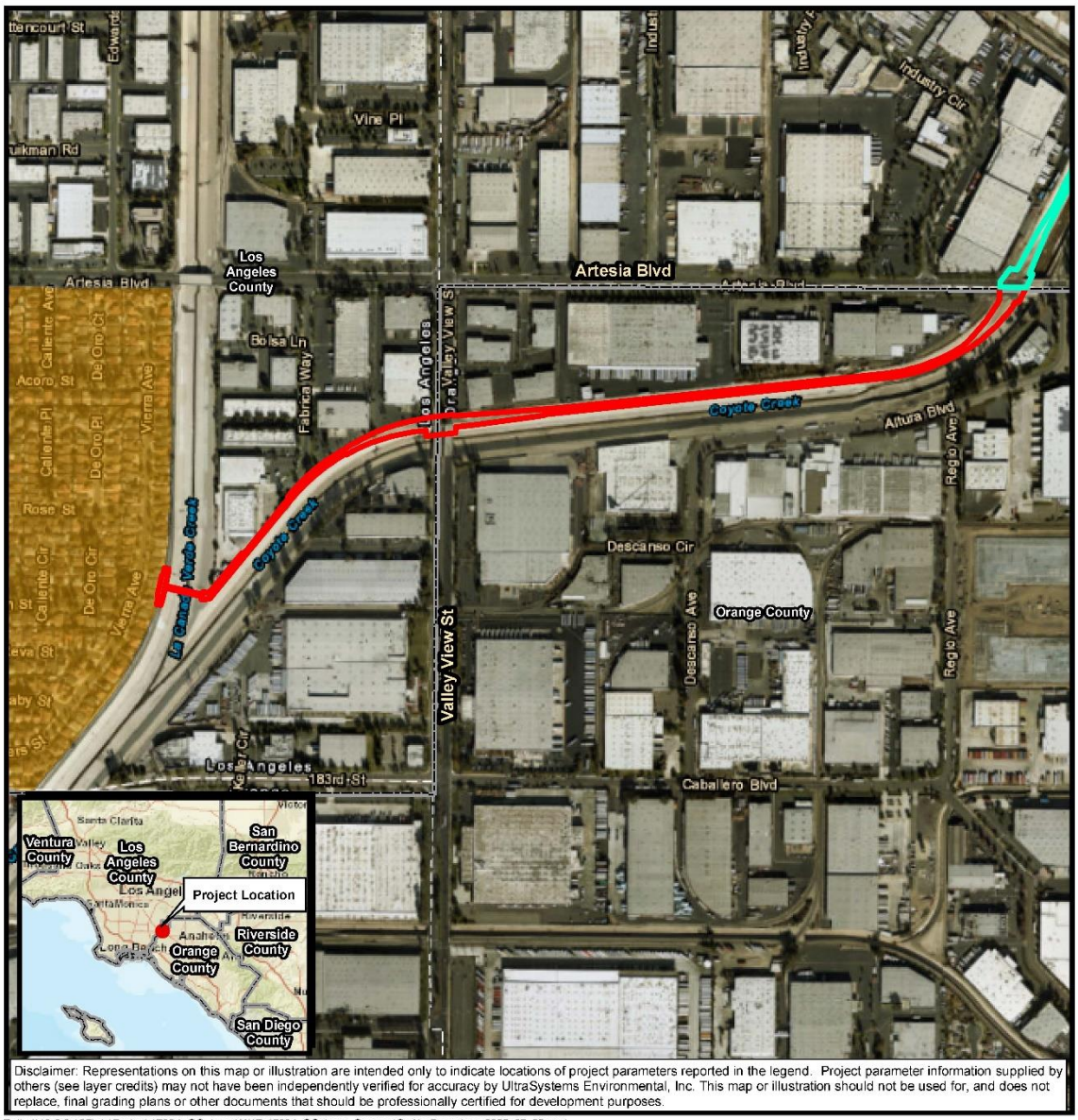
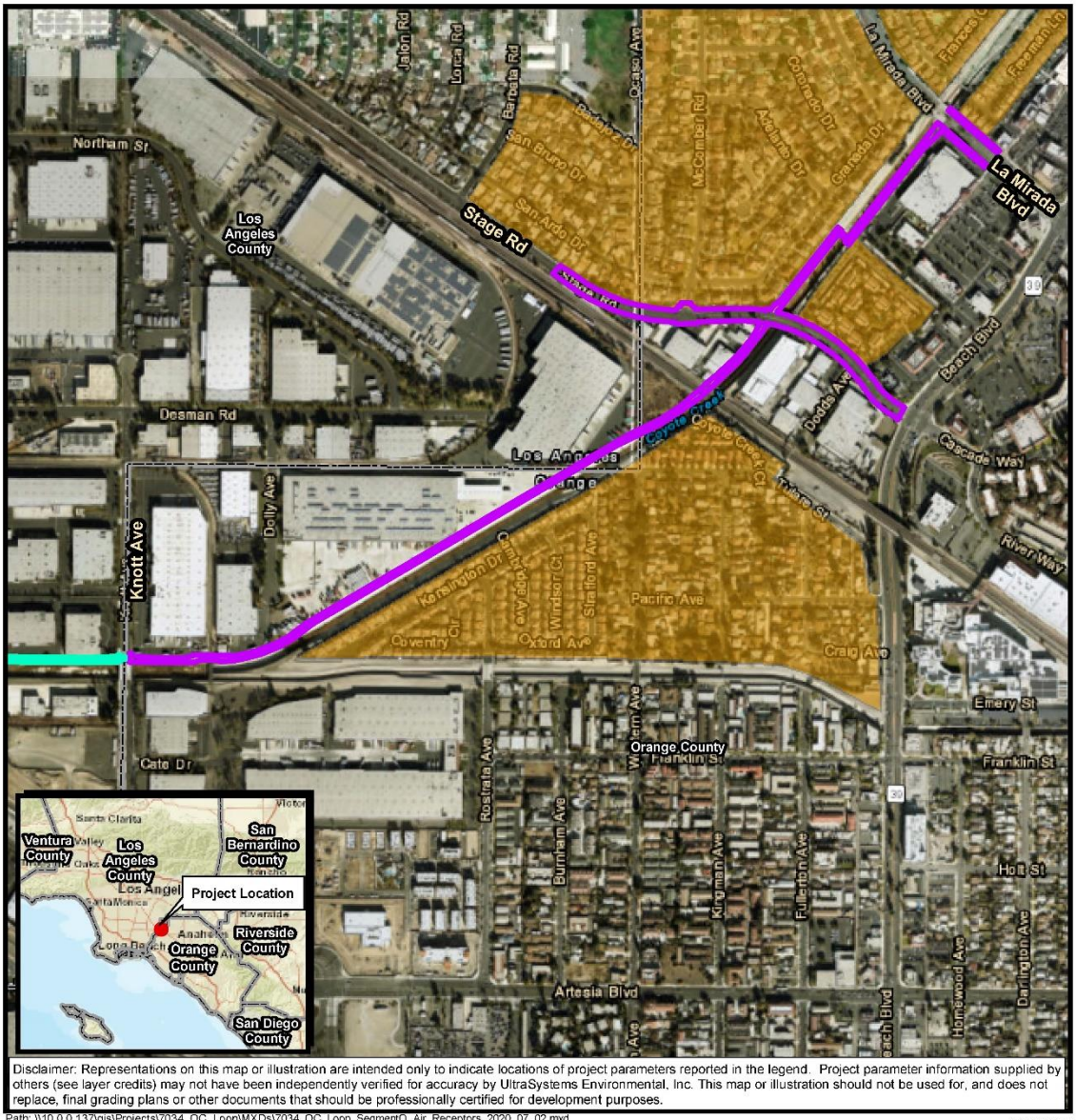


Figure 4.3-2
SENSITIVE RECEPTORS IN SEGMENT Q



Exposure to potential emissions during construction would vary substantially from day to day depending on the amount of work being conducted, the weather conditions, the location of receptors, and the length of time that receptors would be exposed to air emissions. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity occurring simultaneously within a short period of time.

4.3.6 Air Quality Plans

The SCAQMD is required to produce plans to show how air quality will be improved in the region. The California Clean Air Act (CCAA) requires that these plans be updated triennially to incorporate the most recent available technical information.[17] A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implements the programs contained in these plans. Agencies involved include the USEPA, ARB, local governments, Southern California Association of Governments (SCAG), and SCAQMD. The SCAQMD and the SCAG are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SCAB. The SCAQMD updates its AQMP every three years. The Final 2016 AQMP was adopted by the SCAQMD Board on March 3, 2017 (AQMD, 2016) and submitted to the ARB and the USEPA for concurrent review on March 10, 2017 (AQMD, 2016). The 2016 AQMP includes a request for reclassification to serious nonattainment for the 2012 Annual $PM_{2.5}$ NAAQS (12 micrograms per cubic meter [$\mu g/m^3$]) with an attainment date of 2025. It also identifies control measures needed to demonstrate attainment with the 2008 8-hour Ozone NAAQS (75 parts per billion [ppb]) by 2031; the 2006 24-hour $PM_{2.5}$ NAAQS (35 by $\mu g/m^3$) by 2019; the 1997 Ozone NAAQS (80 ppb) by 2023; and the 1979 1-hour Ozone NAAQS (120 ppb) by 2022 in the South Coast Air Basin.

The 2016 AQMP also demonstrates compliance with applicable Federal Clean Air Act Amendments (FCAA) requirements pertaining to nonattainment areas pursuant to the USEPA-approved Implementation Rules, such as the annual average and summer planning emission inventory for criteria and precursor pollutants, attainment demonstrations, reasonably available control measure and reasonably available control technology analyses, reasonable further progress, PM precursor requirements, vehicle miles traveled demonstrations, and transportation conformity budgets.

4.3.7 Air Quality Thresholds

The CEQA significance thresholds for air quality, presented in **Table 4.3-5**, have been established by the SCAQMD for construction and operations daily emissions. During construction or operation, if any of the identified daily air pollutant thresholds are exceeded by the proposed project, then the air quality impacts may be considered significant. The SCAQMD indicates in Chapter 6 of its CEQA Handbook that it considers a project to be mitigated to a level of insignificance if its primary effects are mitigated below the thresholds provided below.

17 CCAA of 1988.

Table 4.3-5
REGIONAL THRESHOLDS OF SIGNIFICANCE

Pollutant	Emissions (pounds per day)	
	Construction	Operations
Reactive Organic Gases (ROG)	75	55
Nitrogen Oxide (NO_X)	100	55
Carbon Monoxide (CO)	550	550
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Sulfur Oxides (SO_X)	150	150

Source: Source: Air Quality Significance Thresholds. South Coast Air Quality Management District. Revised April 2019 (http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2).

The SCAQMD Governing Board adopted a methodology for calculating localized air quality impacts through localized significance thresholds (LSTs), which is consistent with SCAQMD's Environmental Justice Enhancement Initiative I-4. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable state or national ambient air quality standard (SCAQMD, 2009). The LSTs are developed based on the ambient concentrations of that pollutant for each source receptor area and are applicable to NO_X, CO, PM_{10}, and $PM_{2.5}$.

The sensitive receptors identified in **Section 4.3.5** are in SRAs 5 and 16. It is assumed that construction will disturb no more than one acre per day and that sensitive receptors are within 25 meters. **Table 4.3-6** shows the appropriate LSTs for construction activity. LSTs for construction emissions only apply to onsite emission sources.

Table 4.3-6
SCAQMD LOCALIZED THRESHOLDS FOR CONSTRUCTION

Pollutant	Localized Significance Threshold (lbs/day)	
	SRA 5	SRA 16
Nitrogen Dioxide (NO_2)	80	103
Carbon Monoxide (CO)	571	522
Respirable Particulate Matter (PM_{10})	4	4
Fine Particulate Matter ($PM_{2.5}$)	3	3

Source: Localized Significance Thresholds. South Coast Air Quality Management District. Revised October 21, 2009.

4.3.8 Impact Analysis

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact

AQMP Consistency

The South Coast 2016 AQMP discussed above incorporates land use assumptions from local general plans and regional growth projections developed by the SCAG to estimate stationary and mobile air emissions associated with projected population and planned land uses. If the proposed land use is consistent with the local general plan, then the impact of the project is presumed to have been accounted for in the AQMP. This is because the land use and transportation control sections of the AQMP are based on the SCAG regional growth forecasts, which incorporated projections from local general plans. As discussed in **Section 4.11**, the project is compatible with the land use policies of the general plans of the three cities along the route. Therefore, the land use would continue to be consistent with the local general plan and the impacts of the project are still accounted for in the AQMP.

Another measurement tool in evaluating consistency with the AQMP is to determine whether a project would generate population and employment growth and, if so, whether that growth would exceed the growth rates forecasted in the AQMP and how the project would accommodate the expected increase in population or employment. The bikeway project would not create new employment or new residential growth. Therefore, the project would not conflict with or obstruct the implementation of the applicable air quality management plan and would be less than significant.

Construction Emissions

Construction activities, including soil disturbance dust emissions and combustion pollutants from onsite construction equipment and from offsite employee commuting. vendor activity, and trucks hauling materials, would temporarily add pollutants to local and regional airsheds. The first step in estimating emissions was to divide project construction into discrete "activities" such as installing a bridge or paving a stretch of bikeway. Each activity comprises one or several sub-activities, which were addressed in calculating emissions but are not mentioned here in detail. **Table 4.3-7** shows the activities defined for each segment. The construction phases (I, II and III in Segment O; I and II in Segment P; and I in Segment Q) were designated by the project engineering team. Please note that the numbering of the activities (e.g. P-01, P-02, etc.) does not necessarily imply a temporal sequence.

Table 4.3-7
CONSTRUCTION ACTIVITIES, BY SEGMENT

Phase	Activity	Description
Segment O		
I	O-01	Construct cast-in-place concrete end bents on each side of North Fork of Coyote Creek
	O-03	Remove existing asphalt along north side of East Fork of Coyote Creek
	O-06	Remove portion of concrete slope underneath Valley View Avenue Bridge
	O-08	Place 3,010 feet of asphalt paving from Valley View Avenue to Artesia Boulevard
II	O-02	Install pedestrian truss bridge across North Fork of Coyote Creek
	O-04	Place 1,570 feet of asphalt paving from pedestrian Bridge to Valley View Avenue
	O-07	Install tieback wall underneath Valley View Avenue bridge

Phase	Activity	Description
III	O-05	Install about 4,800 feet of cable railing fencing all along the route
Segment P		
I	P-12	Place 1,200 feet of asphalt paving between Artesia Boulevard and the UPRR undercrossing
	P-01	Assemble a concrete box via jacking method underneath UPRR Industrial lead
	P-02	Construct open U-cross section channels just down- and upstream of jacked box and extend 400 the U-channel for 400 feet
	P-02a	Construct cast-in-place concrete abutments on each side of UPRR right-of-way[a]
	P-02b	Install pedestrian truss bridge across UPRR right-of-way[a]
	P-04	Make a 12- or 14-foot wide cut perpendicular open cut across South Firestone Boulevard
	P-07	Excavate under Interstate 5
	P-08	Place 1,550 feet of asphalt paving between North Firestone Boulevard and Knott Avenue
	P-09	Install several concrete columns underneath the Artesia Boulevard bridge
	P-10	Remove a portion of concrete slope underneath Artesia Boulevard bridge
II	P-05	Install a 12-foot wide, 10-foot tall precast concrete box in channel; add 7.5-foot cover, base, and repave
	P-11	Install a cantilevered deck between the Coyote Creek Channel bottom and the bottom of the existing bridge carrying Artesia Boulevard over Coyote Creek channel
Segment Q		
I	Q-01	Install traffic signals and crosswalk for at-grade crossing of Knott Avenue
	Q-02	Place 420 feet of asphalt paving from Knott Avenue upstream
	Q-03	Install a railroad crossing warning signal for at-grade crossing east of Knott Avenue
	Q-04	Place 2,900 feet of asphalt paving upstream of railroad lead line east of Knott Avenue
	Q-05	Assemble a concrete box via jacking method at undercrossing of BNSF/Metrolink rail line
	Q-06	Relocate a Chevron fuel line (cut/cap/remove?)
	Q-07	Construct open U-cross section channels just down- and upstream of jacked box and extend U-channel for 500 feet
	Q-10	Install T intersection traffic signal for at-grade crossing of Stage Road
	Q-11	Place 560 feet of asphalt paving between Stage Road and new pedestrian bridge
	Q-08	Construct cast-in-place concrete abutments for pedestrian bridge across East Fork of Coyote Creek
	Q-09	Install prefabricated cantilever bridge across East Fork of Coyote Creek
	Q-15	Place 700 feet of asphalt paving between new pedestrian bridge and La Mirada Boulevard
	Q-12	Remove ornamental trees from La Mirada Boulevard and do minor grading
	Q-13	Install 280-foot trail on either side of La Mirada Boulevard

Source: GHD and UltraSystems, 2020.
[a] A truss bridge overcrossing alternative has been included if UPRR does not allow the concrete box undercrossing.

Criteria pollutant emissions were estimated for each activity and summed for each segment. In general, the calculations followed the same methods used in the California Emissions Estimator

Model (CalEEMod), Version 2016.3.2 (CalEEMod, 2017). Emission factors for onroad vehicles were obtained from the ARB's EMFAC2017 model, Version 1.0.2, for Orange County in 2023. Details of all the calculations are provided in **Appendix B (B1, B2-1 and B2-2).**

Table 4.3-8 summarizes the estimated maximum daily criteria pollutant emissions for the three segments. The maximum values are not summed, because it was assumed that only one segment would be built at a time. As shown in the table, all construction emissions associated with the project would be below the regional significance thresholds, and therefore, would be less than significant.

Table 4.3-8
ESTIMATED CONSTRUCTION EMISSIONS

Construction Phase	Maximum Daily Emissions (lbs)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Segment O	3.9	6.4	6.3	0.4	0.3
Segment P[a]	9.2 (9.2)	57.5 (57.7)	69.5 (59.1)	2.6 (2.6)	2.3 (2.3)
Segment Q	10.6	58.4	53.4	2.5	2.2
SCAQMD Daily Regional Threshold	*75*	*100*	*550*	*150*	*55*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***

Source: OB-1 Air Analyses, April 2020.
[a] Values in parentheses correspond to the UPRR pedestrian bridge overcrossing option.

Operational

The only operational emissions for the proposed project would be from operation of onroad motor vehicles and offroad equipment for the routine maintenance of the bikeway. These emissions would be nominal and infrequent, and therefore would be less than significant.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact

According to the CEQA Guidelines, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved air quality attainment or maintenance plan.[18] As described above in 4.3 a), the project would not exceed any of the SCAQMD daily criteria pollutant thresholds. In general, cumulative *regional* impacts of construction and operation of all projects in the SCAB at any given time are accounted for in the AQMP. The proposed project is compliant with the AQMP so the incremental contribution of the project would not be cumulatively considerable. The only cumulative impacts with the potential for significance would be localized impacts during

18 CEQA Guidelines, § 15064(h)(3).

construction. The analysis in 4.3 c) and 4.3 d) shows that localized impacts from the project would be less than significant and therefore would not contribute to a cumulative impact.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact

A localized significance analysis was performed only for Segment O and Segment Q, as there are no sensitive receptors in Segment P. In the discussion above related to **Table 4.3-6**, only construction emissions from activity on the construction site are considered when comparing to the LST thresholds. As shown in **Table 4.3-9**, onsite construction emissions associated with the project and near sensitive receptors would be below the LST thresholds.

Table 4.3-9
LOCALIZED SIGNIFICANCE ANALYSIS RESULTS

Emission Locations	Maximum Daily Emissions (lbs)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Onsite Maximum Daily in Segment O	1.8	1.8	0.1	0.1
SCAQMD LST Threshold for SRA 5	*80*	*571*	*4*	*3*
Onsite Maximum Daily in Segment Q	7.7	7.2	0.3	0.3
SCAQMD LST Threshold for SRA 16	*103*	*522*	*4*	*3*
Exceed Thresholds?	***No***	***No***	***No***	***No***

Source: OB-1 Air Analyses and UltraSystems, April 2020.

During construction, diesel equipment would be operated. Diesel particulate matter (DPM) is known to the State of California as a toxic air contaminant (TAC). Because diesel exhaust particulate matter is considered carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Air Pollution Control Officers' Association Air Toxics "Hot Spots" Program Risk Assessment Guidelines as 24 hours per day, 7 days per week, 365 days per year, for 70 years. DPM would be emitted during the short term of construction assumed for the proposed project from heavy equipment used in the construction process. Due to the short-term nature of project construction, impacts from exposure to diesel exhaust emissions during construction would be less than significant.

During the operational phase, the only air pollutant emissions would be from routine maintenance activities. These would be infrequent and would not expose nearby sensitive receptors to "substantial" pollutant concentrations. Therefore, these impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact

The CEQA guidelines indicate that a significant impact would occur if the proposed project would create objectionable odors affecting a substantial number of people. Diesel exhaust and VOCs would be emitted during construction of the proposed project, which are objectionable to some; however, emissions would disperse rapidly from the project site and the activity would be temporary.

During the operational phase, the only odorous air pollutant emissions would be from use of fossil fuel-based maintenance activities. Odors from these activities would be infrequent and would be similar in intensity to those normally experienced in residential neighborhoods.

Impacts due to objectionable odors would be less than significant.

4.4 Biological Resources

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		**X**		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				**X**
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			**X**	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		**X**		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		**X**		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				**X**

4.4.1 Methodology

Please note that the following analysis was initially done using the UPRR jack (concrete box) underground tunnel option (see **Section 3.3.2**). The alternate option, the UPRR overcrossing, has

approximately the same biological impacts (no additional vegetation would be removed and no additional impacts[19] to the top of bank/top of channel would take place) and would not require a separate analysis or involve additional mitigation.

Literature, maps, databases, agency web sites, Geographic Information System (GIS) data, and aerial imagery were obtained from public domain sources to: (1) assess habitats, special-status plant and wildlife species, jurisdictional waters, critical habitats, and wildlife corridors that potentially may occur in and near the project site; and (2) identify local or regional plans, policies, and regulations that may apply to the project. Plant and wildlife species protected by federal agencies, state agencies, and nonprofit resource organizations, such as the California Native Plant Society (CNPS), are collectively referred to as "special-status species" in this report.[20] Some of these plant and wildlife species are afforded special legal or management protection because they are limited in population size, and typically have a limited geographic range and/or habitat. The following data sources were accessed:

- United States Geological Survey (USGS) 7.5-Minute Topographic Map La Habra, Los Alamitos, and Whittier Quadrangles (USGS, 2018a, 2018b, and 2918c) and current aerial imagery (Google Earth, 2020).

- California Natural Diversity Database (CNDDB, 2020) provided by the California Department of Fish and Wildlife (CDFW).

- Information, Planning and Conservation (IPaC) provided by the United States Fish and Wildlife Service (USFWS) (USFWS, 2020a).

- Inventory of Rare and Endangered Plants of California provided by the CNPS (CNPS, 2020).

- National Wetlands Inventory (NWI) and Wetlands Mapper provided by the USFWS (USFWS, 2020b).

- Watershed Assessment, Tracking, & Environmental Results System (WATERS) (USEPA, 2020)

- Critical Habitat Portal provided by the USFWS (USFWS, 2020c).

The literature search of the CNDDB (CDFW, 2020a) and of the CNPS Electronic Inventory of Rare and Endangered Plants of California (CNPS, 2020), was used to identify special-status plant and wildlife species that may occur within the project site and within a ten-mile radius of the site. Field surveys were conducted as shown on **Table 4.4-1**.

19 Per email from Bruce Schmith (GHD) dated September 2, 2020.

20 Avian species are protected by the Migratory Bird Treaty Act (MBTA) and are not considered "special-status species" if they are not listed or sensitive species.

Table 4.4-1
FIELD SURVEY INFORMATION

Survey Date	Survey Time	Temperature	Weather	Surveyors	Survey Conducted
February 21, 2020	11:45 a.m. – 5:45 p.m.	61 - 68°F	60 to 95% Cloud Cover	MT & HF	Habitat Assessment
March 6, 2020	10:30 a.m. – 5: 15 p.m.	64 - 65°F	50% Cloud Cover	MT & HF	Habitat Assessment & Tree Inventory
July 13, 2020	8:00 a.m. – 9:15 a.m.	69 – 73°F	Clear	CM & HF	Site Walkthrough for Bat Survey
July 14, 2020	7:33 p.m.[21]	68 - 78°F	Clear	CM & CN	Focused Acoustic Bat Survey
July 15, 2020	7:33 p.m.[22]	69 - 73°F	Clear	CM & CN	Focused Acoustic Bat Survey

CM: Courtney McCammon HF: Hugo Flores
CN: Christian Nordal MT: Michelle Tollett

Land Cover Types

The project site is essentially a concrete bottomed and walled flood control channel with adjacent bare dirt ROW that is currently used as a maintenance access road. This existing maintenance access road is proposed to be paved to provide a smooth all-weather surface for cyclists. At two roadways and two railroads, underpasses will be provided as a part of the project.

The literature review and field surveys determined that the BSA does not contain any sensitive plant communities but does contain three non-sensitive land cover types.[23]

1. Developed/Ornamental

Developed lands are non-vegetated features within the BSA that describe areas occupied by man-made structures, paving and other impermeable surfaces that cannot support vegetation. Inside the BSA, developed lands consist of paved streets, paved access roads, parking lots, driveways, sidewalks, shipping containers, and other permanent structures. These developed areas provide virtually no habitat for wildlife species. Landscaping (ornamental trees, shrubs, turf, etc.) associated with the developed lands are also included within this category. These developed areas provide virtually no habitat for wildlife species; however, birds could use the ornamental trees for foraging and nesting. Developed lands and ornamental vegetation do not have a global or state rank and are not considered a sensitive plant community.

Within the BSA, this land cover type covers approximately 70.5 acres and makes up most of the 126.2-acre BSA.

2. Concrete-lined Channel

This land cover type mainly consists of the unvegetated, concrete-lined Coyote Creek channel. At the time of the surveys, the Coyote Creek Channel contained water.

21 This is the start time of the survey. Surveys concluded one hour after bats had finished emerging from the roost.
22 This is the start time of the survey. Surveys concluded one hour after bats had finished emerging from the roost.
23 Habitat classification per MCV2 (Sawyer et al., 2009) was not applicable to this project.

Within the BSA, this land cover type covers approximately 32.2 acres and comprises the second most commonly occurring land cover type of the 126.2-acre BSA.

3. Disturbed

The disturbed land cover type contains areas that lack vegetation or have non-native vegetation as dominant; some of the non-native vegetation observed include Russian thistle (*Salsola tragus*), Mexican fan palm tree (*Washingtonia robusta*), and Eucalyptus tree (*Eucalyptus* sp.). They provide little to no habitat value for wildlife. Disturbed habitats observed within the BSA do not fit any classification described in *A Manual of California Vegetation Second Edition* (Sawyer et al., 2009) or *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986). Disturbed habitats are not considered a sensitive plant community. Within the BSA, disturbed habitat mainly consists of dirt maintenance roads running alongside Coyote Creek.

Within the BSA, this land cover type covers approximately 23.4 acres of the 126.2-acre BSA.

Special-Status Plants

The plant species occurrences, their status, and their habitat requirements are included in **Table 4.4-2**. The wildlife species occurrences, their status, and their habitat requirements are included in **Table 4.4-3**. Field Surveys were conducted within the Biological Study Area (BSA) which includes the biological resources potentially associated with the project site and within a buffer zone that extended 150 feet beyond the project perimeter. Surveys did not extend beyond the BSA (see **Figure 4.4-1**).

The search resulted in known occurrences of 25 special-status plant species within the study area. Five of these plants are designated federal or state listed endangered, threatened, candidate, or state rare under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and/or the California Native Plant Preservation Act (NPPA). These plant species are referred to as "listed species." Twenty of the special-status plant species have no designated status under the ESA, the CESA, and/or the NPPA, but are designated as sensitive or locally important by federal agencies, state agencies, and nonprofit resource organizations, such as the CNPS. These plant species are collectively referred to as "sensitive" species in this report. The potential to occur analysis can be found in **Table 4.4-2**. **Figure 4.4-2** depicts the CNDDB known plant species occurrences within project limits and within a two-mile radius of the project site.

Each special-status plant species was assessed for its potential to occur within the BSA by comparing its habitat, elevation range, and distribution obtained from literature review, CNPS website, and other databases with the location and elevation range of the BSA. A species was determined as having "no potential to occur" within the BSA if the BSA is outside the species' known distribution and/or the species' known elevation range.

No listed endangered, threatened, candidate or state rare plant species or sensitive plant species were observed within the BSA during the field surveys conducted on February 24 or March 6, 2020 by UltraSystems Environmental. The literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential for 1 sensitive plant species to occur: lucky morning glory (*Calystegia felix*; California Rare Plant Rank [CRPR]: 1B.1).

Table 4.4-2
PLANT LITERATURE REVIEW RESULTS

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	Does BSA Contain Potential Suitable Habitat?	Plant Elevation Range (feet amsl)	Is BSA Located Within the Plant Species' Known:		Potential for Occurrence in the BSA
						Elevation Range	General Distribution	
Legend and Notes								

Notes:

- The BSA for the proposed project contains approximate elevations of 32 to 119 feet above mean sea level (amsl).
- **Yes** = the BSA is located within the plant species' known distribution, elevation range, and/or the BSA contains suitable habitats and/or soils to support the plant species. The plant species has a potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the plant species' known distribution, elevation range, and/or the BSA lacks suitable habitats and/or soils to support the plant species. It is highly unlikely for the plant species to have a potential to occur within the BSA. No further evaluation is needed.
- A CNPS elevation range is provided for each taxon in feet. The stated range is for the California portion of a plant's range only (if the taxon also occurs outside the state). These CNPS elevation range data are accumulated from literature, herbarium specimens, and field survey information.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened plants is published in 50 CFR § 17.12.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.

California Endangered Species Act (CESA) and California Native Plant Protection Act (NPPA) Listing Codes: the CESA and NPPA are administered by CDFW. The official listing of *Plants of California Declared to Be Endangered, Threatened or Rare* is contained in the California Code of Regulations, Title 14, § 670.2. Species, subspecies and varieties of California native plants are declared to be endangered, threatened as defined by § 2062 and § 2067 of the Fish and Game Code or rare as defined by § 1901 of the Fish and Game Code.

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, nonprofit organization that maintains, with CDFW, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFW officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CRPR). This was done to reduce confusion over the fact that CNPS and CDFW jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

- **CRPR: 1A = California Rare Plant Rank 1A - plants presumed extirpated in California and either rare or extinct elsewhere:** the plants with a CRPA of 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct as well as those plants which are presumed extirpated in California. All of the plants constituting CRPR 1A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 1B = California Rare Plant Rank 1B - plants rare, threatened, or endangered in California and elsewhere:** plants with a CRPR of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All of the plants constituting CRPR 1B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 2B = California Rare Plant Rank 2B - plants rare, threatened, or endangered in California, but more common elsewhere:** except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. All of the plants constituting CRPR 2B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 4 = California Rare Plant Rank 4 - plants of limited distribution - a watch list**: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS strongly recommends that CRPR 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) (as a decimal code) and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. A Threat Rank is present for all CRPR 1B's, 2B's, 4's, and the majority of CRPR 3's. CRPR 4 plants are seldom assigned a Threat Rank of .1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a CRPR. In addition, all CRPR 1A and 2A (presumed extirpated in California), and some CRPR 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

- **.1** = seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- **.2** = moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- **.3** = not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	Does BSA Contain Potential Suitable Habitat?	Plant Elevation Range (feet amsl)	Is BSA Located Within the Plant Species' Known:		Potential for Occurrence in the BSA
						Elevation Range	General Distribution	
Listed Endangered, Threatened, Candidate and State Rare Plants: Plants with official status under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and/or the Native Plant Protection Act (NPPA). A species may have other sensitive designations in addition to their federal or state listing.								
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE, SE, CRPR: 1B.1	San Diego button-celery is an annual/perennial herb that is restricted to vernal pools and vernally moist areas. It grows in vernal pools and moist clay depressions in poorly-drained adobe soil grasslands. It also grows in moist depressions surrounded by coastal scrub chaparral, and valley and foothill grasslands. It occurs almost always under natural conditions in wetlands. This listed plant flowers from April to June.	No	66 – 2,034	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Berberis nevinii (=*Mahonia nevinii*)	Nevin's barberry	FE, SE, CRPR: 1B.1	Nevin's barberry is a perennial evergreen shrub that grows in two habitat types. In the alluvial scrub community, it grows on sandy and gravelly substrates along the margins of dry washes. In the chaparral community, it grows on steep, north-facing slopes with coarse soils and rocky slopes. It has also been found in cismontane woodlands, riparian scrub, and coastal sage scrub. This listed plant flowers from March to June.	No	899 – 2,706	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	FE, SE, CRPR: 1B.1	Ventura marsh milk-vetch is a perennial herb that is found on coastal back dune habitat and the edges of coastal salt marshes, brackish marshes, coastal meadows and seeps. It is usually found within reach of high tide or it is protected by barrier beaches. It is more rarely near seeps on sandy bluffs. This listed plant flowers from June to October.	No	3 – 115	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Chloropyron maritimum ssp. *maritimum* (=*Cordylanthus maritimus* ssp. *maritimus*)	salt marsh bird's-beak	FE, SE, CRPR: 1B.2	Salt marsh bird's-beak is an annual herb (hemiparasitic) that grows in portions of salt marshes subject to periodic inundation from high tides. Salt marsh bird's-beak grows in the higher reaches of coastal salt marshes to intertidal and brackish areas influenced by freshwater input. Some plants occur in non-tidal areas or in areas of perched water tables. It is parasitic on salt grass, alkali bulrush, cattail, and other individuals of its own species. This listed plant flowers from May to October.	No	0 - 98	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Orcuttia californica (=*Orcuttia californica* var. *californica*)	California Orcutt grass	FE, SE, CRPR: 1B.1	California Orcutt grass is an annual herb that grows in three kinds of vernal pools (seasonally wet depressions with unique flora and fauna): terrace pools on marine terraces, volcanic mesa pools, and valley pools. Occurs almost always under natural conditions in wetlands. This listed plant flowers from April to August.	No	49 – 2,165	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Sensitive Plants: These plants have no official status under the ESA, the CESA, and/or the NPPA; however, they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.								
Centromadia parryi ssp. *australis* (=*Hemizonia parryi* ssp. *australis*)	southern tarplant	CRPR: 1B.1	Southern tarplant is an annual herb that is found on the margins of marshes and swamps, and in vernally mesic sites within valley and foothill grasslands and vernal pools. This sensitive plant flowers from May to November.	No	0 – 1,574	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	CRPR: 1A	Los Angeles sunflower is a perennial rhizomatous herb that is found in coastal salt and freshwater marshes and swamps. Usually occurs in wetlands, but occasionally found in non-wetlands. This sensitive plant flowers from August to October.	No	33 – 5,494	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	Does BSA Contain Potential Suitable Habitat?	Plant Elevation Range (feet amsl)	Is BSA Located Within the Plant Species' Known:		Potential for Occurrence in the BSA
						Elevation Range	General Distribution	
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	CRPR: 1B.1	Coulter's goldfields is an annual herb that is associated with low-lying alkali habitats along the coast and in inland valleys. The majority of the populations are associated with coastal salt marshes and swamps. Coulter's goldfields occur primarily in the alkali vernal plains community. These are floodplains dominated by alkali scrub, alkali playas, vernal pools, and, alkali grasslands. These habitats form mosaics that are largely dependent on salinity and micro-elevational differences. This sensitive plant flowers from February to June.	No	3 – 4,002	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Symphyotrichum defoliatum (=*Aster bernardinus*)	San Bernardino aster	CRPR: 1B.2	San Bernardino aster is a perennial rhizomatous herb that is found in cismontane woodlands, coastal scrub, lower montane coniferous forests, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grasslands. While this species usually occurs in meadows, springs and streams, it also occurs in upland habitats. Can be found near ditches, streams, springs or disturbed areas. Grows in seasonally moist fine alluvial soils. This sensitive plant flowers from July to November.	No	7 – 6,691	Yes	No	**No potential to occur.** Although the BSA is located within this species' known elevational range, it is not located within the plant's general distribution and the BSA does not contain suitable habitats and/or soils to support this species.
Nama stenocarpa	mud nama (=mud fiddleleaf)	CRPR: 2B.2	Mud nama is an annual/perennial herb that is found along marshes, swamps, lake shores, river banks, stream banks and intermittently wet areas. This sensitive plant flowers from January to July.	No	16 – 1,640	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Phacelia stellaris	Brand's star phacelia (=Brand's phacelia)	CRPR: 1B.1	Brand's star phacelia is an annual herb that is found on open areas in coastal dunes and coastal scrub. This species typically occurs in sandy openings, sandy benches, dunes, sandy washes, or flood plains of rivers. This listed plant flowers from March to June.	No	3 – 1,312	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	CRPR: 4.3	Robinson's pepper-grass is an annual herb that is found in dry soils on chaparral and coastal sage scrub often around rock outcrops. This sensitive plant flowers from January to July.	No	3 – 2,903	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Atriplex coulteri	Coulter's saltbush	CRPR: 1B.2	Coulter's saltbush occurs along ocean bluffs in coastal bluff scrub; on coastal dunes; and on ridge tops, clay soils and alkaline low places in coastal scrub and valley and foothill grasslands. This sensitive plant flowers from March to October.	No	10 – 1,508	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range, it is not located within the plant's general distribution and the BSA does not contain suitable habitats and/or soils to support this species.
Atriplex parishii	Parish's brittlescale (=Parish's saltbush)	CRPR: 1B.1	Parish's brittlescale is an annual herb that occurs within alkali vernal pools, alkali annual grasslands, alkali playa, and alkali chenopod scrub and alkali vernal plains. Usually found on drying alkaline flats with fine soils. This sensitive plant flowers from June to October.	No	82 – 6,232	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Atriplex serenana var. *davidsonii*	Davidson's saltscale (=Davidson's saltbush, bractscale)	CRPR: 1B.2	Davidson's saltscale is an annual herb that is found in coastal bluff scrub and coastal scrub. In Riverside County, it is it found in alkali vernal pools, alkali annual grasslands, alkali playa, and alkali scrub components of alkali vernal plains. This sensitive plant flowers from April to October.	No	33 – 656	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	Does BSA Contain Potential Suitable Habitat?	Plant Elevation Range (feet amsl)	Is BSA Located Within the Plant Species' Known:		Potential for Occurrence in the BSA
						Elevation Range	General Distribution	
Suaeda esteroa	estuary seablite	CRPR: 1B.2	Estuary seablite is a perennial fleshy herb that is found in coastal salt marshes and swamps often growing with *Salicornia subterminalis*. Soils at such locales are usually mapped as tidal flats. Oftentimes, only a narrow band of terrain on the very periphery of the salt marsh is utilized by this plant. This sensitive plant flowers from May to January.	No	0 - 16	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Calystegia felix	lucky morning-glory	CRPR: 1B.1	Lucky morning-glory is an annual rhizomatous herb that is found in meadows and seeps (sometimes alkaline) and alluvial riparian scrub. Historically it is associated with wetland and marshy places, but possibly in drier situations as well. This species is found in silty loam and alkaline soils. Lucky morning glory is not known to be extant in the wild. All extant occurrences are associated with well-watered landscaping on recently completed industrial, commercial, and residential developments. This sensitive plant flowers from March to September.	Yes	98 - 705	Yes	Yes	**Moderate potential to occur.** The BSA is located within this species' known elevational range and general distribution and contains suitable habitat to potentially support this species. A CNDDB inquiry within 10 miles of the BSA shows 2 observations; one occurred in May 1, 1902 approximately 7.81 miles away and the second occurred on June 25, 2014 approximately 5.58 miles away.
Dudleya multicaulis	many-stemmed dudleya	CRPR: 1B.2	Many-stemmed dudleya is a perennial herb that is often associated with clay soils in barrens, rocky places, and ridgelines as well as thinly vegetated openings in chaparral, valley and foothill grasslands, and coastal sage scrub in heavy soils, often clay. This sensitive plant flowers from April to July.	No	49 – 2,591	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Astragalus hornii var. *hornii*	Horn's milk-vetch	CRPR: 1B.1	Alkali playa, meadow and seep, wetland. This sensitive plant flowers from April to September.	No	197 - 984	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Sidalcea neomexicana	salt spring checkerbloom (=mountain sidalcea)	CRPR: 2B.2	Salt spring checkerbloom is a perennial herb that is found in alkaline, mesic sites in chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, alkali playas, and brackish marshes. This sensitive plant flowers from March to June.	No	49 – 5,018	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Abronia villosa var. *aurita*	chaparral sand-verbena	CRPR: 1B.1	Chaparral sand-verbena is an annual herb that is found in sandy soils of chaparral, coastal scrub, and desert dunes. This sensitive plant flowers from January to September.	No	262 – 5,248	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Navarretia prostrata	prostrate vernal pool navarretia (=prostrate navarretia)	CRPR: 1B.2	Prostrate vernal pool navarretia is an annual herb that is found in coastal scrub, valley and foothill grasslands (alkaline washes), meadows and seeps, and vernal pools. This sensitive plant flowers from April to July.	No	49 – 3,969	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.
Nemacaulis denudata var. denudata	coast woolly-heads	CRPR: 1B.2	Coastal dunes, This sensitive plant flowers from April to September.	No	0 - 328	Yes	Yes	**No potential to occur.** Although the BSA is located within this species' known elevational range and general distribution; it does not contain suitable habitats and/or soils to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	Does BSA Contain Potential Suitable Habitat?	Plant Elevation Range (feet amsl)	Is BSA Located Within the Plant Species' Known:		Potential for Occurrence in the BSA
						Elevation Range	General Distribution	
Calochortus plummerae	Plummer's mariposa lily	CRPR: 4.2	Plummer's mariposa lily is a perennial bulbiferous herb that prefers openings in chaparral, cismontane woodlands, coastal scrub, valley and foothill grasslands, and lower montane coniferous forests. It is found on dry, rocky slopes and soils and brushy areas and can be very common after fire. This sensitive plant flowers from May to July.	No	328 – 5,576	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.
Calochortus weedii var. intermedius	intermediate mariposa lily (=Weeds mariposa lily)	CRPR: 1B.2	Intermediate mariposa lily is a perennial bulbiferous herb that occurs on dry, rocky open slopes and rock outcrops in coastal scrub and chaparral. Intermediate mariposa lily occurs in valley and foothill grasslands only after burns. Sandstone outcrops in chaparral habitats below 2,000 feet are preferred habitats in Orange County. This sensitive plant flowers from May to July.	No	344 – 2,804	No	Yes	**No potential to occur.** Although the BSA is located within this species' general distribution, it is not located within the plant's known elevational range and the BSA does not contain suitable habitats and/or soils to support this species.

Table 4.4-3
WILDLIFE LITERATURE REVIEW RESULTS

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential for Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Legend and Notes						

Notes

- **Yes** = the BSA is located within the wildlife species' known distribution, elevation range, and/or the BSA contains suitable habitats or conditions to support the species. The wildlife species has a potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the wildlife species' known distribution, elevation range, and/or the BSA lacks suitable habitats or conditions to support the species. It is highly unlikely for the wildlife species to have a potential to occur within the BSA. No further evaluation is needed.
- **DPS = distinct population segment:** A DPS, or a distinct population segment, is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or distinct population segments of vertebrate species.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened animals is published in 50 CFR § 17.11.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

California Endangered Species Act (CESA) Listing Codes: the CESA is administered by CDFW. The official listing of *Animals of California Declared to Be Endangered or Threatened* is contained in the California Code of Regulations, Title 14, § 670.5. Species and subspecies of California native animals are declared to be endangered or threatened as defined by §§ 2062 and 2067 of the Fish and Game Code.

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).
- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).

California Department of Fish and Wildlife (CDFW) Designations:

For some wildlife species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nesting colonies. For many species of birds, the primary emphasis is on the breeding population in California. For some species which do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering

- **SSC = species of special concern:** a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- **Fully protected:** fully protected animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Lists were created for fish (Fish and Game Code § 5515), amphibians and reptiles (Fish and Game Code § 5050), birds (Fish and Game Code § 3511) and mammals (Fish and Game Code § 4700).
- **WL = watch list:** this list includes birds identified in the *California Bird Species of Special Concern* (Shuford and Gardali, 2008) report and are not on the current CDFW species of special concern list, but were on previous lists and they have not been state-listed under CESA; were previously state or federally listed and now are on neither list; or are on the list of fully protected species.

United States Fish and Wildlife Service (USFWS) Designations:

- **BCC = bird of conservation concern:** a bird of conservation concern is listed in the USFWS' 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report is priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

State (S) Ranks: The State Rank is a reflection of the condition and imperilment of an element throughout its range within the state. Both the Global and State ranks represent a letter+number score that reflects a combination of Rarity, Threat and Trend factors, weighted more heavily on the rarity factors. The State Ranks are assigned by California heritage biologists using standard natural heritage methodology.

- **1** = **Critically Imperiled –** Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential for Occurrence in the BSA
• **2** = **Imperiled –** Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state. • **3** = **Vulnerable –** Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. • **S#S# = Range Rank –** A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. ***Global (G) Ranks:*** The Global Rank is a reflection of the overall condition and imperilment of an element throughout its global range. Both the Global and State ranks represent a letter+number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heaviest on the rarity factors. The Global Ranks are assigned by NatureServe in coordination with the appropriate state program(s) where the element occurs. • **G2 = Imperiled –** At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors. • **G3 = Vulnerable –** At moderate risk of extinction or elimination due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. • **G#G# = Range Rank –** A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community. **G#T# = Infraspecific Taxon –** The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' Global Rank. Rules for assigning T-ranks follow the same principles as those for Global Ranks.					
Listed Endangered, Threatened, and Candidate Wildlife: **Wildlife with official status under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA). A species may have other sensitive designations in addition to their federal or state listing.**						
Listed Invertebrates						
Bombus crotchii	Crotch bumble bee	SCE	Found in open grassland and scrub.	Yes	No	**No potential to occur.** The BSA is located within this invertebrate's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	The San Diego fairy shrimp is a habitat specialist found in small, shallow vernal pools, which range in depth from 2 to 12 inches and in water temperature from 10 to 20 degrees Celsius (C). The animal is often found in vernal pools on chaparral covered mesas. The species also occasionally occurs in ditches and road ruts that can support suitable conditions. The San Diego fairy shrimp appears to be sensitive to high water temperatures and salinity.	No	No	**No potential to occur.** The BSA is located outside of this invertebrate's distribution and does not contain suitable foraging or breeding habitats to support this species.
Euphydryas editha quino (=*Euphydryas editha wrighti*)	quino checkerspot butterfly	FE	Found in grasslands, remnant forbland, open coastal sage scrub, open chamise chaparral, open red shank chaparral, juniper woodland, and semi-desert scrub that support larval host plants. Adult quino checkerspot butterflies often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops of chaparral and coastal sage scrub. Quino checkerspot butterfly populations appear to be associated with loamy soils with moderate to high amounts of clay, located within sparsely vegetated areas that contain potential host plants and nectar sources, and a moderate to high percentage of native plants. Adult butterflies will only deposit eggs on species they recognize as host plants. Quino oviposition (i.e., egg deposition) has been documented on California plantain (=dwarf plantain) (*Plantago erecta*), Patagonian plantain (*Plantago patagonica*), and white snapdragon (*Anterrhinum coulterianum*). In 2008, oviposition and larval development were recorded for the first time on a new species of host plant, Chinese houses (*Collinsia concolor*). Quino egg clusters and pre-diapause larval clusters have also been documented in the field on thread-leaved bird's beak (*Cordylanthus rigidus*) and purple owl's-clover (*Castilleja exserta*). However, use of these plants is rare, and these species alone are not believed to support Quino breeding. Adults nectar primarily on annuals including goldfields (*Lasthenia* sp.), cryptantha (*Cryptantha* sp.), gilia (*Gilia* sp.), linanthus (*Linanthus* sp.), and trefoil (*Lotus* sp.).	No	No	**No potential to occur.** The BSA is located outside of this invertebrate's distribution and does not contain suitable foraging or breeding habitats to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential for Occurrence in the BSA
Listed Fish						
Catostomus santaanae	Santa Ana sucker	FT[24]	The Santa Ana sucker generally lives in small, shallow streams, less than 25 feet in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. They are found in permanent streams in water ranging in depth from a few centimeters to a meter or more. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates. It appears to be most abundant where the water is cool, clean, and clear, although the species can tolerate seasonally turbid water. Streams in which the species is found are subject to periodic, severe flooding.	Yes	No	**No potential to occur.** The BSA is located within this fish's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species. A CNDDB inquiry within 10 miles of the BSA did not bring up *Catostomus santaanae.*
Oncorhynchus mykiss irideus Pop 10	steelhead – southern California DPS	FE[25]	The southern steelhead is a highly migratory, seagoing trout that ascends coastal streams to spawn during the late fall and winter months. Southern steelheads spawn in cool, clear, well-oxygenated streams. Successful reproduction of southern steelhead generally requires a gravel riffle, where the female buries the eggs. Higher-elevation headwaters are primary spawning and rearing areas.	No	No	**No potential to occur.** The BSA is located outside of this fish's distribution and does not contain suitable foraging or breeding habitats to support this species.
Listed Reptiles						
Chelonia mydas	green turtle (=green sea turtle)	FT	Marine habitat and they rarely leave the water except to lay eggs. They frequent protected bays and lagoons, grazing on mangroves, eelgrass, and seaweed. Feeding occurs in shallow, low-energy waters with abundant submerged vegetation, and also in convergence zones in the open ocean. Hatchlings often float in masses of marine macroalgae (e.g., *Sargassum*) in convergence zones. Coral reefs and rocky outcrops near feeding pastures often are used as resting areas. Inactive individuals may rest on the bottom in winter in the northern Gulf of California. Nesting occurs on beaches, usually on islands but also on the mainland. Sand may be coarse to fine, has little organic content; physical characteristics vary greatly in different regions. Most nesting occurs on high energy beaches with deep sand.	Yes	No	**No potential to occur.** The BSA is located within this reptile's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Listed Birds						
Buteo swainsoni	Swainson's hawk	ST, BCC, Season of Concern: nesting	Swainson's hawks require large, open areas with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures and croplands, open deserts, sparse shrub lands. Swainson's hawks often nest peripherally to riparian systems of the valley as well as utilizing lone trees or groves of trees, such as oaks, cottonwoods (*Populus* sp.), California black walnuts (*Juglans californica*) and willows (*Salix* sp.), adjacent to their hunting areas. In the Great Basin, they typically nest in juniper trees of juniper-sage flats not near riparian zones.	Yes (extirpated/possibly extirpated in this area)	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Laterallus jamaicensis coturniculus	California black rail	ST, fully protected, BCC	Occurs in various habitats, from high coastal marshes to freshwater marshes along the lower Colorado River. Along the coast, they favor marshland with unrestricted tidal influence (estuarine, intertidal, emergent, and regularly flooded). The rails often make their homes in tidal salt marshes dominated by pickleweed, but they inhabit brackish and freshwater marshes as well. In coastal and estuarine saltmarshes, their favored areas are dominated by pickleweed, bulrushes, and matted salt grass (*Distichlis spicata*) and other marsh vegetation. Along the Colorado River, they use areas of shallow water with relatively stable water levels and flat shoreline supporting dense stands of three-square bulrush.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.

24 The federal listing applies to populations in the Los Angeles, San Gabriel, and Santa Ana River basins.
25 Federal listing refers to fish in the coastal basins from the Santa Maria River (inclusive), south to the U.S.-Mexico border.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential for Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Rallus obsoletus levipes (=*Rallus longirostris levipes*)	light-footed rail (=light-footed clapper rail)	FE, SE, fully protected	The light-footed clapper rail is a year-round, non-migratory resident of coastal southern California. They generally live and nest year-round in the lower intertidal zone of coastal salt marshes and brackish marshes, where dense stands of cordgrass and pickleweed are present. Light-footed clapper rails have also been known to reside and nest in freshwater marshes, although this is not common. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water.	No	No	**No potential to occur.** The BSA is located outside of this bird's distribution and does not contain suitable foraging or breeding habitats to support this species
Charadrius nivosus (=*Charadrius alexandrinus nivosus*)	western snowy plover	FT, SSC, BCC, Season of Concern: nesting	Prefers beaches, dry mud or salt flats, sand shores or rivers, lakes, and ponds. Nests on the ground on broad open beaches or salt or dry mud flats, where vegetation is sparse or absent (small clumps of vegetation are used for cover by chicks); nests beside or under object or in open (Page et al. 1985). Nests often are subject to flooding. In northern Utah, usually nested in areas devoid of vegetation and selected brine fly exuviae for a nesting substrate when available (Paton and Edwards 1991); nested generally in recently exposed alkaline flats (Paton and Edwards 1992).	No	No	**No potential to occur.** The BSA is located outside of this bird's distribution and does not contain suitable foraging or breeding habitats to support this species
Sternula antillarum browni (=*Sterna antillarum browni*)	California least tern	FE, SE, fully protected, WL, Season of Concern: nesting colony	They nest in colonies on bare or sparsely vegetated flat substrates, beaches or sandbars near the coast. They forage in nearby shallow water. Typical nesting sites are now on isolated or specially protected sand beaches or on natural or artificial open areas in remnant coastal wetlands. These sites are typically near estuaries, bays, or harbors where small fish are abundant.	Yes (extirpated/possibly extirpated in this area)	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, SE, BCC.	The western yellow-billed cuckoo (cuckoo) is a neotropical migratory bird, whose nesting habitat is restricted to relatively dense growths of trees and shrubs in riparian habitats that lines rivers and streams. They are confined to large blocks, or contiguous areas, of cottonwood-willow riparian forests adjacent to sloughs and slow-moving rivers. Cuckoos have large home ranges, often exceeding 50 acres, and sometimes approaching 100 acres, in extent. Few cuckoos are found in forest habitat of less than 25 acres, and dense, low-level foliage is an important determination of nesting habitat. Sites with less than 40% canopy closure are unsuitable, those with 40%-65% are marginal to suitable, and those with greater than 65% are optimal.	Yes (extirpated/possibly extirpated in this area)	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Empidonax traillii extimus	southwestern willow flycatcher	FE, SE, Season of Concern: nesting	Southwestern willow flycatcher (SWFLs) breed and forage in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes (e.g., reservoirs). SWFL suitable habitat contains: surface water, saturated soil, or herbaceous wetland plants present during the early summer months; woody riparian vegetation is present and covers a minimum aerial extent of 20 percent over a 0.5-acre section of floodplain or adjacent streamside terrace; dense clumps or stands of woody vegetation are present. SWFLs also nests in thickets dominated by the non-native tamarisk and Russian olive and in habitats where native and non-native trees and shrubs are present in essentially even mixtures.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential for Occurrence in the BSA
Vireo bellii pusillus	least Bell's vireo	FE, SE, Season of Concern: nesting	The least Bell's vireo (LBV) is a migratory songbird restricted to willow dominated riparian woodlands. LBVs primarily occupy willow-dominated riverine riparian habitats with well-developed overstories, understories, and low densities of aquatic and herbaceous cover. The understory frequently contains dense subshrub or shrub thickets 3-6 feet off the ground. LBV are associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses, but also inhabits thickets along dry, intermittent streams. On the desert slopes mesquite (*Prosopis* sp.) and sandbar willow in canyon locations may be occupied.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Riparia riparia	bank swallow	ST, Season of Concern: nesting	In California, bank swallows rely on naturally eroding habitats of major lowland river systems. The species nests in colonies and creates nests by burrowing into vertical banks consisting of fine-texture soils. Bank swallows are restricted to where sandy, vertical bluffs or riverbanks are available for the birds to dig their burrows and nest in colonies. The birds build nests within two to three-foot deep burrows that are dug perpendicularly into near vertical earthen banks along streams, coastal bluffs, and sand and gravel pits.	Yes (extirpated/possibly extirpated in this area)	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Polioptila californica californica	coastal California gnatcatcher	FT, SSC,	The coastal California gnatcatcher (CAGN) is a small, non-migratory, permanent resident of coastal sage scrub habitat, which is a broad category of vegetation that includes the following plant communities; Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. In addition to coastal sage scrub, CAGNS use chaparral, grassland and riparian habitats next to coastal sage scrub, but these habitats are used for dispersal and foraging, especially in the non-breeding season.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE	They are associated with coastal salt marshes in the upper intertidal marsh zone, which is above flood level except during very high spring tides. They forage on nearby mud flats, shorelines, and rock jetties.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Agelaius tricolor	tricolored blackbird	ST, SSC, BCC, Season of Concern: nesting colony	The tricolored blackbird breeds near fresh water, preferably in emergent wetland with tall, dense cattails (*Typha* sp.) or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. Breeding colonies may attract thousands of birds to a single site. These colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland. The species is not migratory, but is nomadic and highly colonial.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Listed Mammals						
Perognathus longimembris pacificus	Pacific pocket mouse	FE, SSC,	It is believed that the Pacific pocket mouse is adapted to several similar coastal habitats with open, shrubby vegetation, including coastal strand, coastal dunes, weedy vegetation on river alluvium, and open coastal sage scrub. For burrowing, it requires areas with fine-grained, sand soil and alluvial sands near the ocean.	No	No	**No potential to occur.** The BSA is located outside of this mammal's distribution and does not contain suitable foraging or breeding habitats to support this species.
Sensitive Wildlife: **These animals have no official status under the ESA and/or the CESA; however, they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.**						
Sensitive Invertebrates						
Cicindela gabbii	western tidal-flat tiger beetle	G2G4 S1	Found in salty coastal habitats including salt marshes, tidal flats, and beaches.	Yes (extirpated/possibly extirpated in this area)	No	**No potential to occur.** The BSA is located within this invertebrate's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential for Occurrence in the BSA
Danaus plexippus pop. 1	monarch - California overwintering population	G4 S2S3	Their roosts are located in wind-protected tree groves (eucalyptus [Eucalyptus sp.], Monterey pine [*Pinus radiata*], cypress), with nectar and water resources nearby. Monarch butterflies lay their eggs exclusively on milkweed, which larva feed on them.	Yes	No	**No potential to occur.** The BSA is located within this invertebrate's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species
Sensitive Amphibians						
Spea hammondii	western spadefoot	SSC,	May be found in coastal sage scrub, open chaparral, pine-oak woodlands and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, they require rain pools/vernal pools in which to reproduce and that persist with more than three weeks of standing water in which to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack fish, bullfrogs, and crayfish in order for to successfully reproduce and metamorphose. They estivate in sandy, gravelly soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth.	Yes	No	**No potential to occur.** The BSA is located within this amphibian's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species A CNDDB Inquiry within 10 miles of the BSA showed 7 *Spea hammondii* observations. The most recent observation was on April, 2010, approximately 6.38 miles away; the closest observation was in 1978, approximately 1.6 miles away.
Sensitive Reptiles						
Emys marmorata	western pond turtle (=northern western pond turtle)	SSC	Requires stagnant or slow-moving water in aquatic habitats. Uncommon in high gradient streams. Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail (*Typha* sp.) mats, and exposed banks are required for basking. May enter brackish water and even seawater.	Yes	No	**No potential to occur.** The BSA is located within this reptile's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species A CNDDB Inquiry within 10 miles of the BSA showed 7 *Emys marmorata* observations. The most recent observation was on July 24, 2013, approximately 8.56 miles away; the closest observation was in the 1980's, approximately 0.75 miles away.
Anniella stebbinsi	southern California legless lizard	SSC	They are generally found south of the transverse ranges to northwestern Baja California. There are disjunct populations in the Tehachapi and Piute mountain in Kern County. The southern California legless lizard lives mostly underground, burrowing in loose sandy soil (preferably moist). It forages in loose soil, and leaf litter during the day. It is found in a variety of habitats such as coastal sand dune, sandy washes, alluvial fans	No	No	**No potential to occur.** The BSA is located outside of this reptile's distribution and does not contain suitable foraging or breeding habitats to support this species
Phrynosoma blainvillii	Blainville's horned lizard (=coast horned lizard)	SSC,	Found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (e.g., floods, fire, roads, grazed areas, fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge.	Yes	No	**No potential to occur.** The BSA is located within this amphibian's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail (=coastal whiptail)	SSC	The coastal whiptail is found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage such as deserts, chaparral and semiarid. Also found in woodland and riparian areas. The coastal whiptail probably occurs in oak woodlands because they have been detected in riparian areas. The coastal whiptail can be found in open, often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations. The ground may be firm soil, sandy, or rocky.	Yes	Yes	**Present.** A San Diegan tiger whiptail (coastal whiptail) was observed within the BSA (but outside the project footprint). It was observed east of 15250 Desman Road, La Mirada, CA.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential for Occurrence in the BSA
Sensitive Birds						
Ardea herodias	great blue heron	Season of Concern: nesting colony	Common in shallow estuaries and fresh and saline emergent wetlands. Less common along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills. Feed in shallow water or open fields. Perches and roosts in secluded tall trees. Also perches on kelp beds offshore. For nesting, prefers secluded groves of tall trees near shallow-water feeding areas. Usually nests in colonies in tops of secluded large snags or live trees, usually among the tallest available; rarely nests on ground, rock ledges, sea cliffs, mats of tules, or shrubs.	Yes	Yes	**Low potential to occur as a short-term transient.** The BSA is located within this bird's known distribution and contains a limited amount of foraging /breeding habitats or contains marginal foraging/breeding habitats. Any occurrence would most likely be restricted to using the BSA for short term foraging, cover, or shelter.
Buteo regalis	ferruginous hawk	WL, BCC, Season of Concern: wintering	The ferruginous hawk does not breed in California. The ferruginous hawk is found in California only as winter visitor or a migrant. They generally arrive in California in September and depart by mid-April. They are found in large, open dry country such as grasslands, shrub-steppes, sagebrush flats, desert scrub, saltbush-greasewood shrublands, and outer edges of pinyon-pine/juniper and other forests. They avoid high elevations, narrow canyons, and interior regions of forests. In winter, these hawks prefer open terrain, grasslands of plains and foothills, agricultural, and arid areas with an abundance of prey species. Trees, utility poles, towers, fence posts, rocky outcrops, cliffs, and ground are perching substrates used by ferruginous hawks.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Athene cunicularia	burrowing owl	SSC, BCC, Season of Concern: burrowing sites and some wintering sites	The burrowing owl (BUOW) is a small, ground-inhabiting owl. Typical BUOW habitat is open, dry, flat ground or low rolling hills with sparse vegetation and available burrows. BUOWs are generally found in open country, where tree or shrub canopies cover less than 30% of the habitat. Typical habitats include annual and perennial grasslands, shortgrass prairies open agricultural areas (particularly rangelands), deserts floors, and vacant lots in residential areas and university campuses. Other habitats include oak savannah; grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitat; sandy beaches and coastal dunes; and river bottom lands. BUOWs inhabiting urban landscaped areas may live in vacant fields/lots, pastures, airports, athletic fields, golf courses, cemeteries, city parks, road shoulders, drainage sumps, railroad beds, irrigation ditches, and road cuts. Nest and roost burrows of the BUOW in California are most commonly dug by California ground squirrels (*Spermophilus beecheyi*). BUOWs in Imperial County often use the small holes of round-tailed ground squirrels (*Citellus tereticaudus*) and Botta's pocket gophers (*Thomomys bottae*), but they also can dig their own burrows in the soft banks of irrigation canals and ditches. Where burrows are scarce, man-made structures, such as culverts, piles of concrete, rubble, or debris, pipes, asphalt, artificial nest boxes, and openings beneath cement or asphalt pavement also are used as nest sites.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Falco peregrinus anatum	American peregrine falcon	fully protected, BCC	The American peregrine falcon is a recovered species (federally and state delisted). Peregrines are found in a large variety of open habitats, including tundra, marshes, seacoasts, savannahs and high mountains. The species breeds mostly in woodland, forest, wetlands, cities, agricultural areas and coastal habitats. Open ledges, caves, and potholes on high, vertical cliffs, generally 100 to 300 feet in height that overlook rivers, lakes, or the ocean provide peregrines with suitable nesting sites. Some pairs nest on city buildings and bridges. Mountain valleys and river gorges with precipitous cliffs also are preferred nest sites. Nest sites are usually located below 9,500 feet elevation. Riparian areas and coastal and inland wetlands are important habitats year-round, especially in non-breeding seasons.	Yes	Yes	**Low potential to occur in the BSA as a fly-over.** The BSA is located within this bird's distribution; however, it lacks adequate breeding and foraging habitats to support it onsite. Any occurrence would most likely be restricted to fly-overs. A CNDDB inquiry showed one observation for *Falco peregrinus anatum* on April 1, 2015, approximately 7.7 miles away.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential for Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Eremophila alpestris actia	California horned lark	WL	California horned larks are residents of a variety of open habitats, usually where trees and large shrubs are absent. They are found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above treeline. They prefer short, sparsely vegetated prairies, deserts, and agricultural lands. With regards to agricultural land, it may be recently plowed land, with or without emerging crops, or land used the previous year for crops, and then mowed short and left fallow, or very sparse, heavily grazed annual grassland. Or it may simply be a large expanse of mowed weeds. These birds breed primarily in open fields from March through July, with peak activity in May. They usually build a cup-shaped grass-lined nest an in depression on the ground in the open. These birds forage on the ground in either bare areas or in agricultural fields with short vegetation.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren (=San Diego cactus wren)	SSC (San Diego & Orange Counties only), BCC,	The coastal cactus wren is an obligate, non-migratory resident of the coastal sage scrub plant community in which cacti are prominent. The key habitat element is thickets of chollas (*Opuntia prolifera*) or prickly-pear cacti (*Opuntia littoralis*, *Opuntia oricola*) tall enough to support and protect the birds' nests. Coastal cholla is preferred, but prickly pear will do. Wrens are usually absent from areas where only low, sprawling cacti grow (Gallagher, 1997).	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Setophaga petechia (=*Dendroica petechia*)	yellow warbler	SSC, BCC, Season of Concern: nesting	For breeding, the yellow warbler is restricted to the deciduous trees of the riparian woodland from coastal desert woodlands to the Sierra Nevada – willows (*Salix* sp.), cottonwoods (*Populus* sp.), aspens (*Populus* sp.), California sycamores (*Platanus racemosa*), and alders (*Alnus* sp.). Yellow warblers generally occupy riparian vegetation in close proximity to water along streams and in wet meadows and nesting habitat must contain dense understory vegetation, such as shrubby willows, California wild rose (*Rosa californica*) or mule fat (*Baccharis salicifolia* ssp. *salicifolia*). They have also been known to breed in montane chaparral, and in open ponderosa pine and mixed conifer habitats with substantial amounts of brush. Territory often includes tall trees for singing and foraging and a heavy brush understory for nesting. Nests are deep cups, placed in an upright fork in a deciduous sapling or shrub, typically 2 to 16 feet high.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Icteria virens	yellow-breasted chat	SSC, Season of Concern: nesting	Yellow-breasted chats nest and forage in dense riparian thickets of willows, vines, and brush associated with streams and other wetland habitats. Nesting habitat is usually restricted to the narrow border of streams, creeks, sloughs, rivers, and the borders of small ponds. Nesting habitat must have dense understory vegetation and larger trees that are used for singing perches. California Wild Rose (*Rosa californica*), blackberry (*Rubus* sp.), wild grape (*Vitis* sp.), mule fat (*Baccharis salicifolia* ssp. *salicifolia*), various shrubby willows (*Salix* sp.), and other plants that form dense thickets and tangles are frequently selected as nesting strata. Cottonwoods (*Populus* sp.), alders (*Alnus* sp.), and larger willows typically form the canopy and are required for song perches. The nest is an open cup typically placed in dense shrubs or thickets within 3 to 8 feet above ground along a stream or river. Chats will also nest in tamarisk (*Tamarix* sp.), Himalayan blackberry (*Rubus discolor*), Russian olive (*Elaeagnus angustifolius*), and other non-native plants that provide dense shrub layers.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	WL,	Southern California rufous-crowned sparrows are usually found on dry, steep sloping land and hillsides with a moderate density of low, scattered shrubs (50% - 70% shrub cover), usually coastal sage scrub, interspersed with grasses and forbs and occasional rock outcrops for song perches. The herbaceous cover between the shrubs is used for foraging. Areas without this cover will not support these birds. They tend to avoid chaparral or dense unbroken stands of coastal sage scrub. This sparrow often occurs in coastal sage scrub dominated by California sagebrush (*Artemisia californica*), but also may occur in coastal bluff scrub, low chaparral on serpentine outcrops, open land recovering from a burn, and edges of	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential for Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
			tall chaparral. Nests are placed in small depressions on the ground usually at base of grass or forb patches, rocks, under a shrub, and very rarely in a shrub.			
Ammodramus savannarum	grasshopper sparrow	SSC, Season of Concern: nesting	Grasshopper sparrows in California breed (and primarily apparently winter) on slopes and mesas containing grasslands of varying compositions. The grasshopper sparrow generally prefers moderately open grasslands and prairies with patchy bare ground. They also appear to use abandoned croplands that are dominated by grassy species. The species frequents dense, dry or well-drained grassland, especially native grassland with a mix of grasses and forbs for foraging and nesting and concealment. They require fairly continuous native grassland areas with occasional taller stems for breeding areas. They especially occur in grasslands composed of a variety of grasses and tall forbs with scattered shrubs for singing perches. They tend to avoid grassland areas with extensive shrub cover and the presence of native grasses is less important than the absence of trees.	Yes	No	**No potential to occur.** The BSA is located within this bird's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.
Sensitive Mammals						
Microtus californicus stephensi	south coast marsh vole	SSC	Recorded from tidal marshes at Point Mugu, Orange Co., and Playa Del Rey and Sunset Beach, Los Angeles Co. (Hall, 1981)	No	No	**No potential to occur.** The BSA is located outside of this bird's distribution and does not contain suitable foraging or breeding habitats to support this species.
Sorex ornatus salicornicus	southern California saltmarsh shrew	SSC	They are found in coastal marshes. They probably require fairly dense vegetation and woody debris for cover. Nest sites are above the mean high tide and free from inundation, and fairly moist surrounding.	No	No	**No potential to occur.** The BSA is located outside of this bird's distribution and does not contain suitable foraging or breeding habitats to support this species.
Eumops perotis californicus	western mastiff bat	SSC	Western mastiff bats are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western mastiff bats can also be found in similar crevices in large boulders and buildings. When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight. Western mastiff bats prefer deep crevices that are at least 15 or 20 feet above the ground.	Yes	Yes	**Moderate potential to occur.** The BSA is located within this bat's known distribution and contains suitable habitats. It also contains suitable roosting, maternity, and hibernacula sites free from disturbances by humans. A CNDDB inquiry showed three observations within 10 miles; one was in December 13, 1989 approximately 10 miles away, the second was in March 21, 1990 approximately 0.02 miles away, and the third observation is undated but occurred approximately 6.7 miles away.
Nyctinomops femorosaccus	pocketed free-tailed bat	SSC	Habitats used include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, chaparral, and palm oasis. They are found in rocky, desert areas with relatively high cliffs, not far from riparian areas. It requires drinking water, and it stays in the vicinity of water that has a large enough surface for it to drink from on the wing. It is a crevice dwelling species, usually associated with high cliffs and rugged rock outcroppings. Colonies can be located in caves, rock crevices in cliff faces or human-made structure. They prefer rock crevices in cliffs as roosting sites.	Yes	No	**No potential to occur.** The BSA is located within this mammal's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species. A CNNDB inquiry shows one observation within 10 miles of the BSA. It occurred on October 31, 1989 approximately 6.05 miles away.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential for Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Lasiurus xanthinus	western yellow bat	SSC	The western yellow bat can be found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. This bat roosts in dead palm tree fronds and other trees. It roosts and feeds in, and near, palm oases and riparian habitats. It forages over water and among trees. It is sometimes found in urban areas. This species occurs year-round in California.	Yes	No	**No potential to occur.** The BSA is located within this mammal's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species. A CNNDB inquiry shows one observation within 10 miles of the BSA. It occurred on October 17, 1990 approximately 5.56 miles away.
Lasionycteris noctivagans	silver-haired bat	ND	Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. Summer range is generally below 9,000 feet. Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Primarily a forest dweller, feeding over streams, ponds, and open brushy areas.	Yes	No	**No potential to occur.** The BSA is located within this mammal's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species. A CNNDB inquiry shows one observation within 10 miles of the BSA. It occurred on February 22, 1978 approximately 5.46 miles away.
Taxidea taxus	American badger	SSC	Badgers occur from alpine meadows to elevations as low as Death Valley, which is below sea level. Essentially the badger is an animal of open places. It shuns forests. In California, badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, openings in desert scrub, and grassy mountain meadows near timberline are preferred. They can also occur in treeless pastures and drained marshes. Badgers are generally associated with dry, open, treeless regions, prairies, parklands, and cold desert areas. They seem to occur primarily in areas of low to moderate slope.	Yes	No	**No potential to occur.** The BSA is located within this mammal's known distribution; however, it does not contain suitable foraging or breeding habitats to support this species.

Figure 4.4-1
PROJECT BOUNDARY AND BIOLOGICAL STUDY AREA (BSA)

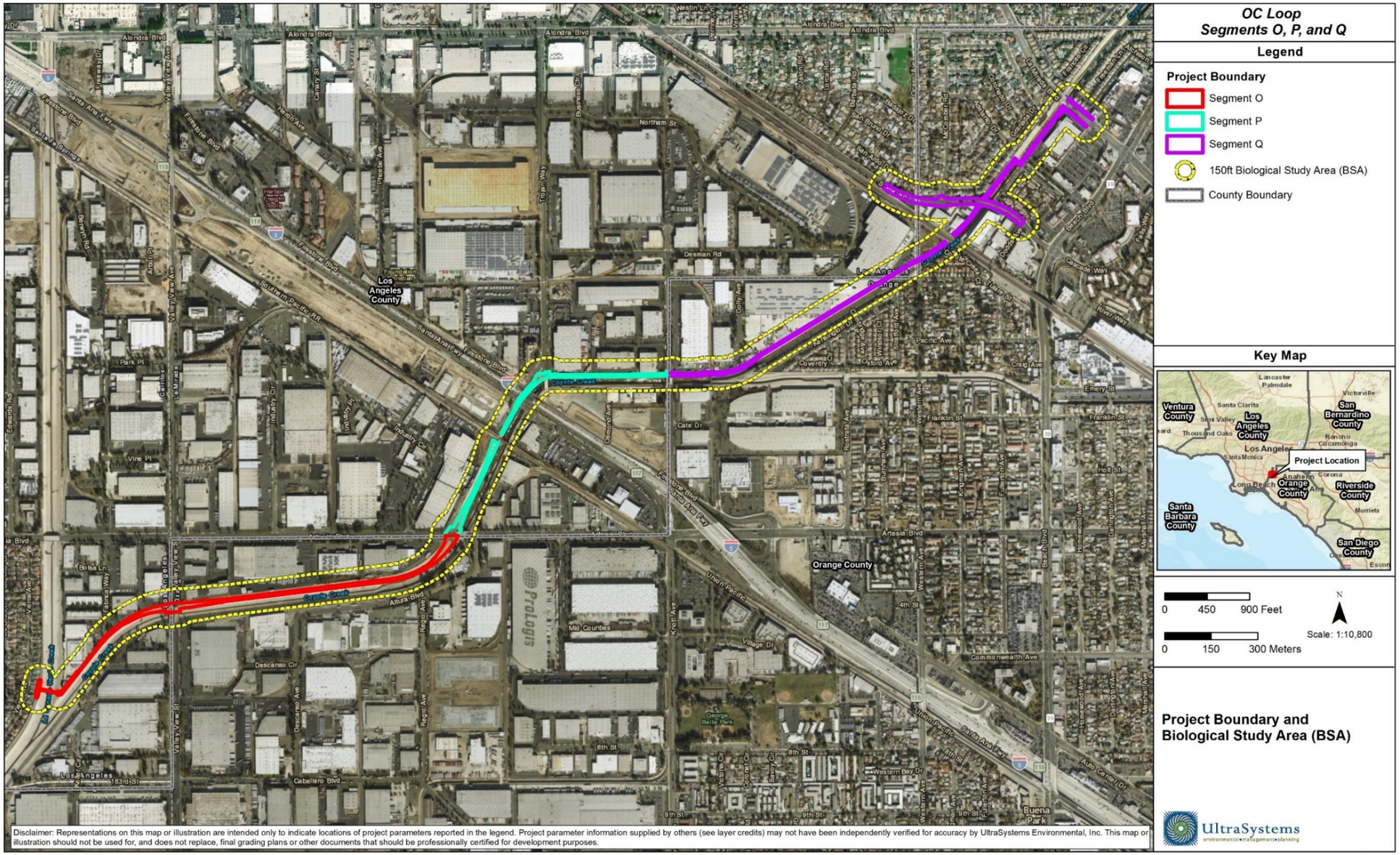
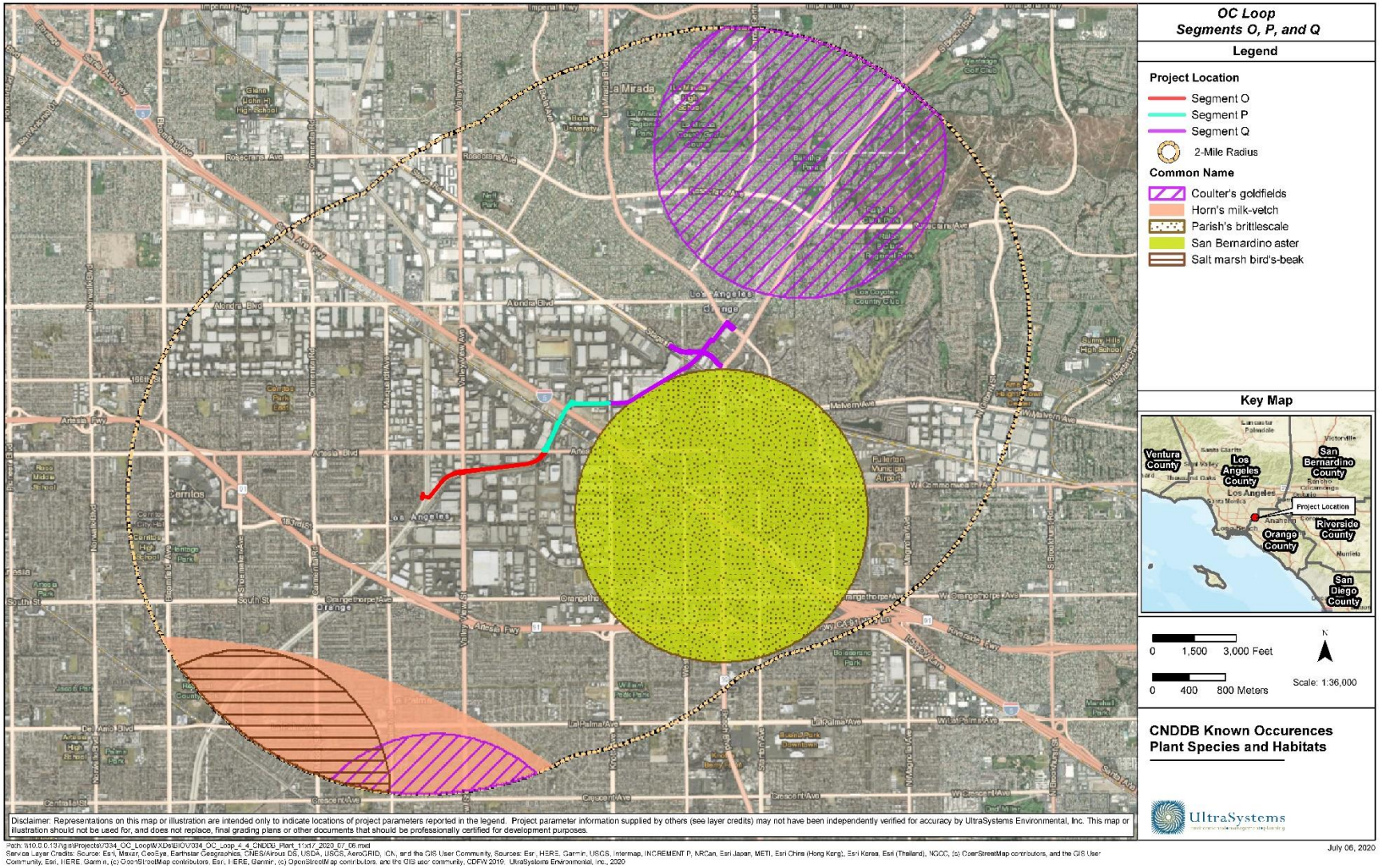


Figure 4.4-2
CNDDB PLANT SPECIES



Special-Status Wildlife

The search resulted in known occurrences of 43 special-status wildlife species. Nineteen of these animals are federal or state listed endangered, threatened, or candidate species under the ESA and/or the CESA, and are referred to as "listed species." Twenty-four of the special-status wildlife species have no designated status under the ESA and/or the CESA but are designated as sensitive or locally important by federal agencies, state agencies, and nonprofit resource organizations. These wildlife species are referred to as "sensitive" in this report. The wildlife inventory is provided in **Table 4.4-3**. **Figure 4.4-3** depicts the CNDDB known wildlife species occurrences within a two-mile radius of the project site.

Each special-status wildlife species was assessed for its potential to occur within the BSA by comparing its habitat elevation range and habitat with the elevation and habitat identified within the BSA. A species was determined as having "no potential to occur" within the BSA if the BSA is outside the species' known habitat and/or above or below the species' known elevation range.

One special-status wildlife species, San Diegan tiger whiptail (coastal whiptail) (*Aspidoscelis tigris stejnegeri*; CDFW Species of Special Concern, S-Rank = S3) was observed during the surveys, within the BSA but outside of project limits. In addition, the literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential for one sensitive wildlife species to occur, the western mastiff bat[26] (*Eumops perotis californicus*) (CDFW Species of Special Concern [CDFW, 2019; CDFW, 2020a; CDFW, 2020b; Association of Environmental Professionals, 2019; California Legislative Information, 2020). On February 21, 2020, UltraSystems Biologists heard bats on the underside of Stage Road bridge and Interstate 5 bridges, while surveying from Coyote Creek Channel. For proper identification of the specific bat species present, a focused survey was conducted, using bat detection software, such as Anabat or similar, operated by a qualified bat biologist.

All other bridges within the BSA were also inspected for bat activity and/or potential for maternal colonies. The other bridges were determined to have no or low potential based on the absence of guano, noise and/or crevices.

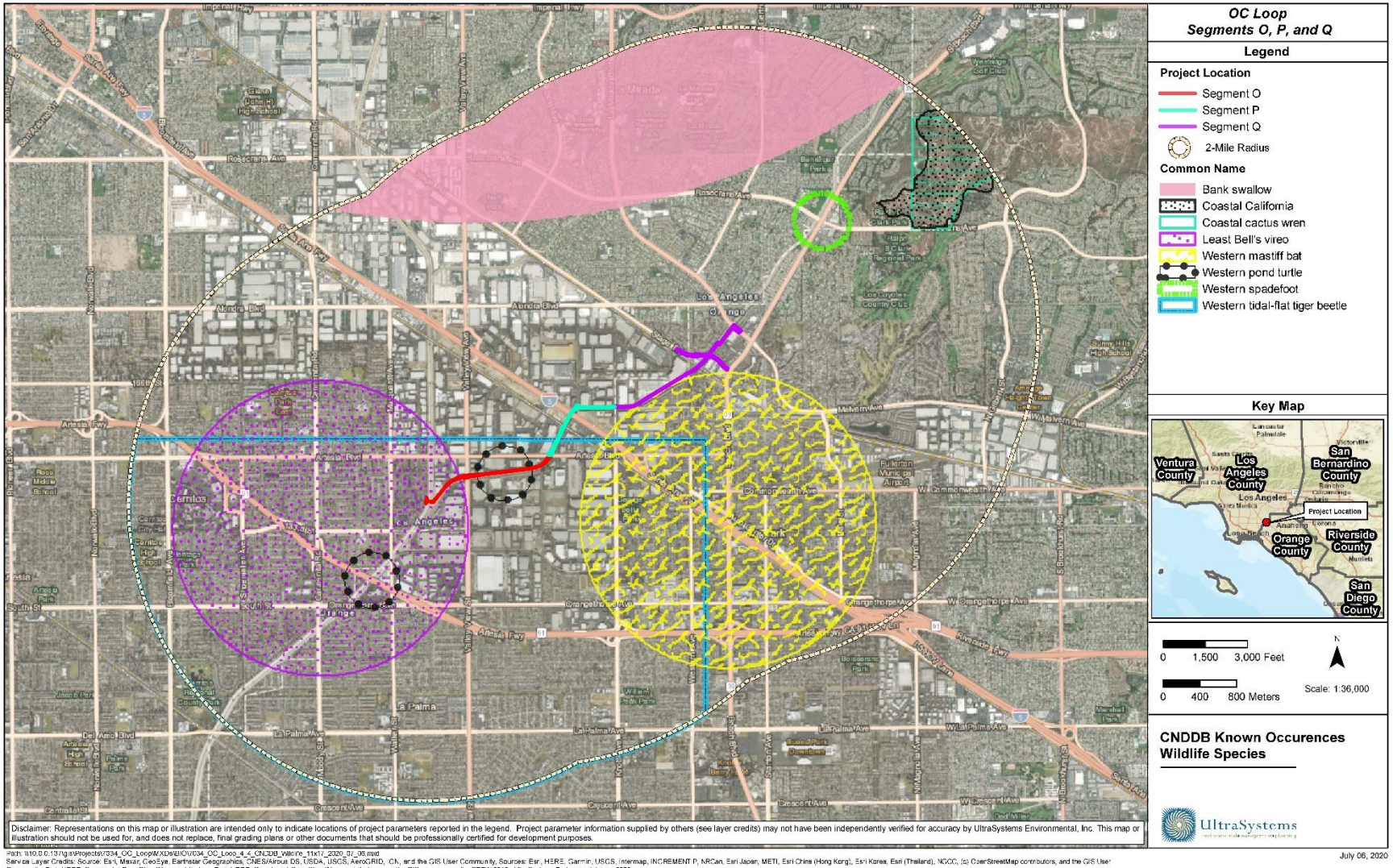
Focused Acoustic Bat Survey Results

A site walkthrough for the bat survey was conducted on July 13, 2020, by bat biologist Courtney McCammon and UltraSystems staff biologist Hugo Flores. The focused acoustic bat surveys were conducted on July 14 and 15, 2020, by Courtney McCammon, and bat biologist Christian Nordal.

Methods included inspecting bridges for potential roosting habitat and utilizing the Titley Scientific Anabat Walkabout bat detector with an omnidirectional microphone (FG Knowles) at all bridge locations to detect presence of roosting bats. The biologists analyzed calls utilizing the Anabat Walkabout and compared them with a reference call library for species in Southern California. The acoustic survey conducted on July 14, 2020 focused on recording species in the known colony location (Stage Road Bridge) and began 30 minutes before sunset, concluding one hour after bats had finished emerging from the roost. The remaining bridges were surveyed on July 15, 2020 consecutively from south to north starting at sunset with each bridge being surveyed for 30 minutes. All other bridges within the project site were surveyed, for a minimum of 30 minutes, because they were considered to have low potential for presence of a bat colony.

26 A focused bat survey is the only accepted industry-standard approach to determine presence/absence of this species.

Figure 4.4-3
CNDDB WILDLIFE SPECIES



The only bridge containing roosting bats was Stage Road. Bat guano was abundant in areas in the wash where active flow was not occurring. Over 100 bats were observed emerging from this roost at sunset. Two species were recorded over the course of surveys; big brown bat (*Eptesicus fuscus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). Mexican free-tailed bats from this roost were observed foraging in areas around other bridges, but no bats were observed emerging from other bridges (refer to **Table 4.4-4**).

Table 4.4-4
BRIDGES SURVEYED AND BATS OBSERVED

Segment	No. *	Bridge	"Undercrossing" or "At Grade"?	Existing Bridge?	Bats Observed?
O	1	Pedestrian/Cyclist Bridge **(proposed)**	at grade	**No**	No
O	2	Valley View Avenue	undercrossing	Yes	No
O/P	3	Artesia Boulevard	undercrossing	Yes	No
P	4	Union Pacific Railroad	undercrossing	Yes	No
P	5	South Firestone	undercrossing	Yes	No
P	6	I-5 (northbound)*	undercrossing	Yes	No
P	7	north Firestone	undercrossing	Yes	Yes - foraging
P/Q	8	Knott Avenue	at grade	Yes	No
Q	9	BNSF Railway Lead	at grade	Yes	No
Q	10	BNSF/Metrolink Railway Line	undercrossing	Yes	No
Q	11	Stage Road (has fully signalized crossing at McComber Road)	at grade	Yes	Yes – roosting and potential maternal
Q	12	Pedestrian/Cyclist Bridge North of Stage Road Crossing Coyote Creek **(Proposed)**	at grade	**No**	Yes - foraging
Q	13	La Mirada Boulevard (crossing via an existing signalized intersection at the entrance of Los Coyotes Shopping Center)	at grade	yes	Yes – foraging

*Southbound I-5 freeway is currently demolished for construction.

Sensitive Habitats

Based on the literature review and CNDDB search, five sensitive natural communities have the potential to occur within the BSA. The CNDDB sensitive natural communities are were initially based on Robert F. Holland's Preliminary Descriptions of the Terrestrial Communities of California (Holland, 1986) and appear in the CNDDB query results.[27] The five sensitive natural communities are the following; California walnut woodland, southern California arroyo chub/Santa Ana Sucker Stream, southern coastal salt marsh, southern coast live oak riparian forest, and southern willow scrub.

27 Please note that this classification system is no longer current with the commonly used MCV2 (Sawyer et al., 2009), which replaced Holland (1986) to characterize natural and semi-natural vegetation communities.

Aerial imagery from the above-mentioned sources was overlaid with geospatial data by utilizing GIS software (ArcGIS 10.1) to identify: (1) the presence and geographic range of candidate, sensitive, or special-status species and potentially suitable habitats; and (2) proposed and final critical habitats, wetlands, waters of the State (WOS), and waters of the U.S. (WOUS), in the vicinity of the project site.

The reconnaissance-level biological resource field review was conducted on February 24 and March 6 of 2020, by UltraSystems Senior Biologist Michelle Tollett and Staff Biologist Hugo Flores. Additional surveys included a tree inventory conducted on March 6, 2020, by the aforementioned biologists, Michelle Tollett and Hugo Flores.

Jurisdictional Waters

During the biological surveys, the entirety of the project area within the Coyote Creek Channel was inspected for hydrophytic vegetation and soil surfaces. The Coyote Creek channel lacked both hydrophytic vegetation and soil surfaces within all areas of the Ordinary High-Water Mark (USACE/RWQCB) and the bed, bank, and channel (CDFW).

Due to the Novel Coronavirus (COVID-19) pandemic and ongoing State of California Stay at Home Order (Executive Order N-33-20), UltraSystems opted to use the previously recorded field data to conduct the jurisdictional delineation via desktop review. Therefore, on the recommendation of the USACE Los Angeles District Office (Veronica Li, personal communication) UltraSystems' biologists Michelle Tollett and Allison Carver conducted digital delineations of Coyote Creek using historic and recent aerial imagery (Google Earth, 2020).

It can be said with certainty that the project area lacks the 3-parameter USACE wetland per the Manual (1987) as the project area lacked hydrophytic vegetation and hydric soils. The Manual defines it as "an area should be considered vegetated (and a potential wetland) if there is 5 percent or more area cover of plants at the peak of the growing season. Unvegetated areas have less than 5 percent plant cover. Patchy vegetation is a mosaic of both vegetated and unvegetated areas. In some cases, the unvegetated portions of a site may be considered as other waters of the United States if they exhibit ordinary high water (OHWM) indicators (33 CFR 328.3)". UltraSystems biologists used the approved OHWM indicators such as "water staining, wrack line, and debris" along the margins of the waterway (USACE, 1987). These OHWM indicators were located at an average of 15 feet above the Coyote Creek Channel bottom along the flood control channel and was used as an estimate for the OHWM location for the desktop delineation.

4.4.2 Impacts Analysis

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated

The project site is essentially a concrete bottomed and walled flood control channel with adjacent bare dirt ROW that is currently used as a maintenance access road (See photos in **Figure 4.4-4**). This existing maintenance access road is proposed to be paved to provide a smooth all-weather surface for cyclists. At two roadways and two railroads, underpasses will be provided as a part of the project.

Figure 4.4-4
SITE PHOTOS

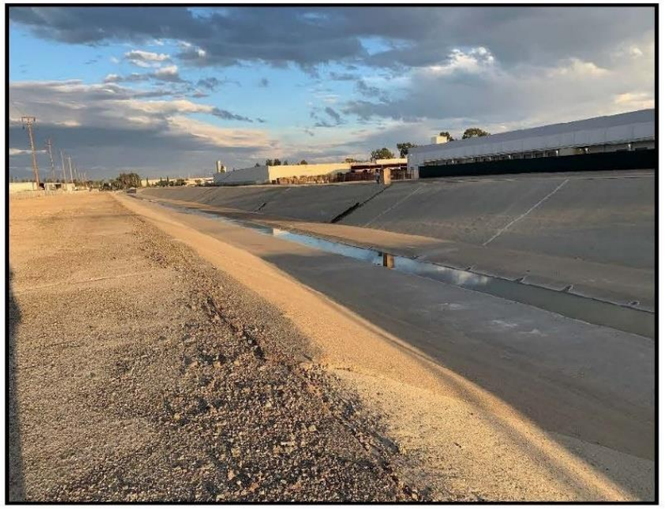


Photo 1: Representative photo of the concrete-lined channel land cover (Coyote Creek Channel) and dirt maintenance road. This section is located in Segment O.



Photo 2: Representative photo of the concrete-lined channel land cover (Coyote Creek Channel), this section is located in Segment P.



Photo 3: Representative photo of disturbed land cover, this section is located in Segment O.



Photo 4: Representative photo of disturbed land cover, this section is located in Segment P.



Photo 5: Representative photo of developed land cover, this section is located in Segment Q.



Photo 6: Representative photo of developed land cover, this section is located in Segment Q.

Plants

No listed endangered, threatened, candidate or state rare plant species or sensitive plant species were observed within the BSA during any of the field surveys. The literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential for one sensitive plant species to occur: lucky morning glory.

Direct Impacts

No direct impacts to lucky morning glory or any special-status plants are anticipated as a result of construction of the project, as no special-status plants were observed during field surveys. In addition, given the extremely small area of direct impact to areas with any vegetation at all, impacts to this species, if extant, would be less than significant without mitigation. Small pockets of suitable habitat exist within the direct impact area.

Indirect Impacts

Construction of the project is not expected to result in indirect reasonably foreseeable impacts to special-status plant species located adjacent to the project work site.

Mitigation Measures

No special-status plant species were observed during any survey; therefore, impacts to special-status plants are not anticipated as a result of the project. Mitigation is not required for special-status plants.

Wildlife (including MBTA Protected Species)

Direct Impacts

No listed wildlife species are anticipated to be directly impacted by construction; however, one sensitive wildlife species, coastal whiptail was observed during the surveys. Potential direct impacts to common and sensitive wildlife, such as coastal whiptail, could occur from construction-related mortality, injury, or harassment of individuals as a result of construction and from the removal and direct loss of breeding, foraging, and/or sheltering habitats. Direct permanent impacts include all areas within the limits of grading in the project footprint. Project development could also temporarily reduce the amount of habitat available for common and special-status wildlife species utilizing onsite habitats due to construction disturbance resulting from direct impacts on existing land cover, impervious areas and vegetation, and indirect impacts caused by project construction-related activity, noise, dust, fencing, equipment, and potential pollutants (petroleum products, topsoil, etc.).

Common birds observed during the field surveys include: American crow (*Corvus brachyrhynchos*), American kestrel (*Falco sparverius*), black phoebe (*Sayornis nigricans*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), killdeer (*Charadrius vociferus*), least sandpiper (*Calidris minutilla*), mallard (*Anas platyrhynchos*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis*), and rock pigeon (*Columba livia*).

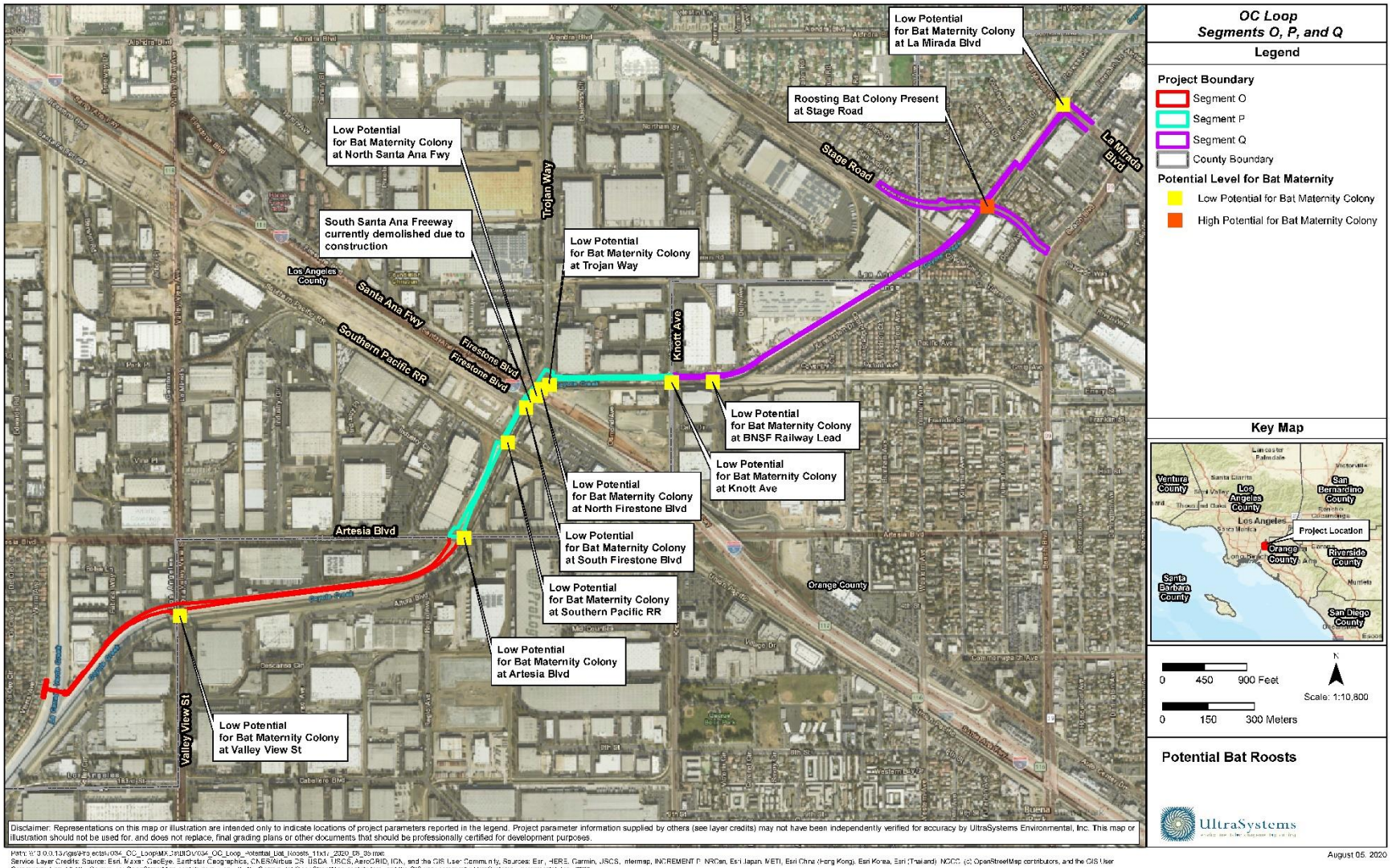
Ground-disturbing and habitat-altering activities could involve substantial disturbance to common and special-status ground-dwelling animals or nesting birds. Examples include grading, clearing, disking, grubbing, excavation, trenching, paving, and heavy equipment compacting. Direct impacts to less mobile fossorial animals that are underground during most of the day or year (e.g., small

mammals or lizards) or have a life stage in the soil or on plants (e.g., amphibians, nesting birds, insects) could occur from encounters with vehicles or heavy equipment as many of these animals do not run away from construction vehicles/equipment and would most likely be killed. These species could be expected to experience direct mortality, injury, harassment, and displacement from increased human activity and vehicle/equipment travel if they are present onsite within the project footprint at the time of construction. Individual losses are more likely, especially during clearing and grubbing activities. Individuals could also be injured, disturbed, or killed from encounters with workers' or visitors' pets. However, project impacts to common native species are expected to be minor for this urban project.

If proposed project plans include the removal or destruction of vegetation (including trees) or disturbance of other potential nesting sites (such as birds that nest in bridges or ground nesting birds) during the nesting season (generally between February and September), then direct impacts to nesting birds, young, or eggs could occur.

It is unlikely that direct impacts are anticipated for the western mastiff bat, unless there is a maternal roosting colony present at the time of construction (refer to **Figure 4.4-5**). The **MM BIO-7** is provided to reduce impacts to the western mastiff bat, if present during the construction phase. However, indirect impacts also have potential to occur, as discussed below.

Figure 4.4-5
POTENTIAL BAT ROOSTS



Indirect Impacts

Indirect impacts are anticipated as a result of construction of the project for the coastal whiptail. In addition, literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential (low potential within the project footprint) for one sensitive wildlife species to occur, the western mastiff bat (species of special concern). Focused acoustic bat surveys concluded that although the western mastiff bat was not detected during the surveys, it has historically occupied the general project area and the existing bat roost on Stage Road bridge provided suitable habitat for this species (CDFW, 2020c; CDFW, 2020d; Gogol-Prokurat, 2016). Therefore, construction of the project could result in indirect reasonably foreseeable impacts to special-status wildlife species located adjacent to the project work site.

Indirect impacts could occur within areas located adjacent to the limits of construction in the project footprint. Indirect impacts are more subtle than direct ones. Impacts may either be short-term related to construction, or long-term and may affect populations and habitat quality over an extended period of time, long after construction activities have been completed. It is hard to predict indirect impacts from project construction. Examples of indirect impacts, such as mortality, injury, or harassment of common and special-status wildlife species that could potentially occur from the project include the following.

- The permanent loss of habitats and physical features that could occur from clearing and grading could indirectly impact wildlife species through the loss of foraging, roosting, denning, and/or breeding habitat available. Habitat loss could displace species from existing territories and reduce the home range of those species and impact nearby populations of similar species. Displaced species would then have to compete for and/or find new territories and compete for food with resident species. This could result in delayed nest building, fewer nest attempts, reduced clutch size, and an overall reduction in reproductive output. In the case of bat species, reduction of suitable habitat could lead to a decline in population size (Bat Conservation International, 2012; Frick et al., 2010; Lane et al., 2006; Nuebaum et al., 2007; Russo and Ancillotto, 2015; USFWS, 2016; Winhold et al., 2008)

- Project construction could result in temporary increased ambient noise levels, dust, vibration, lighting and/or human intrusion in and near habitats. This could disrupt natural foraging, roosting, denning, and/or breeding behavior of wildlife species. Wildlife species stressed by these factors may disperse from habitat in the project site and project vicinity. In addition, increased noise levels could interfere with territorial and mating vocalizations, thereby interfering with wildlife reproduction.

- Project construction could increase fugitive dust, pollution, runoff, siltation, sedimentation, and erosion. This could result in degradation and alteration of habitats, soils, and water quality of onsite washes. Consequently, the ability of onsite and adjacent plant communities to support wildlife populations may decrease.

- Nighttime construction work and use of artificial lighting could disrupt natural foraging and breeding behaviors and/or alter wildlife movement patterns and migratory routes of nocturnally active species such as mammals and snakes. Most animals would attempt to avoid moving in or near the lighting; however, some animals such as insects, migratory birds, and bats might be attracted to the lighting, increasing construction-related mortalities. Artificial lighting could also indirectly affect wildlife by increasing detection by predators.

- An increase and continuation of human activities within and adjacent to the project site could lead to mortality, injury, or harassment of common and special-status wildlife species by providing food in the form of trash and litter or water which attracts predators such as the common raven (*Corvus corax*), Virginia opossum (*Didelphis virginiana*), and coyote (*Canis latrans*).

Habitat quality could be altered and reduced with the potential of illegal hiking trails in native habitat, introduction of invasive plant species, and compaction of soils. Future conditions could harm special-status wildlife species if noxious weeds become established and displace native vegetation that serve as forage and breeding habitat for the animals. The introduction of noxious weeds could also lead to increased wildfire.

If construction occurs during the nesting season, indirect impacts on migratory birds could occur from increased noise, vibration, and dust during construction. This could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks, or nest abandonment.

Mitigation Measures

Implementation of the mitigation measures **BIO-1: Qualified Biologist/Biological Monitor**, **BIO-2: Worker Environmental Awareness Program**, **BIO-3: Project Limits and Designated Areas**, **BIO-4: General Vegetation Avoidance and Protection Measures, BIO-5: Nesting Bird Surveys**, **BIO-6: General Wildlife Avoidance and Protection Measures, BIO-7: Pre-Construction Survey for Reptile Species,** and **BIO-7: Bat Mitigation**, would help to avoid, eliminate or reduce direct or indirect effects on common native wildlife, special-status species and MBTA-protected bird species. Therefore, with mitigation, the proposed project would not have substantial adverse effect, either directly or through habitat modifications, to habitat, plant and wildlife species and less than significant impacts would occur.

MM BIO-1 Qualified Biologist/Biological Monitor

During the active construction phase of the project, OCPW or its assigned contractor will provide a qualified biologist to perform biological monitoring during the bird nesting season (January 31 to September 15) and/or the bat pupping season (May 1 to August 31) to perform weekly spot check monitoring of active nests (entire project) and/or active maternal bat colonies (Stage Road colony). If active nests are not found through periodic pre-construction nesting surveys (see **MM BIO-5**) and/or if the work is not occurring during the pupping season near Stage Road (**MM BIO-7**), then a biological monitor is not needed.

Where appropriate, the biological monitor will mark/flag the limits of sensitive areas (such as active bird nests/sensitive bird habitat or active maternal bat habitat) to restrict project activities near the areas. These restricted areas will be monitored to protect the species during construction. The biological monitor will ensure that all biological mitigation measures, BMPs, avoidance and protection measures described in the relevant project permits, approvals, licenses, and environmental reports are in place and are adhered to. Monitoring will cease when the sensitive habitats and jurisdictional areas have been cleared or affected. All observations of special-status species will be documented and mapped in monitoring logs. Monitoring logs will be completed for each day of monitoring. All special-status species recordings will be submitted to the CNDDB.

The biological monitor will have the authority to temporarily halt all construction activities and all non-emergency actions if sensitive areas and special-status species are identified and will be directly affected by project activities. The monitor will notify the County to notify the appropriate resource agency and consult, if needed. If needed, and if possible, the biological monitor will allow the animal to leave the project site on its own, or it should be coaxed to move out of harm's way, outside of the project area. The biological monitor may use an object to "steer" the animal away from the project site, such as a snake stick or piece of plywood. For nesting birds or roosting bats, buffers will be established, as detailed in **MM BIO-5** and **MM BIO-7**. The biological monitor may collect and relocate non special-status species outside of the work area where it will not be harmed. Work can continue at the location if OCPW and/or the consulted resource agency determine that the activity will not result in impacts to the species.

The biological monitor will notify OCPW or its assigned contractor, who will notify the appropriate agencies if a dead or injured protected special-status species is located within the project site. Written notification must be made within 15 days of the date and time of the finding or incident (if known) and must include; location of the carcass, a photograph, cause of death (if known), and other pertinent information.

MM BIO-2 Worker Environmental Awareness Program

If required by forthcoming regulatory agency authorizations, prior to project construction activities, OCPW and/or its assigned contractor shall ensure that a qualified biologist will prepare and conduct a Worker Environmental Awareness Program (WEAP) training that will describe the biological constraints of the project. All personnel who will work within the project site will attend the WEAP prior to performing any work. The WEAP should cover the results of any pre-construction surveys, jurisdictional area locations, and sensitive biological resources (such as coastal whiptail) potentially present on the site. In addition, the training should cover restrictions, avoidance and protection measures, mitigation measures, and individual responsibilities associated with the project, including measures provided within the forthcoming regulatory permits. The program will include the steps to take if workers encounter a sensitive wildlife species (i.e., notifying the biological monitor or the construction foreman, who will then notify the biological monitor). Training materials will be language-appropriate for all construction personnel. Upon completion of the WEAP, workers will sign a form stating that they attended the program, understand all protection measures, and will abide by all the rules of the WEAP. A record of all trained personnel will be kept with the construction foreman onsite. If new construction personnel are added to the project later, the construction foreman will ensure that new personnel receive training before they start working. The biologist will prepare and provide written hard copies of the WEAP and photos of the sensitive biological resources to the construction foreman.

MM BIO-3 Project Limits and Designated Areas

To avoid impacts to environmentally sensitive areas (ESAs), if any are later identified, surrounding habitats and wildlife, OCPW and/or its assigned contractor will implement the following measures prior to project construction and commencement of any ground-disturbing activities or vegetation removal.

- Project footprint will be set at the minimum size to accomplish necessary work, resulting in minimal impacts to sensitive biological resources.

- Specifications for the project boundary, limits of grading, project-related parking, storage areas, laydown sites, and equipment storage areas will be mapped and clearly marked in the field with temporary fencing, signs, stakes, flags, rope, cord, or other appropriate markers. All markers will be maintained until the completion of activities in that area.

- To minimize the amount of disturbance, the construction/laydown areas, parking areas, staging areas, storage areas, spoil areas, and equipment access areas will be restricted to designated areas. Designated areas will comprise existing disturbed areas (parking lots, access roads, graded areas, etc.) to the extent possible.

- Project-related work limits will be defined and work crews will be restricted to designated work areas. Disturbance beyond the actual construction zone will be prohibited without site-specific surveys. If sensitive biological resources are detected in an area to be affected, then appropriate measures would be implemented to avoid effects (i.e., flag and avoid, erect orange construction fencing, biological monitor present during work, etc.). However, if avoidance is not possible and the sensitive biological resources will be directly affected by project activities, the biologist will mark and/or stake the site(s) and map the individuals on an aerial map and with a GPS unit. The biologist will then contact the appropriate resource agencies to develop additional avoidance, minimization and/or mitigation measures prior to commencing project activities.

- ESAs will be identified, mapped, clearly marked in the field, and avoided to the maximum extent practicable in order to avoid and minimize effects to sensitive biological resources.

- Existing roads will be utilized wherever possible to avoid unnecessary impacts. Project-related vehicle traffic will be restricted to established roads, staging areas, and parking areas. Travel outside construction zones will be prohibited.

Monitoring would occur periodically during the length of construction activities to ensure project limits, designated areas (parking, storage, etc.), and ESAs are still clearly marked.

MM BIO-4 General Vegetation Avoidance and Protection Measures

OCPW, or its assigned contractor, would implement the following general avoidance and protection measures to protect vegetation, to the extent practical.

- Although no vegetation was noted along the bikeway route, efforts would be made to minimize vegetation removal. Cleared or trimmed vegetation and woody debris would be disposed of in a legal manner at an approved disposal site.

- If any invasive species are subsequently discovered within the temporary disturbance areas, they would be controlled to the maximum extent feasible using

hand pulling or hand tool removal methods only. Limiting control methods to hand pulling or hand tools would further protect the surrounding habitat.

- To minimize the transfer of exotic weed seed, vehicles and all equipment would be washed before first use at the project site. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc. would also be washed. All washing would take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill. Contractors, subcontractors, employees, and site visitors would be prohibited from collecting plants.

MM BIO-5 Pre-Construction and Construction Phase Nesting Bird Surveys

To be in compliance with the MBTA and the California Fish and Game Code, and to avoid and reduce direct and indirect impacts to migratory non-game breeding birds, and their nests, young, and eggs, the following measures should be implemented by OCPW and/or its assigned contractor, including the biological monitor.

- Project activities that will remove or disturb potential nest sites should be scheduled outside the nesting bird season, if feasible. The nesting bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions. Raptors are known to begin nesting early in the year. The raptor nesting bird season begins January 31.

- If project activities that will remove or disturb potential nest sites cannot be avoided during January 31 through September 15, a qualified biologist will conduct a pre-construction survey for breeding bird activity or active nests within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. A lapse of no more than seven days should occur between nesting bird surveys.

- If no breeding bird activity or active nests are observed during the pre-construction survey(s), or if they are observed and will not be affected, then project activities may begin and no further nesting bird monitoring will be required.

- If an active bird nest is located during the pre-construction survey and potentially will be affected, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 300 feet for special-status avian species and raptors, or up to 100 feet for non-special status avian species. Materials used to demarcate the nests will be removed as soon as work is complete or the fledglings have left the nest. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be affected by project activities. Periodic monitoring by

a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone.

- If special-status bird species, such as the Least Bell's Vireo, are observed within the project site during the pre-construction surveys, then a qualified biologist will delineate individual species' nesting territories, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary; and (2) select suitable mitigation measures. Project activities may not begin within the area until concurrence is received from the appropriate resource agencies.

MM BIO-6 General Wildlife Avoidance and Protection Measures

The project site contains habitats which have the potential to support some wildlife species. Although few wildlife were observed utilizing this urban area[28] (please see Section 4.4.2 for full list) during the two field surveys, bats were documented at Stage Road and the coastal whiptail was observed onsite. Therefore, OCPW or its contractor would implement the following general avoidance and protection measures to protect wildlife, to the extent practical.

- To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. If nighttime work is required, the Qualified Biologist will assess the construction area to determine if there are any biological concerns for nighttime work. Nighttime work (and use of artificial lighting) would not be permitted unless specifically authorized by the wildlife agencies. If required, night lighting would be directed away from the preserved open space areas. All unnecessary lights would be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats.

- If any wildlife is encountered during project activities, it will be allowed to freely leave the area unharmed.

- Wildlife would not be disturbed, captured, harassed, or handled. Fishing would be prohibited at the project site. Animal nests, burrows and dens would not be disturbed without prior survey and authorization from a qualified biologist.

- Active nests cannot be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist.

- To avoid impacts to wildlife, OCPW, or its contractor, would comply with all litter and pollution laws and would institute a litter control program throughout project construction. All contractors, subcontractors, and employees would adhere to this program. Trash and food items would be disposed of promptly in predator-proof containers with resealing lids, or will be removed off the site each

28 Wildlife survey limitations include: (1) A two-day survey cannot be used to conclusively determine presence or absence of a wildlife species, (2) biological surveys were conducted during daylight hours to maximize the ability to observe most wildlife, and (3) Many species are nocturnal, move about a territory, may have become dormant for the season, or are less active during weather extremes.

day. These covered trash receptacles would be placed at each designated work site and the contents would be properly disposed at least once a week. Trash removal would reduce the attractiveness of the area to opportunistic predators such as common ravens (*Corvus corax*), northern raccoons (*Procyon lotor*), Virginia opossums (*Didelphis virginiana*), and coyote (*Canis latrans*).

- Contractors, subcontractors, employees, and site visitors would be prohibited from feeding wildlife and collecting wildlife.

- To avoid the potential for mortality and harassment of wildlife, all non security-related firearms, weapons, and domestic dogs would be prohibited from the project site.

- All pitfalls (trenches, holes, bores, detention basins, and other excavations) greater than two feet deep would be completely covered at the end of each work day, or escape ramps provided.

MM BIO-7 Bat Mitigation

MM BIO-7a – Safety Measure, Standard Operating Procedures

Safety Measure, Standard Operating Procedures: A safety measure concerning the presence of bats within the Coyote Creek channel should be included in the Standard Operating Procedures by the contractor for the onsite construction crews. The safety measure should include precautions for working within 150 feet of any bridge with bat colonies, for the safety of the crews. The safety measure should disclose potential risk of disease from bat bites/scratches and inhalation of guano; requirements for use of Personal Protective Equipment; and responsibilities and actions of crews if a negative interaction with a bat is reported. Although negative interactions with bats are extremely rare, guidance for the contractor and construction crews is recommended.

- Every effort should be made to avoid displacement of the special-status bats during the construction phase.

- If work cannot occur simultaneously with the presence of special-status bats, due to safety hazard for the crew or the bats, the animals may require exclusionary method prior to construction, within 150 feet of bat-occupied structures.

- If an exclusionary method is required, OCPW, or its contractor, will prepare a Bat Exclusion and Monitoring Plan (BEMP), for review and approval by CDFW. The BEMP will detail alternate habitat to be provided if bats are to be excluded from maternity roosts. A roost with comparable spatial and thermal characteristics will be constructed as directed by a project biologist. (see **MM BIO-7c**, below)

MM BIO-7b - Pre-construction Bat Survey (Stage Road Bridge Only)

Pre-Construction Bat Survey: Within 30 days before construction, and if work is to be done near Stage Road during bat pupping season, generally from May 1 to August 31 (4 months), a project biologist who is qualified to survey for special-status

bats will conduct pre-construction surveys[29] for presence of roosting bat colonies (including the western mastiff bat). If roosting bat colonies or special-status bat species are present, the following should be implemented:

- Saw cutting, jackhammering, piledriving, or similar activities within 150 feet of structures occupied by maternal bat roosts (colonies) should not occur without prior consultation with CDFW. Maternal roosts are typically present between May 1 and August 31.

- Avoid jackhammering, piledriving, or similar activities within 150 feet of the maternal roost until all young bats have left the roost, or as determined by a project biologist, or through consultation with CDFW.

- If special-status bats are present, but there is not an active maternity roost, a consultation with the CDFW will be entered into to determine the approved best management practices, without directly impacting the bat colony.

Preconstruction Survey Methods. Bat species with potential to occur in the project area employ varied roost strategies, from solitary roosting in foliage of trees to colonial roosting in trees and artificial structures, such as buildings and bridges. Daily and seasonal variations in habitat use are common. To obtain the highest likelihood of detection, preconstruction bat surveys will include these components.

- Identification of potential roosting habitat within project area.

- Daytime search for bats and bat sign in and around identified habitat.

- Evening emergence surveys at potential day-roost sites, using night-vision goggles and/or active full-spectrum acoustic monitoring where species identification is sought.

- Passive full-spectrum acoustic monitoring and analysis to detect bat use of the area from dusk to dawn over multiple nights.

- Additional onsite night surveys as needed following passive acoustic detection of special-status bats to determine nature of bat use of the structure in question (e.g., use of structure as night roost between foraging bouts).

- Qualified biologists will have knowledge of the natural history of the species that could occur in the project area and experience using full-spectrum acoustic equipment. During surveys, biologists will avoid unnecessary disturbance of occupied roosts.

- Note that preconstruction surveys are triggered only if the project requires construction activities producing unusually loud activities or activities causing shaking or vibration of the bridge, generally resulting from saw cutting,

29 OCPW may alternatively confer with CDFW for other options.

jackhammering, piledriving, or similar activities (within 150 feet of the bat colony).

BIO-7c Bat Exclusion and Monitoring Plan (Stage Road Bridge Only)

Bat Exclusion and Monitoring Plan: If project plans are altered and high-vibration or sound activities (such as saw cutting, jackhammering, and pile driving) will occur during the pupping season within 150 feet of roosting bat colonies, including special-status bats (e.g. western mastiff bat), the bat biologist will determine if the project is likely to cause the failure of maternal (breeding) colonies. To avoid impacts to maternal bat colonies, a BEMP would be prepared for implementation during the construction phase of the project.

- The BEMP would provide project-specific measures for noise attenuation devices, acoustic and visual monitoring during high-vibration and sound activities (such as saw cutting, jackhammering, and pile driving), visual disturbance buffers, and the installation of bat exclusion devices to safely and humanely evict bats outside of the maternity season, in the event they are needed.

- If the BEMP is necessary, consultation with the CDFW would occur to finalize preparation of the BEMP for inclusion in the Streambed Alteration Agreement under Section 1600-1616 of the Fish and Game Code. Each SAA usually contains a section titled Measures to Protect Fish and Wildlife Resources, for which this plan would be incorporated.

- Note that the BEMP is triggered only if the project requires high-vibration and sound activities causing shaking or vibration of the bridge, generally resulting from saw cutting, jackhammering, pile driving, or similar activities (within 150 feet of the bat colony).

Level of Significance After Mitigation

With implementation of mitigation measures **BIO-1**, through **BIO-7** above, the project would result in less than significant impacts to special-status species and nesting bird species.

Cumulative Impacts

Implementing the recommended mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-5, BIO-6, BIO-7,** and **BIO-7** would help to minimize or avoid potential direct and indirect impacts to special status wildlife; therefore, it is anticipated that the project, in combination with other past, present and reasonably foreseeable activities in the environment around the project site, would have little to no cumulative effects on nesting birds, coastal whiptails, and roosting bats (including the Western Mastiff Bat) in the region.

b) Would the project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact

No natural communities or sensitive habitats were observed within the BSA during the field surveys; therefore, no direct impacts to natural communities or sensitive habitats are anticipated as a result of construction of the project.

The literature review determined that the BSA is not located within designated or proposed critical habitats and the nearest designated critical habitat (coastal California gnatcatcher) is approximately 1.14 miles northeast from intersection of Coyote Creek Channel and La Mirada Boulevard (near the northern end of the project site) (See **Figure 4.4-6**).

Land covers are shown on **Figure 4.4-7**. Impacted land cover acreages are summarized in **Table 4.4-5**. Calculations were based on the currently proposed development designs in conjunction with vegetation mapping from the field survey and aerial imagery.

Figure 4.4-6
USFWS CRITICAL HABITATS

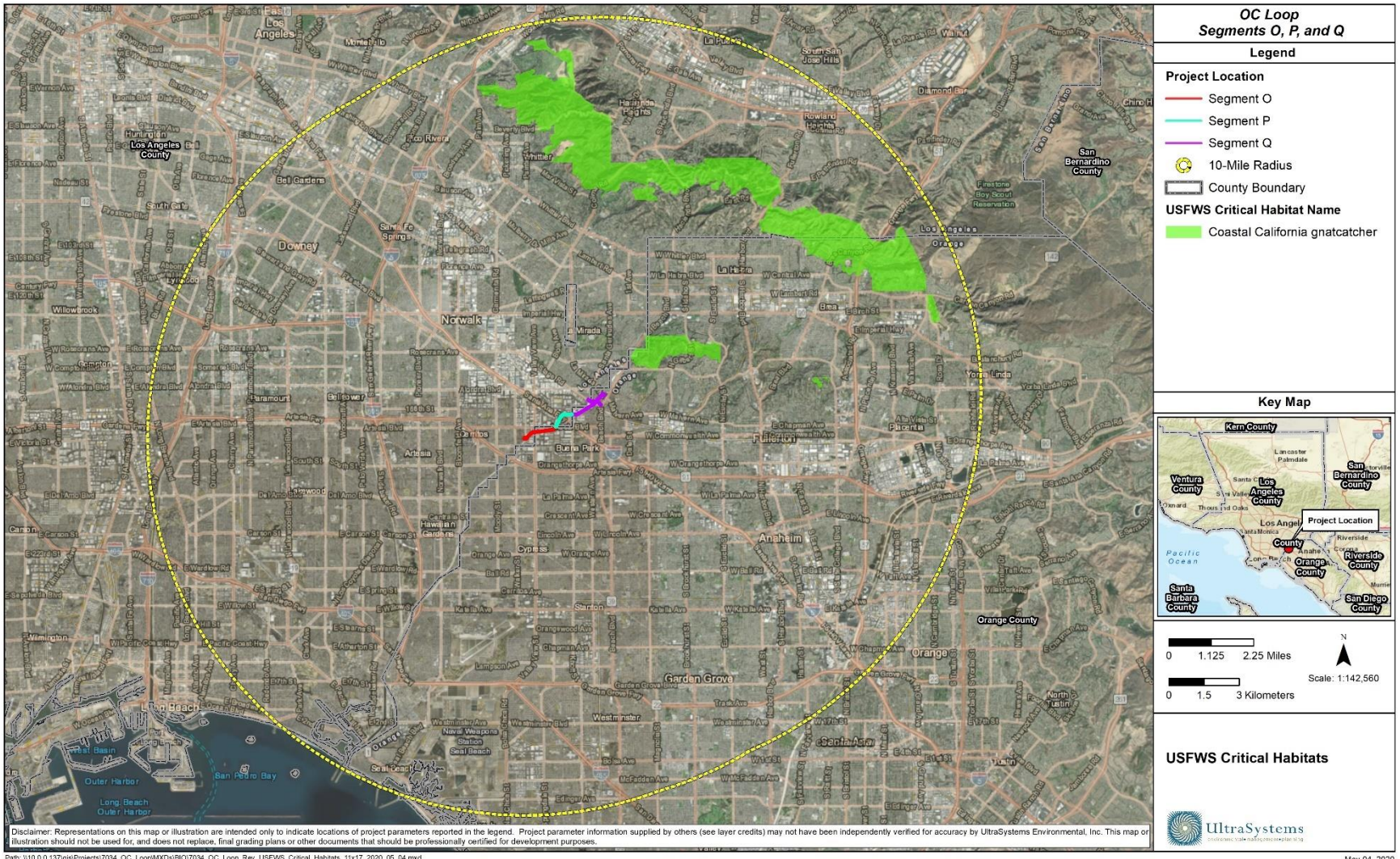


Figure 4.4-7
LAND COVER TYPES

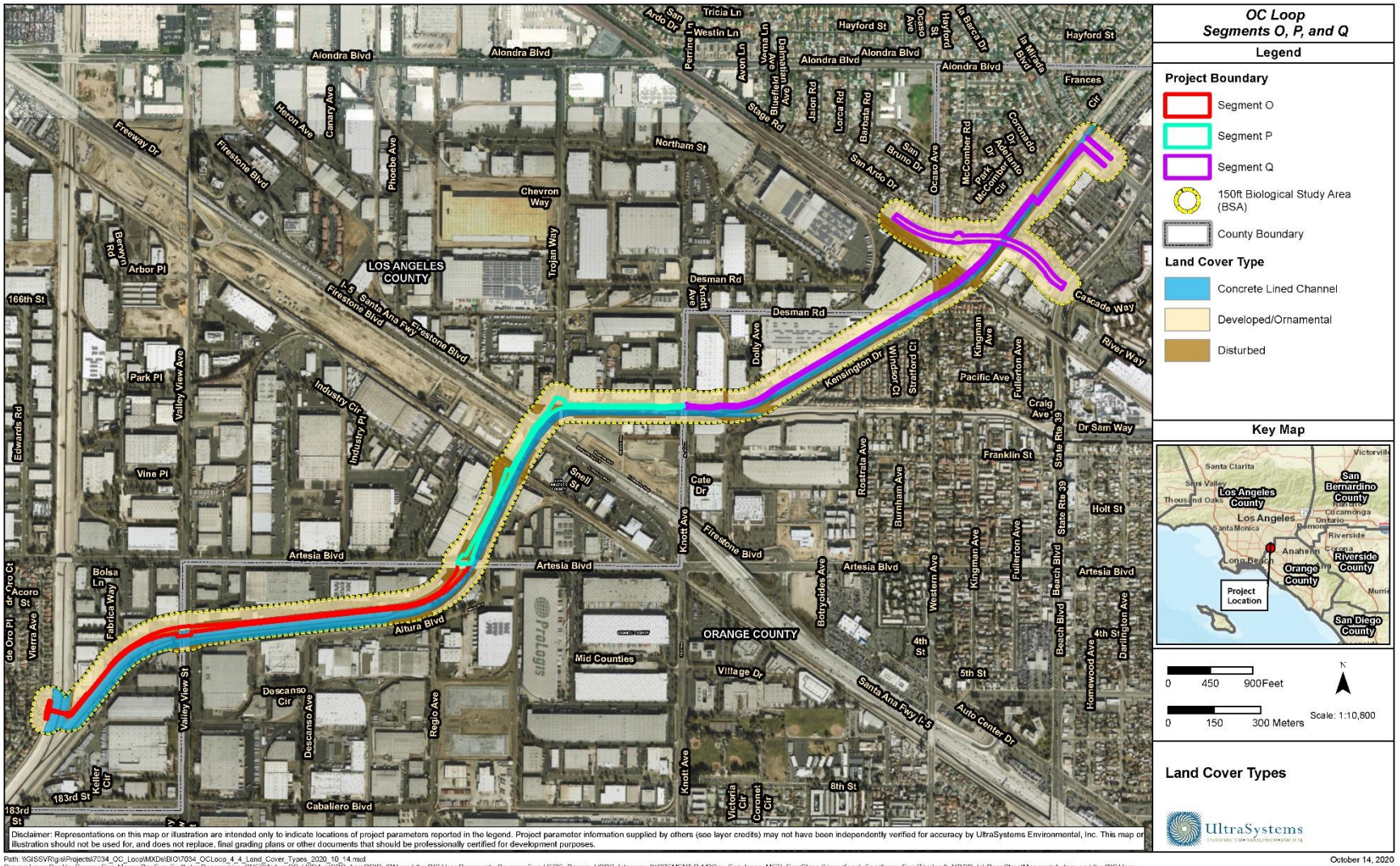


Table 4.4-5
AREA OF ANTICIPATED DIRECT IMPACTS TO LAND COVER IN THE BSA

Land Cover Type	Total Mapped Acreage within the BSA	Total Mapped Acreage within the Project Boundary	Total Impact Acreage within the Project Boundary		
			Permanent	Temporary	Total
Developed/Ornamental	70.49	7.18	4.38	2.80	7.18
Concrete-lined Channel	32.23	1.60	1.09	0.52	1.60
Disturbed	23.45	10.48	7.44	3.05	10.48
Total Acreage:	**126.17* 126.2 (rounded)**	**19.26**	**12.91**	**6.37**	**19.26**

*The total mapped acreage discussed in this report is rounded to 126.2 acres.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact

The National Wetland Inventory (NWI) has mapped Coyote Creek mainly as riverine, with an intermittent flow, with a streambed that is seasonally flooded and was artificially excavated (R4SBCX); the only exception is a section that starts approximately 0.8 mile upstream of Knott Avenue and ends approximately 0.2 mile downstream of Knott Avenue and is mapped as palustrine with emergent and persistent vegetation (remains standing at least until the beginning of the next growing season), is seasonally flooded and was excavated by humans at some point (PEM1Cx), however, no hydrophobic vegetation or hydric soils were observed during the field surveys and the PEM wetland mapped by the NWI was determined to be absent. The NWI designation of R4SBCx of Coyote Creek and Coyote Creek North Fork, within the boundary of the proposed project, were determined to be accurate.

At the time of the field investigation surface water was observed in Coyote Creek North Fork and Coyote Creek. No wetlands, or signs of wetlands, were observed within the BSA (see **Appendix F**, *Jurisdictional Delineation Report*).

The OC Loop segments O, P and Q Coyote Creek Bikeway Project may require a § 404 Clean Water Act (CWA) Nationwide Permit (NWP) and a §408 Authorization to Alter a "Civil Works" project, both from the United States Army Corps of Engineers (USACE), a § 401 CWA Water Quality Certification through the California State Water Resources Control Board (SWRCB), and a § 1602 California Fish and Game Code (FGC) Lake or Streambed Alteration Agreement from the South Coast Region of the California Department of Fish and Wildlife.

Direct impact

Temporary impacts to waters of the U.S. are defined as "Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, [and] are not in the measurement of loss of waters of the United States" (82 FR 1860,

2017, p. 337). Project-related impacts to waters of the U.S. (e.g. placement of scaffolding) will be restored to their preconstruction contours and elevations before construction is complete; therefore, all impacts to waters of the U.S. will be temporary impacts.

Temporary impacts include 0.69 acre to waters of the U.S. and 1.48 acres to waters of the State for the entire proposed project; a breakdown of these acreages is included in **Table 4.4-6** (see **Figures 4.4-8a** through **4.4-8c)**.

Direct, temporary impacts include areas adjacent to the project footprint that are disturbed during construction but will be restored to preconstruction contours and elevations when construction is complete.

Table 4.4-6
JURISDICTIONAL AREAS AND IMPACTS SUMMARY TABLE

Waters Jurisdictional Designation	Length of Segment (feet)	Temporary Impact (acres)	Permanent Impact (acres)	Total Impacts (acres)
Waters of the U.S.				
Segment O	5,087	0.48	0	0.48
Segment P	3,540	0.05	0	0.05
Segment Q	5,975	0.15	0	0.12
Total	**14,602**	**0.69**	**0**	**0.69**
Waters of the State				
Segment O	5,087	1.21	0	1.20
Segment P	3,540	0.05	0	0.05
Segment Q	5,975	0.22	0	0.17
Total	**14,602**	**1.48**	**0**	**1.48**

Indirect impact

Indirect effects could occur within jurisdictional areas located adjacent to the limits of construction. Examples of reasonably foreseeable indirect, temporary effects include construction-related erosion, runoff, siltation, sedimentation, soil compaction, and alteration of drainage patterns that could affect habitat and natural communities by altering site conditions so that the location in which plants are growing becomes unfavorable. Another example of indirect effects includes the introduction and spread of new invasive, exotic plants by removing established vegetation and creating areas of exposed soil, grading and other construction activities which could result in permanent indirect impacts to downstream riparian vegetation communities.

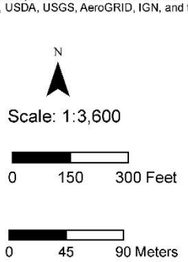
Figure 4.4-8a
IMPACTS ON JURISDICTIONAL WATERS OVERVIEW (SEGMENT O)

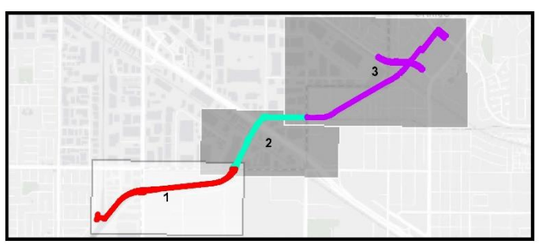


Path: \\10.0.0.137\gis\Projects\7034_OC_Loop\MXDs\BIO\7034_OC_Loop_Rev_JD_Areas_MapBook_11x17_2020_06_03.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

June 03, 2020







Legend

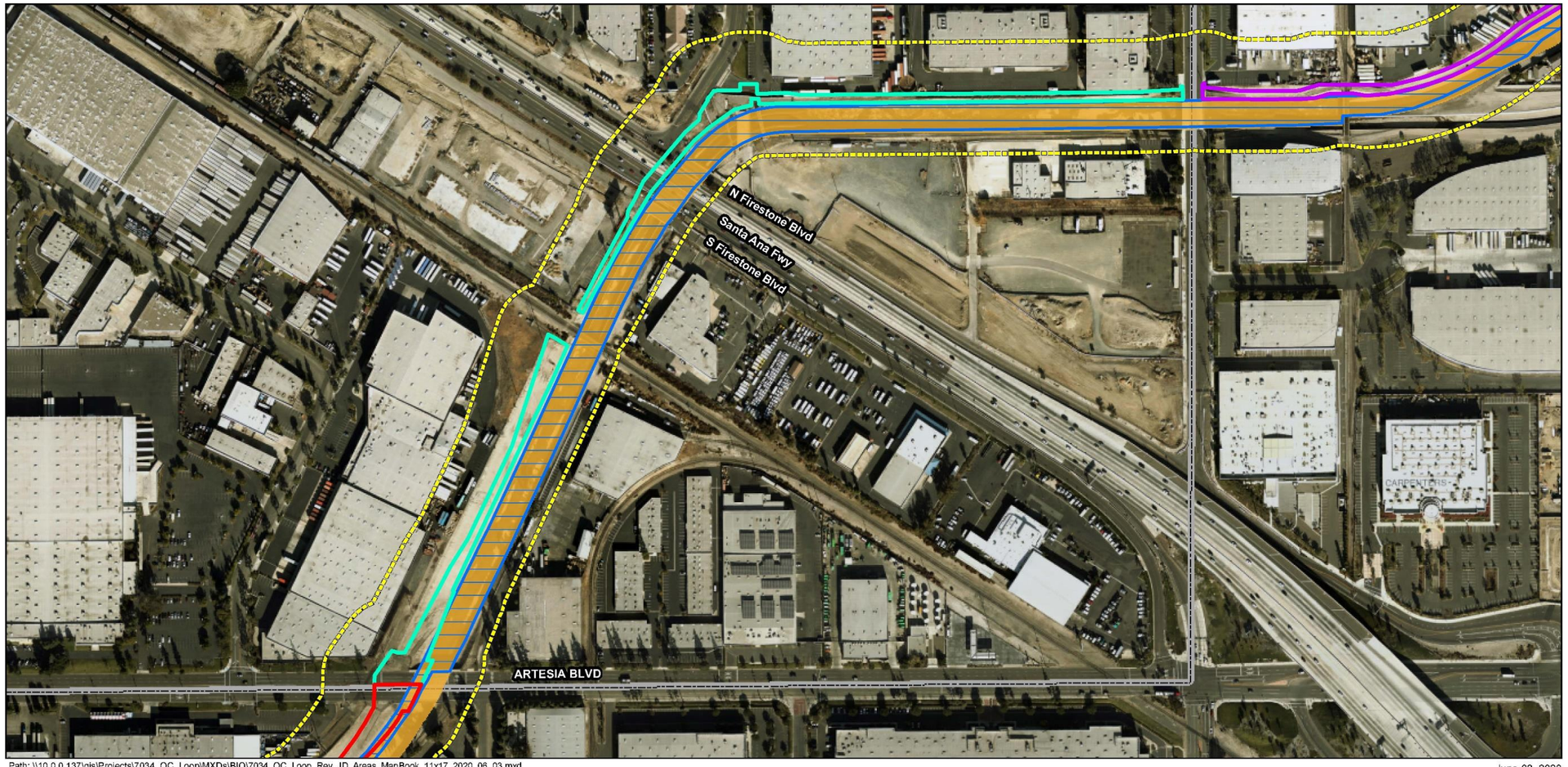
- Project Boundary
- Segment O
- Segment P
- 150ft Biological Study Area (BSA)
- County Boundary
- Waters of the U.S. (OHWM)
- Waters of the State (CDFW TOB)

OC Loop
Segments O, P, and Q

Impacts on Jurisdictional Waters Overview

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Figure 4.4-8b
IMPACTS ON JURISDICTIONAL WATERS OVERVIEW (SEGMENT P)



Path: \\10.0.0.137\gis\Projects\7034_OC_Loop\MXDs\BIO\7034_OC_Loop_Rev_JD_Areas_MapBook_11x17_2020_06_03.mxd
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

June 03, 2020

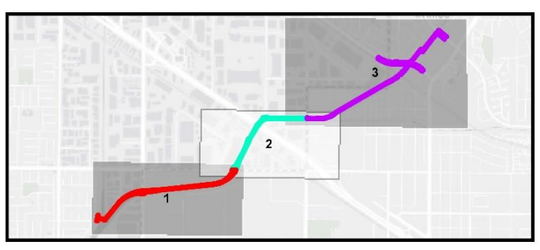


N

Scale: 1:3,300

0 140 280 Feet

0 45 90 Meters



Legend

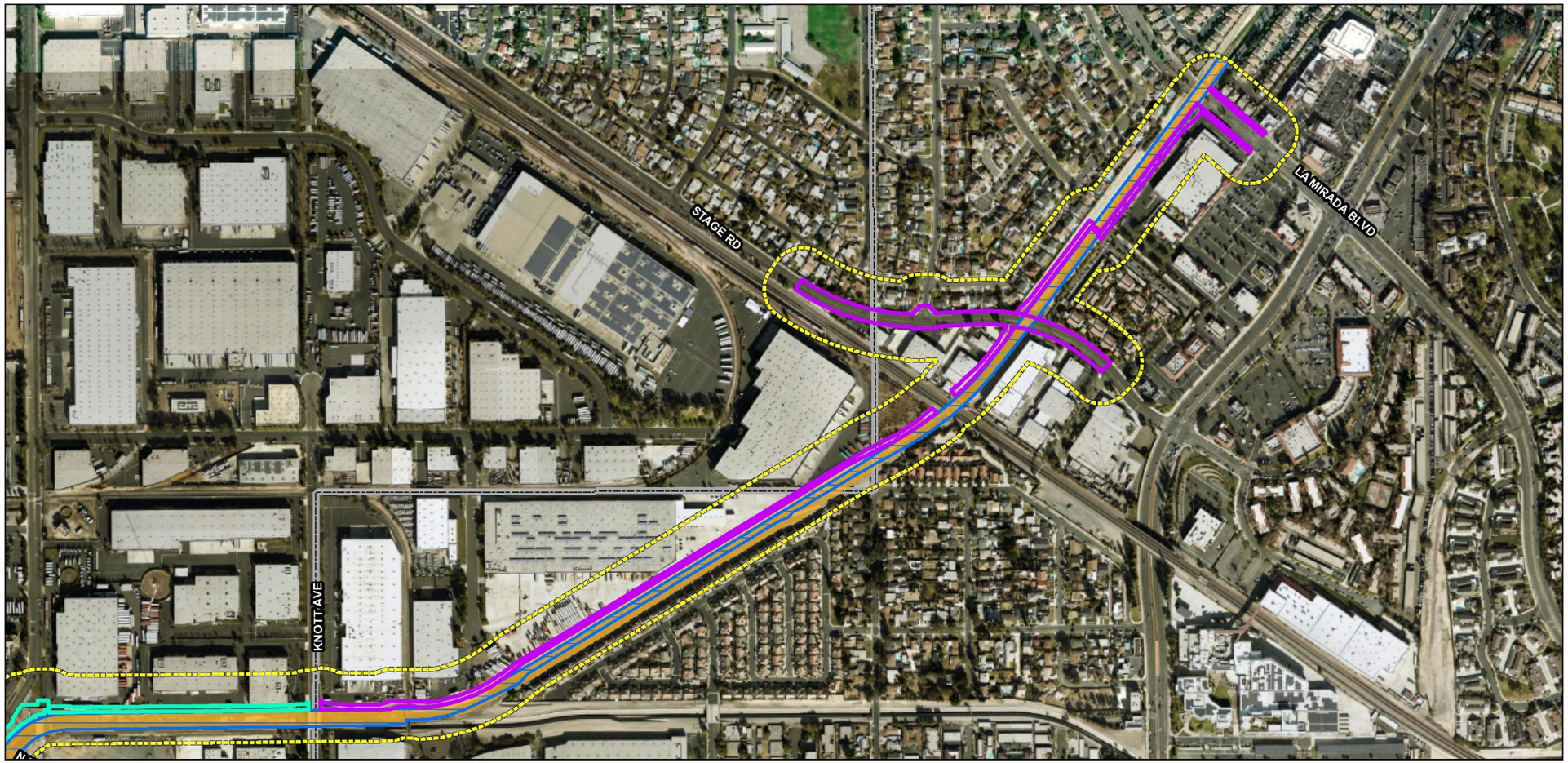
Project Boundary
- Segment O
- Segment P
- Segment Q
- 150ft Biological Study Area (BSA)
- County Boundary
- Waters of the U.S. (OHWM)
- Waters of the State (CDFW TOB)

OC Loop
Segments O, P, and Q

Impacts on Jurisdictional Waters Overview

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Figure 4.4-8c
IMPACTS ON JURISDICTIONAL WATERS OVERVIEW (SEGMENT Q)

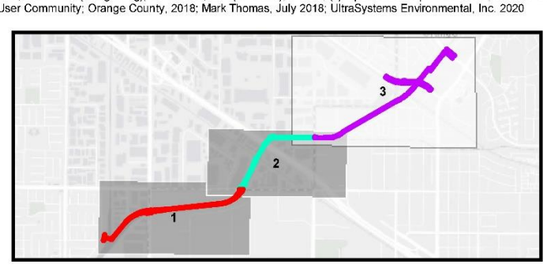


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Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

June 03, 2020



N
Scale: 1:5,400
0 225 450 Feet
0 45 90 Meters



Legend

Project Boundary
- Segment P
- Segment Q
- 150ft Biological Study Area (BSA)
- County Boundary
- Waters of the U.S. (OHWM)
- Waters of the State (CDFW TOB)

OC Loop
Segments O, P, and Q

Impacts on Jurisdictional Waters Overview

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Mitigation Measures

The project has no permanent impacts to wetlands or other waters of the US and State, or to water quality. With implementation of site-specific stormwater construction BMPs to minimize or avoid construction-related impacts, as detailed in the required SWPPP, potential impacts would be temporary in nature and less than significant. Mitigation is not required.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation Incorporated

Direct impact

The direct impact area of the project site does not support resident or migratory fish species or wildlife nursery sites. However, a roosting bat colony was observed during focused bat surveys within the Stage Road Bridge. This colony will not be directly impacted as a result of this project (see indirect impacts, below).

According to the findings of the literature review, results of the CNDDB, and field surveys, no established resident or migratory wildlife corridors (see **Figure 4.4-9**) occur on the project site or in the surrounding areas. As a result, the project would not interfere substantially with or impede: (1) the movement of any resident or migratory fish or wildlife species; (2) established resident or migratory wildlife corridors; or (3) the use of wildlife nursery sites. Therefore, there would be no direct impact in this regard.

Indirect impact

The project boundary abuts Stage Road bridge which has suitable habitat for the western mastiff bat and contains a roosting bat colony comprised of big brown bats, Mexican free-tailed bats, and was observed in use during the pupping season (see **Figure 4.4-5**). Roosting bat colonies may be indirectly impacted by extremely loud or high-vibration activities, such as saw cutting, jackhammering, and pile driving. Mitigation to avoid indirect impacts to roosting bat colonies during the pupping season is described in Section 4.4.2.2, and the mitigation measures as stated below, to avoid impact to bat maternal colonies.

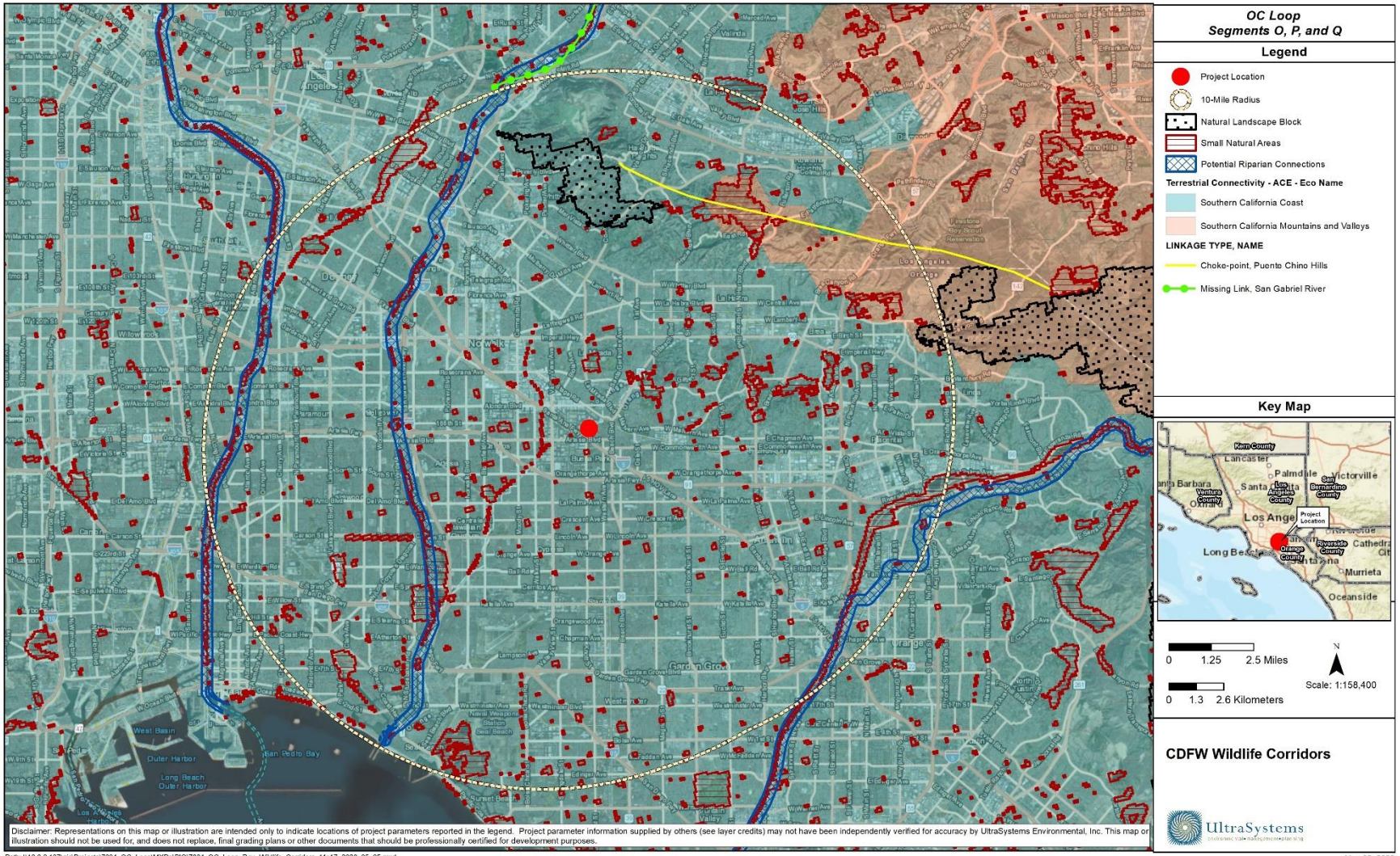
Mitigation Measures

Refer to Mitigation Measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-5**, **BIO-6**, and **BIO-7** in Section 4.4.2.2, above.

Level of Significance After Mitigation

Implementing the recommended mitigation measures **BIO-1**, **BIO-2**, **BIO-3, BIO-5**, **BIO-6,** and **BIO-7** will help to avoid, eliminate or reduce direct or indirect effects on native wildlife nursery sites.

Figure 4.4-9
CDFW WILDLIFE CORRIDORS



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Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration; BIOS , 2006-2019; UltraSystems Environmental, Inc., 2020

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact with Mitigation Incorporated

UltraSystems performed a tree inventory (see **Table 4.4-7**) within the project's impact area to identify, GPS, measure and perform a health assessment of any trees that may be impacted by the project. (see **Figure 4.4-10**)

Table 4.4-7
PROTECTED TREE INVENTORY

Tree #	Common Name	Scientific Name	Tree Dimensions			Health Assessment	
			Height	# of Trunks	Diameter at Breast Height	Tree Health	Comment
1	Carrotwood	*Cupaniopsis anacardioides*	20 ft.	1	24.0 ft.	4	Trimmed on top
2	Ficus tree	*Ficus* sp.	20 ft.	1	21.0 ft.	3	Significantly pruned
3	Ficus tree	*Ficus* sp.	20 ft.	1	14.5 ft.	3	Significantly pruned
4	Ficus tree	*Ficus* sp.	20 ft.	1	15.4 ft.	3	Significantly pruned
5	Ficus tree	*Ficus* sp.	20 ft.	1	14.9 ft.	3	Significantly pruned
6	Ficus tree	*Ficus* sp.	20 ft.	1	18.4 ft.	3	Significantly pruned
7	Ficus tree	*Ficus* sp.	20 ft.	1	19.0 ft.	3	Significantly pruned
8	Ficus tree	*Ficus* sp.	20 ft.	1	27.8 ft.	4	Significantly pruned
9	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	9.8 ft.	4	Pruned
10	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.4 ft.	4	Pruned
11	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.0 ft.	4	Pruned
12	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	7.0 ft.	4	Pruned
13	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.2 ft.	4	Pruned

Tree #	Common Name	Scientific Name	Tree Dimensions			Health Assessment	
			Height	# of Trunks	Diameter at Breast Height	Tree Health	Comment
14	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	7.9 ft.	4	Pruned
15	London Plane	*Platanus acerifolia*	28 ft.	1	7.6 ft.	4	Pruned
16	Brisbane Box	*Lophostemon confertus*	30 ft.	1	6.4 ft.	5	No visible signs of stress, disease or pest infestation
17	Myoporum	*Myoporum laetum*	15 ft.	4	1.0+1.0+2.0+2.0 = 6.0 ft	5	No visible signs of stress, disease or pest infestation
18	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.8 ft.	5	No visible signs of stress, disease or pest infestation
19	London Plane	*Platanus acerifolia*	20 ft.	1	7.3 ft.	5	No visible signs of stress, disease or pest infestation
20	London Plane	*Platanus acerifolia*	20 ft.	1	7.5 ft.	5	No visible signs of stress, disease or pest infestation
21	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.5 ft.	5	No visible signs of stress, disease or pest infestation
22	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.3 ft.	5	No visible signs of stress, disease or pest infestation

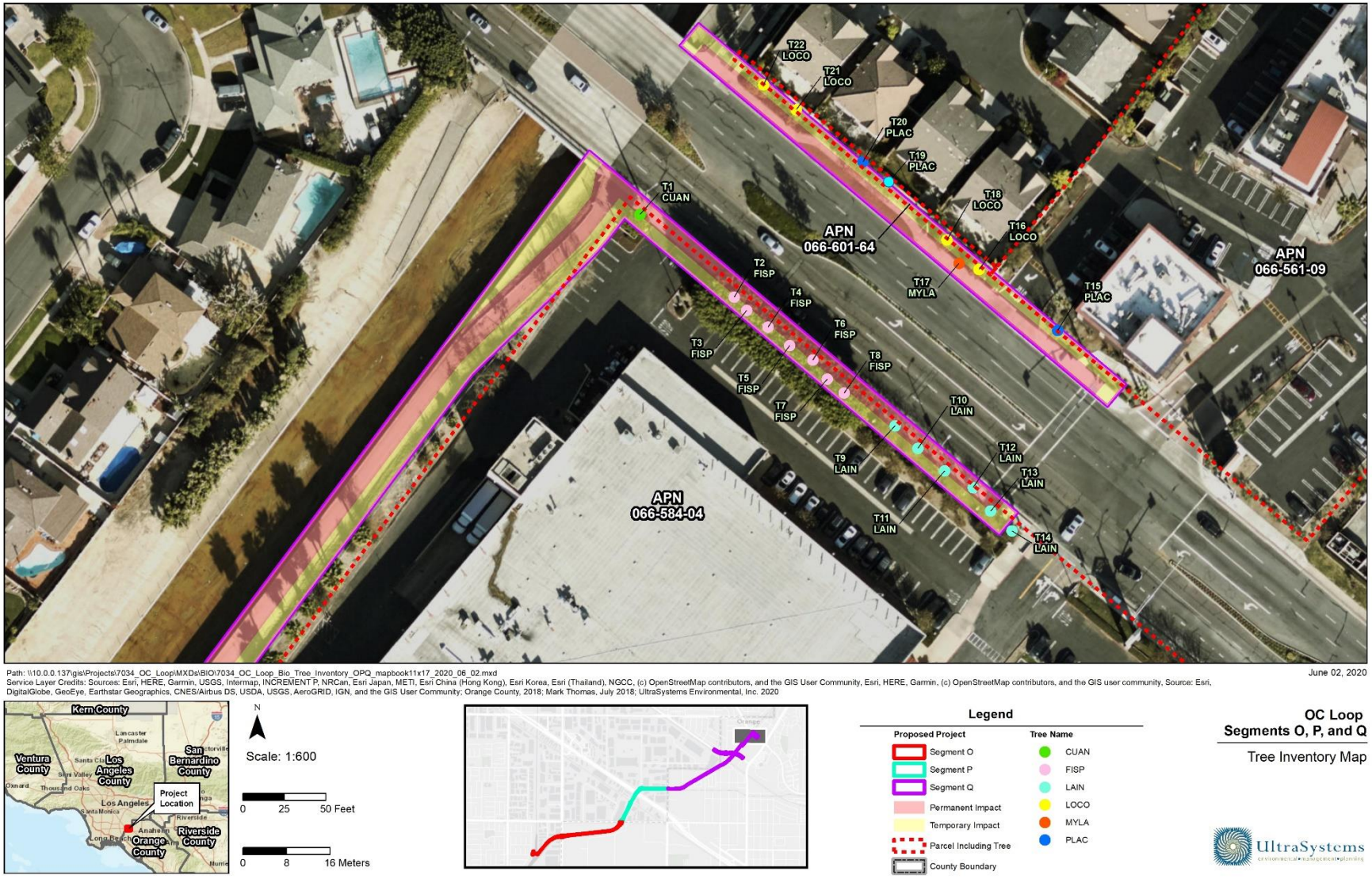
Tree Acronyms

Brisbane Box (LOCO)
Carrotwood (CUAN)
Crape myrtle (LAIN)
Ficus tree (FISP)
London Plane (PLAC)
Myoporum (MYLA)

Tree Health Criteria Rating

3 - Tree in moderate health.
4 - Tree in very good health.
5 - Tree in excellent health.

Figure 4.4-10
TREE INVENTORY MAP



Direct Impacts

Direct impacts by removal of some or all trees listed in **Table 4.4-7** are anticipated to occur within the project area along La Mirada Boulevard in the City of Buena Park; no trees would be removed within the Cities of La Mirada or Cerritos. The final tree count to be removed will be decided by the contractor in the field; therefore, it is presumed that all 22 ornamental street trees will be impacted through removal or trimming. Direct impacts to trees in the City of Buena Park are anticipated to occur as a result of this project, implementation of the mitigation measures below will help to avoid or minimize direct or indirect impacts to trees within the project site, to a less than significant level.

Indirect Impacts

No indirect impacts are anticipated to occur to adjacent urban forest protected trees, which will be avoided and protected-in-place with implementation of the mitigation measures stated below. Therefore, no indirect effects to protected trees will occur as a result of this project.

Mitigation Measures

Refer to Mitigation Measures **BIO-1**, **BIO-2**, **BIO-3**, and **BIO-4** above.

MM BIO-8 Tree Removal Permit

Prior to any tree removal in the City of Buena Park, at Tree Removal Permit will be obtained by the project applicant. The project applicant and onsite contractors will be responsible for the additional measures provided by the tree permit, which will be incorporated into the final specifications for the project.

City of Buena Park Ordinance 12.20.040 states the following:

"A. Persons desiring to remove any standing or growing trees or shrubbery or any ornament or improvement from a parkway adjacent to property owned or lawfully occupied by such persons shall apply to the director of public works for a permit. The application for such permit shall be in writing and set forth the reasons such removal is desired.

B. If the director finds upon investigation that the tree, shrub, ornament or improvement desired to be removed constitutes a private nuisance, is not of the type or species designated for such street or for other good cause shown, he or she shall issue a permit allowing such tree, shrub, ornament or improvement to be removed.

C. The permit for the removal of any tree, shrub, ornament or improvement shall prescribe the method or manner in which such tree, shrub, ornament or improvement shall be removed by the applicant, shall be conditioned upon the fact that all expenses and costs shall be borne by the applicant and shall contain a provision signed by the applicant that the applicant agrees to save, indemnify and keep harmless the city against all liabilities, judgments, costs and expenses which may in any wise accrue against the city in consequence of the granting of the permit or in consequence of the use or occupancy of any sidewalk, street

or other public place or in any other wise by virtue thereof and will in all things strictly comply with the conditions of the permit and of this code, all ordinances, rules and regulations of the city.

D. The permit for the removal of any tree may require the replanting of another tree after the removal, and, if a replacement is required, the applicant shall deposit a sum fixed by the city council for each tree to be replaced before the permit shall be issued. If all the conditions of the permit are not complied with, the deposit required by this section will be forfeited to the city. If the conditions are complied with, the deposit shall be refunded to the applicant.

E. Any person aggrieved by the refusal of the director to issue a permit for the removal of any tree, shrub, ornament or improvement or by the requirements of such permit may appeal to the city council. The city council shall have the right and authority upon investigation and findings to issue the permit." (Ord. 1505 § 1, 2007)

Level of Significance After Mitigation

Implementation of mitigation measures **BIO-1, BIO-2, BIO-3, BIO-4,** and **BIO-9** would reduce impacts to a less than significant level.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The project site is located within the densely developed Cities of La Mirada, Cerritos and Buena Park and is not located in an area covered by a Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) or other approved HCP; therefore, the project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP. No impact would occur.

4.5 Cultural Resources

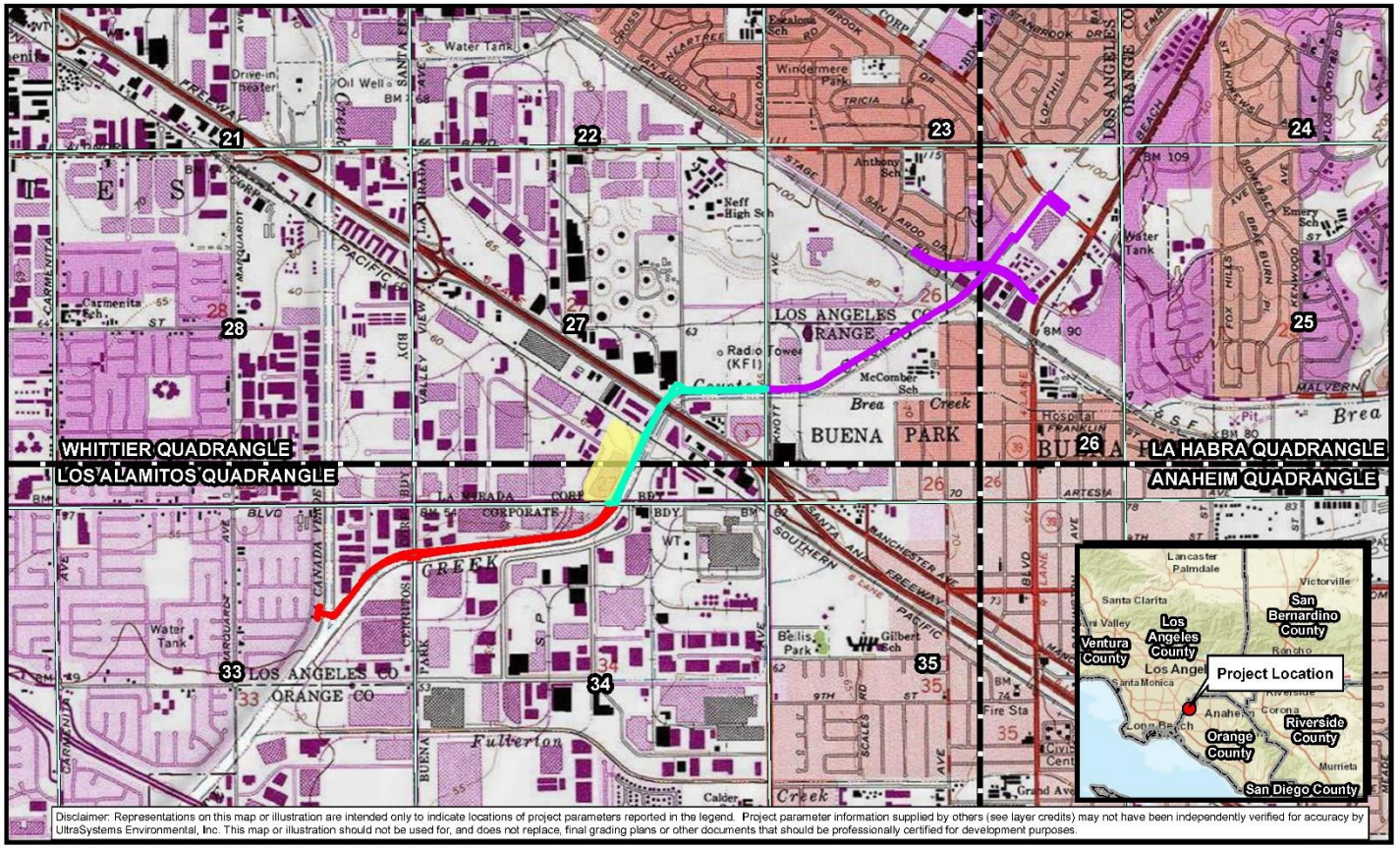
Information from the Phase I Cultural Resources Inventory for the OC Loop Segments O, P, and Q Project, Cities of Cerritos and Buena Park, dated August 31, 2020 (refer to **Appendix D1**), prepared by UltraSystems (O'Neil, Doukakis and Ahn, 2020), has been included in this section.

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?		**X**		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		**X**		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		**X**		

4.5.1 Methodology

A cultural resources analysis was conducted for the OC Loop Segments O, P, and Q Project, (**Figure 4.5-1**) that included a California Historic Resources Inventory System (CHRIS) records and literature search at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. Additionally, a request was made to the Native American Heritage Commission (NAHC) to conduct a search of its Sacred Lands File (SLF) for potential traditional cultural properties as well as to provide a list of local Native American tribes and tribal representatives to contact. Finally, a pedestrian survey of the project site was completed on February 6, 2020. The SCCIC records search was conducted on February 18, 2020. The NAHC request was made on January 28, 2020, and a reply was received on February 11, 2020; letters were sent to the listed tribes on February 17, 2020. In addition, a Historic Property Survey Report (HPSR) study of the project site is required by Caltrans to assess any potential direct and/or indirect effects the project might have on the several railroad bridges the trail would cross.

Figure 4.5-1
TOPOGRAPHIC MAP



4.5.2 Existing Conditions

Based on the cultural resources records search, it was determined that two historic cultural resources have been previously recorded within the project site boundary. Within the 0.5-mile buffer zone, there have been no prehistoric archaeological sites and four previously recorded historic-era cultural resources. Section 4.1 in **Appendix D1** of this document describes the cultural resources.

The two historic cultural resources found within the project site boundary are segments of the Union Pacific Railroad and the Burlington Northern Santa Fe Railway. These segments run southeast to northwest across the Los Angeles and Orange County border, resulting in both a Los Angeles and Orange County site number for each. The project site is located along the border with the Union Pacific Railroad (19-186110/30-176630) intersecting Segment P and the Burlington Northern Santa Fe Railway (BNSF) (19-186804/30-176663) intersecting Segment Q (Ashkar, 1999; Ballester and Tang, 2002) with bridges across the Coyote Creek Channel. The Union Pacific Railroad site (19-186110/30-176630) intersects Segment P in Los Angeles County. This segment of the Union Pacific Railroad was evaluated and determined to be eligible for the National Register of Historic Places (NRHP) listing. It was not assessed for eligibility under the California Register of Historical Resources (CRHR) (Ashkar, 1999). The BNSF Railway (19-186804/30-176663) intersects Segment Q in Orange County. This segment of the BNSF Railway was evaluated for the NRHP and determined to not meet the criteria to qualify. It was not assessed for eligibility under the CRHR (Ballester and Tang, 2002). (See Table 4.1-1 in **Appendix D1.**)

Survey of the ground surface was conducted in linear transects over the north and west channel embankment above the Coyote Creek Channel itself. The embankment ranged from approximately 20 to 60 feet wide with an asphalt road approximately 10 feet wide along the Coyote Creek Channel-side edge. The asphalt road was occasionally well maintained, but frequently was not and was more gravely in consistency. The embankment from the road to the boundary fence was sometimes level, and occasionally sloped up to the fence, and ranged from ten feet to 55 feet away from the road.

The survey started at the southern end of Segment O where the main Coyote Creek Channel is joined by the North Fork – Coyote Creek. The west side of the Coyote Creek Channel was walked northward, observing commercial buildings adjacent to the embankment up to the Valley View Avenue bridge that crosses the Coyote Creek Channel. Markings on this bridge indicated Caltrans identification number B1658. The transect was continued eastward. Structures lining the Coyote Creek Channel boundary between Valley View Avenue and the end of Segment O at Artesia Boulevard are industrial and commercial businesses, including large warehouse structures on both sides of the creek.

The Artesia Boulevard bridge, at the south end of Segment P crosses the Coyote Creek Channel; markings on this bridge indicated Caltrans identification number 3145. While continuing the survey transect along the narrow concrete walkway under this bridge, a small homeless encampment was observed. The transect continued northeastward along the Coyote Creek Channel embankment until it reached an oil pipeline crossing and the adjacent Union Pacific Railroad bridge crossing, both of which block transit along the Coyote Creek Channel embankment. There is no flat embankment between the pipeline and railroad, and one has to go up to the railroad crossing level to cross the railroad tracks, and then back down to the level of the embankment on the north side (railroad bridges had no Caltrans identification number). At the railroad crossing there is a medium-sized homeless encampment of approximately five makeshift structures near the northern corner of the crossing.

Within approximately 425 feet to the north of the railroad bridge, the S. Firestone Boulevard bridge crosses the Coyote Creek Channel. The road lies adjacent to the Santa Ana/I-5 Freeway, with N. Firestone Boulevard adjacent to the freeway on the north side. Markings on the S. Firestone Boulevard bridge indicate that it was built in 1950, and includes Caltrans identification number B1011. Due to active construction at the interface between the S. Firestone Boulevard bridge, the I-5 Freeway bridge and the N. Firestone Boulevard bridge, it was not possible to continue the survey along the Coyote Creek Channel embankment below these three bridges. However, it could be seen from looking under these bridges from the south and north ends that the Coyote Creek Channel embankment was fully concretized here with no surface soil, and being fully under the I-5 Freeway and Firestone Boulevard routes there were no properties along the sides of the bank that might be affected by the bike trail's construction.

Starting at the southeast corner of N. Firestone Boulevard and Trojan Way, there is access to the Coyote Creek Channel embankment which now turns eastward. Along both sides of the Coyote Creek Channel are industrial buildings, including warehouses. Section P continues east to the Knott Avenue bridge crossing the Coyote Creek Channel; markings on this bridge indicated its Caltrans identification number B1657.

The pedestrian survey continued to Segment Q, which starts at the Knott Avenue bridge. Beyond Knott Avenue within approximately 425 feet there is a small railroad line that crosses the Coyote Creek Channel. The survey continued along the west channel embankment as the Coyote Creek Channel turns to the northeast. In this area, while commercial buildings still line the west side of the Coyote Creek Channel, there are single-family residences on the east side of the Coyote Creek Channel. The BNSF railroad bridge crosses the Coyote Creek Channel on this stretch; at this point on the east side of the Coyote Creek Channel there is a single large commercial building. Approximately 450 feet to the north of the railroad bridge, the Coyote Creek Channel is crossed by Stage Road. Just before the street bridge the bicycle trail will cross to the east side of the Coyote Creek Channel on a proposed pedestrian bridge. Between Stage Road and La Mirada Boulevard both embankments are wide with a landscaped patch at the west embankment's edge of shrubs and trees, probably reflecting the activity of the adjacent residential lot; also, trees line the boundary on the east embankment.

The trail would leave the Coyote Creek Channel embankment at La Mirada Boulevard, entering the sidewalk along the east-bound lane of the street. Along the sidewalk there is ornamental landscaping in a flowerbed between the street and a large retail building. The survey crossed La Mirada Boulevard at the shopping center signaled intersection and continued on the sidewalk west to the existing bicycle trail along the Coyote Creek Channel's west embankment. This is the northern terminus of Segment Q.

In the course of the pedestrian survey, no prehistoric resources were observed. The pedestrian assessment observed the previously recorded railroad bridges, but did not locate any other historic resources beyond the eight street bridges crossing the Coyote Creek Channel, all 50+ years or older; none of the bridges would be directly impacted by project construction (as each will have either under-crossings on the current channel embankment or street-level paths that will not directly include the bridges).

4.5.3 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Less than Significant Impact with Mitigation Incorporated

A historical resource is defined in § 15064.5(a)(3) of the CEQA Guidelines as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as being associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values. Resources listed in or determined eligible for the California Register, included in a local register, or identified as significant in a historic resource survey are also considered as historical resources under CEQA.

Similarly, the National Register criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with Section 106 of the National Historic Preservation Act (NHPA). Specifically, the National Register criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield, information important to history or prehistory.

A substantial adverse change in the significance of an historical resource as a result of a project or development is considered a significant impact on the environment. Substantial adverse change is defined as physical demolition, relocation, or alteration of a resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Direct impacts are those that cause substantial adverse physical change to a historic property. Indirect impacts are those that cause substantial adverse change to the immediate surroundings of a historic property, such that the significance of a historical resource would be materially impaired.

With the presence of two historic cultural resources within the project site boundary, the Union Pacific Railroad and the Burlington Northern Santa Fe Railway, there may be an indirect impact to historic resources from construction of the proposed project. Project operations would have no direct impacts to historical cultural resources.

Mitigation Measure

MM CUL-1 Potential historical archaeological resources consisting of eight street bridges, three railroad bridges, and an oil pipeline crossing the Coyote Creek Channel are present within the project site. Prior to project construction, a qualified archaeologist/architectural historian shall be retained to prepare California Department of Parks and Recreation (DPR) site records and National Register of Historic Places (NRHP) evaluations of these several built features. The archaeologist/architectural historian, upon evaluation of the features and study of

the trail construction plans, will determine if there is need for monitoring of these features during construction and if warranted, the archaeologist/architectural historian shall prepare a monitoring plan.

Level of Significance After Mitigation

With implementation of mitigation measure **CUL-1** above, potential impacts related to historic resources would be less than significant.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant Impact with Mitigation Incorporated

An archaeological resource is defined in § 15064.5(c) of the CEQA Guidelines as a site, area or place determined to be historically significant as defined in § 15064(a) of the CEQA Guidelines, or as a unique archaeological resource defined in § 21083.2 of the Public Resources Code as an artifact, object, or site that contains information needed to answer important scientific research questions of public interest or that has a special and particular quality such as being the oldest or best example of its type, or that is directly associated with a scientifically recognized important prehistoric or historic event or person.

Land at the project site along the Coyote Creek Channel is entirely light grey sandy alluvium which has been extensively graded, with any remaining natural banks cut-and-filled by the early 1960s to allow the complete concrete channelization of the creek along the entire length of the project boundary. This suggests that the soil here has been greatly disturbed, with little native surface soil remaining. The cultural resources investigation conducted by UltraSystems, which included a CHRIS records search of the project site and buffer zone, a search of the SLF by the NAHC, and pedestrian field survey, leads to the conclusion that it is unlikely that undisturbed unique archaeological resources exist on the project site, though there remains some potential for disturbed cultural resources.

The cultural resources records search conducted at the South Central Coastal Information Center (SCCIC) determined that there are no known prehistoric cultural resource sites or isolates recorded within the 0.5-mile radius buffer zone of the area of potential effect (APE) of the project boundary. The result of the pedestrian survey was negative for prehistoric sites and isolates.

According to records at the SCCIC, five previous cultural resource surveys have included a portion of the project area. Fifteen surveys have been conducted within the 0.5-mile radius project buffer but not within the project APE (see Table 4.1-2 in **Appendix D1**). None of these surveys recorded prehistoric cultural resources within the project boundary.

A NAHC SLF search was conducted on and within a 0.5-mile buffer around the project site. The NAHC letter of February 11, 2020 indicated that there are no records documenting the presence of traditional cultural properties within this area. Representatives of the five Native American tribes recommended by the NAHC were contacted requesting a reply if they have knowledge of cultural resources in the area that they wished to share, and asking if they had any questions or concerns regarding the project. These tribes are:

- Gabrieleño Band of Mission Indians - Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Gabrielino/Tongva Nation
- Gabrielino-Tongva Tribe
- Gabrielino Tongva Indians of California Tribal Council

UltraSystems sent letters on February 17, 2020 to each of the five tribal groups-Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, and emailed identical letters and maps to each of the contacts for which email addresses were known (**Appendix D1**, Attachment C). The letters requested a reply if they have knowledge of cultural resources in the area, and asked if they had any questions or concerns regarding the project.

Following up on the initial letter and email contacts, telephone calls were conducted on April 2, 2020, to complete the outreach process. These calls were to the five tribal contacts who had not responded to UEI mailing and email. Four telephone calls were placed with no answer and therefore, messages were left describing the project and requesting a response. These were to Chairperson Sandonne Goad, Chairperson of the Gabrielino/Tongva Nation; Mr. Charles Alvarez of the Gabrieleno-Tongva Tribe; Chairperson Andy Salas of the Gabrielino-Tongva Tribe; and Chairperson Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians. There have been no responses to date of the preparation of this report from these individuals.

During the telephone calls of April 2, 2020, Chairperson Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council asked for us to resend the material to his email and if we do not receive a response then they have no concerns with the project. There have been no further responses from these tribes to date (See **Appendix D1**, Attachment C.).

The result of the pedestrian survey was negative for both prehistoric sites and isolates on the project site. Based on the results of the records search, tribal consultation, and the onsite field survey, it is unlikely that prehistoric cultural resources or tribal resources would be adversely affected by construction of the project. Land at the site along the Coyote Creek Channel is entirely light grey sandy alluvium which has been extensively graded, with any remaining natural banks cut-and-filled by the early 1960s to allow the complete concrete channelization of the creek along the entire length of the project boundary. However, grading activities associated with construction of the project would cause new subsurface disturbance and potentially could result in the unanticipated discovery of disturbed archaeological resources dating to the free-flow of Coyote Creek when its immediate area may have been used by Native American for resource gathering and travel.

Mitigation Measure

MM CUL-2 If prehistorical and/or historical archaeological resources are discovered during construction, the contractor shall halt construction activities within a 60-foot radius of the discovery and notify the County. An on-call qualified archaeologist shall be notified and afforded the necessary time to recover, analyze, and curate the find(s). The qualified archaeologist shall recommend the extent of archaeological monitoring necessary to ensure the protection of any other resources that may be in the area and afforded the necessary time and funds to recover, analyze, and curate the find(s). Construction activities may continue on other parts of the construction site while evaluation and treatment of historical or unique archaeological resources takes place.

Level of Significance After Mitigation

With implementation of mitigation measure **CUL-2** above, potential impacts related to archaeological resources would be less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated

As previously discussed in Section 4.5 b) above**,** the project would be built within a previously developed urban landscape as well as adjacent to the Coyote Creek Channel consisting of trapezoidal and box-shaped concrete lining. No human remains have been previously identified or recorded onsite. It is unlikely that undisturbed unique archeological resources exist on the project site.

The project proposes bikeway pavement construction to replace the current bikeway that is in poor condition, and construct new paved bikeways. In some areas, the bikeway is improved on one bank of the Coyote Creek Channel, while in other areas it is improved on both sides. Minor grading and tree removal activities associated with construction of the project would cause new subsurface disturbance and could result in the unanticipated discovery of previously undiscovered human remains, including those interred outside of formal cemeteries. In the unlikely event of an unexpected discovery, implementation of mitigation measure **CUL-3** would ensure that impacts related to the discovery of human remains would be less than significant.

California Health and Safety Code § 7050.5 specifies the procedures to follow during the unlikely discovery of human remains. CEQA § 15064.5 describes determining the significance of impacts on archeological and historical resources. California Public Resources Code § 5097.98 stipulates the notification process during the discovery of Native American human remains, descendants, disposition of human remains, and associated grave goods. Therefore, with adherence to applicable codes and regulations protecting cultural resources and implementation of mitigation measure **CUL-3**, potential impacts related to the discovery of previously undiscovered human remains would be less than significant.

Mitigation Measure

MM CUL-3: If human remains are encountered during project construction, the contractor shall stop all work within a 30-foot radius of the discovery and the Orange County Coroner (OCC) will be notified (§ 5097.98 of the Public Resources Code). The OCC will determine whether the remains are recent human origin or older Native American ancestry. If the OCC, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they will contact the NAHC. The NAHC will be responsible for designating the Most Likely Descendant (MLD). The MLD (either an individual or sometimes a committee) will be responsible for the ultimate disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. The MLD will make recommendations within 24 hours of their notification by the NAHC. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).

Level of Significance After Mitigation

With implementation of mitigation measure **CUL-3** above, potential impacts related to human remains would be less than significant.

4.6 Energy

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			**X**	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			**X**	

The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor called the OC Loop. As an alternative mode of transportation, the proposed project would increase the use of active transportation travel modes, enhance safety and mobility for non-motorized users, advance efforts to achieve greenhouse gas reduction goals, and enhance public health.

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

and

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact

According to CEQA Guidelines, "[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."[30] Therefore, the purpose of this analysis is to identify any significant irreversible environmental effects of project implementation that cannot be avoided.

Project Construction

Construction would lead to the consumption of limited, slowly renewable, and non-renewable resources, committing such resources to uses that future generations would be unable to reverse.

30 Per CEQA Guidelines Section 15126.2, Consideration and Discussion of Significant Environmental Impacts, subsection (d) Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented.

Primarily during the construction period, development of the proposed project would require the commitment of resources that include (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the project.

During project construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control and, on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. Construction activities, including the construction of facilities, typically do not involve the consumption of natural gas. Project construction would consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and the delivery and haul truck trips hauling solid waste from the project site. The cities of Cerritos, Buena Park, and La Mirada do not have applicable construction-related energy policies.

As analyzed above, the proposed project would not be wasteful or inefficient with the use of energy during construction. Additionally, the proposed project would not conflict with state or local plans for renewable energy or energy efficiency. Therefore, the construction phase of the proposed project would have less than significant environmental impacts arising from energy use.

Project Operation

Operation of the proposed bikeway would result in a nominal increase in electricity use, compared to existing conditions. The proposed project would require installation of approximately 200 feet of lighting at the North and South Firestone Boulevard and I-5 underpass within the city of La Mirada for visibility and safety purposes. Additionally, traffic signals with push-button activation would be installed at the intersection of the bikeway with Knott Avenue and at the intersection of Stage Road and McComber Road. As shown below in **Table 4.6-1** through **Table 4.6-3**, the project would adhere to applicable energy and conservation policies of the cities in which the proposed project would be located. Estimated project operational energy use is shown in **Table 4.6-4.**

Table 4.6-1
PROJECT COMPLIANCE WITH CITY OF CERRITOS GENERAL PLAN POLICY REGARDING ENERGY

General Plan Element	Project Compliance
Conservation Element: Goal CON-2 Conserve and generate energy resources through the use of available technology and conservation practices.	
Policy CON-2.2: Apply applicable government energy standards to all new development.	The proposed project would adhere to applicable government energy standards such as Title 24 during operation. Therefore, the proposed project would not conflict with this policy.

Source: (RBF Consulting, 2004, p. CON-14).

Table 4.6-2
PROJECT COMPLIANCE WITH CITY OF BUENA PARK GENERAL PLAN POLICY REGARDING ENERGY

General Plan Element	Project Compliance
Conservation and Sustainability Element: Goal CS-17 Development of transportation and transit-based measures to reduce trips and vehicle miles traveled, consistent with South Coast Air Quality Management District (SCAQMD) and Congestion Management Plan (CMP) requirements.	
Policy 4CS-17.1: Continue to support programs which are designed to reduce air pollution within Buena Park and those sources of pollution located outside its planning boundaries which adversely affect the City.	The operation of the proposed project would promote active transportation and in doing so would reduce vehicle trips, thereby resulting in a decrease in air pollution and energy usage. Therefore, the proposed project would not conflict with this policy.

Source: (RBF Consulting, 2010, pp. 5-21 to 5-23).

Table 4.6-3
PROJECT COMPLIANCE WITH CITY OF LA MIRADA GENERAL PLAN POLICIES REGARDING ENERGY

General Plan Element	Project Compliance
Open Space and Conservation Element: Goal 3.0 Improve Air Quality for La Mirada Residents.	
Policy 3.1: Participate with the SCAQMD and neighboring jurisdictions in collaborative efforts to improve regional air quality.	The proposed project would adhere to SCAQMD rules, regulations and thresholds. This project would be a cooperative effort with the cities of Cerritos, Buena Park and La Mirada to create a bikeway that would promote active transportation and a reduction in vehicle miles traveled and, consequently, in energy use. Therefore, the proposed project would not conflict with this policy.
Policy 3.2: Support local and regional projects that improve mobility, reduce congestion on freeways, and improve air quality.	The proposed project would improve mobility and air quality by creating a bikeway that promotes active transportation. Therefore, the proposed project would not conflict with this policy.

Source: (Cotton/Bridges/Associates, 2003 p. OSC-10)

Table 4.6-4
ESTIMATED PROJECT OPERATIONAL ENERGY USE

Energy Type	Units	Segment O	Segment P	Segment Q
Electricity	Kilowatt-hours per year	None	9,300	4,200

Source: Email from Myung Choo, GHD, Irvine, CA to Michael Rogozen, UltraSystems Environmental Incorporated, Irvine, CA. April 10, 2020.

As analyzed above, the proposed project would not be wasteful or inefficient with the use of energy during operation. Additionally, the proposed project would not conflict with state or local plans for renewable energy or energy efficiency. Therefore, the proposed project would have less than significant impacts in this regard.

Further, the amount of electricity used for underpass lighting and traffic signals would be negligible and the project would comply with applicable regulations and codes which require achievement of various levels of energy efficiency in construction, design and operation. Therefore, the project would have a less than significant impact regarding conflict with or obstruction of a state or local plan for renewable energy or energy efficiency.

The commitment of resources required for the operation of the project would limit the availability of such resources for future generations or for other uses during the life of the project. However, continued use of such resources is consistent with the anticipated growth within the project area because the project is listed in planning documents such as the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA Fourth District Bikeways Strategy report, 2014 County of Orange General Plan, and the 2015 OC Loop Gap Feasibility Study (OC Parks). The proposed project would not result in energy consumption requiring a significant increase in energy production for the energy provider. Therefore, the energy demand associated with the project would be less than significant.

4.7 Geology and Soils

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			**X**	
ii) Strong seismic ground shaking?			**X**	
iii) Seismic-related ground failure, including liquefaction?			**X**	
iv) Landslides?				**X**
(b) Result in substantial soil erosion or the loss of topsoil?			**X**	
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			**X**	
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			**X**	
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				**X**
(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		**X**		

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact

In California, an "Alquist-Priolo Earthquake Fault Zone" (formerly Special Study Zone) is a seismic hazard area that varies in width, but averages approximately 0.25 mile around active faults. A fault is a fracture in the crust of the earth, where the rock mass on one side moves relative to the rock mass on the other side. Most faults are the result of repeated displacements over a long period of time. A fault trace is the line on the land surface defining the fault that can be delineated on a map. Surface rupture occurs when movement on a fault occurs at the surface. These faults may pose a risk of rupture to existing or future structures.

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. Surface rupture is the most easily avoided seismic hazard. For the purposes of the Act, an active fault is one that has ruptured in the last 11 thousand years (Holocene time), and a potentially active fault is one that has ruptured in the last 1.6 million years (Pleistocene time). The law requires the State Geologist to establish regulatory zones (Earthquake Fault Zones), and prepare maps showing surface traces of active faults.

The proposed project is not within a designated State of California Alquist-Priolo Earthquake Fault Zone, or within an area designated as a seismic hazard zone (see **Figure 4.7-1**, *Alquist-Priolo Earthquake Fault Zones*). The nearest zoned fault segment is the 1968 Fault Zone located approximately 2.7 miles northeast of the northern extent of Segment Q.

Two known active or potentially active faults trend through the project site: the Lower Elysian Park Thrust and the Puente Hills blind thrust system, Coyote Hills Section (see **Figure 4.7-2,** *Regionally Active Faults*). Neither of these is known to have ruptured within the last 1.6 million years before present (Latest Quaternary; Bryant 2017a, 2017b). Given this, the potential for surface rupture resulting from the movement of these faults is considered to be low.

There is potential for surface rupture from known active faults in the region; however, these faults are unlikely to result in ground rupture through the project due to distance (see **Figure 4.7-2**). Therefore, it is unlikely that the project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or based on other substantial evidence of a known fault. Impacts would be less than significant.

Figure 4.7-1
ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES

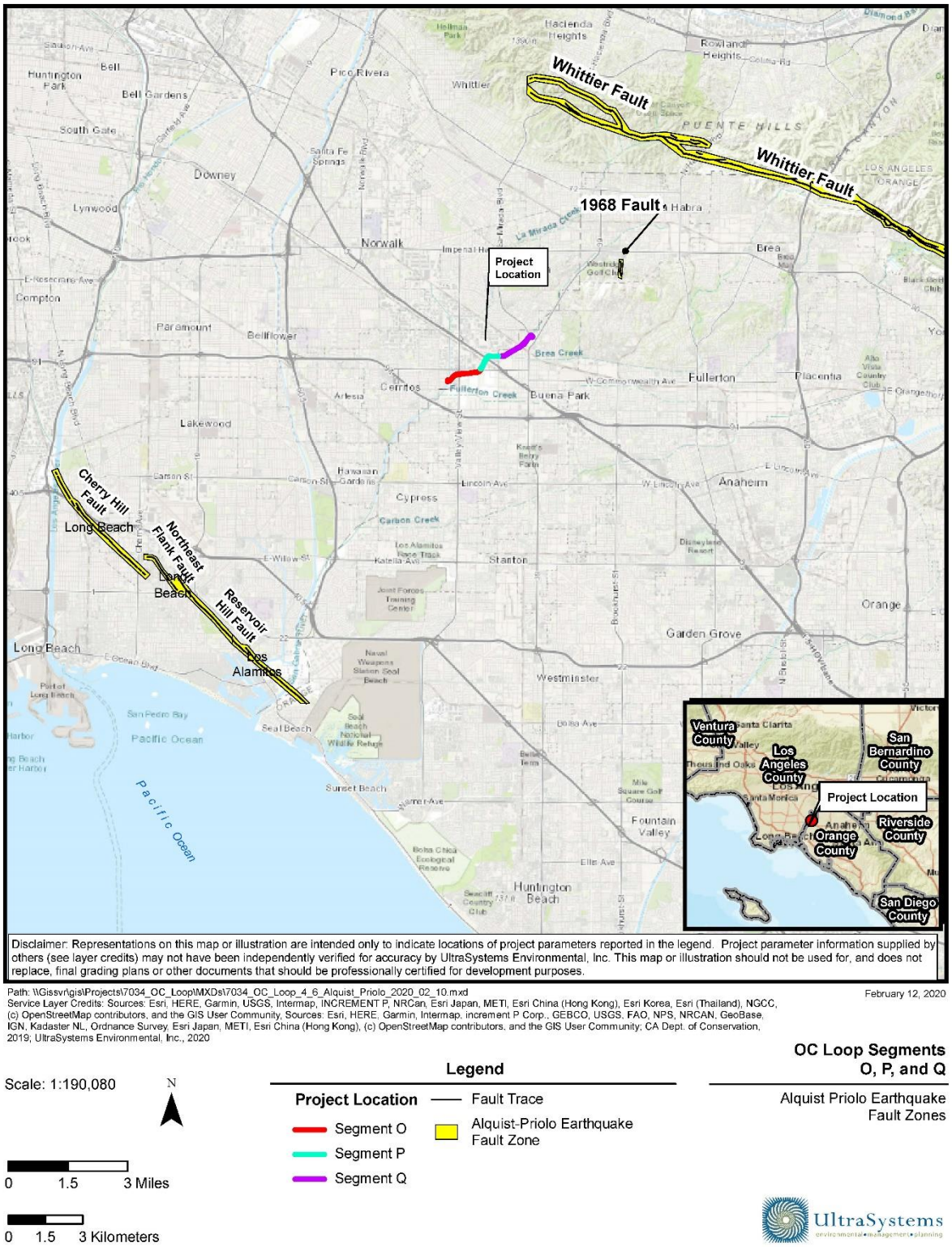


Figure 4.7-2
REGIONALLY ACTIVE FAULTS



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\Gissvr\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_4_6_Active_Faults_2020_02_10.mxd
February 13, 2020

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community; USGS 2018; UltraSystems Environmental, Inc., 2020

Scale: 1:126,720

N

0 1 2 Miles

0 1.1 2.2 Kilometers

Legend

Project Location

- Segment O
- Segment P
- Segment Q
- Quaternary Fault

OC Loop Segments O, P, and Q

Regionally Active Faults

UltraSystems environmental • management • planning

ii) Strong seismic ground shaking?

Less than Significant Impact

The proposed project is located in Southern California, which is a seismically active region. The type and magnitude of seismic hazards affecting the site are dependent on the distance to causative faults, the intensity, and the magnitude of the seismic event. The Whittier section of the Elsinore Fault zone, approximately three to four miles north-northeast of the proposed project, is the nearest active fault system to the site for which a potential maximum movement magnitude (Mw) has been determined. The Whittier fault has a slip rate of between 2.5 and 3.0 millimeters per year (mm/yr) and, although the time between ruptures is unknown, the Whittier section of the Elsinore Fault has a calculated probable magnitude of M_W6.0 - 7.2 (SCEDC, 2020a, 2020b). The southernmost 19 miles of the Whittier fault, beginning approximately six miles north of Segment Q and Malvern Avenue, and ending in the Santa Ana Canyon, is a designated Alquist-Priolo Earthquake Fault Zone (Refer to **Figures 4.7-1** and **4.7-2** above).

The possibility of moderate-to-high ground acceleration or shaking in the project area may be considered as approximately similar to that of the Southern California region as a whole. A maximum magnitude earthquake on any major fault could result in significant structural damage or collapse, and potentially even human casualties. Adherence to applicable standard engineering practices and design criteria prescribed by the 2019 California Building Code (CBC) would reduce the significance of potential impacts of seismic and geologic hazards. The CBC also includes detailed design requirements, structural design, soils and foundations considerations, along with grading requirements to ensure that public safety risks are minimized due to any potential seismic shaking event, and impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

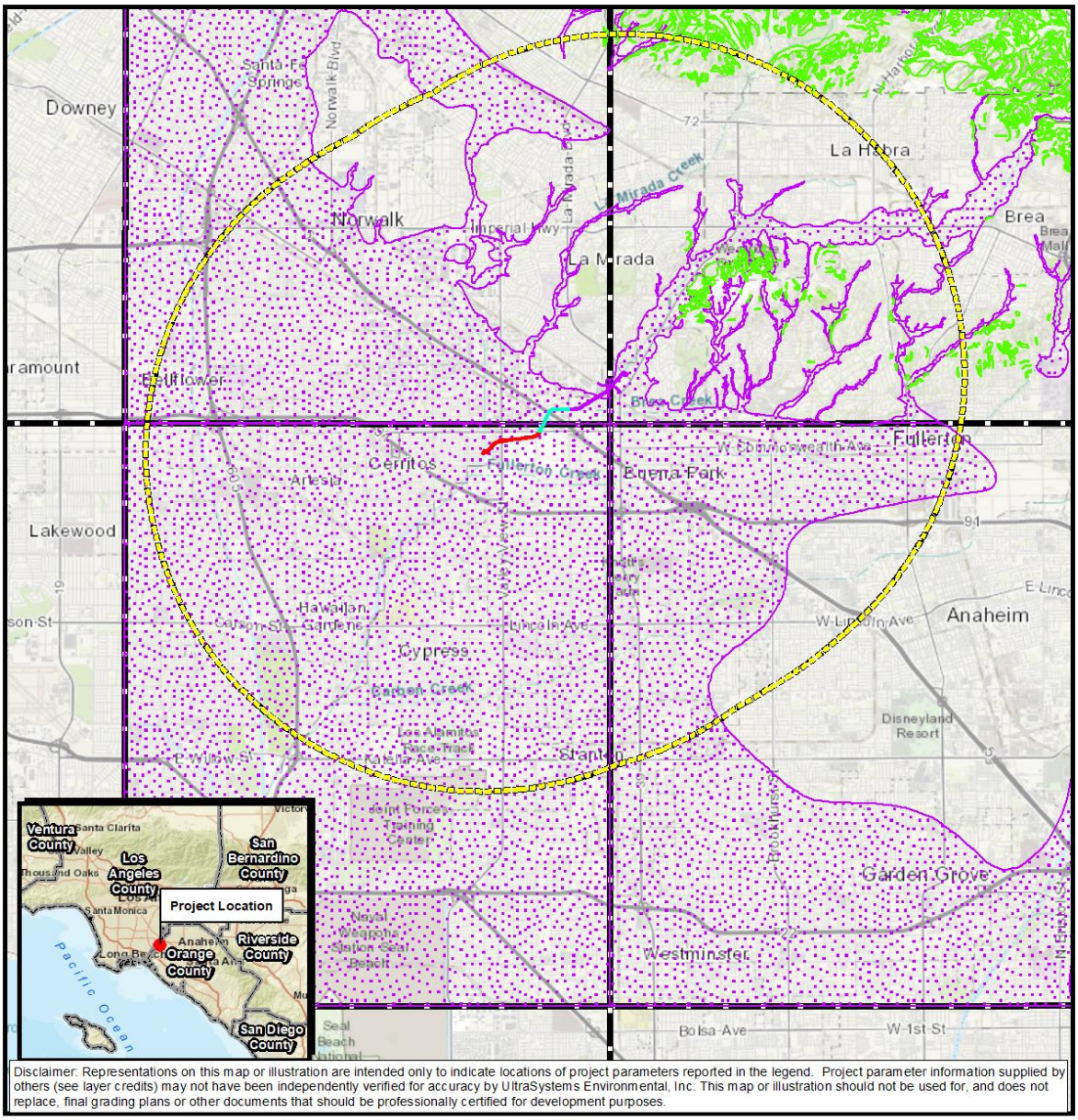
Less Than Significant Impact

Liquefaction is the sudden decrease in the strength of cohesionless soils due to dynamic or cyclic shaking. Saturated soils behave temporarily as a viscous fluid (liquefaction) and consequently lose their capacity to support the structures founded on them. The potential for liquefaction decreases with increasing clay and gravel content but increases as the ground acceleration and duration of shaking increase. Liquefaction potential has been found to be the greatest where groundwater and loose sands occur within 50 feet of the ground surface.

A groundwater monitoring well operated by Orange County Water District (OCWD), approximately one mile south of the beginning of Segment O, recorded a historic high groundwater elevation of 25.7 feet below ground surface (ground surface to water surface, or GS-WS) in 2006; the most recent measurement, in October 2019, measured 30.9 feet GS-WS (CASGEM, 2020a). A second groundwater monitoring well operated by OCWD, located in the Los Coyotes Country Club approximately 1.25 miles northeast of the end of Segment Q, recorded a historic high GS-WS value of 155.0 feet in 2007; the most recent measurement, in November 2019, was recorded at 165.2 feet GS-WS (CASGEM, 2020b).

The proposed project is located within potential liquefaction hazard zones per the State of California Geological Survey (CGS) Earthquake Zones of Required Investigation Maps (EZRIMs) for the La Habra, Los Alamitos, and Whittier Quadrangles (CGS, 1998, 1999a, and 1999b) (Refer to **Figure 4.7-3** below).

Figure 4.7-3
LANDSLIDE AND LIQUEFACTION HAZARDS ZONES



The southern portion of the proposed project may be located in an area with a water table that is within 50 feet below ground surface, and most of the project is located in an EZRIM liquefaction hazard zone. California State Building Code § 1803 requires projects located within such hazard zones to conduct a geotechnical investigation by a California registered geotechnical engineer, and all recommendations contained in geotechnical and geohazard reports shall be subject to the approval of the enforcement agency (CBC, 2019).

Compliance with applicable federal, state, and local regulations would minimize the risks associated with the potential risk from liquefaction, and potential impacts related to liquefaction would be less than significant.

iv) Landslides?

No Impact

Landslides occur when the stability of the slope changes from a stable to an unstable condition. A change in the stability of a slope can be caused by a number of factors, acting together or alone. Natural causes of landslides include groundwater (pore water) pressure acting to destabilize the slope, loss of vegetative structure, erosion of the toe of a slope by rivers or ocean waves, weakening of a slope through saturation by snow melt or heavy rains, earthquakes adding loads to barely stable slope, earthquake-caused liquefaction destabilizing slopes, and volcanic eruptions.

Topography within the project site is relatively flat. The project is between approximately 50 to 100 feet above mean sea level (AMSL; USGS, 2018a, 2018b, 2018c). There are no steep slopes or hills on the project site. Additionally, as shown on the CGS EZRIMs, the proposed project is not located in a landslide hazard area (CGS, 1998, 1999a, and 1999b).

Due to the flat nature of the topography and lack of mapped landslide hazards on and in the vicinity of the project site, the potential of landslides affecting the site is considered negligible and no impacts are anticipated.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact

Ground disturbance would occur during project construction activities such as excavation, grading, and trenching. These activities may disturb substantial amounts of soil, resulting in the potential for soil erosion through either wind, water, or both.

A wind erodibility group (WEG) consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible (Soil Survey Staff, 2020).

The soil on the proposed project site includes Chino silty clay loam, drained (soil map unit symbols 140 and 140oc). These soils have a WEG rating of 4L, meaning that they are moderately susceptible to wind erosion (Soil Survey Staff, 2020). The remainder of soil units crossed by the proposed project are comprised of urban land mixed with various native soils, which are not rated for wind erosion.

Soil factor K indicates the susceptibility of soil to sheet and rill erosion by water. Rill erosion is the process by which sustained, concentrated sheet flow eventually erodes microchannels (rills), typically one or two inches in width and depth, into the surface of unprotected or unvegetated soil (Summerfield, 1991, pp. 176-177). Values of K range from 0.02 to 0.69 (median: 0.355); in general, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Soils 140 and 140oc have a K factor of 0.43, indicating that these soils are moderately susceptible to sheet and rill erosion by water (Soil Survey Staff, 2020).

Construction

Construction of the proposed project would include activities such as removing existing pavement and grading, which could potentially cause significant soil erosion or loss of topsoil in the project area. However, as further detailed in **Section 4.10**, the County would be required to obtain an NPDES permit, which would require a SWPPP and BMPs. The BMPs would be site-specific for the proposed project and would ensure that impacts related to erosion or loss of topsoil would be minimized or avoided.

Implementation of standard erosion control BMPs that would be detailed in the required SWPPP would minimize the potential for project-related soil erosion through wind or water. With implementation of erosion control BMPs, impacts resulting from soil erosion would be less than significant and no mitigation is proposed.

Operation

The proposed project would replace existing permeable areas with impermeable surfaces (i.e., concrete) and no erosion or loss of topsoil would occur from the completed project. Therefore, operation of the proposed project would have a less than significant impact in this regard.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact

The proposed project would be located on a geological unit comprised of Young Alluvial Fan Deposits (Qyf): unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon. These deposits date from the late Pleistocene to the early and middle Holocene.

General types of ground failures that might occur as a consequence of severe ground shaking typically include landslides, ground subsidence, ground lurching and shallow ground rupture. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from the faults, topography, subsoils and groundwater conditions, in addition to other factors.

The potential impact of landslides, lateral spreading, subsidence, liquefaction or collapse of or resulting from the proposed project is discussed below.

Landslides

As detailed above in Section 4.7a iv), impacts in regard to landslides would be less than significant.

Lateral Spreading

Seismically-induced lateral spreading involves primarily lateral movement of earth materials due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. The topography at the proposed project and in the immediate vicinity of the site is gently sloping, with no significant nearby slopes or embankments and bedrock. Adherence to applicable standard engineering practices and design criteria prescribed by the 2019 CBC would reduce potential impacts related to lateral spreading. The CBC also includes detailed design requirements, structural design, soils and foundations considerations, along with grading requirements to ensure that public safety risks are minimized. Under these circumstances, the potential for lateral spreading would be less than significant.

Subsidence

Seismically-induced differential settlement may occur in loose to moderately dense, unsaturated granular soils and result in subsidence. Subsidence may also occur in areas of excessive overdraft during oil and groundwater production.

Northern portions of the project would be located on soils that may be prone to seismically-induced settlement; however, as discussed in Section 4.7a iii), the proposed project would adhere to the geotechnical and design recommendations of the geotechnical report to ensure that soil conditions would not lead to significant subsidence impacts. In addition, adherence to applicable standard engineering practices and design criteria prescribed by the 2019 CBC would reduce potential impacts related to subsidence. The CBC also includes detailed design requirements, structural design, soils and foundations considerations, along with grading requirements to ensure that public safety risks are minimized. Therefore, impacts would be less than significant.

Liquefaction

As discussed in Section 4.7a iii), potential impacts resulting from liquefaction would be less than significant.

Collapse

Collapsible soils consist of loose, dry, low-density materials that collapse and compact with the addition of water or excessive loading. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and wind-blown sediment deposits.

The mapped soils within the proposed project consist of silty clay loams and existing fill soils placed during previous site grading operations over alluvial sediments generally consisting of loams, sandy loams, and fine sandy loams (Soil Survey Staff, 2020). The potential exists for the soils on the proposed project to be categorized as collapsible soils; however, adherence to applicable standard engineering practices and design criteria prescribed by the 2019 CBC would reduce potential impacts related to soil collapse. The CBC also includes detailed design requirements, structural design, soils and foundations considerations, along with grading requirements to ensure that public safety risks are minimized and, as discussed in Section 4.7a iii), and the potential for soil collapse would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact

Expansive soils shrink and swell with changes in soil moisture. Soil moisture may change from landscape irrigation, rainfall, and utility leakage. Repeated changes in soil volume due to water content fluctuations may compromise structure foundations. Expansive soils are commonly very fine-grained with high to very high percentages of clay. Design provisions such as adequate reinforcements, deeper foundations or other measures may help alleviate the effects of soils expansion but may not completely eliminate the problem.

The mapped soils on the proposed project have a "moderate" expansion potential (Soil Survey Staff, 2020; Day, 2000, p. 12.8). Although expansive soils may be present on the proposed project, incorporation into project plans of recommended measures made in the geotechnical report, as discussed in Section 4.7a iii), would ensure that the effects of soil shrinkage and expansion are minimized or avoided. In addition, adherence to applicable standard engineering practices and design criteria prescribed by the 2019 CBC would reduce potential impacts related to expansive soils. The CBC also includes detailed design requirements, structural design, soils and foundations considerations, along with grading requirements to ensure that public safety risks are minimized. For these reasons, impacts related to potential expansive soils impacts would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact

The proposed project would not include septic tanks or alternative waste water disposal systems. For this reason, no impacts associated with septic tanks or alternative waste water disposal systems would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation Incorporated

The southern portion of the project site, Segment O, is entirely encompassed by geological material of Young Alluvium, Unit 2 (Qya2) (Saucedo et al., 2016). This deposit consists of unconsolidated deposits of gravel, sand, and silt with some instances of boulders and dates to the early Holocene, 12,000 to 7,000 years before present (ybp) (Saucedo et al., 2016). The central portion of the project area, Segment P, is described as Young alluvial fan deposits (Qyf). The northern portion the project area, Segment Q, is underlain by Very Old alluvial fan deposits (Qvof) (Saucedo et al., 2016). This deposit consists of patches of well-indurated, brown, pebbly and cobbly, clay and dates to the middle to early Pleistocene (770,000 to 126,000 ybp).

The soil covering the entirety of the project site is also described as younger Quaternary Alluvium. The northern portion of the project area, Segment O, has surficial deposits of older Quaternary Alluvium. Both soil types are "derived as alluvial fan deposits from the Puente Hills to the north via Coyote Creek that currently flows adjacent to almost all of the proposed project area" (McLeod

2020:1). These deposits do not typically contain significant vertebrate fossils in the very uppermost layers, but they may well contain significant fossil vertebrate remains at shallow depth.

The far northern end of the project area has deposits of late Pleistocene La Habra Formation (McLeod 2020:2 in **Appendix D2**). This deposit is found in Coyote Creek and at shallow depths in the project area. Also, in this area there are exposures of marine Pleistocene San Pedro Sand that occurs at depth.

Any substantial excavations below the uppermost layers should be closely monitored to quickly and professionally collect any specimens without impeding development. Grading and excavation activities associated with development of the project would cause new subsurface disturbance and could result in the unanticipated discovery of paleontological resources.

MM GEO-1: If paleontological resources are uncovered during construction activities, the contractor shall halt construction activities in the immediate area and notify OC Public Works. The County's on-call paleontologist shall be notified and afforded the necessary time and funds to recover, analyze, and curate the find(s). Subsequently, a paleontological monitor shall remain onsite for the duration of the ground disturbance to ensure the protection of any other resources that may be in the area.

Level of Significance After Mitigation

With implementation of mitigation measure **GEO-1**, potential impacts to paleontological resources would be reduced to a less than significant level.

4.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

4.8.1 Background Information on Greenhouse Gas Emissions

Life on earth depends on energy coming from the sun. About half the light reaching Earth's atmosphere passes through the air and clouds to the surface, where it is absorbed and then radiated upward in the form of infrared heat. About 90% of this heat is then absorbed by atmospheric greenhouse gases (GHGs) and radiated back toward the surface, which is warmed to a life-supporting average of 59 degrees Fahrenheit (°F) (NASA, 2018).

Human activities are changing the natural greenhouse. Over the last century, the burning of fossil fuels such as coal and oil has increased the concentration of atmospheric carbon dioxide (CO_2). This happens because the coal or oil burning process combines carbon in the fuel with oxygen in the air to make CO_2. To a lesser extent, the clearing of land for agriculture, industry, and other human activities has increased concentrations of GHGs (NASA, 2018).

GHGs are defined under the California Global Warming Solutions Act of 2006 (AB 32) as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6). Associated with each GHG species is a "global warming potential" (GWP), which is a value used to compare the abilities of different GHGs to trap heat in the atmosphere. GWPs are based on the heat-absorbing ability of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years). The GWPs of CH_4 and N_2O are 25 and 298, respectively (GMI, 2018). "Carbon dioxide equivalent" (CO_2e) emissions are calculated by weighting each GHG compound's emissions by its GWP and then summing the products. HFCs, PFCs, and SF_6 are not emitted in significant amounts by project sources, so they are not discussed further.

Carbon Dioxide (CO_2). Carbon dioxide is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO_2 is produced when an organic carbon compound (such as wood) or fossilized organic matter (such as coal, oil, or natural gas) is burned in the presence of oxygen. Since the industrial revolution began in the mid-1700s, industrial activities have increased in scale and distribution. Prior to the industrial revolution, CO_2 concentrations were stable at a range of 275 to 285 ppm (IPCC, 2007a). The National Oceanic and Atmospheric Administration's Earth System Research Laboratory indicates that global concentration of CO_2 was 403.96 ppm in

October 2017 (ESRL, 2018). These concentrations of CO_2 exceed by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH_4). Methane is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH_4 is combustible, and is the main constituent of natural gas, a fossil fuel. CH_4 is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Anthropogenic sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies, and the buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O). Nitrous oxide is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas," and sometimes used as an anaesthetic. N_2O is naturally produced in the oceans and in rainforests. Manmade sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

4.8.2 Regulatory Setting

GHGs are regulated at the national, state, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (USEPA) regulates at the national level; the California Air Resources Board (ARB) regulates at the state level; and the South Coast Air Quality Management District (SCAQMD) regulates at the air basin level in the project area.

Federal Regulations
The USEPA collects several types of GHG emissions data. These data help policy makers, businesses, and the USEPA track GHG emissions trends and identify opportunities for reducing emissions and increasing efficiency. The USEPA has been maintaining a national inventory of GHG emissions since 1990 and in 2009 established mandatory reporting of GHG emissions from large GHG emissions sources.

Previous USEPA efforts based on historical website material reflecting the USEPA website as it existed on January 19, 2017 (USEPA, 2017a) include regulatory initiatives such as mobile source GHG emission standards and the Clean Power Plan; partnering with the private sector through voluntary energy and climate programs; and reducing USEPA's carbon footprint with the federal greenhouse gas requirements and USEPA's Strategic Sustainability Performance Plan. The current administration has a different strategy in relation to climate change and is taking the USEPA in a new direction (USEPA, 2017b). Executive Order on Energy Independence (WH, 2017) specifically addresses revisions in the Clean Power Plan and standards of performance for GHGs for new stationary sources; CH_4 standards for the oil and gas sector; and light-duty vehicle GHG standards.

4.8.2.1 State Regulations

Executive Order S 3-05

On June 1, 2005, the governor issued Executive Order (EO) S 3-05, which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions to 80% below 1990 levels.

To meet these targets, the Climate Action Team (CAT)[31] prepared a report to the Governor in 2006 that contains recommendations and strategies to help ensure that the targets in EO S-3-05 are met.

Assembly Bill 32 (AB 32)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The ARB is the state agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming to reduce emissions of GHGs. AB 32 also requires that by January 1, 2008, the ARB must determine what the statewide GHG emissions level was in 1990, and it must approve a statewide GHG emissions limit, so it may be applied to the 2020 benchmark. The ARB approved a 1990 GHG emissions level of 427 million metric tons of CO_2e ($MMTCO_2e$), on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 $MMTCO_2e$.

Under the "business as usual or (BAU)" scenario established in 2008, statewide emissions were increasing at a rate of approximately one percent per year as noted below. It was estimated that the 2020 estimated BAU of 596 $MMTCO_2e$ would have required a 28% reduction to reach the 1990 level of 427 $MMTCO_2e$.[32]

Climate Change Scoping Plan

The Scoping Plan released by the ARB in 2008 (ARB, 2008) outlined the state's strategy to achieve the AB 32 goals. This Scoping Plan, developed by ARB in coordination with the CAT, proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by ARB at its December 2008 meeting. According to the Scoping Plan, the 2020 target of 427 $MMTCO_2e$ requires the reduction of 169 $MMTCO_2e$, or approximately 28.3%, from the state's projected 2020 BAU emissions level of 596 $MMTCO_2e$.

In August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document (ARB, 2011). This document includes expanded analysis of project alternatives and updates the 2020 emission projections by considering updated economic forecasts. The updated 2020 BAU estimate of 507 $MMTCO_2e$ yielded that only a 16% reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions contained in Appendices C and E of the Plan.

31 The Climate Action Team (CAT) members are state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency (Cal/EPA). They coordinate statewide efforts to implement global warming emission reduction programs and the state's Climate Adaptation Strategy.

32 The BAU value and the 2020 target were subsequently changed as the result of incorporating new information. See discussion below.

In May 2014, ARB developed, in collaboration with the CAT, the First Update to California's Climate Change Scoping Plan (Update) (ARB, 2014), which shows that California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32. In accordance with the United Nations Framework Convention on Climate Change, ARB has mostly transitioned to the use of the Intergovernmental Panel on Climate Change's (IPCC's) Fourth Assessment Report (AR4)'s 100-year global warming potentials (GWPs) (IPCC, 2007b) in its climate change programs. ARB recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 $MMTCO_2e$; therefore the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 $MMTCO_2e$ in the initial Scoping Plan.

In November 2017, ARB published the 2017 Scoping Plan (ARB, 2017) which builds upon the former Scoping Plan and Update by outlining priorities and recommendations for the State to achieve its 2030 GHG target of a 40 % reduction in GHGs by 2030, compared to 1990 levels. The major elements of the framework proposed are enhancement of the Renewables Portfolio Standard (RPS) and the Low Carbon Fuel Standard; a Mobile Source Strategy, Sustainable Freight Action Plan, Short-Lived Climate Pollutant Reduction Strategy, Sustainable Communities Strategies, and a Post-2020 Cap-and-Trade Program; a 20% reduction in GHG emissions from the refinery sector; and an Integrated Natural and Working Lands Action Plan.

Renewables Portfolio Standard (Scoping Action E-3)

The California Energy Commission estimates that in 2000 about 12% of California's retail electric load was met with renewable resources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. California's current RPS is intended to increase that share to 33% by 2020. Increased use of renewables will decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. Most recently, Governor Brown signed into legislation Senate Bill (SB) 350 in October 2015, which requires retail sellers and publicly-owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030.

Senate Bill 375 (SB 375)

SB 375 was signed by the governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions and is responsible for over 40% of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30%. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation also are necessary. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions; (2) aligns planning for transportation and housing; and (3) creates specified incentives for the implementation of the strategies.

Executive Order B-30-15

On April 29, 2015, the Governor issued EO B-30-15, which added an interim target of GHG emissions reductions to help ensure that the state meets its 80% reduction by 2050, as set in EO S-3-05. The interim target is reducing GHG emissions by 40% by 2030. It also directs state agencies to update the Scoping Plan, update the Adaptation Strategy every three years, and take climate change into account in agency planning and investment strategies. Additionally, it requires the state's Five-Year

Infrastructure Plan to take current and future climate change impacts into account in all infrastructure projects.

4.8.2.2 Local Regulations

None of the three cities in which the project is located has a climate action plan or other GHG emissions reduction plan. Emission reduction planning is discussed further in Section 4.8.4.2.

4.8.3 Impact Thresholds

The following thresholds of significance are based on criteria in Appendix G of the State CEQA Guidelines. A project has the potential to create a significant environmental impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases.

4.8.4 Impact Analysis

4.8.4.1 Methodology

Construction is an episodic, temporary source of GHG emissions. Emissions are generally associated with the operation of construction equipment and the disposal of construction waste. To be consistent with the guidance from the SCAQMD for calculating criteria pollutants from construction activities, only GHG emissions from onsite construction activities and offsite hauling and construction worker commuting are considered as project-generated. As explained by California Air Pollution Control Officers Association (CAPCOA) in its 2008 white paper, the information needed to characterize GHG emissions from manufacture, transport, and end-of-life of construction materials would be speculative at the CEQA analysis level. CEQA does not require an evaluation of speculative impacts (CEQA Guidelines § 15145). Therefore, the construction analysis does not consider such GHG emissions, but does consider non-speculative onsite construction activities, and offsite hauling and construction worker trips. All GHG emissions are identified on an annual basis.

Short-term construction GHG emissions were estimated with the same methods used for the criteria air pollutants in Section 4.3.8. Details of all the calculations are provided in **Appendix B (B1, B2-1 and B2-2)**. Operational GHG emissions would be negligible and were therefore not quantified.

4.8.4.2 Evaluation of Checklist Questions

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact

California has enacted several pieces of legislation that relate to GHG emissions and climate change, much of which sets aggressive goals for GHG reductions within the state. Per Senate Bill 97, the California Natural Resources Agency adopted amendments to the CEQA Guidelines, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine

a project's effects on the environment. However, neither a threshold of significance nor any specific mitigation measures are included or provided in these CEQA Guideline amendments.

GHG Significance Threshold

Neither the City of Buena Park, the City of Cerritos, the City of La Mirada, the SCAQMD nor the State CEQA Guidelines Amendments provide adopted quantitative thresholds of significance for addressing a project's GHG emissions. Nonetheless, § 15064.4 of the CEQA Guidelines serves to assist lead agencies in determining the significance of the impacts of GHGs. As required in § 15064.4 of the CEQA Guidelines, this analysis includes an impact determination based on the following: (1) an estimate of the amount of greenhouse gas emissions resulting from the project; (2) a qualitative analysis or performance-based standards; (3) a quantification of the extent to which the project increases greenhouse gas emissions as compared to the existing environmental setting; and (4) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, the SCAQMD Board adopted an Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans (SCAQMD, 2008a). The Interim Guidance uses a tiered approach to determining significance. Although this Interim Guidance was developed primarily to apply to stationary source commercial and industrial projects where the SCAQMD is the lead agency under CEQA, in absence of more directly applicable policy, the SCAQMD's Interim Guidance is often used as general guidance by local agencies to address the long-term adverse impacts associated with global climate change.

The threshold selected for this analysis is **Tier 3 - 90 Percent Capture Rate Emission Thresholds**. A 90% emission capture rate means that 90% of total emissions from all new or modified projects would be subject to CEQA analysis. For Tier 3, the SCAQMD presents lead agencies with two options: Option #1 – separate numerical thresholds for residential projects (3,500 metric tons [MT] CO_2e per year), commercial projects (1,400 $MTCO_2e$ per year), and mixed-use projects (3,000 $MTCO_2e$ per year); and Option #2 – a single numerical threshold for all non-industrial projects of 3,000 MT CO_2e per year (SCAQMD, 2010). The SCAQMD staff's proposal was to recommend the use of option #2, but to allow lead agencies to choose Option #1 if they prefer that approach.

The present analysis uses **3,000 MT of CO_2e per year** (option #2) as the significance threshold under the first impact criterion in Section 4.8.3.

Construction GHG Emissions

Table 4.8-1 summarizes the results of the GHG emissions calculations. (More detailed results are provided in **Appendix B (B1, B2-1 and B2-2)**. The highest GHG emissions during construction, 99.4 tonnes CO_2e, would occur in Segment P. If the UPRR overcrossing option is taken, the highest emissions, 83.9 tonnes CO_2e, would occur in Segment Q. For the entire project, GHG emissions would be **225.1 tonnes**, about 88% of which would be from offroad equipment use. If the UPRR overcrossing option is taken, total GHG emissions would be **176.6 tonnes**, of which about 87% would be from offroad equipment use. For each construction year, annual GHG emissions would be far below the threshold of 3,000 MT of CO_2e per year and therefore would be less than significant. No mitigation is necessary.

Consistent with SCAQMD recommendations and to ensure that construction emissions are assessed in a quantitative sense, construction GHG emissions have been amortized over a 30-year period. The amortized value would be **7.5 tonnes** for the UPRR undercrossing or **5.9 tonnes** for the overcrossing.

Table 4.8-1
PROJECT CONSTRUCTION-RELATED GHG EMISSIONS

Segment	Category	GHG Emissions (tonnes)			
		CO_2	CH_4	N_2O	CO_2e
Segment O	Offroad equipment	36.93	0.0099	N/A	37.17
	Onroad trucks	0.75	0.0000	0.0001	0.77
	Employees	3.80	0.0000	0.0001	3.82
Total for Segment O		**41.5**	**0.010**	**0.000**	**41.8**
Segment P[a]	Offroad equipment	86.29 (43.37)	0.0234 (0.0107)	N/A	86.88 (43.64)
	Onroad trucks	2.71 (1.33)	0.0000 (0.0000)	0.0002 (0.0002)	2.77 (1.38)
	Employees	9.69 (5.84)	0.0001 (0.0001)	0.0002 (0.0001)	9.73 (5.87)
Total for Segment P		**98.7 (50.5)**	**0.024 (0.011)**	**0.000 (0.000)**	**99.4 (50.9)**
Segment Q	Offroad equipment	72.62	0.020	N/A	73.13
	Onroad trucks	2.69	0.0000	0.0002	2.75
	Employees	7.99	0.0001	0.0001	8.03
Total for Segment Q		**83.3**	**0.020**	**0.000**	**83.9**
Grand Total for Project		***223.5 (175.3)***	***0.054 (0.041)***	***0.001 (0.001)***	***225.1 (176.6)***
				Amortized	***7.50 (5.89)***

Source: OB-1 Air Analysis, 2020.
[a] Values in parentheses correspond to the UPRR pedestrian bridge overcrossing option.

Operational GHG Emissions

Use of the bikeway by bicycle riders and pedestrians would not result in GHG emissions. Routine maintenance with fossil-fuel burning equipment such as leaf blowers, and motor vehicles transporting maintenance workers, would generate a small amount of GHG emissions. In addition, indirect GHG emissions would occur when offsite fossil-fueled power plants generate electricity for the traffic signals to be installed for the project. As the state converts to a higher percentage of renewable fuel for electricity generation, the latter class of emissions would decrease over the life of the project. For these reasons, operational emissions were not quantified. The only project-related emissions during the operational phase would be the 7.5 tonnes per year of amortized emissions. This is far below the SCAQMD criterion of 3,000 tonnes per year. Under the first significance criterion, therefore, GHG emissions would be less than significant, and no mitigation is necessary.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact

As was noted in **Section 4.8.2.3**, none of the cities through which the project runs has a plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, the following regional and local plans have at least some nexus with the proposed project:

- The 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All).
- The 2009 OCTA Commuter Bikeway Strategic Plan.
- The 2012 OCTA Fourth District Bikeways Strategy report.
- The 2014 County of Orange General Plan.
- The 2015 OC Loop Gap Feasibility Study (OC Parks).
- The City of La Mirada General Plan Circulation Element contains a "Master Plan of Bikeways" that includes over 14 miles of bicycle lanes along streets (Class III) and dedicated multiuse trails (Class I). If also acknowledges development of the OC Loop and its benefits to the city.[33]

Neither the City of Cerritos nor the City of Buena Park has a bicycle plan.

The proposed completion of segments O, P and Q is compatible with the above-listed plans. In addition, it furthers statewide GHG emission reduction policies by reducing vehicle miles traveled by fossil-fueled vehicles. Therefore, project impacts would be less than significant.

33 https://www.cityoflamirada.org/home/showdocument?id=914. Accessed April 29, 2020.

4.9 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		X		
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		X		
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

An Initial Site Assessment (ISA), dated March 23, 2020 (Citadel, 2020a), was prepared by Citadel EHS (herein referred to as Citadel) for the OC Loop Segment O, P, and Q Project. The purpose of the ISA was to review past and present land use practices and to evaluate the presence, or likely presence, of any hazardous substances or petroleum products that have been discharged into the ground, groundwater, or surface water. This qualitative assessment was accomplished by a review of current and readily available information regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the project site.

Additionally, a site visit was conducted by Citadel staff to observe existing conditions (Citadel, 2020a, p. 1). The ISA focuses on properties along the Coyote Creek channel that may adversely impact the vicinity of the construction areas and workers. The radius of the ISA extends approximately 100 feet from the project path although select properties located beyond the 100-foot radius were reviewed in light of their potential environmental impact to the segments (Citadel, 2020a, p. i).

Citadel also prepared an addendum to the ISA dated June 26, 2020 (Citadel, 2020b) to address proposed easements in Segments P and Q.

Summary of ISA Findings

Below is a summary of the findings of the ISA and the Addendum to the ISA by project segment (Citadel, 2020a, pp ii-iii; 2020b):

Segment O

Several of the properties along the Coyote Creek Channel were identified with former underground storage tanks (USTs) and leaking underground storage tanks (LUSTs). However, most of the cases for the LUSTs have been closed or are eligible for closure. For those LUST cases that are open and/or ineligible for closure, based on location or remediation efforts, they were not expected to represent a significant environmental concern to the project site (Citadel, 2020a, p. 11). No environmental concerns were identified for Segment O (Citadel, 2020a, p. ii).

Segment P

Several of the properties along the Coyote Creek Channel were identified with former USTs and LUSTs. However, the cases for the LUST have been closed. The property located at 14730 Firestone Boulevard was occupied by print shops with spray booths in 2004 and 2006. Aquatic Stands and More occupied the space in 2004; and California Ink Printing occupied the space in 2006. Solvent-based inks were identified in 2006. No further information was provided. Based on the use of spray booths and solvent-based inks, this property may be a vapor encroachment condition (VEC) concern to Segment P (Citadel, 2020a, p. ii).

In addition, the exposure to the fuel pipelines by the railway tracks may be an environmental concern; however, the pipelines are aboveground and cross over the Coyote Creek Channel. The proximity of the Interstate 5 Freeway to Segment P and to the proposed easement at Trojan Way may be a recognized environmental condition (REC) due to possible shallow soil contamination of aerially deposited lead (ADL) from vehicle exhaust (Citadel, 2020a, p. ii; 2020b).

Segment Q

Several of the properties along the Coyote Creek Channel were identified with releases and LUSTs but the cases for the leaks have been closed. However, the proximity of the underground Chevron fuel pipeline along Segment Q may represent a REC due to possible future releases (Citadel, 2020a, pp. ii-iii).

The easements on La Mirada Boulevard is located at the north end of Segment Q and appears to be landscaped areas. The proximity of La Mirada Boulevard to the easements along the road may be RECs due to possible shallow soil contamination of ADL from vehicle exhaust (Citadel, 2020b, p. 1).

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact with Mitigation Incorporated

The ISA determined that there are several recognized environmental conditions[34] (RECs) in connection with the project site, and that there is a source of a release that would be likely to contribute to a vapor encroachment condition[35] (VEC), as described below (Citadel, 2020a, p. 21):

- The property located at 14730 Firestone Boulevard along Segment P was occupied by print shops with spray booths in 2004 and 2006. Based on the use of spray booths and solvent-based inks, this property may represent a VEC concern to Segment P.

- The proximity of the Interstate 5 (I-5) freeway to Segment P may be a REC due to possible shallow soil contamination of aerially deposited lead (ADL) from vehicle exhaust.

- The proximity of the underground Chevron fuel pipeline along Segment Q may present a REC due to possible future releases.

Construction

It is estimated that 5% of the construction debris would be comprised of hazardous materials (asbestos, lead, oil, contaminated dirt, etc.), which would be disposed of in a Class I landfill.[36] The proposed project would follow all requirements for proper transport and disposal of contaminated soils at a Class I landfill, which accepts hazardous wastes anticipated to be generated by the proposed project. No mitigation is required in this regard.

The recommendations from the ISA have been incorporated as mitigation measures **HAZ-1** through **HAZ-3** below. These measures would reduce potential impacts to a less than significant level.

The proposed project would be located adjacent to commercial and industrial sites that could have contaminated local soils. If contaminated soils are discovered during construction, mitigation measure **HAZ-1** would implement a soil management plan (SMP) that would ensure the proper handling and disposal of contaminated soils.

Over time lead has been deposited into the soil from motor vehicle emissions from vehicles traveling on the I-5 freeway. Construction workers have the potential to be exposed to lead when they excavate or otherwise disturb soils containing lead. Lead can be toxic when inhaled or ingested. Implementation of mitigation measure **HAZ-2,** to prepare an ADL plan to manage the soils contaminated with lead during project construction, would reduce potential impacts from lead in soils to a less than significant level.

34 A recognized environmental condition means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment (Citadel, 2020a. p. 20).

35 A vapor encroachment condition is the presence or likely presence of chemicals of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater or both either on or near the target property (Citadel, 2020a p. 21).

36 Per email correspondence between GHD and UltraSystems Environmental on January 09, 2020

The past or present adjacent industrial and commercial land uses such as spray booths, print shops and pipelines could have released volatile organic compounds (VOCs) to local soils. Therefore, the ISA prepared for the proposed project recommended soil monitoring for volatile organic compounds, (VOCs) during excavation activities of the areas identified with environmental concerns, including the former print shop along Segment P and areas near pipelines in Segment Q.

Project construction would involve transport, storage, and use of chemical agents, solvents, paints, and other hazardous materials commonly associated with construction activities. Chemical transport, storage, and use would comply with requirements of the Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Occupational Safety and Health Administration (OSHA); California hazardous waste control law;[37] California Division of Safety and Health (DOSH); South Coast Air Quality Management District (SCAQMD); and the Cities of Cerritos, La Mirada and Buena Park Fire Departments. Therefore, impacts during construction would be less than significant.

Mitigation Measures

MM HAZ-1 Prior to commencement of project construction, the project applicant shall prepare a soil management plan to identify and manage any contaminated soils and/or subsurface features encountered during the development of the proposed project.

MM HAZ-2 Prior to commencement of project construction, the project applicant shall prepare an aerially deposited lead plan to manage shallow surface soils in proximity to freeways that may be contaminated with lead from vehicle exhaust.

MM HAZ-3 During excavation activities of the areas identified with environmental concerns in the March 23, 2020 Initial Site Assessment Prepared by Citadel EHS for the proposed project, the project applicant shall implement soil monitoring for volatile organic compounds, including the former print shop along Segment P, areas near pipelines in Segment Q, as well as the permanent easement areas identified in the Addendum to the Initial Site Assessment prepared by Citadel EHS dated June 26, 2020.

Level of Significance After Mitigation

After implementation of **MM HAZ-1** through **HAZ-3** above, potential impacts would be less than significant.

Operation

The proposed project would construct and operate a 2.7-mile bikeway along Coyote Creek that would connect a larger network of bikeways known as the OC Loop. Upon completion, the proposed project would allow for bicyclists and pedestrians using the proposed bikeway, which would not result in the routine transport, use, or disposal of hazardous materials. Therefore, operation of the proposed project would have no impact in this regard.

37 Codified in California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact with Mitigation Incorporated

Construction

The proposed project would implement mitigation measures **HAZ-1** through **HAZ-3** to ensure the safe handling and disposal of any contaminated soils. Additionally, the proposed project would adhere to all applicable federal, state and local regulations regarding the transportation, handling and use of hazardous materials, including procedures for the foreseeable upset and accidental release of hazardous materials.

Mitigation Measures

Refer to **MM HAZ-1** through **HAZ-3** above.

Level of Significance After Mitigation

After implementation of **MM HAZ-1** through **HAZ-3** above, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment**.** With mitigation the project would have a less than significant impact in this regard.

Operation

Operation of the proposed project would create a 2.7-mile bikeway that would further connect the Coyote Creek bikeways that do not currently connect. The operation of the proposed project would not include the use, transportation or handling of hazardous waste; therefore, there would be no impacts.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact with Mitigation Incorporated

Segment O

Construction

There are no schools within one quarter mile of Segment O. The closest school is Cerritos Elementary School in Cerritos, located at 13600 183rd Street, approximately 0.5 mile southwest of Segment O (Google Earth Pro, 2020). Therefore, construction of Segment O of the proposed project would have no impact in this regard.

Operation

There are no schools within one quarter mile of Segment O. Therefore, Segment O of the proposed project would have no impact in this regard.

Segment P

Construction

There are no schools within one quarter mile of Segment P. The closest school is Carl E. Gilbert Elementary School in Buena Park, located at 7255 8th Street, approximately 0.65 mile southeast of Segment P (Google Maps, 2020). Therefore, Segment P of the proposed project would have no impact in this regard.

Operation

There are no schools within one quarter mile of Segment P. Therefore, Segment P of the proposed project would have no impact in this regard.

Segment Q

Construction

La Mirada Adult Center is located at 15310 Alondra Boulevard in La Mirada. This school is approximately 0.23-mile northwest of Segment Q (Google Earth, 2020). Although this school is within a quarter mile of Segment Q of the proposed project, implementation of mitigation measures **HAZ-1** through **HAZ-3** would ensure that the proposed project would have less than significant impacts on the La Mirada Adult Center. Additionally, the project would adhere to applicable federal, state and local regulations regarding the transportation, storage, and use of hazardous materials during construction. Therefore, impacts during construction of Segment Q would be less than significant.

Mitigation Measures

Refer to **MM HAZ-1** through **HAZ-3** above.

Level of Significance After Mitigation

After implementation of **MM HAZ-1** through **HAZ-3** above, accidental release of hazardous substances during the project construction phase would be less than significant.

Operation

Although Segment Q is within 0.25 mile of a school, the operation of the proposed bikeway would not handle, transport or use hazardous materials. Therefore, there would be no impacts during project operation.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact

Government Code § 65962.5 requires the Department of Toxic Substances Control (DTSC) to compile and update, at least annually, lists of the following:

- Hazardous waste and substances sites from the DTSC EnviroStor database.
- Leaking Underground Storage Tank (LUST) sites by county and fiscal year in the State Water Resources Control Board (SWRCB) GeoTracker database.
- Solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside waste management units.
- SWRCB Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs).[38]
- Hazardous waste facilities subject to corrective action pursuant to § 25187.5 of the Health and Safety Code, identified by DTSC.[39]

These lists are collectively referred to as the "Cortese List." (EPA, 2020). As part of the Initial Site Assessment for the proposed project, a database search was conducted that found that the project site is not on the Cortese List (Citadel EHS, 2020, p. 11 and p. 19). Therefore, there would be no impacts in this regard.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact

The closest airport to the proposed project is the Fullerton Municipal Airport, located at 4011 West Commonwealth Avenue, approximately 1.25 mile southeast of the project site. The project site is not within the Fullerton Municipal Airport's airport impact zones or noise contour zones; however, it is located within the Fullerton Municipal Airport's notification area and airport obstruction imaginary surfaces zone as shown in **Figures 4.9-1** and **4.9-2** below. The notification area is the area that is 10,000 feet from the nearest point of the nearest runway of less than 3,200 feet in length at the Fullerton Municipal Airport. (OC ALUC, 2019, p.19). Additionally, the airport obstruction imaginary surfaces zone is an area where building heights may potentially affect air navigation (OC ALUC, 2019, p.14).

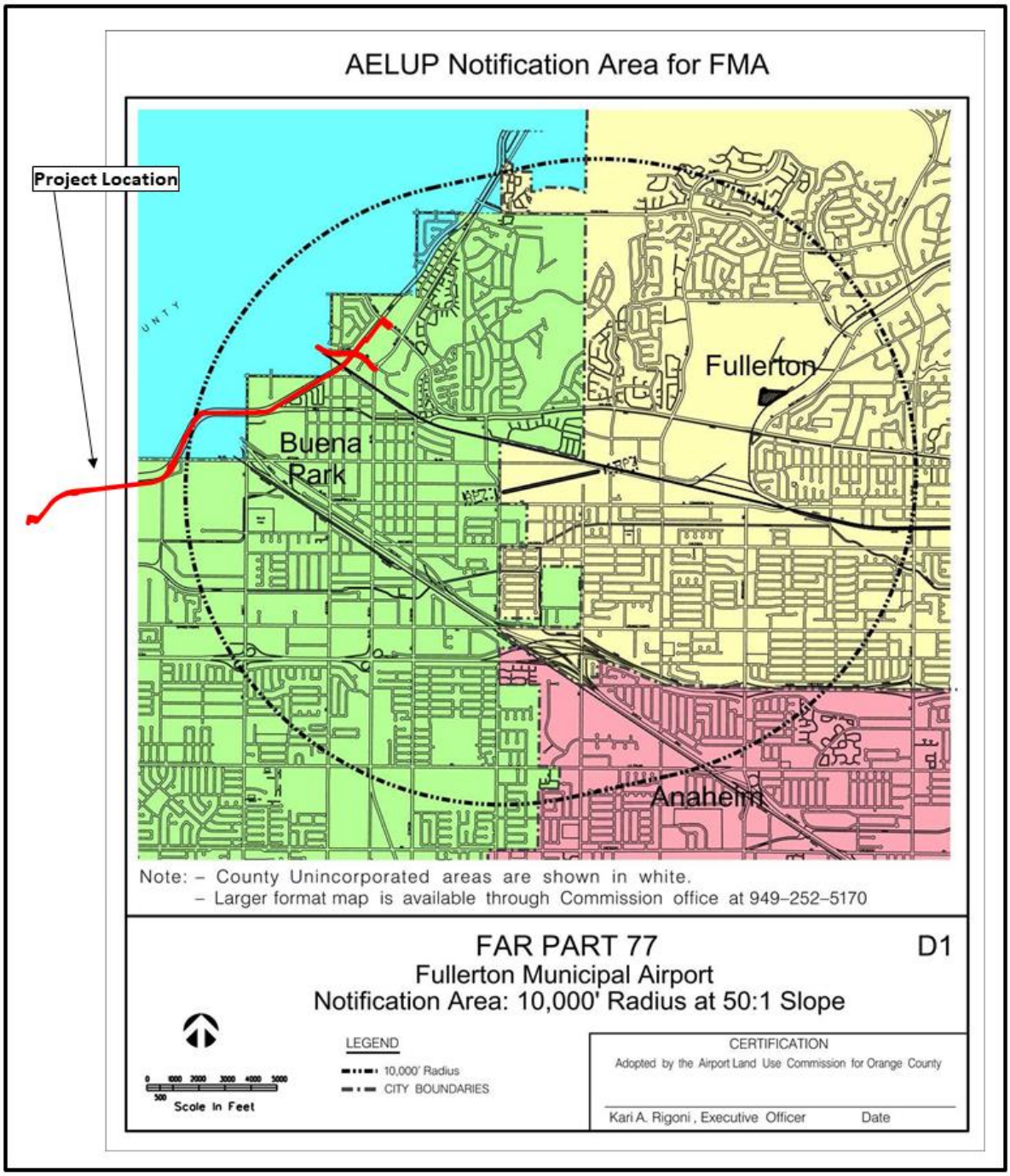
Construction

The proposed project would build and/or install a paved bikeway, bridges, undercrossings, and at-grade crossings. None of these construction activities would adversely affect operation of the Fullerton Municipal Airport. Therefore, construction of the project would have no impacts in this regard.

38 CDOs and CAOs may be issued for discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials.

39 If corrective action is not taken on or before the date specified in a CDO or CAO, or if immediate corrective action is necessary to remedy or prevent an imminent substantial danger to the public health, domestic livestock, wildlife, or the environment, the DTSC may take, or contract for corrective action and recover the cost for a responsible party.

Figure 4.9-1
FULLERTON MUNICIPAL AIRPORT- NOTIFICATION AREA



Disclaimer: Illustration provided by Airport Land Use Commission for Orange County, who has indicated that the information is true and correct. No other warranties are expressed or implied.

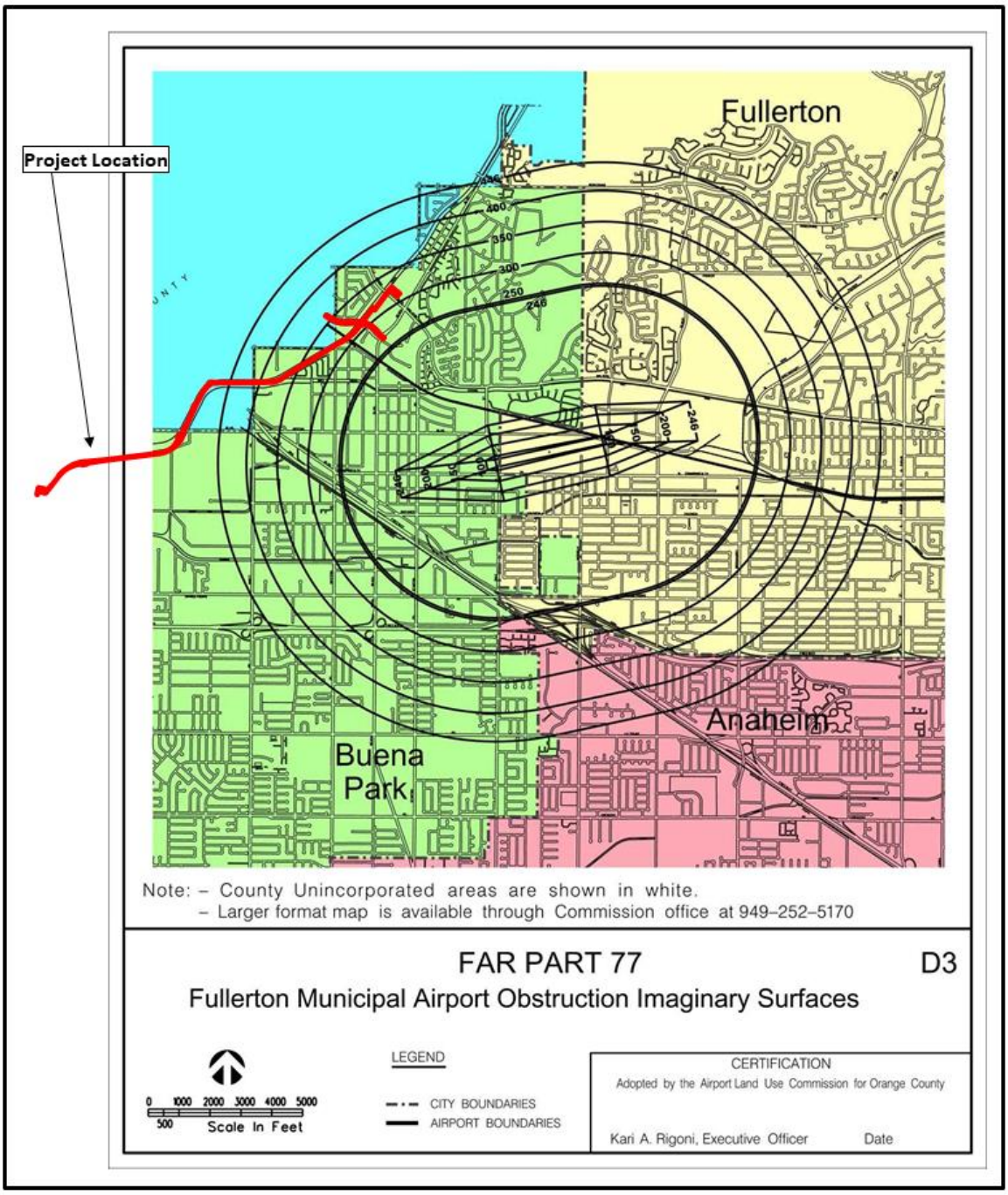
Source: Airport Land Use Commission for Orange County, 2017

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OC Loop Segments O, P, and Q

Fullerton Municipal Airport Notification Area

Figure 4.9-2
FULLERTON MUNICIPAL AIRPORT- AIRPORT OBSTRUCTION IMAGINARY SURFACES ZONE



Disclaimer: Illustration provided by Airport Land Use Commission for Orange County, who has indicated that the information is true and correct. No other warranties are expressed or implied.

Source: Airport Land Use Commission for Orange County, 2017

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OC Loop Segments O, P, and Q
Fullerton Municipal Airport Obstruction Area

Operation

The operation of the proposed bikeway, with bridges across Coyote Creek Channel, would not result in a safety hazard or excessive noise for people residing or working in the project area because the project site is located outside of the Fullerton Municipal Airport's noise contour zones and the proposed bridges would not interfere with aircraft. Therefore, the project would have no impact in this regard.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact with Mitigation Incorporated

Construction

Construction of the proposed project would not interfere with the emergency response plans or emergency evacuation plans of the City of Cerritos or the City of La Mirada because the proposed bikeway is not a designated emergency or evacuation route (RBF Consulting, 2004, Exhibit SAF-1) (LA County Public Works, 2008). Additionally, the City of Buena Park does not have an emergency or evacuation route; however, considering that the proposed bikeway would not be used for vehicular travel, the proposed project would not affect the City of Buena Park's ability to provide emergency services.

The proposed project could temporarily impact street traffic adjacent to the project site during the construction phase due to construction activities along the ROW where the proposed project would install the at-grade crossings at Knott Avenue and Stage Road in the city of Buena Park. Although Buena Park does not have emergency or evacuation routes, project construction at Knott Avenue and Stage Road could temporarily reduce the number of lanes available for vehicular travel. Additionally, at La Mirada Boulevard/Malvern Avenue street ROW, construction would occur to widen sidewalks for a Class I bikeway, as follows: along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor will "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities will remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required behind existing sidewalk on each side. South Firestone Boulevard would need to be temporarily closed during project construction. As further detailed in **Section 4.17,** the proposed project would implement mitigation measure **TRANS-1**, a Construction Management Plan (CMP), which would ensure adequate traffic circulation and emergency evacuation during project construction for all areas discussed above that would be temporarily impacted; therefore, impacts would be less than significant.

Mitigation Measure

Please refer to **Section 4.17**, *Transportation*, for **MM TRANS-1**.

Level of Significance After Mitigation

After implementation of mitigation measure **TRANS-1**, the proposed project would have less than significant impacts regarding interference with an adopted emergency response plan or emergency evacuation plan.

Operation

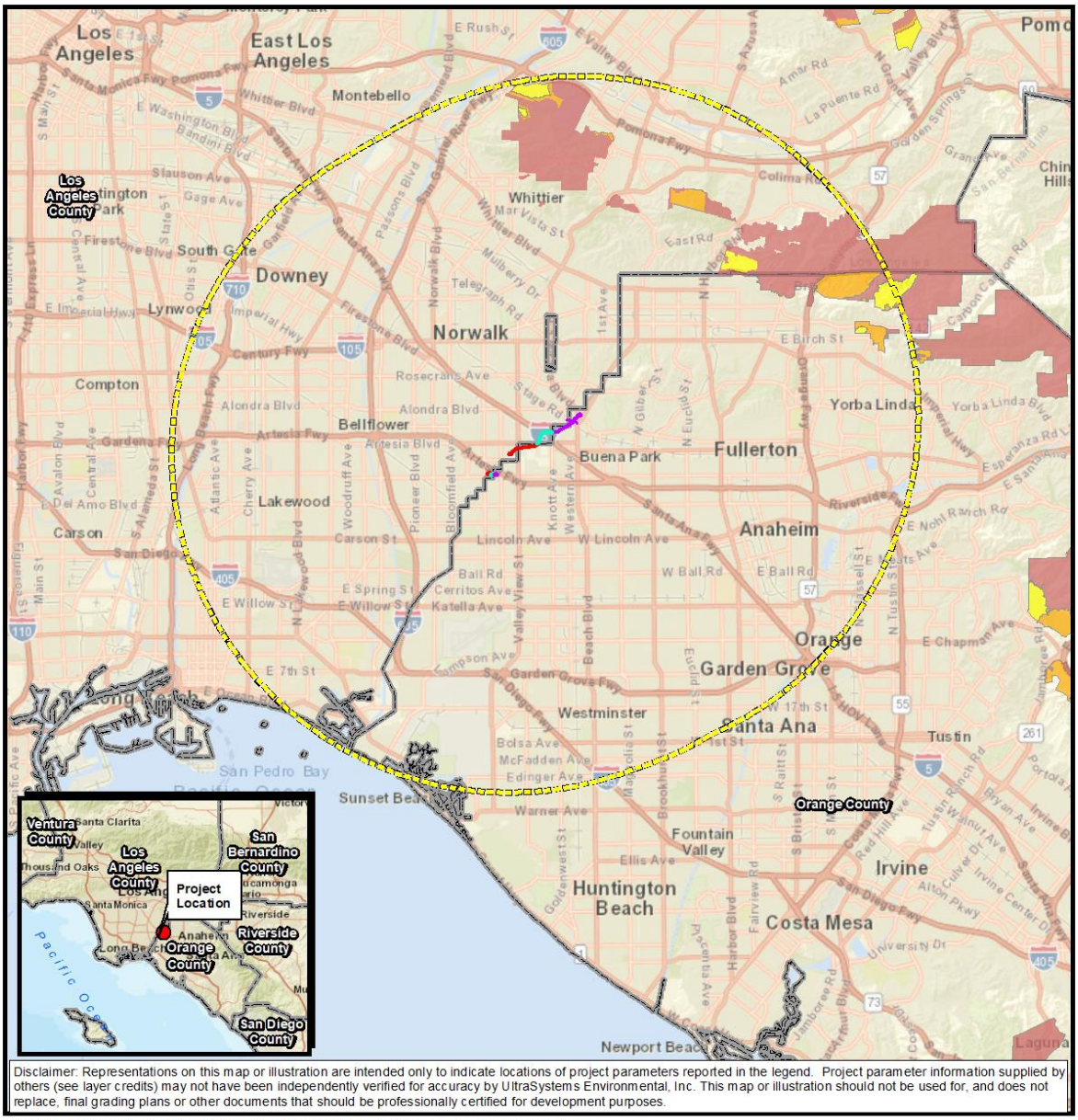
Operation of the proposed project would not interfere with the emergency response plans or emergency evacuation plans of the City of Cerritos or the City of La Mirada because the proposed bikeway is not a designated emergency or evacuation route (RBF Consulting, 2004, Exhibit SAF-1) (LA County Public Works, 2008). Additionally, the City of Buena Park does not have an emergency or evacuation route; however, considering that the proposed bikeway would not be used for vehicular travel, the proposed project would not affect the City of Buena Park's ability to provide emergency services. Therefore, there would be no impact in this regard.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact

The project site is located in a highly urbanized area and is not surrounded by wildlands. The California Department of Forestry and Fire Protection (CAL FIRE) developed Fire Hazard Severity Zones (FHSZ) for State Responsibility Areas (SRA) and Local Responsibility Areas (LRA) (CAL FIRE, 2020). The project site is not located in an SRA or LRA, as depicted in **Figures 4.9-3** and **4.9-4,** respectively. Therefore, the proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Figure 4.9-3
FIRE HAZARD SEVERITY ZONES – STATE RESPONSIBILITY AREA



Disclaimer: Representations on this map or illustration are intended only to indicate locations of project parameters reported in the legend. Project parameter information supplied by others (see layer credits) may not have been independently verified for accuracy by UltraSystems Environmental, Inc. This map or illustration should not be used for, and does not replace, final grading plans or other documents that should be professionally certified for development purposes.

Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_4_8_Fire_Hazards_SRA_Rev_2020_05_01.mxd
May 01, 2020
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community; Cal Fire, 2007; UltraSystems Environmental, Inc., 2020

Scale: 1:253,440

N

0 2 4 Miles

0 2.5 5 Kilometers

Legend

Project Location
- Segment O
- Segment P
- Segment Q
- 10 Mile Radius
- County Boundary

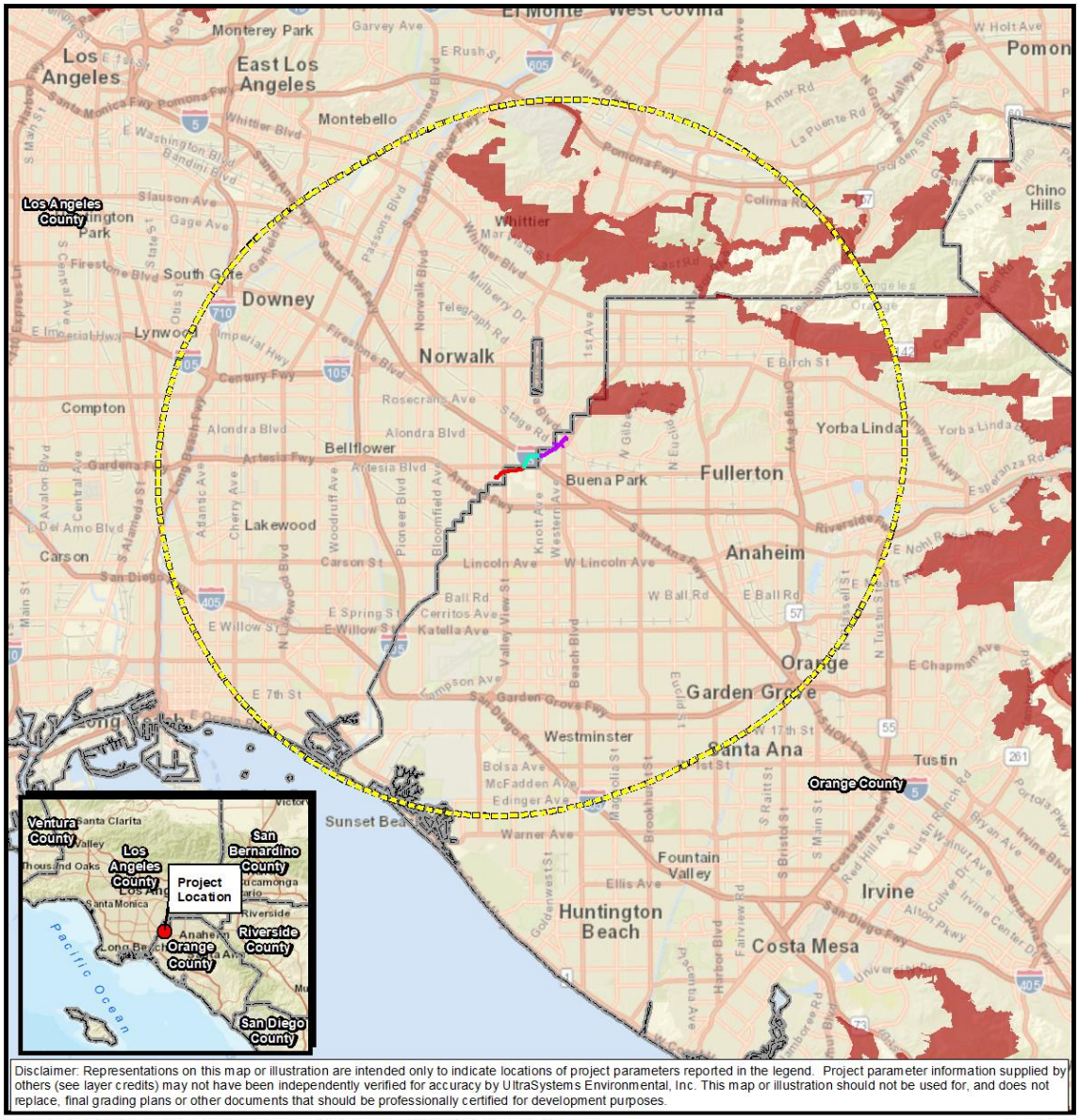
Fire Hazard Severity Zones in SRA (CAL FIRE Adopted November 2007):
- High
- Moderate
- Very High

OC Loop Segments O, P, and Q

Fire Hazard Severity Zone
State Responsibility Area (SRA)

UltraSystems

Figure 4.9-4
FIRE HAZARD SEVERITY ZONES – LOCAL RESPONSIBILITY AREA



4.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			**X**	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			**X**	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on or offsite;			**X**	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			**X**	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			**X**	
iv) impede or redirect flood flows?				**X**
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				**X**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			**X**	

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact

Total Maximum Daily Loads (TMDLs)

The goal of the federal Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C §1251[a]). Under section 303(d) of the CWA, states, territories and authorized tribes, are required to develop lists of impaired (polluted) waters. These are waters for which technology-based regulations and other required controls are not stringent enough to meet the water quality standards set by states (e.g., the Basin Plan). The law requires that states establish priority rankings for waters on the lists and develop TMDLs for these waters (USEPA, 2020).

The TMDL is a number that represents the assimilative capacity of a receiving water to absorb a pollutant. The TMDL is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources plus an allotment for natural background loading, with the addition of a margin of safety. TMDLs can be expressed in terms of mass per time (the traditional approach) or in other ways such as toxicity or a percentage reduction or other appropriate measure relating to a state water quality objective. A TMDL is implemented by reallocating the total allowable pollution among the different pollutant sources (through the permitting process or other regulatory means) to ensure that the water quality objectives are achieved (LARWQCB, 2020).

Waters in which a pollutant load exceeds its assigned TMDL are considered “impaired” and placed on the Section 303(d). In California, the SWRCB prepares and maintains the California 303(d) List of Water Quality Limited Segments (303[d] List), which is released as part of the Integrated Report.

The proposed project would be located adjacent to two flood control facilities (e.g., concrete channel); Coyote Creek, and Coyote Creek North Fork, and enter the Coyote Creek Channel at Valley View Street and Artesia Boulevard (see **Section 3,** *Project Description*). Those sections of Coyote Creek and Coyote Creek North Fork that are located within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB, Region 4) are on the current 303(d) List. These streams and the related water pollutants for which they are listed are presented in Table 4.10-1.

The majority of the proposed project (along Coyote Creek) falls under the jurisdiction of the Santa Ana RWQCB (SARWQCB, Region 8); however, Coyote Creek is not listed as an impaired waterbody by the SARWQCB (SWRCB, 2017).

Table 4.10-1
TOTAL MAXIMUM DAILY LOADS FOR COYOTE CREEK AND COYOTE CREEK NORTH FORK

Stream Name	Regional Board	Pollutant	Pollutant Category	Potential Sources
Coyote Creek North Fork	Los Angeles (Region 4)	Indicator Bacteria	Fecal Indicator Bacteria	Source Unknown
		Selenium	Metals/Metalloids	Source Unknown
Coyote Creek	Los Angeles (Region 4)	Copper, Dissolved	Metals/Metalloids	Source Unknown
		pH	Miscellaneous	Source Unknown
		Toxicity	Toxicity	Source Unknown
		Indicator Bacteria	Fecal Indicator Bacteria	Source Unknown
		Malathion	Pesticides	Source Unknown
		Iron	Metals/Metalloids	Source Unknown

Source: SWRCB, 2017

Construction

Construction of the proposed project could potentially impact surface water quality through demolition, grading, and other construction-related activities. Stormwater runoff from the project site during construction could contain soils and sediments from these activities. Spills or leaks from heavy equipment and machinery, construction staging areas, and/or building sites can also enter runoff and typically include petroleum products such as fuel, oil and grease, and heavy metals.

The proposed project site would be greater than one acre and would be required to obtain coverage from the California State Water Resources Control Board (SWRCB) under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires dischargers of potential pollutants into waters of the State and waters of the U.S. to: (1) implement best management practices (BMPs) to eliminate or reduce point and non-point source discharges of pollutants; and (2) if one acre or more of soil is disturbed during construction, to prepare a site-specific Storm Water Pollution Prevention Plan (SWPPP) to protect water quality and beneficial uses. The Construction General Permit establishes enforceable limits on discharges, require effluent monitoring, designate reporting requirements, and require construction and post-construction BMPs to eliminate or reduce point and non-point source discharges of pollutants.

The SWPPP would designate site-specific BMPs that would minimize or avoid erosion, as well as the amount of sediment and potentially polluted stormwater leaving the project site during construction. The stormwater construction BMPs (CASQA 2012) that would be implemented for the proposed project would include (but not be limited to) gravel bags around inlets/headwalls (sediment control), fiber rolls on slopes and in ditches (sediment control, erosion control), compost (erosion control), and sediment fencing (sediment control), hydroseed/hydromulch on denuded areas (erosion control), bioswales for biofiltration (sediment control), temporary construction stabilized entrances and exits (erosion control, dust control), entrance/outlet tire wash (sediment control), and concrete washouts (non-stormwater management control and waste management and materials pollution control). Furthermore, implementation of site-specific BMPs, detailed in the required SWPPP, would avoid or minimize the addition of potential project-related pollutants listed in the 2014-2016 303(d) List as impairing the water quality of Coyote Creek and Coyote Creek North Fork.

The proposed project would be required to obtain a General Permit for Discharges of Storm Water Associated with Construction Activity, prepare a SWPPP, and implement BMPs prior to commencement of construction activities; additionally, BMPs must be maintained, inspected after each precipitation event, and repaired or replaced as necessary. The project would also be required to obtain a § 401 CWA Water Quality Certification from the SWRCB, which directly regulates multi-regional projects. In the State of California, the 402 Program regulates discharges of fill and dredged material under Clean Water Act Section 401 and the protection of water quality through the California Porter-Cologne Water Quality Control Act.

Adherence of the proposed project to applicable state regulations and their requirements would avoid or minimize potential violations of water quality standards or waste discharge requirements, and impacts would be less than significant during project construction.

Operation

The proposed project would be a paved trail intended for the use of pedestrians, bicyclists, and other recreationalists. The trail will not be open for use to vehicular traffic, with the exception of maintenance vehicles or emergency vehicles. Due to these use restrictions, potential street pollutants such as metals, organics associated with petroleum, and nutrients that are commonly associated with vehicle emissions and leaks would not be significant pollutants of stormwater runoff from the project. Because traditional roadway pollutants are not anticipated to occur in amounts which would result in water quality violations, structural water quality BMPs, such as Low Impact Development Practices, are not proposed as part of project design.

The proposed project would result in a paved trail where unimproved maintenance and access roads currently exist; the addition of paving would reduce the amount of sediment that washes into Coyote Creek under existing conditions. Operation of the proposed project would result in an overall decrease in the amount of sediment which washes into Coyote Creek under existing conditions.

Operation of the proposed project would not significantly affect the surface or ground water quality compared to existing conditions. The project would repave the existing Coyote Creek bikeway and pave over portions of the Coyote Creek trail that are currently comprised of dirt paths. Additionally, operation of the proposed project would not involve pollutants that could impact surface water or groundwater quality. Therefore, impacts during project operation would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact

Construction

Construction of the proposed project would only use a minimal amount of water, for purposes such as dust control, from readily available public sources. This water use would be temporary and would not require the substantial use of groundwater. Once construction is completed, the project would not require water for its operation. Project construction would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. Therefore, impacts would be less than significant.

Operation

During project operation no water would be used. The proposed project would increase paved areas by approximately 2.59 acres (Salahieh, 2020).

The proposed project would be located on the Coastal Plain of Orange County Groundwater Basin (Basin 8-001), which covers a surface area of approximately 350 square miles. Groundwater recharge to this basin occurs primarily from percolation of Santa Ana River flow, infiltration of precipitation, and injection into wells (DWR, 2004). The 2.59-acre area of new impervious surface that would result from construction and operation of the proposed project would not be substantial enough to interfere with groundwater recharge or impede sustainable groundwater management of this basin. Therefore, impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

v) Result in substantial erosion or siltation on or offsite;

Less Than Significant Impact

Construction

During project construction the drainage pattern of the site would be altered; however, due to the location and nature of the proposed project, this alteration would be temporary. The project would be required to prepare a SWPPP and obtain an NPDES permit for construction, as detailed in Section 4.10 a), and would implement BMPs to avoid or minimize erosion and sedimentation.

Project compliance with regulatory requirements would reduce potential erosion/siltation impacts during construction, and construction of the project would not result in substantial erosion or siltation. Potential impacts would be less than significant.

Operation

Operation of the proposed project would increase impervious area, as compared to the existing conditions. This increase in impervious area is anticipated to result in a slight decrease in potential erosion and siltation as compared to existing conditions (hard-packed soil access roads). Therefore, project operation would not result in substantial erosion or siltation offsite and impacts would be less than significant.

vi) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

and

vii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact

Construction

The proposed project would install bikeway undercrossings in two locations; in Coyote Creek at Valley View Street, and at Artesia Boulevard. The undercrossing at Valley View Street proposes to modify the Coyote Creek Channel cross section to include a 12-foot-wide concrete bikeway "cut into" the northern (left side looking upstream) side of the Coyote Creek Channel, and the undercrossing at Artesia Boulevard proposes to install a hybrid bikeway "cut into" the northern (left side looking upstream) side of the Coyote Creek Channel adjacent to the abutment with a cantilevered section to provide a complete 12-foot-wide bikeway (GHD, 2020, p. 3).

Three storm drain outlets exist on the north side of Coyote Creek Channel. Line A, La Mirada Creek and MTD 186, discharge into Coyote Creek approximately 68 and 48 feet (respectively) west of the

Valley View Street bridge. A third outfall, designation unknown, discharges into Coyote Creek approximately 20 feet west of the bridge. As shown in the *Project Plans* (**Appendix A2**, Sheet L4, Station 26+84.91), the proposed modifications of the Coyote Creek Channel at the Valley View Street bridge would begin and end above all three storm drain outfalls, and these outfalls would not be impacted during construction of the proposed project.

A storm drain outfall (PD 0624 - Line A - Coyote Creek) discharges into Coyote Creek at the northwest corner of the Artesia Boulevard bridge; however, as shown in **Appendix A3** (2020 Updated Crossing Plans, sheet 3, Station 50+47.61), the outfall is below the level of the proposed channel modifications at Artesia Boulevard bridge and would not be impacted during construction of the proposed project.

During the construction phase, construction activities may increase the amount of runoff and erosion compared to existing conditions. However, the project would be required to adhere to the requirements of a site-specific SWPPP and obtain an NPDES permit during the construction phase. Therefore, impacts would be less than significant during construction.

Operation

The proposed project would increase the area of impermeable surfaces, which would increase the amount of runoff, compared to existing conditions. For the proposed project segments O, P, and Q, there is currently approximately 55,977 square feet (1.29 acres) of impervious surface, as portions of the current access way are comprised of hard-packed soil. The proposed bikeway project would increase the amount of impervious area to 168,864 square feet (3.88 acres) (Salahieh, 2020), which is a net increase of approximately 112,887 square feet (2.59 acres) of impervious area. However, the proposed project would be designed in compliance with all applicable regulations regarding stormwater runoff and would be reviewed to ensure that it would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

A *Hydraulics Study for Artesia Boulevard & Valley View Street Undercrossings (Revision 1*; Hydraulics Study*)* was prepared for OC Loop Segments O, P, and Q (GHD, 2020; **Appendix I** to this IS/MND) to establish the existing flow rates along the project limits with a focus on the two bridge undercrossings that require encroachment into and modification of the existing Coyote Creek Channel. This study performed a steady state analysis using the USACE's Hydrologic Engineering Center's River Analysis System (HEC-RAS) software for both the existing and proposed conditions and documented the Coyote Creek Channel flow characteristics for each condition. The purpose of the study was to ascertain whether the construction of the proposed bike undercrossings at Valley View Street and Artesia Boulevard would result in increased water surface levels or capacity exceedance within Coyote Creek at each undercrossing, and one thousand feet upstream and downstream of each undercrossing.

Utilizing Orange County Public Works approved High Confidence flow rates, (GHD, 2020, p.6), HEC-RAS results for the existing conditions demonstrated that the water surface elevations within Coyote Creek were contained within the Creek and do not overtop the banks (channel walls). These results are consistent with the Flood Insurance Rare Maps (FIRM) produced by the Federal Emergency Management Agency (FEMA) for the study areas along Coyote Creek. A second HEC-RAS analysis was conducted for the proposed conditions to include the two undercrossings, to take into account the modifications to the cross-sectional geometry of the Coyote Creek Channel resulting from the ramping into and out of, and passageway under the bridges. The proposed conditions HEC-RAS analysis illustrates that for one stretch (approximately 50') of Coyote Creek at the outlet under the

Artesia Bridge, the water surface elevation rises 0.37'. For the remainder of the areas studied (1,000' upstream and downstream of two bridges), the water surface elevations are equal to existing, lower than, or within one-half an inch of existing conditions (GHD, 2020, p.8). In the proposed condition, Coyote Creek conveys the high confidence flow rate and maintains a minimum of three feet (3') of vertical distance between the water surface elevation and the bridge soffits, and the top of channel.

The Hydraulics Study concluded that the proposed improvements would have minimal impact to the water surface elevation within Coyote Creek Channel at the proposed under crossings at Valley View Street and Artesia Boulevard. Implementation of the proposed project at these undercrossings would not result in increased water levels such that the water surface would impact existing infrastructure or tributary improvements (GHD, 2020, p. 9; Brandon Willnecker, *personal communication*, August 21, 2020). Therefore, development of the project would have a less than significant impact in this regard.

viii) Impede or redirect flood flows?

No Impact

FEMA has mapped the proposed project as located in Zone X, *Areas determined to be outside the 0.2% annual chance* [500-year] *floodplain*, as shown on **Figure 4.10-1**. The 500-year Flood Zone describes a flood event that has a 0.2 percent chance of occurring in any year. Furthermore, the project proposes the construction of a bikeway, which would not include structures that would impede or redirect flood flows. The project would be located on the berm above the existing storm channel, with the exception of proposed undercrossings, which would be constructed via the use of box culverts and pedestrian bridge crossings; however, as discussed in the project's Hydraulics Study (GHD, 2020), these project components would not impede or redirect flood flows. The project would have no impact in this regard.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

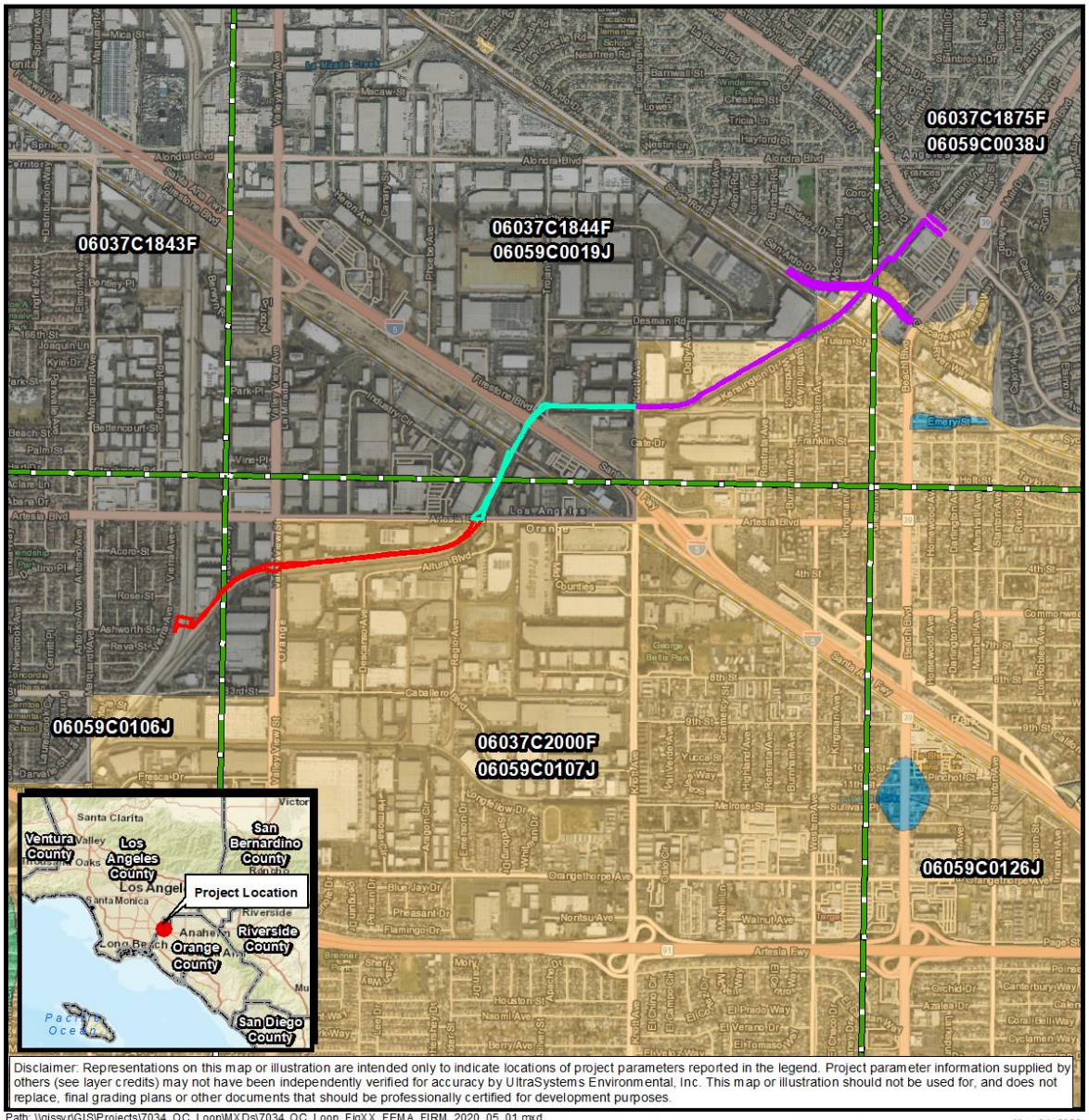
No Impact

The project is not anticipated to result in the release of pollutants due to flood inundated, because the nature of the project (i.e., bikeway) doesn't involve the storage or potential pollutants onsite.

A tsunami is a sea wave (or series of waves) of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands (California Seismic Safety Commission, 2020). The project is not located within a tsunami inundation zone (CGS, 2020). The closest tsunami inundation zone is in Los Alamitos, approximately five miles southwest of the start of Segment O; therefore, there would be no impact related to inundation by tsunami.

A seiche is an oscillating wave caused by wind, tidal forces, earthquakes, landslides and other phenomena in a closed or partially closed water body such as a river, lake, reservoir, pond, and other large inland water body. A review of aerial imagery (Google Earth Pro, 2020) revealed no water bodies large enough to support a seiche within a five-mile radius of the project site; therefore, there would be no impact related to inundation by seiche.

Figure 4.10-1
FEMA FLOOD HAZARD ZONES



Project operation would not involve the transport, handling, or use hazardous materials. Therefore, there would be no impact regarding release of pollutants due to project inundation by flood, tsunami, or seiche.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact

The California Porter-Cologne Water Quality Control Act (Porter-Cologne) defines water quality objectives as the *allowable limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area*. Thus, water quality objectives are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water. Water quality objectives apply to both waters of the United States and waters of the State.

As required by Porter-Cologne, the SWRCB requires individual Regional Water Quality Control Boards (RWQCBs) to develop Water Quality Control Plans (Basin Plans), which are *designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan[s] (i) designates beneficial uses for surface and ground waters, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy, and (iii) describes implementation programs to protect all waters in the Region[s]. In addition, the Basin Plan incorporates (by reference) applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations* (LARWQCB, 2020).

The proposed project in under the jurisdiction of the Basin Plans of the Los Angeles Regional Water Quality Control Board (LARWQCB) and the Santa Ana Regional Water Quality Control Board (SARWQCB). As discussed in Sections 4.10 a) and 4.10 b), the proposed project would not conflict with or obstruct implementation of the water quality control plans or sustainable groundwater management plans of the LARWQCB or the SARWQCB. Impacts would be less than significant.

4.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				**X**
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			**X**	

a) Would the project physically divide an established community?

No Impact

The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor called the OC Loop. Comprised of OC Loop Segments O, P, and Q, the new proposed facilities scheduled to become part of the Coyote Creek Bikeway, would be located along Coyote Creek in the cities of Cerritos, Buena Park and La Mirada.

As discussed in **Section 3.0** and shown on **Figure 3.6-1** and **Figure 3.6-2**, The project would include three permanent easements, one in Segment P on Trojan Way and two in Segment Q on La Mirada Boulevard.

Although easements would be required for the proposed project, neither the permanent easements nor the construction/operation of the proposed project would physically divide an established community. The project would modify some roadway alignments and would change striping of traffic lanes but would not divide land uses from one another as a majority of the project would be constructed adjacent to the Coyote Creek Channel.

While the proposed project runs through several cities, it does not divide any of those cities. The purpose of the proposed project is to improve the existing bikeway infrastructure along Coyote Creek and to connect city bikeways that do not currently connect. No streets or sidewalks would be permanently closed as a result of the project. Therefore, the proposed project would not physically divide an established community and no impact would occur.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact

The proposed project is divided into Segments O, P, and Q, all of which run through the cities of Cerritos, Buena Park and/or La Mirada; therefore, the proposed project is analyzed for each segment and the cities through which it runs. **Tables 4.11-1** through **4.11-3** analyze each respective city's

applicable land use regulations and compliance of the proposed project with the applicable regulations.

Segment O

Segment O is within the cities of Cerritos and Buena Park. Therefore, analysis for Segment O is based on each city's applicable land use polices and regulations.

Table 4.11-1
PROJECT COMPLIANCE WITH CITY OF CERRITOS GENERAL PLAN POLICIES REGARDING LAND USE

General Plan Element	Project Compliance
Land Use Element: Goal LU-11 Preserve and enhance existing community and neighborhood character and sense of place.	
Policy LU-11.2: Ensure that new development is a positive addition to the City's environment and does not detract from the nature and character of appropriate nearby established development.	The proposed project would not detract from the character of the project area because it would improve the existing Coyote Creek bikeway. Additionally, the project would be a positive addition as the project would improve Coyote Creek's trails. Therefore, the project would not conflict with this policy.

Source: (RBF Consulting, 2004, pp. LU-42 and LU-49).

Table 4.11-2
PROJECT COMPLIANCE WITH CITY OF BUENA PARK GENERAL PLAN POLICIES REGARDING LAND USE

General Plan Element	Project Compliance
Land Use Element: Goal LU-1 A complementary balance of land uses throughout the community.	
Policy LU-1.4: Provide for the development of complementary land uses, such as open space, recreation, and civic/service uses for all future residential and non-residential development.	The proposed project would be compatible with and would complement the existing Coyote Creek bikeway because it would improve and connect OC Loop trail segments. Therefore, the project would not conflict with this policy.
Land Use Element: Goal LU-2 Integration of open space resources with existing and future land uses.	
Policy LU-2.1: Preserve public and private open space for active and passive recreational opportunities to enhance connectivity with neighborhoods.	The proposed project would connect OC Loop trail segments. Therefore, the proposed project would enhance connectivity for the OC Loop trail, which would preserve recreational opportunities. Therefore, the project would not conflict with this policy.
Policy LU-2.2: Seek opportunities to improve and enhance Buena Park flood control facilities to protect the public health, safety, and welfare, while providing additional opportunities to connect various land uses throughout the City.	The proposed project would connect OC Loop trail segments and would provide an opportunity to connect land uses via the proposed bikeway. Therefore, the project would not conflict with this policy.

General Plan Element	Project Compliance
Policy LU-2.4: Seek opportunities to expand the use of easements for walking, biking, and recreation to enhance connectivity between a variety of land uses.	The proposed project would connect OC Loop trail segments and would provide an opportunity to connect land uses via the proposed bikeway. Therefore, the project would not conflict with this policy.
Policy OSR-1.5: Evaluate and, where feasible, utilize the opportunities offered by abandoned road and railroad rights-of-way and similar environmentally impacted or unused linear open space to construct low maintenance greenbelts and multi-use trails.	The proposed project would connect OC Loop trail and would develop the trail adjacent to the Coyote Creek channel. Therefore, the project would not conflict with this policy.

Source: (RBF Consulting, 2010, p. 6-7 through 6-9).

Segment P

Segment P is located entirely in the City of La Mirada. Therefore, analysis for Segment P is based on the City of La Mirada's applicable land use polices and regulations.

Table 4.11-3
PROJECT COMPLIANCE WITH CITY OF LA MIRADA GENERAL PLAN POLICIES REGARDING LAND USE PLANS

General Plan Element	Project Compliance
Land Use Element: Goal 2.0 Maintain the quality and distribution of community and neighborhood facilities for residents.	
Policy 2.2: Work cooperatively with surrounding jurisdictions to create and maintain the Coyote Creek Multi-Use Trail.	The proposed project would work cooperatively with the cities of Buena Park and La Mirada to improve the Coyote Creek trail. Therefore, the project would not conflict with this policy.
Land Use Element: Goal 4.0 Stimulate the revitalization of deteriorating land uses and properties.	
Policy 4.3: Ensure the provision of adequate public facilities and services that maintain quality of life and are convenient and appropriate to each neighborhood.	The proposed project would connect bikeways that are not currently connected; it would make using the trail more convenient. Therefore, the project would not conflict with this policy.
Land Use Element: Goal 5.0 Preserve the character and quality of La Mirada's neighborhoods.	
Policy 5.1: Remove blighting conditions where necessary to encourage investment, establish more viable land uses, and improve the aesthetic character of districts and neighborhoods.	The proposed project would improve the current conditions of the existing Coyote Creek and improve the aesthetic character of the area. Therefore, the project would not conflict with this policy.
Open Space and Conservation Element: Goal 2.0 Preserve and enhance trails and passive open space.	
Policy 2.2: Work cooperatively with surrounding jurisdictions to create and maintain the Coyote Creek Multi-Use Trail.	The proposed project would work cooperatively with the cities of Buena Park and La Mirada to improve the Coyote Creek trail. Therefore, the project would not conflict with this policy.

Source: (Cotton/Bridges/Associates, 2003, p. LU-14 through LU-16, and p. OSC-8).

Segment Q

Segment Q is located within the cities of Buena Park and La Mirada. As shown in **Table 4.11-2** and **Table 4.11-3**, Segment Q would comply with applicable land use regulations and policies of those cities. Therefore, there would be no impacts.

The following regional and local plans have at least some nexus with the proposed project:

- The 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All).
- The 2009 OCTA Commuter Bikeway Strategic Plan.
- The 2012 OCTA Fourth District Bikeways Strategy report.
- The 2014 County of Orange General Plan.
- The 2015 OC Loop Gap Feasibility Study (OC Parks).
- The City of La Mirada General Plan Circulation Element contains a "Master Plan of Bikeways" that includes over 14 miles of bicycle lanes along streets (Class III) and dedicated multiuse trails (Class I). It also acknowledges development of the OC Loop and its benefits to the city.

Neither the City of Cerritos nor the City of Buena Park has a bicycle plan.

The proposed completion of segments O, P, and Q is compatible with the above-listed plans. The proposed project would be compatible with applicable land use plans, policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be less than significant impacts.

4.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				**X**
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

and

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact

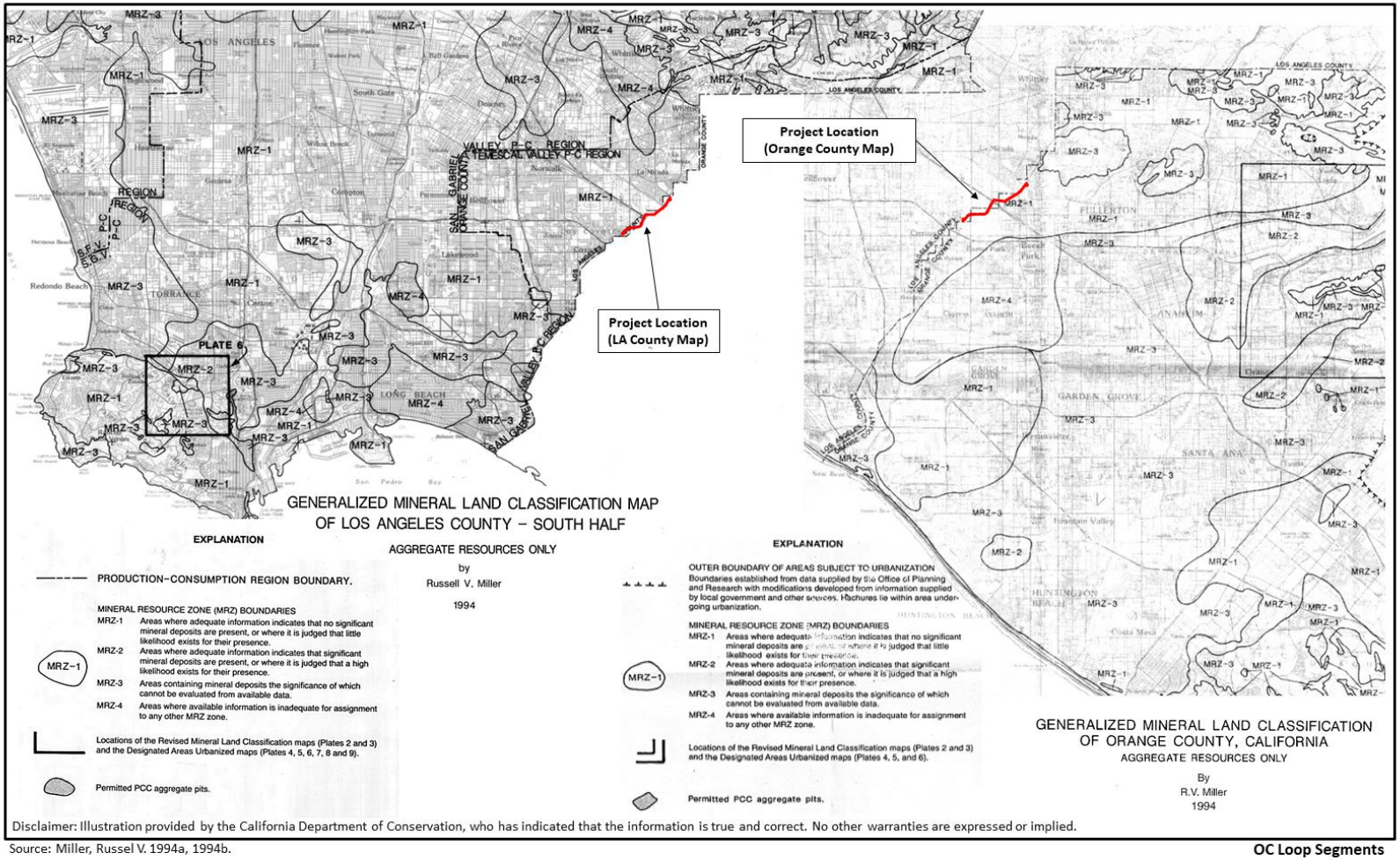
As shown in **Figure 4.12-1**, the entire project (Segments O, P, and Q) is within Mineral Resource Zone (MRZ)-1, which is an area where no significant mineral deposits are present (Miller, 1995). **Figure 4.12-2** shows that the project site is not located in an oil or gas field and that there are no well locations on the project site. **Figure 4.12-3** shows that the nearest geothermal well is approximately 40 miles southeast of the project site.

Segment O

City of Cerritos

There are no active mining operations within the city limits or within the city's sphere of influence (DOC Mines, 2020a). According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells were identified on the project site, although there are some idle and plugged wells within one mile of it (DOC Wells, 2020a). The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor. The project does not involve any mining activities and is not located on a mineral resources recovery site. Therefore, the project would have no impact on the availability of known mineral resources of value to the region or state residents and to any locally important mineral resource recovery sites.

Figure 4.12-1
MINERAL RESOURCES



Source: Miller, Russel V. 1994a, 1994b.

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OC Loop Segments O, P, and Q

Mineral Land Classification

Figure 4.12-2
OIL AND GAS WELLS AND FIELDS

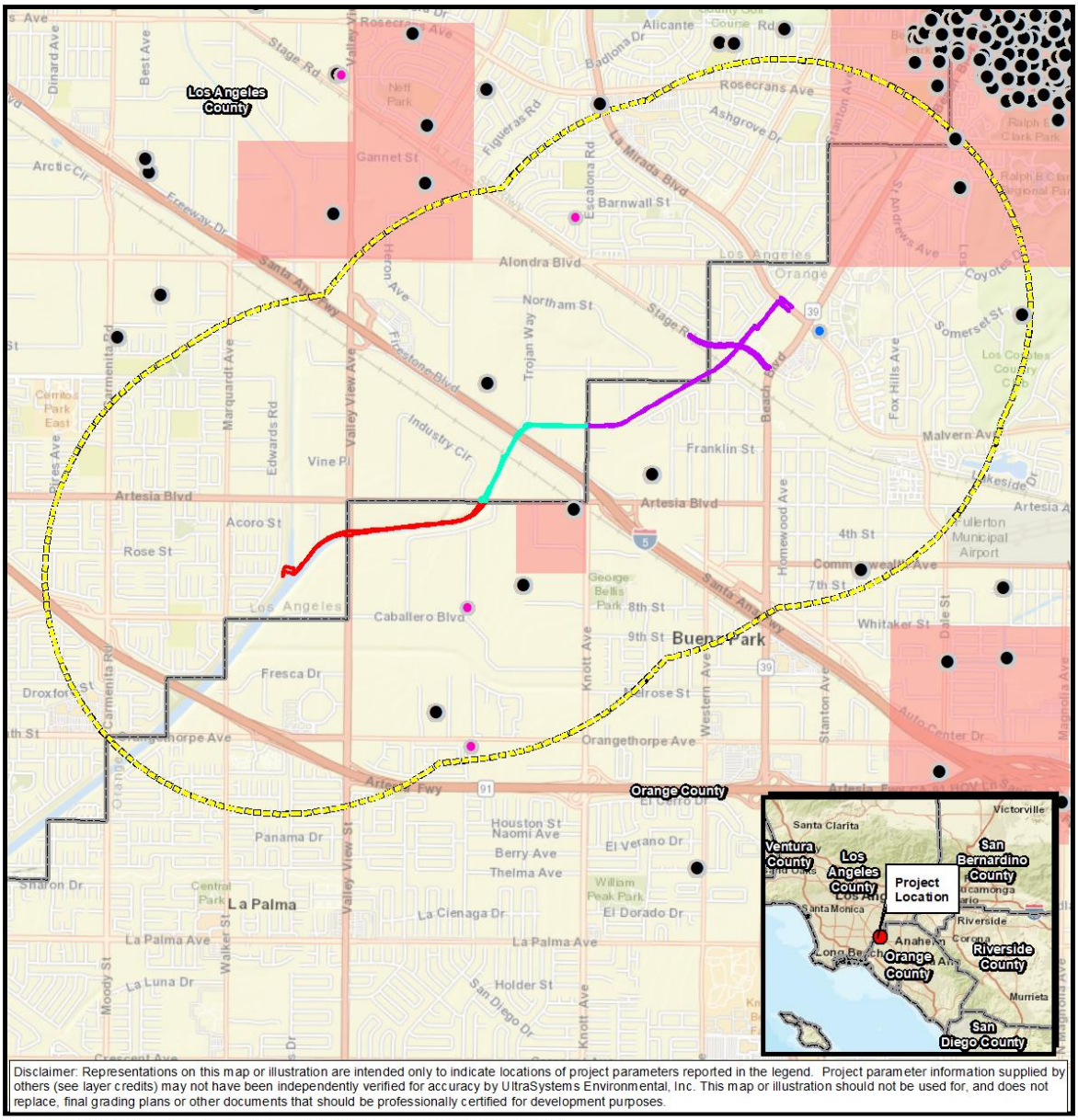
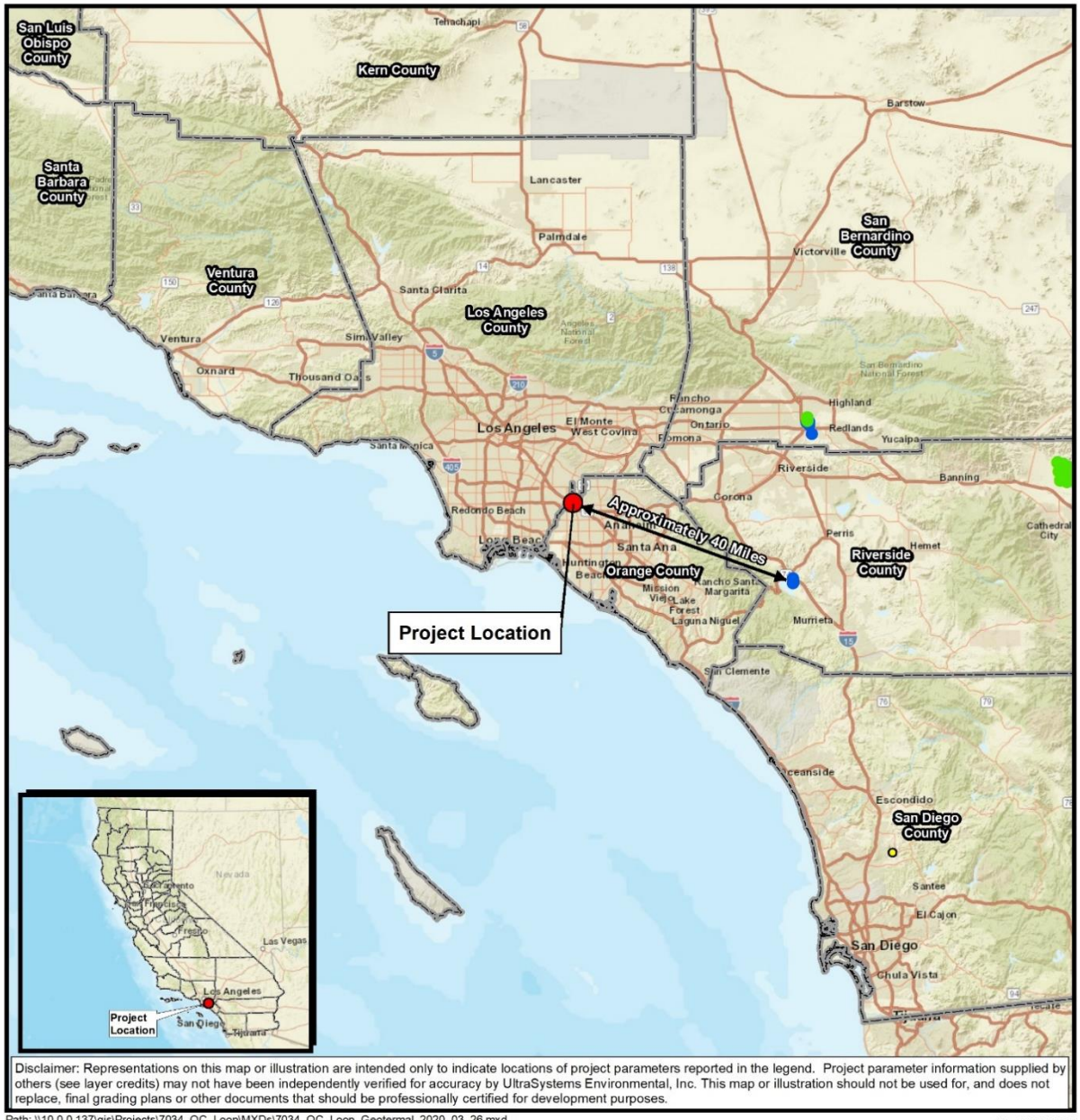


Figure 4.12-3
GEOTHERMAL WELLS



City of Buena Park

According to the Conservation and Sustainability Element of the City of Buena Park General plan, there are no significant mineral resource areas in the city (RBF Consulting, 2010a). Additionally, there are no active mining operations within city limits or within the city's sphere of influence (DOC Mines, 2020b). According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells are identified on the project site although there are some idle and plugged wells within one mile of it (DOC Wells, 2020a). The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor. The project does not involve any mining activities and is not located on a mineral resources recovery site. Therefore, the project would have no impact on the availability of known mineral resources of value to the region or state residents and to any locally important mineral resource recovery sites.

Segment P

City of La Mirada

There are no active mining operations within the city limits or within the city's sphere of influence (DOC Mines, 2020c). According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells were identified on the project site although there are some idle and plugged wells within one mile of it (DOC Wells, 2020b). The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor. The project does not involve any mining activities and is not located on a mineral resources recovery site. Therefore, the project would have no impact on the availability of known mineral resources of value to the region or state residents and to any locally important mineral resource recovery sites.

Segment Q

City of La Mirada

There are no active mining operations within the city limits or within the city's sphere of influence (DOC Mines, 2020c). According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells were identified on the project site although there are some idle and plugged wells within one mile of it (DOC Wells, 2020c). The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor. The project does not involve any mining activities and is not located on a mineral resources recovery site. Therefore, the project would have no impact on the availability of known mineral resources of value to the region or state residents and to any locally important mineral resource recovery sites.

City of Buena Park

According to the Conservation and Sustainability Element of the City of Buena Park General plan, there are no significant mineral resource areas in the city (RBF Consulting, 2010a). Additionally, there are no active mining operations within the city limits or within the city's sphere of influence (DOC Mines, 2020b).

According to the California Department of Conservation Division of Oil, Gas, & Geothermal Resources Well Finder, no oil or gas wells were identified on the project site although there are some idle and plugged wells within one mile of it (DOC Wells, 2020c). The proposed project involves the construction and operation of a 2.7-mile bikeway component of a larger and longer 66-mile regional bikeway corridor. The project does not involve any mining activities and is not located on a mineral resources recovery site. Therefore, the project would have no impact on the availability of known mineral resources of value to the region or state residents and to any locally important mineral resource recovery sites.

4.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?		X		
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

4.13.1 Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The decibel (dB) scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals (zero dBA). The scale ranges from zero (for the average least perceptible sound) to about 130 (for the average human pain level).

4.13.2 Noise Measurement Scales

Several rating scales have been developed to analyze adverse effects of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people depends largely upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq}, the equivalent noise level, is an average of sound level over a defined time period (such as 1 minute, 15 minutes, 1 hour or 24 hours). Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure.

- L_{90} is a noise level that is exceeded 90 percent of the time at a given location; it is often used as a measure of "background" noise.
- L_{max} is the root mean square (RMS) maximum noise level during the measurement interval. This measurement is calculated by taking the RMS of all peak noise levels within the sampling interval. L_{max} is distinct from the peak noise level, which only includes the single highest measurement within a measurement interval.
- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 4.77-dBA "penalty" added to noise during the hours of 7:00 p.m. to 10:00 p.m., and a 10-dBA penalty added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime (Hendriks et al., 2013). The logarithmic effect of these additions is that a 60-dBA 24-hour L_{eq} would result in a calculation of 66.7 dBA CNEL.
- L_{dn}, the day-night average noise, is a 24-hour average Leq with an additional 10-dBA "penalty" added to noise that occurs between 10:00 p.m. and 7:00 a.m. The L_{dn} metric yields values within 1 dBA of the CNEL metric. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

4.13.3 Existing Noise

As will be discussed below, information on existing noise levels was obtained from a review of previous noise studies and by conducting project-specific ambient noise measurements. For reference, **Figure 4.13-1** shows the sampling locations of the latter.

Segment O

The predominant noise sources in the project area within the City of Cerritos are traffic and commercial and industrial land uses. The primary traffic noise generated comes from the city's primary and major arterials, as well as the three highways that traverse the city. The noise generated from commercial and industrial land uses is normally associated with delivery trucks, air compressors, generators, outdoor loudspeakers and gas venting (RBF Consulting, 2004, p. N-9).

The City of Cerritos General Plan names several land use categories as noise-sensitive, including schools, residences, churches, hospitals (RBF Consulting, 2004, p. N-8); senior centers, parks (RBF Consulting, 2004, p. N-15); and libraries (RBF Consulting, 2004, p. N-20). The nearest sensitive receivers to the project that are within the City of Cerritos would be the single-family homes immediately west of the North Fork of Coyote Creek upstream and downstream of its confluence with the East Fork. These sensitive receivers are shown in **Figure 4.13-2**. **Table 4.13-1** summarizes information about them.

Figure 4.13-1
AMBIENT NOISE MONITORING LOCATIONS IN THE PROJECT AREA

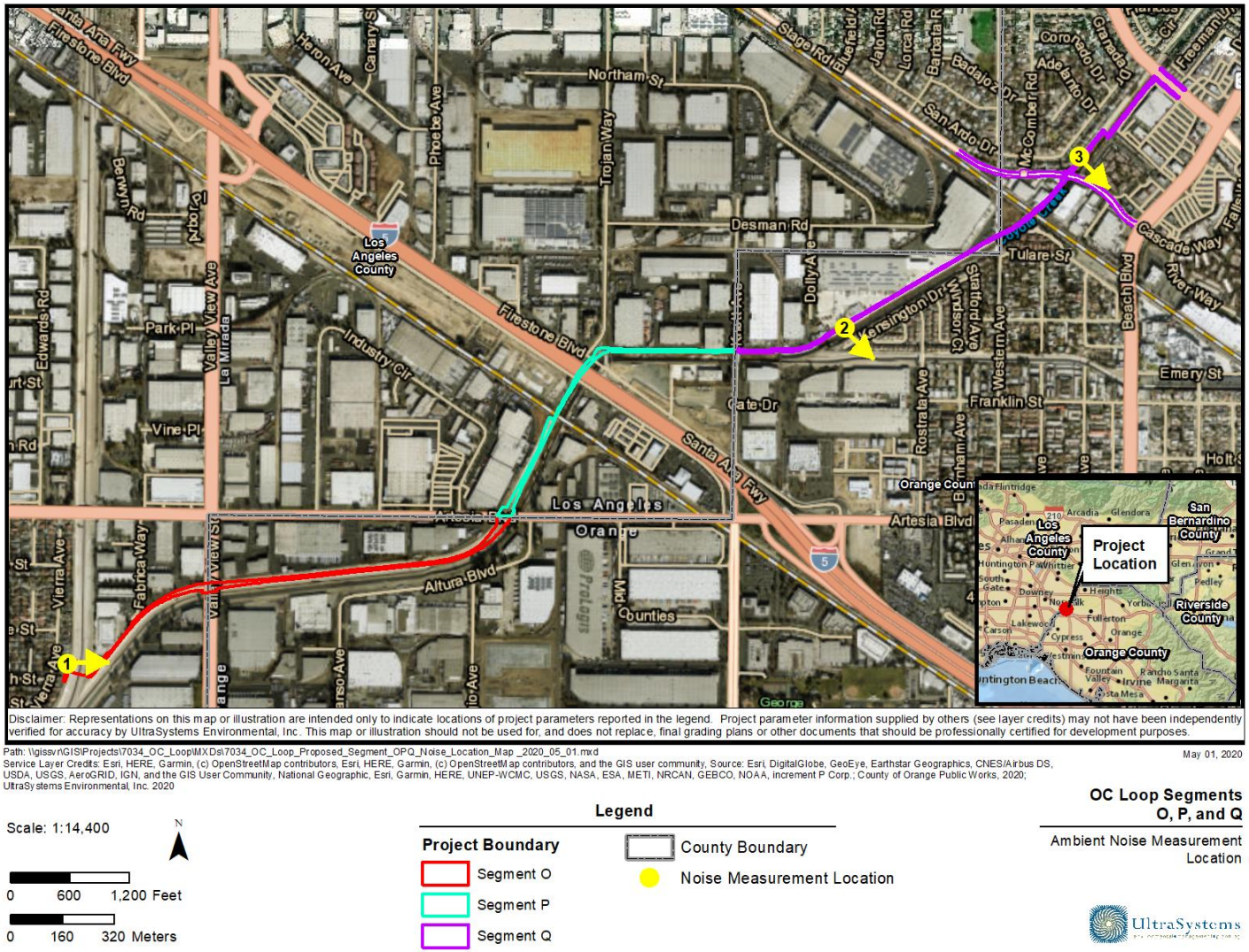


Figure 4.13-2
SENSITIVE NOISE RECEIVERS IN SEGMENT O

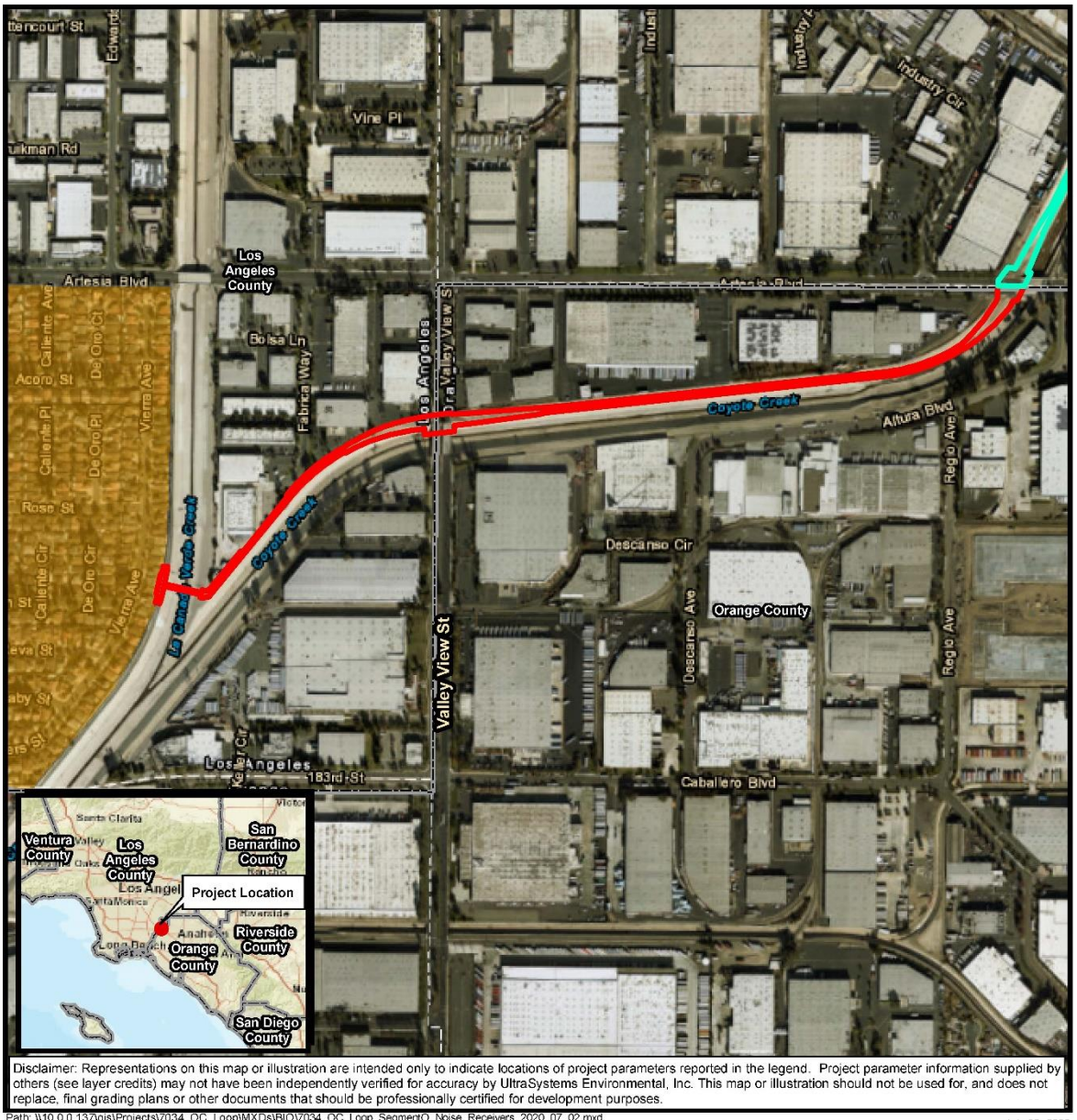


Table 4.13-1
SENSITIVE RECEIVERS IN SEGMENT O (CERRITOS)

Description	Location	Distance From Site Boundary (feet)	Nearest Ambient Sampling Point[a]
Single-family residence[b]	17824 Vierra Avenue	20	1

[a] See **Figure 4.13-1** for locations of ambient noise sampling points.
[b] Homes partially shielded by five-foot-high masonry wall.

The City's General Plan Noise Element reports the results of short-term measurements taken in May 2004 that were used to estimate 24-hour average noise levels (as dBA CNEL) throughout the city. Noise levels near the single-family residences adjacent to the confluence of Coyote Creek's north and east forks were estimated to be 70 dBA CNEL (RBF Consulting, 2004, Exhibit N-1).

On February 18, 2020, a 15-minute ambient noise level sample was obtained at Location 1 in **Figure 4.13-1** (See **Appendix G**). The measurement was made between 7:58 a.m. and 8:13 a.m. As shown in **Table 4.13-2,** the average short-term ambient noise level was 51.4 dBA L_{eq}. All monitored noise levels were within ranges considered typical for the nearby land uses.

Table 4.13-2
AMBIENT NOISE MEASUREMENT RESULTS IN SEGMENT O

Point	Data Set	Sampling Time	Address	Sound Level (dBA)			Notes
				L_{eq}	L_{max}	L_{90}	
1	S157	0758-0813	17824 Vierra Avenue	51.4	58.1	49.5	Along west side of Coyote Creek, adjacent to the single-family residences.

Segment P

Segment P would run primarily through the City of La Mirada. The predominant source of noise in the general area of the project is vehicular and rail traffic. Major noise contributors in the city include the BNSF Railway (BNSF), Interstate 5 (I-5) and major and minor arterials, such as Alondra Boulevard, La Mirada Boulevard, Rosecrans Avenue, Valley View Avenue, Imperial Highway, and Beach Boulevard.

The City of La Mirada's General Plan identifies residences, hospitals, convalescent homes, schools, and churches as noise-sensitive land uses (Cotton/Bridges/Associates, 2003, p. SCS-16). Additionally, the City's Municipal Code has noise controls that are applicable to the proposed project, which require construction to be held during specific times of the week and times of the day. There are no sensitive receivers surrounding the project area within the city of La Mirada; the land uses adjacent to and surrounding the project area within the city are commercial and industrial. Therefore, no ambient noise measurements were made.

Segment Q

The only part of Segment Q that has the potential for adverse noise impacts is in the city of Buena Park. The predominant sources of noise in the project area within Buena Park area are

shipping, packing and moving items in commercial/industrial areas, and the traffic on local surface streets. The City of Buena Park General Plan lists sensitive receivers as locations where human populations (especially children, senior citizens, and sick persons) are present, and where there is a reasonable expectation of continuous human exposure to noise, such as schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers, long-term care, mental care facilities, day care centers, single-family dwellings, mobile home parks, churches, libraries (RBF Consulting, 2010a, p. 8-27). Additionally, the City's Municipal Code has noise controls that are applicable to the proposed project, which require construction to be held during specific times of the week and times of the day.

The nearest sensitive receivers to the project that are within the City of Buena Park would be the single-family homes adjacent to the north side of Coyote Creek between Knott Avenue and Stage Road, and the single-family homes and multi-family homes between Stage Road and South La Mirada Boulevard. These sensitive receivers are shown in **Figure 4.13-3**. **Table 4.13-3** summarizes information about them.

Figure 4.13-3
SENSITIVE NOISE RECEIVERS IN SEGMENT Q (BUENA PARK)

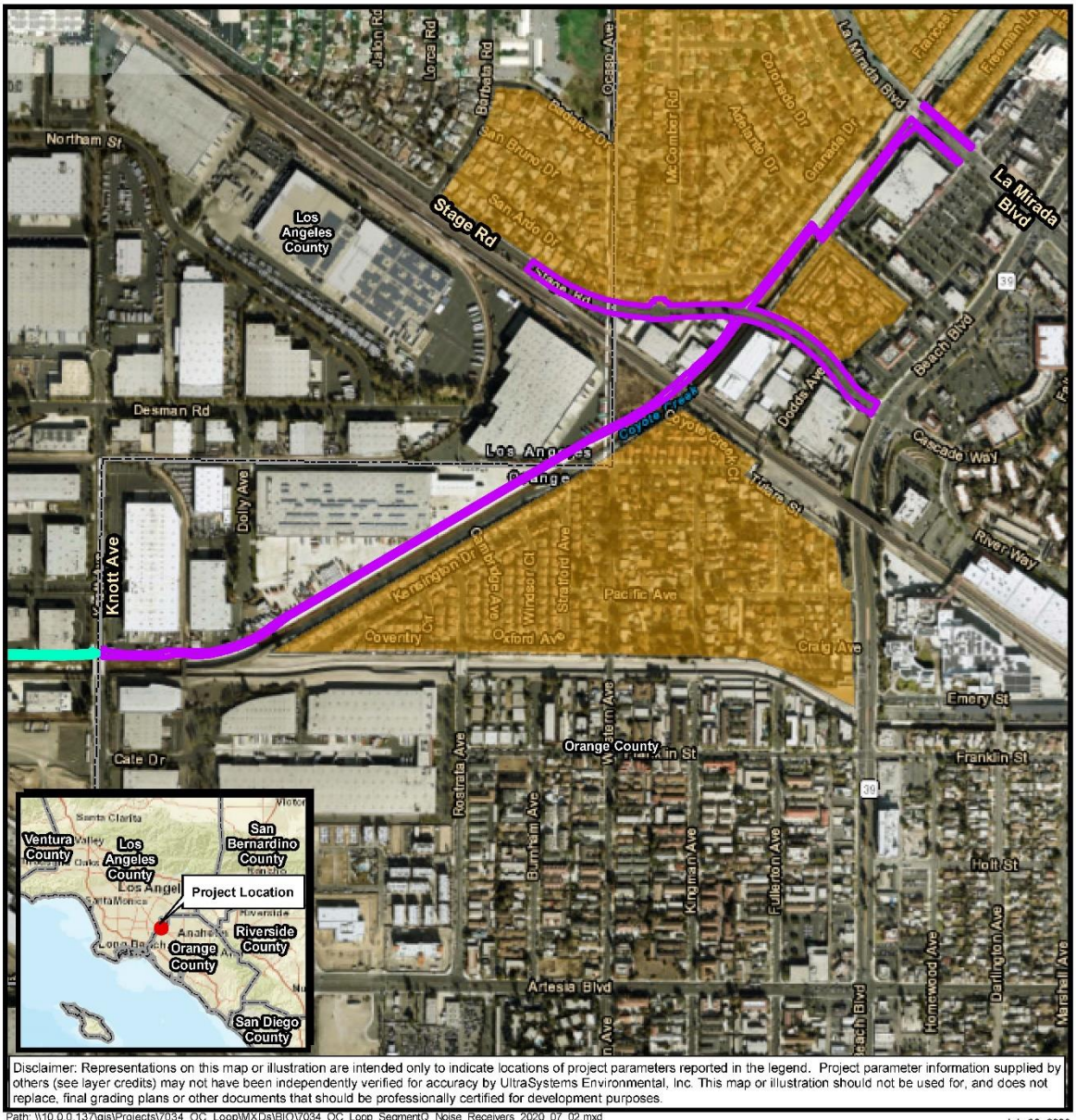


Table 4.13-3
SENSITIVE RECEIVERS IN SEGMENT Q (BUENA PARK)

Description	Location	Distance From Site Boundary (feet)	Nearest Ambient Sampling Point[a]
Single-family Residence[b]	7171 Kensington Drive	60	2
Single-family Residence[b]	7732 Granada Drive	20	3
Multi-family Residence[b]	7651 Stage Road	130	3

[a] See **Figure 4.13-1** for locations of ambient noise sampling points.
[b] Homes partially shielded by five-foot-high masonry walls.

The City's General Plan Noise Element reports the results of short-term noise measurements taken in August 2010. These were used with local traffic data and modeling to estimate 24-hour average noise levels (as dBA CNEL) at 100 feet from the centerlines of roadway segments throughout the city. The project site within the City of Buena Park fronts La Mirada Boulevard and Stage Road. Modeled noise levels are shown in **Table 4.13-4**.

Table 4.13-4
MODELED 24-HOUR AVERAGE NOISE LEVELS IN PROJECT AREA

Roadway Segment	Buildout				
	ADT	dBA @100 Feet from Roadway Center	Distance (Feet) from Roadway Centerline to:		
			60-dBA CNEL Noise Contour	65-dBA CNEL Noise Contour	70-dBA CNEL Noise Contour
La Mirada Boulevard					
West of Beach Boulevard	33,000	69.4	1,026	324	103
Stage Road					
West of Beach Boulevard	8,000	63.4	249	79	25

ADT= average daily trips; dBA= A-weighted decibels; CNEL= community noise equivalent level.
Source: RBF Consulting 2010a, City of Buena Park Noise Element, Table N-5, p. 8.15.

On February 18, 2020, 15-minute ambient noise level samples were obtained at two locations in the general area of the project within the City of Buena Park, which are also shown in **Figure 4.13-1**. (See **Appendix G**). Measurements were made between 9:36 a.m. and 11:14 a.m. As shown in **Table 4.13-5,** average short-term ambient noise levels ranged from 52.9 to 53.5 dBA L_{eq}. The highest average noise level (53.5 dBA) was along Coyote Creek, between Knott Avenue and Stage Road. All monitored noise levels were within ranges considered typical for the nearby land uses.

Table 4.13-5
AMBIENT NOISE MEASUREMENT RESULTS

Point	Data Set	Sampling Time	Address	Sound Level (dBA)			Notes
				L_{eq}	L_{max}	L_{90}	
2	S158	0936-0951	7171 Kensington Drive	53.5	68.9	43.6	Along Coyote Creek, adjacent to the single-family residences.
3	S160	1059-1114	7732 Granada Drive	52.9	66.5	44.9	Along Coyote Creek, adjacent to the single-family residences.

4.13.4 Regulatory Setting

State of California

The most current guidelines prepared by the state noise officer are contained in Appendix D of the General Plan Guidelines issued by the Governor's Office of Planning and Research in 2017 (OPR, 2017). These guidelines establish four categories for judging the severity of noise intrusion on specified land uses:

- **Normally Acceptable**: Is generally acceptable, with no mitigation necessary.
- **Conditionally Acceptable**: May require some mitigation, as established through a noise study.
- **Normally Unacceptable**: Requires substantial mitigation.
- **Clearly unacceptable**: Probably cannot be mitigated to a less-than-significant level.

The OPR noise compatibility guidelines assign ranges of CNEL values to each of these categories. The ranges differ for different types of sensitive receivers.

City of Cerritos General Plan Noise Element

The City of Cerritos General Plan Noise Element (Chapter 10) has the following goals and policies that apply to the proposed project (RBF Consulting, 2004, p. N-22).

Goal N-1: Reduction in noise impacts from transportation sources

Policy N-1.1: Mitigate transportation equipment impacts at construction sites.

Policy N-1.2: Ensure noise mitigation measures are included in the design of new developments.

Goal N-2: Develop measures to control non-transportation noise impacts

Policy N-2.3: Ensure noise mitigation techniques are incorporated into all construction-related activities.

Goal N-3: Include noise considerations as a part of land use planning decisions

Policy N-3.1: Enforce noise standards, as contained in the City's Noise Ordinance.

Policy N-3.2: Ensure Community Noise Equivalent Levels (CNEL) levels for noise sensitive land uses meet or exceed normally acceptable levels, as defined by State of California standards.

Policy N-3.3: Incorporate noise reduction measures into all development proposals, as necessary.

Policy N-3.4: Consider noise impacts associated with the development of non-residential uses in the vicinity of residential uses.

To the extent that the foregoing applies to the proposed project, the project design and operational characteristics are compatible with the Noise Element's goal, objectives and policies.

City of Cerritos Municipal Code

The City of Cerritos' regulations with respect to noise are included in Municipal Code Chapter 22.80.

> *Exemptions.* The provisions for noise limits shall not be applied to occasional use of equipment for maintenance of any lot or buildings or for building construction, for which a valid building permit has been issued, between the hour of seven a.m. and seven p.m. or for any public works activities or civic event which are authorized by the city.[40]

City of Buena Park General Plan Noise Element

The General Plan Noise Element has the following applicable goals and associated policies for addressing noise issues in the community (RBF Consulting, 2010a, p. 8-29):

Goal N-1: Appropriate Federal, State, and City Standards, guidelines, and ordinances for noise control implemented and enforced throughout the City.

Policy N-1.3 Adhere to the City's Municipal Code Standards and planning guidelines that include noise control for the interior space of residential developments.

Policy N-1.6 Conform to the noise attenuation standards sets forth in the Airport Environs Land Use Plan (AELUP) for residential, commercial, and industrial development within the Fullerton Municipal Airport and Los Alamitos Joint Forces Training Center planning areas.

Goal N-2: Minimized noise levels from construction and maintenance equipment, vehicles, and activities.

Policy N-2.1: Regulate construction activities to ensure all noise associated with construction activities complies with the City's Noise Ordinance.

40 City of Cerritos Municipal Code § 22.80.480(5).

Policy N-2.2: Employ construction noise reduction methods to the maximum extent feasible. These measures may include, but [are] not limited to, shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied sensitive receptor areas, and use of electric air compressors and similar power tools, rather than diesel equipment.

Policy N-2.3: Require municipal vehicles and noise-generating mechanical equipment purchased or used by the City to comply with noise standards specified in the City's Municipal Code, or other applicable codes.

Policy N-2.5: Ensure acceptable noise levels are maintained near schools, hospitals, convalescent homes, churches, and other noise sensitive areas.

Goal N-3: Consideration of noise effects in the land use planning process.

Policy N-3.1: Fully integrate noise considerations into land use planning decisions to prevent new noise/land use conflicts.

Policy N-3.2: Consider the compatibility of proposed land uses with the noise environment when preparing, revising, or reviewing development proposals.

Policy N-3.3: Adhere to the City's Municipal Code Standards and planning guidelines that include noise control for the interior space of new residential developments within noise impacted areas (noise control practices include installing thick glass windows, restricting the hours of construction, double glazing, façade treatment, installing and maintaining mufflers, erecting noise barriers, etc.).

Policy N-3.4: Permit only those new development or redevelopment projects that have incorporated appropriate mitigation measures, so that standards contained in the Noise Element or adopted ordinance are met.

Policy N-3.5: Encourage proper site planning and architecture to reduce noise impacts.

Policy N-3.6: Discourage the development of sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation.

Policy N-3.7: Require all residential units be attenuated to comply with the City's Noise Ordinance.

Policy N-3.9: Incorporate noise reduction features for items such as but not limited to parking and loading areas, ingress/egress point, HVAC units, and refuse collection areas, during site planning to mitigate anticipated noise impacts on affected noise sensitive land uses.

Policy N-3.14: Conform to the noise attenuation standards set forth in the Airport Environs Land Use Plan (AELUP) for residential, commercial, and industrial development, within the Orange County Airport Land Use Commission's planning area boundaries for the Fullerton Municipal Airport and Los Alamitos Joint Forces Training Base.

Goal N-4: Ambient noise conditions in sensitive land use are maintained and/or improved.

Policy N-4.1: Identify and reduce or eliminate unnecessary noise near noise sensitive areas (such as parks, residential areas, hospitals, libraries, convalescent homes, etc.) to meet established regulations outlined in the City's Municipal Code.

To the extent that the foregoing applies to the proposed project, the project design and operational characteristics are compatible with the Noise Element's goal, objectives and policies.

City of Buena Park Municipal Code

The City of Buena Park's regulations with respect to noise are included in Municipal Code Chapter 8.28. Among the types of noise defined as "loud, disturbing and unnecessary" are:

> *Construction or Repair Activities*. The performance of any construction or repair work of any kind upon, or excavating for, any building or structure, where any such work entails the use of any air compressor, jackhammer, power-driven drill, riveting machine, excavator, hand hammer on steel or iron, or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in a dwelling, hotel, or apartment or other place of residence.[41]

However, the Municipal Code states that such unnecessary noise "shall be prohibited on any Sunday or any other day between the hours of eight p.m. and seven a.m." It is unclear whether it is permitted during other times. If late nighttime work is necessary and can be shown to be "in the public interest," then the project can obtain a permit from the City Engineer to work during otherwise prohibited hours.[42]

City of La Mirada General Plan Noise Element

The General Plan Noise Element has the following applicable goals and associated policies for addressing noise issues in the community (Cotton/Bridge/Associates, 2003, p. SCS-21):

Goal 5: Shield residents from undesirable traffic noise to the extent possible.

Policy 5.3: Establish truck routes that minimize the impact of traffic noise on residential neighborhoods.

To the extent that the foregoing applies to the proposed project, the project design and operational characteristics are compatible with the Noise Element's goal, objectives and policies.

City of La Mirada Municipal Code

The City of La Mirada's regulations with respect to noise are included in Municipal Code Chapter 9.04.

- *Construction or Repair.* The performance of any construction or repair work of any kind upon, or excavating for, any building or structure, where any such work entails the use of any air

41 City of Buena Park Municipal Code § 8.28.040.B.4.a.
42 City of Buena Park Municipal Code § 8.28.040.B.4.a.i.

compressor, jackhammer, power-driven drill, riveting machine, excavator, hand hammer on steel or iron, or any other machine, tool, device, or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in a dwelling, hotel, or apartment or other place of residence. The above use of machinery or equipment that produces such unnecessary noise shall be prohibited on Sunday between the hours of 8:00 p.m. and 9:00 a.m. or any other day between the hours of 8:00 p.m. and 9:00 a.m.

4.13.5 Significance Thresholds

Two criteria were used for judging noise impacts. First, noise levels generated by the proposed project must comply with all relevant federal, state, and local standards and regulations. Noise impacts on the surrounding community are limited by local noise ordinances, which are implemented through investigations in response to nuisance complaints. It is assumed that all existing regulations for the construction and operation of the proposed project will be enforced. In addition, the proposed project should not produce noise levels that are incompatible with adjacent noise-sensitive land uses.

The second measure of impact used in this analysis is a significant increase in noise levels above existing ambient noise levels as a result of the introduction of a new noise source. An increase in noise level due to a new noise source has a potential to adversely impact people. The proposed project would have a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards recommended in a city's general plan noise element; or
- Include construction activities within the hours prohibited by a city's municipal code, without a permit; or
- Increase short-term noise exposures at sensitive receivers during construction by 5 dBA L_{eq} or more; or
- Increase operational exposures at sensitive receivers by 5 dBA CNEL or more.

4.13.6 Response to Checklist Questions

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact with Mitigation Incorporated

Noise impacts associated with many projects include short-term and long-term impacts. Construction activities, especially heavy equipment operation, would create noise effects on and adjacent to the construction site. Long-term noise impacts include project-generated onsite and offsite operational noise sources. However, as will be discussed below, long-term noise impacts from this project are expected to be minimal and will not be quantified.

This section also evaluates potential groundborne vibration that would be generated from the construction of the proposed project.

Short-Term Construction Noise

The construction of the proposed project may generate temporary increases in ambient noise levels that exceed the thresholds of significance for this analysis. Noise impacts from construction activities are a function of the noise generated by the operation of construction equipment and onroad delivery and worker commuter vehicles, the location of equipment, and the timing and duration of the noise-generating activities.

The noise impact analysis was limited to those parts of Segments O and Q where construction activities would occur near residential areas. For the air quality analysis presented in **Section 4.3.8**, construction activities in each segment were divided into discrete "activities." For each activity, the types of construction equipment that would be needed were identified. In some cases, the equipment information was obtained from GHD. For others, the types and numbers of pieces of equipment anticipated in each phase of construction and development were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2 (BREEZE Software, 2017). For a given activity, not all of the assigned equipment would necessarily be used at the same time.[43]

Table 4.13-6 lists the equipment expected to be used at one sensitive receiver location in Segment O and two such locations in Segment Q. Each location corresponds to an ambient noise measurement point, as described in **Table 4.13-2** and **Table 4.13-5**. For each equipment type, the table shows an average noise emission level (in dB at 50 feet, unless otherwise specified) and a "usage factor," which is an estimated percentage of operating time that the equipment would be producing noise at the stated level.[44] Equipment use was matched to phases of the construction schedule.

Table 4.13-6
CONSTRUCTION EQUIPMENT NOISE CHARACTERISTICS

Segment	Sampling Point	Activity	Equipment Type	No. of Pieces	Maximum Sound Level @ 50 feet (dBA)	Usage Factor
O	1	O-01	Concrete Mixer	1	85	0.4
			Drilling Rig	1	84	0.2
Q	2	Q-04	Graders	1	85	0.4
			Paving Equipment	1	77	0.4
			Rollers	1	80	0.2
	3	Q-11	Graders	1	85	0.4
			Paving Equipment	1	77	0.4
			Rollers	1	80	0.2

Using calculation methods published by the Federal Transit Administration (FTA, 2018), UltraSystems estimated the average hourly exposures at the three ambient noise measurement locations. The distances used for the calculation were from the average location of the equipment and the nearest residence characterized by an ambient noise measurement point. Results are shown

43 A complete list of activities and corresponding equipment deployment is provided in **Appendix B**.

44 Equipment noise emissions and usage factors are from Knauer, H. et al., 2006. *FHWA Highway Construction Noise Handbook*. U.S. Department of Transportation, Research and Innovative Technology, Administration, Cambridge, Massachusetts, FHWA-HEP-06-015 (August 2006), except where otherwise noted.

in **Table 4.13-7**. Note that the estimates for all three residences assume a maximum 5 dBA of attenuation due to an existing wall.

Although municipal limits on noise exposure would not apply during construction during permitting hours of the day, increases in residential noise exposure near the project boundary would exceed 5 dBA and therefore be potentially significant.

Table 4.13-7
ESTIMATED INCREASES IN UNMITIGATED NOISE EXPOSURE DUE TO CONSTRUCTION

Receiver	Ambient dBA L_{eq}	Construction[a] dBA L_{eq}	New Total dBA L_{eq}	Increase dBA L_{eq}
1	51.4	77.5	77.5	26.1
2	53.5	69.8	69.9	16.4
3	52.9	73.5	73.5	20.6

[a] Assumes 5 dBA of attenuation by masonry wall.

Mitigation Measures

The following mitigation measures would reduce short-term construction impacts to a less than significant level.

MM N-1 At the start of construction near residences or other sensitive receivers, the construction contractor will conduct noise monitoring during construction activities estimated in the noise analysis to result in significant exposures. If the monitored noise levels exceed regulatory noise restrictions or standards, taking into account background noise, then the construction contractor will mitigate noise levels using temporary noise shields, noise barriers or other mitigation measures to preclude complaints and/or comply with those restrictions or standards (see below).

MM N-2 The construction contractor will use the following **source controls**, except where not physically feasible:

- Use of noise-producing equipment will be limited to the interval from 8:00 a.m. to 5:00 p.m., Monday through Friday unless Saturday work is approved in writing by the appropriate City jurisdiction.
- For all noise-producing equipment, use types and models that have the lowest horsepower and the lowest noise generating potential practical for their intended use.
- The construction contractor will ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and lubricated, and that mufflers are working adequately.
- Have only necessary equipment onsite.
- Use manually-adjustable or ambient-sensitive backup alarms

MM N-3 Per **MM N-1**, if monitored noise levels exceed applicable regulatory noise restrictions or standards, taking into account background noise, the contractor will use the following **path controls**, except where not physically feasible:

- Install portable noise barriers, including solid structures and noise blankets, between the active noise sources and the nearest noise receivers.
- Temporarily enclose localized and stationary noise sources.
- Store and maintain equipment, building materials, and waste materials as far as practical from as many sensitive receivers as practical.
- Work with the complaining party to find acceptable solutions.

MM N-4 At least two weeks in advance of the start of construction in a new portion of the project, the construction contractor shall notify all noise-sensitive receivers adjacent to the project area. Since relatively few sensitive receivers will be near the construction site, such notices shall take the form of a flyer that can be hand-delivered or affixed to a doorway. The notice shall state specifically where and when construction activities will occur, and provide contact information for filing noise complaints with the contractor and the City.

Level of Significance After Mitigation

With implementation of **MM N-1** through **MM N-4** above, the project would result in less than significant noise impacts to sensitive receivers.

Operational Noise

Operation of the proposed project would not create any sources of noise. The proposed project would only be used for active transportation such as biking, running and walking that would constitute a nominal amount of noise. Therefore, impacts during operation would be less than significant.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact with Mitigation Incorporated

Vibration is sound radiated through the ground. Vibration can result from a source (e.g., subway operations, vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for most people. Most perceptible indoor vibration is caused by sources within buildings such

as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

Construction Vibration

Construction activities for the project have the potential to generate low levels of groundborne vibration. The operation of construction equipment generates vibrations that propagate though the ground and diminishes in intensity with distance from the source. Vibration impacts can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage of buildings at the highest levels. The construction activities associated with the project could have an adverse impact on both sensitive structures (i.e., building damage) and populations (i.e., annoyance).

The FTA (2018) has published standard vibration levels for construction equipment operations, at a distance of 25 feet. The construction-related vibration levels were calculated at distances of 50, 112, and 73 feet, and are listed in **Table 4.13-8**. These calculations were based on the distances from the construction activity to the closest sensitive receivers.

Table 4.13-8
VIBRATION LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT

Equipment	Vibration Levels at Sensitive Receiver #1 (50 feet) RMS (in/sec)	Vibration Decibels at 50 feet (VdB)	Vibration Levels at Sensitive Receiver #2 (112 feet) RMS (in/sec)	Vibration Decibels at 112 feet (VdB)	Vibration Levels at Sensitive Receiver #4 (73 feet) RMS (in/sec)	Vibration Decibels at 73 feet (VdB)
Loaded Trucks	0.0027	77.0	0.0080	66.5	0.015	72.0
Small Bulldozer	0.0011	49.0	0.00032	38.5	0.0006	44.0
Vibratory Roller	0.074	**85.0**	0.022	74.5	0.042	80.0

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123, September 2018.

As shown in **Table 4.13-8**, the PPV of construction equipment at the nearest structure (50 feet) is at most 0.074 inch per second, which is less than the FTA damage threshold of 0.12 inch per second PPV for fragile historic buildings. The maximum vibration decibels are 85.0 VdB, which exceeds the FTA threshold for human annoyance of 80 VdB. Unmitigated vibration impacts would therefore be significant.

The project is noteworthy for its proposed use of the relatively new (in the United States) box jacking method for building railroad undercrossings at two locations.[45] The potential for this method to cause adverse vibration and groundborne noise impacts is no greater than that of conventional construction methods. It uses cranes, excavators, loaders, loaded trucks and other equipment that does not cause significant vibration problems, and the jacking method pushes the premanufactured

45 The box jacking method is described in detail in Chen et al. (2019).

box sections at about six feet per hour (Wallis, 1997), a speed that is unlikely to induce significant vibration in local soils.

Mitigation Measure

MM N-5 During project construction the construction contractor will verify that vibratory rollers shall not be used within 75 feet of a residential property boundary or a structure deemed fragile or one that is under construction.

Level of Significance After Mitigation

With implementation of **MM N-5** above, vibration decibels would remain below 80 VdB, and the project would result in less than significant vibration impacts.

Operational Vibration

The project involves the operation of a bikeway and would not involve the use of stationary equipment that would result in high vibration levels, which are more typical for large manufacturing and industrial projects. Groundborne vibrations at the project site and immediate vicinity currently result from heavy-duty vehicular travel (e.g., refuse trucks and transit buses) on the nearby local roadways, and the project would not result in a substantive increase of these heavy-duty vehicles on the public roadways; therefore, vibration impacts associated with operation of the project would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

As detailed in **Section 4.9**, the closest airport to the proposed project would be the Fullerton Municipal Airport, at 4011 West Commonwealth Avenue. It is approximately 1.25 miles southeast of the project. The project site would not be within the Fullerton Municipal Airport's airport impact zones and noise contours; however, it would be located within its notification area and airport obstruction imaginary surfaces zone. The notification area is the area that is 10,000 feet from the nearest point of the nearest runway and that may threaten the operation of an airport or decrease its utility, by producing or causing excessive glare, light, steam, smoke, dust, electronic interference, or by attracting birds (OC ALUC, 2019, p.19). The project applicant must notify the commission of the proposed project and ensure that project construction and operation would not impact the airport's ability to operate. Additionally, the airport obstruction imaginary surfaces zone is an area where building heights may potentially affect air navigation (OC ALUC, 2019, p.14). As further detailed elsewhere in this document, the operation of the proposed project would only use a nominal amount of utilities for lighting, would adhere to applicable light and glare regulations, would comply with South Coast Air Quality Management District rules to ensure that dust and dirt do not substantially impact surrounding areas and would not build any structures that would affect air navigation. Therefore, impacts would be less than significant.

4.14 Population and Housing

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			X	

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact

The proposed project would consist of the construction and operation of a bikeway along Coyote Creek within the cities of Cerritos, Buena Park, and La Mirada. The contractor's production varies through the duration of construction; however, it is estimated that there would be approximately 20 full-time construction workers, on average. The proposed project would close an existing bikeway gap along the OC Loop with a Class I bikeway/path and provide an alternative mode of transportation, increase the use of active transportation travel modes, enhance safety and mobility for non-motorized users, to the existing community. The project does not propose construction of any residential land uses, nor does it include extension of existing infrastructure. The project would create employment opportunities during the construction phase. However, it is anticipated that employees from the local workforce would be hired during the construction phase of the project. The project is not of the scope or scale to induce people to move from out of the project area to work during the construction phase of the project. Therefore, no impacts would occur regarding substantial unplanned population growth in the project area.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less than Significant Impact

In February 2020 the belongings of transients (bags, makeshift bedding, etc.) were observed by UltraSystems' staff at one location below the Artesia underpass along the Coyote Creek channel. Additionally, UltraSystems staff observed a homeless presence on the northwestern portion of Coyote Creek between the Union Pacific Railroad right of-way and the I-5 freeway. No one is allowed to establish living quarters on the Flood Control ROW; therefore, the persons previously observed were trespassing on County ROW. Construction and operation of Segments O, P, and Q would not

permanently displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, the project would have a less than significant impact in this regard.

4.15 Public Services

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?		**X**		
b) Police protection?		**X**		
c) Schools?				**X**
d) Parks?				**X**
e) Other public facilities?				**X**

a) Fire Protection?

Less than Significant Impact with Mitigation Incorporated

The proposed project would be located within the cities of Cerritos, Buena Park and La Mirada. Therefore, the analysis below is based upon the fire protection services in these cities.

City of Cerritos

The Los Angeles County Fire Protection District (LACFPD) provides fire protection and emergency medical services citywide (RBF Consulting, 2004a, SAF-23). There are four fire stations that serve the City: Fire Stations 30, 34, 35 and 115 (RBF Consulting, 2004a, SAF-27). The nearest fire station to the project site is Fire Station 35, located approximately 0.35 mile southeast of the project site at 13717 Artesia Boulevard. Fire Station 30 is approximately 2.9 miles southwest of the project site; Fire Station 34 is approximately 3.2 miles southwest of the project site and Fire Station 115 is approximately 3.5 miles northwest of the project site (Google Earth Pro, 2020).

The proposed project would not adversely affect demand for fire services as described below. An information request letter was sent to the Los Angeles County Fire Department asking about the potential impacts of the project to fire service (refer to **Appendix H**). Fire Captain Brian Audet at Fire Station 35 of the Los Angeles County Fire Department stated that Segments O and P would be served by Fire Station 35 (Audet, 2020). Response times for all of the City of Cerritos are approximately four to six minutes on average for an emergency call for service (Audet, 2020). The response from Fire Captain Audet was that no new fire department facilities would be required to meet existing fire protection demands, in addition to the proposed project's demands and that the proposed project would not affect the level of service or response time of the fire department (Audet, 2020).

Further, the proposed project would not adversely affect the existing service capacity of the LACFPD as little or no additional calls for service are anticipated to be generated by project implementation

because the creation of the proposed bikeway would not increase the population in the project area. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire department facilities. Less than significant impacts would occur and no mitigation is warranted.

City of Buena Park

The City of Buena Park is a member of the Orange County Fire Authority Joint Powers Authority. The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services response to the city. Services include structural fire protection, emergency medical and rescue services, hazardous inspections and response, fire prevention planning and inspection, and public education activities (RBF Consulting, 2010b, p. 5-13-1). There are three fire stations that serve the City: Fire Stations 61, 62, and 63 (RBF Consulting, 2010b, p. 5-13-1). The nearest fire station to the project site is Fire Station 62, located approximately 0.65 mile southeast of the project site at 7780 Artesia Boulevard. Fire Station 61 is approximately 2.25 miles southeast of the project site and Fire Station No. 63 is approximately 2.75 miles southeast of the project site (Google Earth Pro, 2020).

With mitigation, the proposed project would not adversely affect demand for fire services as described below. An information request letter was sent to the Orange County Fire Authority asking about the potential impacts of the project to fire service (refer to **Appendix H**). OCFA Management Assistant William Blumberg at OCFA stated that the Segment O would be served by OCFA Fire Stations 62 and 13, and Segment O and P would be served by Fire Station 62 (Blumberg, 2020). Response times for all of the City of Buena Park are approximately seven minutes and 20 seconds, 80 percent of the time for an emergency call for service (Blumberg, 2020).

OCFA Management Assistant William Blumberg stated that new fire department facilities would not need to be constructed in order to meet existing fire protection demands, in addition to the proposed project's demands. However, Mr. Blumberg stated that proposed project may impact OCFA's ability to reach cyclists or pedestrians for medical aid (Blumberg, 2020). When asked if the project could have potentially significant impacts on the Fire Department's level of service and/or response times, Mr. Blumberg stated:

- There may be less than significant impact for emergency responder access to cyclists or pedestrians on the completed Bike Lane.
- There may be less than significant impact for providing access to emergency services adjacent to the completed Bike Lane to other structures, fire hydrants or other local potential hazards.
- There may be less than significant impact for existing fire access roads if they are reduced in width or turning radius (Blumberg, 2020).

When asked what mitigation, if any, the OCFA recommends to reduce potential impacts to fire services, Mr. Blumberg's response was to ensure that OCFA has adequate (approved) access for first responders along the entire bike lane path (Blumberg, 2020). The proposed project would be constructed according to fire department regulations which would ensure adequate width and turning radius for emergency vehicles accessing the proposed bikeway. Therefore, the proposed project would implement mitigation measure **PS-1**. With implementation of **MM PS-1**, impacts would be less than significant.

Mitigation Measure

MM PS-1 During project operation the project applicant shall provide fire department and law enforcement vehicles' access to the proposed bikeway with the installation of access/exit gates to provide emergency access along the proposed Segments O, P, and Q of the OC Loop bikeway, including adequate turning radius for emergency vehicles.

Level of Significance After Mitigation

With implementation of **MM PS-1**, impacts regarding fire protection would be less than significant.

City of La Mirada

The Los Angeles County Fire Department (LACFD) provides fire protection and emergency medical services citywide (Cotton/Bridges/Associates, 2003, p. SCS-14). There are two fire stations that serve the City: Fire Stations 49 and 194 (City of La Mirada Fire Department, 2020). The nearest fire station to the project site is Fire Station 49, located approximately 1.5 mile northwest of the project site at 13820 La Mirada Boulevard. Fire Station 194 is approximately 2.0 miles northeast of the project site (Google Earth Pro, 2020).

The proposed project would not adversely affect demand for fire services as described below. An information request letter was sent to the Los Angeles County Fire Department asking about the potential impacts of the project to fire service (refer to **Appendix H**). Fire Captain Cheryl Hoffman at Fire Station 49 of the Los Angeles County Fire Department stated that the Segment Q would be served by Fire Station 49 located at 13820 La Mirada Boulevard in the City of La Mirada and that Segments O and P would be served by Fire Station 35 located at 13717 Artesia Boulevard in the City of Cerritos (Hoffman, 2020). Response times for all of the City of La Mirada are approximately zero to five minutes on average for an emergency call for service (Hoffman, 2020). Fire Captain Hoffman stated that no new fire department facilities are needed to meet existing fire protection demands, in addition to the proposed project's demands. Additionally, Fire Captain Hoffman stated that the proposed project would have no known environmental impacts (Hoffman, 2020). Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire department facilities. Less than significant impacts would occur and no mitigation is warranted.

b) Police Protection?

Less than Significant Impact with Mitigation Incorporated

The proposed project would be within the cities of Cerritos, Buena Park and La Mirada. Therefore, the analysis below is based upon the law enforcement services in these cities.

City of Cerritos

The closest station to the project site within the City of Cerritos is the Cerritos Sheriff's Station, located at 18135 Bloomfield Avenue, approximately 1.85 miles west of the project site. The Cerritos Sheriff's Station provides general law enforcement, traffic enforcement, crime investigation and special services throughout the City (Los Angeles County Sheriff's Department, 2020a).

The proposed project would not adversely affect demand for law enforcement services as described below. An information request letter was sent to the Los Angeles County Sheriff's Department asking about the potential impacts of the project to law enforcement services (refer to **Appendix H** of this document). As detailed in the response from Departmental Facilities Planner I, Rochelle Campomanes, at the Los Angeles Sheriff's Station, the proposed project is under the jurisdiction of the Cerritos Sheriff's Station of the Los Angeles County Sheriff's Department (Campomanes, 2020). Response times for the City of Cerritos as a whole are approximately 3.8 minutes, on average, for an emergency call for service (Campomanes, 2020). Rochelle Campomanes stated that the proposed project would not require an immediate need for a new construction or expansion of the station's existing facilities as it does not directly result in an increase in the number of staffing for law enforcement services (Campomanes, 2020). Additionally, the Sheriff's Department does not anticipate any potential environmental impacts from the proposed project related to providing law enforcement services to the project site. Rochelle Campomanes also stated that there is no significant environmental impact from the proposed project on the station's law enforcement services. When asked if the proposed project could have a potentially significant impact on the Sheriff's Department level of service and/or response times, Rochelle Campomanes stated that: Foreseeably, criminal activities may take place on the proposed bikeway as a result of it being opened for public use. Hence, it may have an impact on the level of service and/or response time. When asked what mitigation, if any, is recommended to reduce potential project impacts, Rochelle Campomanes had the following recommendations:

- Recommend that an analysis of impacts of the proposed project to the local transportation and circulation system be included in the environmental analysis. This has been done (refer to **Section 4. 17**, Transportation, of this IS/MND).

- Preparation of a construction mitigation plan would also help in reducing traffic impacts. She stated that preparation of a construction traffic management plan should be implemented as part of the proposed project to address construction-related traffic congestion and emergency access issues.

- If temporary lane closures are necessary for the installation of utilities, that emergency access should be maintained at all times.

- Flag persons and/or detours should also be provide as needed to ensure safe traffic operations and construction signs should be posted to advise of reduced construction zone speed limits.

- The proposed plan must include entry/exit gates for first responders' vehicles to gain access to the proposed bikeway, in case the station received rescue or emergent call for services at the project site.

- Ongoing regular maintenance along the bikeway should be provided to deter crime, including any proposed landscaping.

Based on the comments from the Los Angeles County Sheriffs' Department, the project requires **MM PS-1** and **MM TRANS-1** to ensure access to the project site and to maintain adequate traffic circulation during construction. Additionally, **Mitigation Measure PS-2** is proposed to address law enforcement and cleanliness/graffiti on the trail system.

Mitigation Measures

Refer to Mitigation Measure **PS-1** above.

MM PS-2 To ensure that homelessness on the trail system is addressed, prior to project operation a separate agreement shall be crafted between the project applicant and the County of Los Angeles, the project applicant and the City of Cerritos, the project applicant and the City of Buena Park and the project applicant and the City of La Mirada that clearly states who is responsible for patrolling the proposed trail and addressing law enforcement and cleanliness/graffiti.

Please refer to **Section 4.17**, *Transportation*, for **MM TRANS-1**.

Level of Significance After Mitigation

With implementation of **MM PS-1, MM PS-2,** and **MM TRANS-1**, impacts to law enforcement would be less than significant.

City of Buena Park

The closest station to the project site within the City of Buena Park is the Buena Park Police Department, located at 6640 Beach Boulevard, approximately 1.5 miles southeast of the project site. The Buena Park Police Department provides general law enforcement, traffic enforcement, crime investigation and special services throughout the City (Buena Park Police Department, 2020).

With mitigation, the proposed project would not adversely affect demand for law enforcement services as described below. An information request letter was sent to the Buena Park Police Department asking about the potential impacts of the project to law enforcement services (refer to **Appendix H** of this document). As detailed in the response from Operations Captain Gary Worrall at the Buena Park Police Department, the proposed project is under the jurisdiction of the Buena Park Police Station (Worrall, 2020). Response times for the City of Buena Park as a whole are approximately less than three minutes, on average, for an emergency call for service (Worrall, 2020). Captain Worrall stated that the proposed project would not require the construction of new law enforcement facilities to meet existing law enforcement demands or the demands of the proposed project. The Buena Park Police Department does anticipate some potential environmental impacts from the proposed project related to providing law enforcement services to the project site. The proposed project could have potentially significant impacts on the Police Department's level of service and/or response times. Responding to a call for service in the project area would require vehicle access and Captain Worrall suspects this may require an officer to unlock a gate or bypass some other vehicle impediment to access the area, slowing his/her response.

Captain Worrall stated that Segment Q is adjacent to a well-established gang territory and that Police officers would need vehicle access to patrol the area or respond to crimes occurring on the project and that providing nighttime illumination would help diminish crime. Captain Worrall does not see any additional issues with the proposed project related to law enforcement services (Worrall, 2020). To ensure that the project would have less than significant impacts on law enforcement services, the project would implement **MM PS-1** to provide law enforcement access to Segments O, P, and Q of the proposed project site. With implementation of **MM PS-1** and **MM PS-2**, impacts to law enforcement services would be less than significant.

Mitigation Measures

Refer to Mitigation Measure **PS-1** above.

Refer to Mitigation Measure **PS-2** above.

Level of Significance After Mitigation

With implementation of **MM PS-1** and **MM PS-2**, impacts regarding law enforcement would be less than significant.

City of La Mirada

The City of La Mirada contracts its law enforcement services with the Los Angeles County Sheriff's Department, which operates a substation in the City of La Mirada and the City of Norwalk (City of La Mirada Sheriff's Department, 2020). The closest station to the project site is the La Mirada Community Sheriff Substation, located at 13716 La Mirada Boulevard, approximately 1.6 miles northwest of the project site. Additionally, the Norwalk Sheriff's Station, located at 12335 Civic Center Drive, is approximately 2.5 miles northwest of the project site. The La Mirada Community Sheriff Substation and the Norwalk Sheriff's Station provide general law enforcement, traffic enforcement, crime investigation and special services throughout the City (City of La Mirada, 2020; Los Angeles County Sheriff's Department, 2020b).

The proposed project would not adversely affect demand for law enforcement services as described below. An information request letter was sent to the Sheriff's Department asking about the potential impacts of the project to law enforcement services (refer to **Appendix H** of this document). As detailed in the response from Sheriff Tim Tatreau at the Norwalk Sheriff's Station, the proposed project is under the jurisdiction of the Norwalk Sheriff's Station and its substation, the La Mirada Community Substation (Tatreau, 2020). Response times for the City of La Mirada as a whole are less than 3.8 minutes, on average, for an emergency call for service (Tatreau, 2020). Sheriff Tatreau stated that the proposed project would not require the construction of new law enforcement facilities to meet existing law enforcement demands, in addition to the proposed project's demands. Additionally, the Sheriff's Department does not anticipate any potential environmental impacts from the proposed project related to providing law enforcement services to the project site. Sheriff Tatreau responded that the proposed project is not likely to have significant impacts on the Sheriff's Department level of service and/or response times and Sheriff Tatreau did not identify any other issues with the proposed project related to law enforcement services (Tatreau, 2020). To ensure that the project would have less than significant impacts on law enforcement services, the project would implement **MM PS-1** to provide law enforcement access to Segments O, P, and Q of the proposed project site. With implementation of **MM PS-1** and **MM PS-2**, impacts to law enforcement services would be less than significant.

Mitigation Measures

Refer to Mitigation Measure **PS-1** above.

Refer to Mitigation Measure **PS-2** above.

Level of Significance After Mitigation

With implementation of **MM PS-1** and **MM PS-2**, impacts regarding law enforcement would be less than significant.

c) Schools?

No Impact

The proposed project would not induce population growth because the project proposes the extension of a bikeway. It is anticipated that employees from the local workforce would be hired during the construction phase of the project; therefore, the project would not induce population growth. In addition, the proposed project would serve the existing community. Therefore, the proposed project would not impact schools or school enrollment. The project would have no impact in this regard.

d) Parks?

No Impact

The proposed project would not induce population growth. It is anticipated that employees from the local workforce would be hired during the construction phase of the project; therefore, the project would not induce population growth. Therefore, the project would not increase existing park demands on parks or the need for a new or physically altered park facilities. The project would have no impact in this regard.

e) Other Public Facilities?

No Impact

The proposed project would not induce population growth. It is anticipated that employees from the local workforce would be hired during the construction phase of the project; therefore, the project would not induce population growth. In addition, the proposed project would serve the existing community. Therefore, the project would not increase demands on public libraries or other public facilities. Therefore, the project would have no impact in this regard.

4.16 Recreation

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			**X**	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?		**X**		

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact

The proposed project consists of creating a bikeway utilizing the existing Coyote Creek within the cities of Cerritos, Buena Park, and La Mirada. As detailed in **Section 4.14**, the proposed project would not induce population growth. The proposed project is a bikeway project that may help community connectivity and allow better access to parks. Below is a brief description of the nearest park for each of the bikeway segments:

Segment O: Friendship Park is located approximately 0.45 mile northwest of the project site. Amenities include playground equipment, softball field, picnic tables, picnic shelters, barbeques, basketball court, jog and exercise equipment, and a water fountain (City of Cerritos Parks, 2020).

Segment P: George Bellis Park, approximately 0.5 south of the project site. Amenities include five lighted ball fields, a lighted basketball court, children's play area, community building, picnic areas with BBQs, horseshoe pit, two lighted handball courts, two restrooms, four lighted tennis courts, outdoor exercise equipment, and a dog park (City of Buena Park Parks, 2020a).

Segment Q: Smith-Murphy Park, approximately 0.26 mile east of the project site. Amenities include a children's play area, handball court, picnic areas with BBQs, and restrooms (City of Buena Park Parks, 2020b).

Although the project may allow for better access to parks it is not anticipated that the project would increase the use of existing neighborhood or regional parks or other recreational facilities such that a substantial physical deterioration of the facility would occur or be accelerated. It is estimated that there could be a minor increase in use of the parks in that that cyclists might use parks intermittently for a brief stop, meeting other cyclists, lunch, and other similar activities park with limited additional

weekend usage anticipated by recreational cyclists. However, this minor increase in usage of parks that may occur would have a less than significant impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact with Mitigation Incorporated

The proposed project includes expansion of an existing recreational facility. The expansion of the OC Loop bikeway includes only the on-street portions. Additionally, Coyote Creek is already a bikeway that is being enhanced by the proposed project. Therefore, the project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. As described in detail in **Sections 4.1** through **4.20** of this IS/MND, impacts associated with the development of this project would be less than significant or less than significant with mitigation incorporated. Therefore, no adverse impacts would occur once mitigation measures are implemented.

4.17 Transportation

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?		X		
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
d) Result in inadequate emergency access?		X		

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact with Mitigation Incorporated

The construction and operation of the proposed project would improve and extend a 2.7-mile bikeway along Coyote Creek within the cities of Cerritos, La Mirada, and Buena Park. The project would have a positive effect on the use of active transportation modes, including bicycle-related facilities because it would extend and improve a segment of the 66-mile regional bikeway corridor known as the OC Loop.

Additionally, the proposed project is included in the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA Fourth District Bikeways Strategy report, 2014 County of Orange General Plan, and the 2015 OC Loop Gap Feasibility Study (OC Parks).

Project Construction

During the construction phase, there is the potential for existing pedestrian facilities, including the bikeway along Coyote Creek and at the at-grade crossings to be disrupted by construction and construction vehicles. As documented in **Appendix B (B1, B2-1 and B2-2)**, construction would increase local passenger vehicle trips (for worker commuting) by 15 in each segment. Truck traffic would increase by one to four per day, depending upon the segment. Preparation of a construction management plan, as detailed in mitigation measure **TRANS-1** below, would reduce the potential for disruptions to existing pedestrian facilities during the project construction phase.

Traffic generated during project construction would be temporary. Therefore, the project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts would be less than significant.

Project Operation

Segment O

Circulation

This portion of the proposed project would be along Coyote Creek, where there is no vehicular traffic. Additionally, Segment O would install a cantilever bridge and undercrossings at Valley View Avenue and Artesia Boulevard that would further connect the Coyote Creek bikeway and improve circulation. Therefore, there would be no impacts to circulation.

Transit

The proposed project would not generate a population increase and would not increase the use of public transit. It would improve the Coyote Creek bikeway and thus would promote the use of active transportation such as biking or walking. Therefore, there would be no impact on transit.

Roadway

As mentioned above, Segment O would be along Coyote Creek and not along the roadways. Therefore, there would be no impacts to roadways.

Bicycle

Segment O would improve (i.e., have a positive impact on) bicycle facilities by repaving the existing bikeway path along Coyote Creek and connecting the Coyote Creek bikeways with a cantilever bridge and undercrossings. Therefore, there would be no adverse impacts to bicycle facilities.

Pedestrian

As stated above, Segment O would improve Coyote Creek by repaving and connecting the bikeways. Pedestrians would be able to use the Coyote Creek bikeway and the improvements would promote active transportation such as walking and running. Therefore, there would be no impacts to pedestrians.

Segment P

Circulation

As with Segment O, Segment P would entirely be along Coyote Creek where there is no vehicular traffic. Segment P would improve the Coyote Creek bikeway by creating a Class I bikeway and undercrossings at South Firestone Boulevard, the I-5, and North Firestone Boulevard that would further connect the Coyote Creek bikeway and improve circulation. Therefore, there would be no impacts to circulation.

Transit

The proposed project would not generate a population increase and would not increase the use of public transit. It would improve the Coyote Creek bikeway and thereby would promote the use of active transportation such as biking or walking. Therefore, there would be no impact on transit.

Roadway

As mentioned above, Segment P would be along Coyote Creek and not along the roadways. Therefore, there would be no impacts to roadways.

Bicycle

Segment P would improve (i.e., have a positive impact on) bicycle facilities by creating a Class I bikeway along Coyote Creek and connecting the Coyote Creek bikeways with undercrossings. A 120-foot-long box jack construction of a reinforced concrete box culvert underground tunnel is proposed under the UPRR railroad line so that bicyclists can travel under the UPRR railroad. UPRR has preliminarily indicated its policies may not be able to support an underpass. Therefore, a 1,200-foot-long, 35-foot-high pedestrian/cyclist truss bridge over the UPRR tracks has been included as an alternative to the underpass. However, the slope on the northeast end of the bridge would reach a minimum of 9.6% to allow for the South Firestone underpass entrance and would be extremely difficult for cyclists. However, should the bridge need to be constructed, bicyclists could walk their bike up and over the bridge. The construction of the bridge would allow bicyclists to continue along the bikeway. Therefore, there would be no adverse impacts to bicycle facilities.

Pedestrian

As stated above, Segment P would improve Coyote Creek by creating new Class I bikeways and connecting the Coyote Creek bikeways. Pedestrians would be able to use the Coyote Creek bikeway and the improvements would promote active transportation such as walking and running. Therefore, there would be no impacts to pedestrians.

Segment Q

Circulation

A majority of Segment Q would be along Coyote Creek, which would not have vehicular traffic. However, Segment Q would include installation of an at-grade pedestrian crossing at Knott Avenue. It would also have an at-grade railroad crossing warning system where the bike route would cross the southernmost BNSF Railroad tracks in Segment Q, and an at-grade crossing at Stage Road in Buena Park. The fully signalized intersection would be located at McComber Road approximately 500 feet west of the Coyote Creek Channel. A typical fully-functional "T intersection" traffic signal and crosswalk would be installed. This option would involve restriping the existing roadway to allow for a 12-foot-wide, barrier separated, bikeway on both sides of Stage Road between McComber Road and Coyote Creek. This Class IV bikeway would be located between McComber and the Stage Road crossing and Class II striping transition would be located along Stage Road to the east of Coyote Creek and along Stage Road to the west of the intersection of McComber Road and Stage Road as follows: restriping Class II bikeways would occur along Stage Road between Beach Boulevard to the east and approximately 300 feet west of the intersection of McComber Road and Stage Road.

Along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor will "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities would remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on each side of La Mirada Boulevard.

Although vehicle circulation may be affected at the at-grade crossings when pedestrians or bicyclists cross, vehicle circulation would not significantly increase from existing conditions. Additionally, the project would install an undercrossing at the northernmost BNSF Railroad tracks in Segment Q and a pedestrian bridge just south of Stage Road that would connect the Coyote Creek bikeways and improve circulation. Therefore, impacts would be less than significant.

Transit

The proposed project would not generate a population increase and would not increase the use of public transit. The proposed project would improve the Coyote Creek bikeway and thereby would promote the use of active transportation such as biking or walking. Therefore, there would be no impact on transit.

Roadway

As mentioned above, Segment Q would have at-grade crossing that could impact vehicular circulation on roadways; however, the use of the crossings would not cause significant traffic changes compared to existing conditions. Therefore, impacts would be less than significant.

Bicycle

Segment Q would improve (i.e., have a positive impact on) bicycle facilities by creating a Class I bikeway along Coyote Creek, at-grade crossings and a pedestrian bridge connecting the Coyote Creek bikeways. Therefore, there would be no adverse impacts to bicycle facilities.

Pedestrian

As stated above, Segment Q would improve Coyote Creek by creating new Class I bikeways and connecting the bikeways. Pedestrians would be able to use the Coyote Creek bikeway and the improvements would promote active transportation such as walking and running. Therefore, there would be no impacts to pedestrians.

Mitigation Measure

MM TRANS-1 Prior to construction, the General Contractor shall submit a detailed Construction Management Plan to be reviewed and approved by the County of Orange. The Construction Management Plan shall specify that the Construction Manager will schedule truck traffic and employee shifts to avoid creating trips during the peak traffic periods, as is feasible for construction operations. All measures, including identified truck routes and designated employee parking areas, shall be included in the Construction Management Plan. The Plan shall include but is not limited to the following provisions:

a) To handle street traffic affected by at-grade construction work on Knott Avenue, South Firestone Boulevard and Stage Road, the Construction Management Plan shall specify how traffic will be routed and controlled during the construction phase, including which lane(s) of traffic will be temporarily blocked off for construction work.

b) Specification of permitted hours for construction-related deliveries and removal of heavy equipment and material.

c) Specification of where construction workers would park their personal vehicles during project construction with a requirement that at no time shall construction worker vehicles block any driveways. If complaints are received by the project applicant regarding issues with construction worker vehicle parking, the project applicant shall identify alternative parking options for construction workers so as not to interfere with any commercial and residential parking availability.

d) Identification of how emergency access to and around the project site will be maintained during project construction.

e) Specification of haul routes for delivery or removal of heavy and/or oversized equipment or material loads. Where feasible, delivery or removal of oversized equipment or material loads shall be conducted during off-peak traffic periods.

f) Maintain pedestrian and bicycle connections around the project site designate safe crossing locations for all pedestrian detours.

g) Maintain the security of the project site by erecting temporary fencing during the construction phase of the project. Any onsite night lighting used during the construction phase of the project shall be in compliance with lighting requirements of the Cities of Cerritos, La Mirada and Buena Park.

h) If temporary lane closures are necessary for the installation of utilities, that emergency access should be maintained at all times.

i) Flag persons and/or detours shall be provided as needed to ensure safe traffic operations.

j) Construction signs shall be posted to advise of reduced construction zone speed limits.

k) The project design shall include entry/exit gates for first responders' vehicles to gain access to the bike path along segments O, P, and Q.

l) If required, ongoing regular maintenance shall occur along the bike path to deter crime.

Level of Significance After Mitigation Incorporated

After implementation of **MM TRANS-1**, the project would have less than significant construction-phase impacts on transit, roadway, pedestrian, and bicycle facilities.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant Impact

Section 15064.3, Determining the Significance of Transportation Impacts, of the CEQA Guidelines describes specific considerations for evaluating a project's transportation impacts. Section 15064.3(b)(2) states that projects considered Transportation Projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact". The Technical Advisory on Evaluating Transportation Impacts in CEQA states "Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation" (State of California, Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, p. 23). Independent studies have demonstrated that bikeways reduce VMT (OCTA, 2016, p. 20). Section 3.2 - Transportation Impacts of the Orange County SB 743 Implementation Manual states bikeways "would not likely lead to a substantial or measurable increase in vehicle travel and that, therefore, would generally not require an induced travel analysis" (County of Orange, SB 743 Implementation, 2020). Therefore, implementation of the proposed Project would reduce VMT and not conflict or be inconsistent with the provisions of Guidelines Section 15064.3. Impacts would be less than significant and not require mitigation.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact with Mitigation Incorporated

Project Construction

During the construction phase, there is the potential for existing pedestrian facilities, including the bikeway along Coyote Creek and at the at-grade crossings to be disrupted by construction-related vehicles. Preparation of a construction management plan, as detailed in mitigation measure **TRANS-1** above, would reduce the potential for disruptions to existing pedestrian facilities during the project construction phase.

Project Operation

The proposed project would repave the existing bikeways of Coyote Creek that are considered degraded and unsafe (Stantec, 2015, p. 40) and extend bikeways along Coyote Creek that do not currently exist. The new proposed bikeways that would follow along Coyote Creek would be straight and not conflict with vehicles as there would be no other vehicular traffic except at the at-grade crossings. However, at the at-grade crossings, the proposed project would install marked crosswalks requiring installation of push-button activation. Therefore, the proposed bikeway would be inherently safe and would incorporate measures to increase the safe crossing of pedestrians and bicyclists at intersections. As described in Threshold 4.14 a) above, UPRR has preliminarily indicated its policies may not be able to support an underpass. Therefore, a 1,200-foot-long, 35-foot-high pedestrian/cyclist truss bridge over the UPRR tracks has been included as an alternative to the underpass. However, the slope on the northeast end of the bridge would reach a minimum of 9.6% to allow for the South Firestone underpass entrance and would be extremely difficult for cyclists. However, should the bridge need to be constructed, bicyclists could walk their bike up and over the

bridge. The construction of the bridge would allow bicyclists to continue along the bikeway. Further, the project would be designed to meet current design standards in the jurisdictions through which it passes. Therefore, the project would not increase hazards due to a geometric design feature, and traffic hazard impacts would be less than significant.

Mitigation Measure

Refer to mitigation measure **TRANS-1** above.

Level of Significance After Mitigation

After implementation of **MM TRANS-1** discussed above, the project would have less than significant construction-phase impacts on transit, roadway, pedestrian and bicycle facilities.

d) Would the project result in inadequate emergency access?

Less Than Significant with Mitigation Incorporated

Construction

During project construction activities, delivery truck trips and construction equipment could contribute additional traffic within the project area, which could in turn impact emergency access to the project site. The construction trip generation intensities would vary based on the construction phase, truck hauling patterns, and construction employment intensities. To ensure that there would be less than significant impacts to emergency access during the construction phase, mitigation measure **TRANS-1** is proposed.

Operation

The operation of the proposed project would not impact emergency access as described below. The proposed project would further extend the bikeway, which would extend the area where emergency vehicles may travel. There are several existing emergency vehicle access points within a quarter to half mile of the undercrossing at Artesia Boulevard and the BNSF undercrossing. Additionally, police/law enforcement SUV's could use the underpasses. The proposed box culverts for the UPRR & BNSF undercrossings are 10 feet high; therefore, there would be no issue for law enforcement SUVs being able to travel underneath these undercrossings. The tallest ambulance is 110 inches, so there would be no issue regarding emergency vehicles at those two undercrossings. Under S. Firestone, I-5 southbound and northbound, and N. Firestone undercrossings, it is anticipated that the height would be 9'-3" (111"), which would provide clearance for even the tallest ambulance. Therefore, there would be less than significant impacts.

Mitigation Measure

Refer to mitigation measure **TRANS-1** above.

Level of Significance After Mitigation

With the implementation of **MM TRANS-1,** the proposed project would have a less than significant temporary impact regarding emergency access.

4.18 Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?				**X**
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		**X**		

Information from the Phase I Cultural Resources Inventory dated August 31, 2020 prepared for the OC Loop Segments O, P and Q Project by UltraSystems (**Appendix D1**), describes the background research for and analysis of potential cultural resources data conducted for the project. This research included a cultural resources record search at the South Central Coastal Information Center (SCCIC), a Sacred Lands File (SLF) research conducted by the Native American Heritage Commission (NAHC), and a pedestrian survey assessment.

No prehistoric archaeological resources were observed during the field survey. Previous cultural resources surveys within the half-mile buffer zone resulted in no archaeological sites or isolates being recorded. During the cultural resources record search at the SCCIC, no prehistoric resources were found. Four historic properties were identified within the half-mile buffer zone, two of which were located within the area of potential effect (APE) (see **Section 4.5**, Cultural Resources, above). Both of these historic resources were railroad lines that have a bridge crossing over the Coyote Creek Channel where the bicycle trail would be built (alternatively the westernmost bridge, for the Union

Pacific Rail Road, may have a pedestrian/cyclist truss bridge). The results of the pedestrian assessment observed the previously recorded railroad bridges, but did not locate any historic resources beyond the eight street bridges crossing the Coyote Creek Channel, all 50+ years or older and the three railroad bridges that were observed; none of the bridges will be directly impacted by project construction (as each will have either under-crossings or street-level paths that will not directly include the bridges). The cultural resource study findings at the SCCIC suggest that there is a low potential for finding prehistoric cultural resources.

In addition, no tribal cultural resource sites were documented in the NAHC's SLF search. No resources as defined by Public Resources Code § 21074 have been identified (**Attachment C**: "Native American Heritage Commission Records Search and Native American Contacts" in **Appendix D1** to this Initial Study/Environmental Assessment). Additionally, the project site has not been recommended for historic designation for prehistoric and tribal cultural resources (TCRs).

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

No Impact

The Cultural Resources investigation determined that there are no listed or eligible for listing TCRs in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) within the project site or within a half-mile buffer surrounding the project site. Therefore, the project would have no impact in this regard.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact with Mitigation Incorporated

Assembly Bill 52 (AB 52) requires meaningful consultation with California Native American Tribes on potential impacts on TCRs, as defined in Public Resources Code § 21074. TCRs are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources (California Natural Resources Agency [CNRA], 2007).

As part of the AB 52 process, Native American tribes must submit a written request to a lead agency to be notified of projects within their traditionally and culturally affiliated area. The lead agency must provide written, formal notification to those tribes within 14 days of deciding to undertake a project. The tribe must respond to the lead agency within 30 days of receiving this notification if they want

to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the tribe's request. Consultation concludes when either (1) the parties agree to mitigation measures (MM) to avoid a significant effect on a tribal cultural resource, or (2) a party, acting in good faith and after reasonable effort, concludes mutual agreement cannot be reached.

The OCPW (lead agency) prepared letters to the four tribes on the recommended list maintained by the OCPW. The letters were sent by Joanna Change, Land Use Manager, Advance Planning, OCPW, with both Ms. Change and Cindy Salazar (Senior Planner, Development Services, OCPW), as contact persons on May 21, 2020 via certified mail to: the Gabrielino/Tongva San Gabriel Band of Mission Indians, the Gabrieleño Band of Mission Indians – Kizh Nation (Gabrieleño – Kizh Nation), the Juaneño Band of Mission Indians, and the Soboba Band of Luiseño Indians (K. Shannon, personal communication; May 8, 2020 and May 26, 2020). Letters were also sent to the Fernandeño Tataviam Band of Mission Indians, the San Manuel Band of Mission Indians, and the Tejon Indian Tribe (C. Salazar, personal communication; June 24, 2020). The letters conveyed that the recipient had 30 days from the receipt of the letter to request AB 52 consultation regarding the project. Once the tribes have responded and AB 52 consultation is initiated, the results will be updated here. The San Manuel Band of Mission Indians replied via email stating that they did not want to consult on this project (C. Salazar, personal communication; June 19, 2020). There have been no other responses to date.

No sites were documented in the NAHC's Sacred Lands File search. No resources as defined by Public Resources Code § 21074 have been identified (Attachment C: "Native American Heritage Commission Records Search and Native American Contacts" in **Appendix D1** to this Initial Study/Environmental Assessment). Additionally, the project site has not been recommended for historic designation for prehistoric and TCRs. No specific Tribal resources have been identified.

Furthermore, no prehistoric archaeological resources were observed during the field survey. The previous cultural resources surveys within the half-mile buffer zone resulted in no archaeological sites or isolates being recorded. During the cultural resources record search at the SCCIC, no prehistoric resources were found. Four historic properties were identified within the half-mile buffer zone, two of them being railroad bridges which are within the APE. The results of the pedestrian assessment indicate it is highly unlikely that prehistoric properties would be adversely affected by construction of the project. The cultural resource study findings at the SCCIC suggest that there is a low potential for finding resources.

A mitigation measure for minimizing impacts on potential TCRs is applicable to the project site because the land at the site along the Coyote Creek Channel is entirely light grey sandy alluvium which has been extensively graded, with any remaining natural banks cut and filled by the early 1960s to allow the complete concrete channelization of the creek along the entire length of the project boundary. The results of the pedestrian assessment indicate no impacts to prehistoric or historical resources are anticipated during project construction. The cultural resources study findings suggest that there is a low potential for the presence of prehistoric cultural resources. The only potentially native soil remaining might be found in landscaping at the extreme northern point of the project where the Coyote Creek Channel crosses South La Mirada Boulevard/Malvern Avenue, along the partial block of Malvern Avenue east of the creek. Therefore, the potential for subsurface cultural and or historical deposits is considered to be low. However, grading activities associated with construction of the project would cause new subsurface disturbance and potentially could result in the unanticipated discovery of undisturbed archaeological resources dating to the free-flow of

Coyote Creek when its immediate area may have been used by Native Americans for resource gathering and travel. Therefore, mitigation measure **TCR-1** below is recommended.

Mitigation Measure

MM TCR-1: If unanticipated archaeological resources or deposits are discovered during earth-moving activities, OC Public Works (OCPW) will implement the following measures. All work will halt within a 60-foot radius of the discovery. OCPW will have a qualified professional archaeologist assess the significance of the find. If the resources are Native American in origin, the County shall coordinate with the Tribe regarding evaluation, treatment, curation, and preservation of these resources. The archaeologist will have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OCPW. Work will not continue within the no-work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either: (1) not cultural in origin; or (2) not potentially eligible for listing on the CRHR. If a potentially eligible resource is encountered, then the archaeologist and OCPW, as lead agency, in consultation with the Tribe, will arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, an attempt to resolve adverse effects to determine appropriate mitigation. The assessment of eligibility will be formally documented in writing as verification that the provisions in CEQA for managing unanticipated discoveries and PRC Section 5024 have been met.

Level of Significance after Mitigation

With implementation of **MM TCR-1**, potential project impacts on TCRs would be less than significant.

None of the contacted tribes have noted the presence of TCRs at or near the project site. There is no substantial evidence that TCRs are present on the project site, including no sites listed with the SLF. Therefore, the project would have less than significant impacts related to TCRs, pending AB 52 consultation with any requesting tribes.

4.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			**X**	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				**X**
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				**X**
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			**X**	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			**X**	

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact

Utilities related to the proposed project are described below.

Water: Construction of the proposed project would require a minimal amount of water for purposes such as dust control, which is readily available from public sources. However, this water use would be temporary and would not generate a substantial demand for water supply. Once construction is completed, the project would not require water for its operation. Therefore, the proposed project would not require the expansion or relocation of water facilities, and there would be no impacts.

Wastewater Treatment: The proposed project would not generate any wastewater that would require treatment. Construction employees would use port-potties, so no wastewater would be generated during either the construction or operational phase of the project. Thus, there would be no impact on wastewater treatment facilities.

Stormwater Drainage: As detailed in **Section 4.10**, three storm drain outlets exist on the north side of Coyote Creek Channel. Line A, La Mirada Creek and MTD 186, discharge into Coyote Creek approximately 68 and 48 feet (respectively) west of the Valley View Street bridge. A third outfall, designation unknown, discharges into Coyote Creek approximately 20 feet west of the bridge. As shown in the *Project Plans* (**Appendix A2**, Sheet L4, Station 26+84.91), the proposed modifications of the Coyote Creek Channel at the Valley View Street bridge would begin and end above the elevation of all three storm drain outfalls, and these outfalls would not be impacted during construction of the proposed project. Therefore, no impact would occur.

A storm drain outfall (PD 0624 - Line A - Coyote Creek) discharges into Coyote Creek at the northwest corner of the Artesia Boulevard bridge; however, as show in **Appendix A3** (2020 Updated Crossing Plans, sheet 3, Station 50+47.61), the outfall is below the level of the proposed channel modifications at Artesia Boulevard bridge and would not be impacted during construction of the proposed project. The proposed project would not result in impacts, including the need for relocation, of stormwater drains. Therefore, a less than significant impact would occur.

Electric Power: Electric power to the project area is provided by Southern California Edison (SCE), which maintains a system of transmission lines, distribution lines and supply regulation stations. The project will require electricity for signalization at some at-grade crossings. In addition, an approximately 200-foot length of bikeway under North Firestone Boulevard, I-5, and South Firestone Boulevard in Segment P, will require trail lighting. The project would be constructed in accordance with applicable Title 24 regulations, and would not necessitate the construction or relocation of electric power facilities. A power pole in the northwest quadrant at South Firestone Boulevard may require relocating. This pole supports a Southern California Edison power line and communications lines that may require relocating, resulting in no significant impacts regarding electric power. Therefore, a less than significant impact would occur.

Natural Gas: Southern California Gas Company (SoCalGas) is the primary distributor of retail and wholesale natural gas across Southern California, including the cities in which the proposed project would be located. SoCalGas provides services to residential, commercial, and industrial consumers, and also provides gas for electric generation customers in Southern California. No natural gas would be consumed during either the construction or operation of the proposed project and no natural gas facilities would have to be constructed or relocated. Therefore, no impact would occur.

Telecommunications Facilities: The project area is covered by all major wireless services, which would be available to project users who subscribe to those services. The proposed project would not interfere with operation of any of these provider's facilities, and no impact would occur.

Fuel Lines: Fuel lines would be removed at the Union Pacific and BNSF undercrossings. The abandoned oil pipelines would be cut, capped & removed. All other utilities will be "protect-in-place." Therefore, a less than significant impact would occur.

As detailed above the proposed project would have a less than significant impact regarding new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact

Construction of the proposed project would require a minimal amount of water for purposes such as dust control, which is readily available from public sources. However, this water use would be temporary and would not generate a substantial demand for water supply. Once construction is completed, the project would not require water for its operation. Therefore, sufficient water supplies would be available and there would be no impacts on water supplies.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact

Construction employees would use port-potties, so no wastewater would be generated during either the construction or operational phase of the project. Therefore, the estimated wastewater to be generated by the project would be within the existing capacity of the wastewater treatment provider and no impacts would occur.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact

Construction of the proposed project would generate common construction solid waste products such as debris from breakup of concrete, paper, cardboard, metal, plastics, glass, lumber scraps and other materials. During construction, solid waste would be disposed of in a manner consistent with State of California Integrated Waste Management Act of 1989 (CIWMA) and would be removed from the construction site. Therefore, temporary solid waste impacts during construction of the proposed project would be less than significant.

No solid waste would be generated during operation of the proposed project; thus, the project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. As a result, no adverse impact on either solid waste collection service or the landfill disposal system would occur, and the project would have no impact on existing solid waste disposal facilities.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact

In 1989, the California Legislature enacted the California Integrated Waste Management Act (AB 939), in an effort to address solid waste problems and capacities in a comprehensive manner. The law required each city and county to divert 50 percent of its waste from landfills by the year

2000. The proposed project would comply with applicable local, state, and federal solid waste disposal standards, thereby ensuring that the solid waste stream to regional landfills is reduced in accordance with existing regulations. Impacts are considered less than significant.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				**X**
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				**X**
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				**X**
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				**X**

The California Department of Forestry and Fire Protection (CAL FIRE) is legally mandated to periodically map Fire Hazard Severity Zones on State Responsibility Areas (SRAs), as well as recommend Very High Fire Hazard Severity Zones (VHFHSZs) in Local Responsibility Areas (LRAs). CAL FIRE established the Fire and Resource Assessment Program (FRAP) to develop a statewide, consistent logic and science-based model for Fire Hazard Zoning to meet the needs of the adoption of new building standards. The CAL FIRE FRAP's mapped Fire Hazard Severity Zones for SRAs and VHFHSZs in LRAs are shown on **Figures 4.20-1** and **4.20-2**.

State Responsibility Areas

The project site is not located in or near any SRAs (CAL FIRE, 2011). As shown on **Figure 4.20-1**, the closest zones in SRAs include a High Fire Hazard Severity Zone located approximately 12.5 miles north of the project site and Moderate Fire Hazard Severity Zone located approximately 12 miles northeast and 12 miles southeast of the project site.

Local Responsibility Areas

The project site is not located in or near any LRAs (CAL FIRE, 2011). As shown in **Figure 4.20-2**, the closest VHFHSZ in a LRA for Orange County is located approximately one mile northeast of the project site.

Figure 4.20-1
FIRE HAZARD SEVERITY ZONE - STATE RESPONSIBILITY AREA

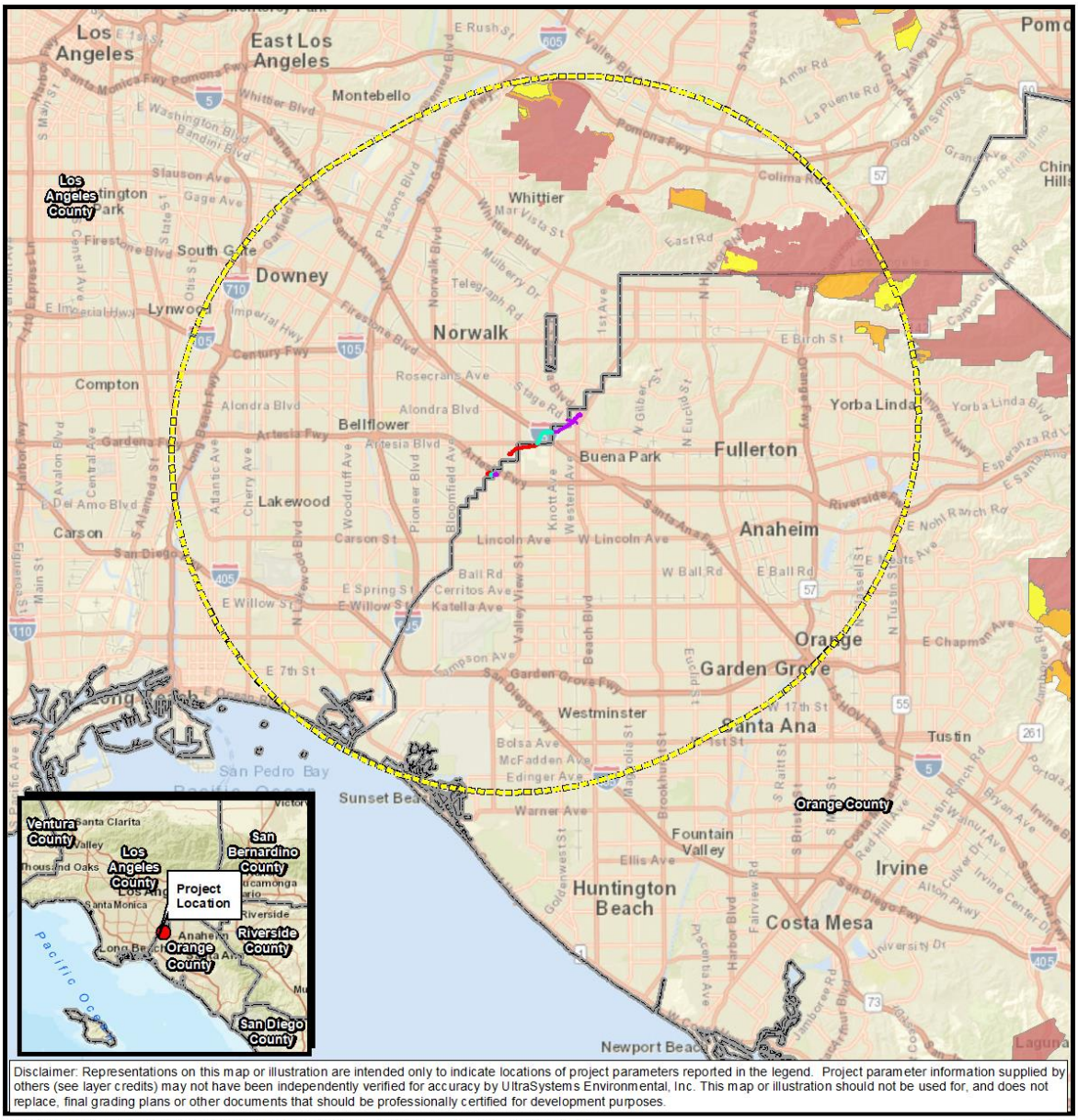


Figure 4.20-2
FIRE HAZARD SEVERITY ZONE - LOCAL RESPONSIBILITY AREA



4.20.1 Impact Analysis

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

and

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact

As shown in **Figure 4.20-2** above, Segment Q of the project site is located approximately one mile southwest of a LRA VHFHSZ in the City of Fullerton. The proposed project is located along the Coyote Creek Channel and is not located near a LRA VHFHSZ. Therefore, the proposed project would not substantially impair an adopted state emergency response plan or state emergency evacuation plan with regards to wildfire. The project would have no impact regarding Thresholds a) and b).

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact

As detailed above, the proposed project is not located in a SRA and the closest LRA VHFHSZ is approximately one mile northeast of Segment Q. The proposed project does not include roads, fuel breaks, emergency water sources, power lines or other utilities that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, the proposed project would have no impact regarding Threshold c).

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact

The majority of proposed project would run parallel to existing public roads in the Cities of Cerritos, Buena Park, and La Mirada.

The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, the proposed project would have no impact regarding Threshold d).

4.21 Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		**X**		
b) Impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		**X**		
c) Environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		**X**		

a) Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporated

As detailed in **Section 4.4** of this IS/MND, with implementation of mitigation measures **BIO-1**, through **BIO-7**, the project would result in less than significant impacts to special-status species and nesting bird species.

Implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-5**, **BIO-6**, and **BIO-7** would help to avoid, eliminate or reduce direct or indirect effects on native wildlife, special-status species, and MBTA protected bird species and would reduce potential impacts to a less than significant level.

Direct impacts to trees in the City of Buena Park are anticipated to occur as a result of this project; implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, and **BIO-9** would avoid or minimize direct or indirect impacts to trees within the project site and would result in a less than significant impact after mitigation.

The project boundary abuts Stage Road bridge which has suitable habitat for the western mastiff bat and contains a roosting bat colony made up of big brown bats, Mexican free-tailed bats, and can be used during the pupping season. Implementing the recommended mitigation measures **BIO-1**, **BIO-2**, **BIO-3, BIO-5**, **BIO-6,** and **BIO-7** will help to avoid, eliminate or reduce direct or indirect effects on native wildlife nursery sites and would result in a less than significant impact after mitigation.

As detailed in **Section 4.5** of the IS/MND, with the presence of two historic cultural resources within the project site boundary, the Union Pacific Railroad and the Burlington Northern Santa Fe Railway, there may be an indirect impact to historic resources from construction of the proposed project. Project operations would have no impacts to historical cultural resources. However, with implementation of mitigation measure **CUL-1** and mitigation measure **TCR-1**, potential impacts related to historic archaeological resources would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact with Mitigation Incorporated

Regarding cumulative projects, the City of Cerritos does not list any current or upcoming projects. The City of Buena Park website does not list any current or upcoming projects for 2020 (City of Buena Park Current Construction, 2020). The City of La Mirada's website does not list any upcoming projects but lists two current projects: 1) Warmington Residential, a 39-unit condo project, located at 12841 Valley View Avenue, approximately 2.7 miles northwest of the project site; and 2) Bora and Valle Olson 56-unit condo project, located at 13811 Valley View Avenue, approximately 2.0 miles northwest of the project site (City of La Mirada Current Projects, 2020). Given the distance from these projects from the proposed project site it is not anticipated that any significant cumulative impacts would occur if construction of these projects and the proposed project were to occur at the same time. The proposed project includes mitigation, as warranted to reduce potentially significant environmental impacts. Additionally, the two projects in the City of La Mirada are also subject to CEQA and therefore, would also include mitigation, as warranted to address potential environmental impacts. Therefore, a less than significant impacts is anticipated regarding cumulatively considerable impacts.

Regarding cumulative impacts to wetlands and water, combined temporary impacts to waters of the U.S. and State will measure 2.17 acres (includes 0.69 acre of waters of the U.S. and 1.48 acres of waters of the State); however, areas of temporary impact will be restored to preconstruction contours and elevations when construction is complete. No permanent impacts to waters of the U.S. or waters of the State are anticipated due to construction. A search of the CEQAnet Web Portal (CEQAnet; OPR, 2020) resulted in 169 recreational projects filed in Los Angeles County and 50 recreational projects filled in Orange County between May 1, 2015 and May 1, 2020.

Out of the 169 projects in Los Angeles county, only five were within the Lower San Gabriel Watershed and contained some type of trail and a jurisdictional waterway nearby; in Orange County only three

of the 50 projects that resulted from the inquiry were within the Lower San Gabriel Watershed and contained some type of trail and a jurisdictional waterway nearby. A review of the jurisdictional, hydrology and water quality impacts of these individual projects revealed that all their impacts are less than significant due to implementation of construction stormwater BMPs, post-construction structural BMPs are detailed in project WQMPs, and other mitigation measures,

Therefore, cumulative impacts of the proposed project to the waters of the Lower San Gabriel River Watershed would also be less that significant because the proposed project would minimize or avoid water impacts to receiving waters through implementation of site-specific stormwater construction BMPs as directed in the required SWPPP, and would also implement any project-specific mitigation required by reviewing agencies (i.e., the California State Water Resources Control Board [SWRCB] and the South Coast Region of CDFW).

Compliance with all permit-required conditions, and implementation of standard construction best management practices, will avoid or minimize adverse effects to waters of the U.S. and State. It is anticipated that the project, in combination with other past, present, and reasonably foreseeable activities proximate to OC Loop Segments O, P, and Q and within the Brea Creek-Coyote Creek watershed would result in less than significant cumulative impacts to the waters and receiving waters of the Brea Creek-Coyote Creek Watershed.

Section 4.17 (Transportation) states that during the construction phase, there is the potential for existing pedestrian facilities, including the bikeway along Coyote Creek and at the at-grade crossings to be disrupted by construction and construction vehicles. Preparation of a construction management plan, as detailed in mitigation measure **TRANS- 1**, would reduce the potential for disruptions to existing pedestrian facilities during the project construction phase. After implementation of mitigation measure **TRANS-1**, the project would have less than significant construction-phase impacts on transit, roadway, pedestrian, and bicycle facilities. During project construction activities, delivery truck trips and construction equipment could contribute additional traffic within the project area, which could in turn impact emergency access to the project site. The construction trip generation intensities would vary based on the construction phase, truck hauling patterns, and construction employment intensities. To ensure that there would be less than significant impacts to emergency access during the construction phase, mitigation measure **TRANS-1** is proposed.

The proposed project would be consistent with regional plans and programs that address environmental factors such as air quality, water quality, and other applicable regulations that have been adopted by public agencies with jurisdiction over the project for the purpose of avoiding or mitigating environmental effects.

The project would generate new short-term construction jobs in the project area. Due to the relatively small size of this project, and its location within an existing urban area, the project is not expected to induce substantial growth in the region. The project does not include a housing component or otherwise support an increase in resident population and would utilize existing infrastructure for its operation. Therefore, indirect population growth resulting solely from the project would be less than significant.

Because the project would not increase environmental impacts after mitigation measures are incorporated, any incremental contribution to cumulative impacts would be negligible and would be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact with Mitigation Incorporated

Section 4.9 (Hazards and Hazardous Materials) indicated that the proposed project would be located adjacent to commercial and industrial sites that could have contaminated local soils. If contaminated soils are discovered during construction, mitigation measure **HAZ-1** would implement a SMP that would ensure the proper handling and disposal of contaminated soils. Implementation of mitigation measure **HAZ-2**, to prepare an aerially deposited lead (ADL) plan to manage the soils contaminated with lead during project construction would reduce potential impacts from lead in soils to a less than significant level. The proposed project would implement mitigation measures **HAZ-1** through **HAZ-3** to ensure the safe handling and disposal of any contaminated soils. After implementation of **MM**s **HAZ-1** through **HAZ-3**, accidental release of hazardous substances during the project construction phase would be less than significant.

Regarding Noise, as detailed in **Section 4.13**, with implementation of mitigation measures **N-1** through **N-4**, the project would result in less than significant noise impacts to sensitive receivers. Additionally, with implementation of mitigation measure **N-5**, vibration decibels would remain below 80 VdB, and the project would result in less than significant vibration impacts.

Regarding emergency services such a police and fire response, the project would have less than significant impact with implementation of mitigation. As detailed in **Section 4.15**, Public Services, of the IS/MND, when asked what mitigation, if any, the OCFA recommends to reduce potential impacts to fire services, Mr. Blumberg's response was to ensure that OCFA has adequate (approved) access for first responders along the entire bike lane path (Blumberg, 2020). Therefore, the proposed project would implement mitigation measure **PS-1**. With implementation of **MM PS-1**, impacts would be less than significant. Based on the comments from the Los Angeles County Sheriffs' Department, the project requires mitigation measures **PS-1** and **TRANS-1** to ensure access to the project site and to maintain adequate traffic circulation during construction. With implementation of **MM PS-1** and **MM TRANS-1**, impacts to law enforcement would be less than significant.

The proposed project could temporarily impact street traffic adjacent to the project site during the construction phase due to construction activities along the right of way where the proposed project would install the at-grade crossings. As further detailed in **Sections 4.9** and **4.17**, the proposed project would implement mitigation measure **TRANS-1**, a Construction Management Plan (CMP), which would ensure adequate traffic circulation and emergency evacuation; therefore, construction impacts would be less than significant.

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7.0 MITIGATION MONITORING AND REPORTING PROGRAM

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in conformance with § 21081.6 of the Public Resources Code and § 15097 of the California Environmental Quality Act (CEQA) Guidelines, which requires all state and local agencies to establish monitoring or reporting programs whenever approval of a project relies upon a Mitigated Negative Declaration (MND) or an Environmental Impact Report (EIR). The MMRP ensures implementation of the measures being imposed to mitigate or avoid the significant adverse environmental impacts identified through the use of monitoring and reporting. Monitoring is generally an ongoing or periodic process of project oversight; reporting generally consists of a written compliance review that is presented to the decision-making body or authorized staff person.

It is the intent of the MMRP to: (1) provide a framework for document implementation of the required mitigation; (2) identify monitoring/reporting responsibility; (3) provide a record of the monitoring/reporting; and (4) ensure compliance with those mitigation measures that are within the responsibility of the lead agency and/or project applicant to implement.

The following table lists impacts, mitigation measures adopted by the Cities of Cerritos, Buena Park and La Mirada in connection with approval of the proposed project, level of significance after mitigation, responsible and monitoring parties, and the project phase in which the measures are to be implemented.

Only those environmental topics for which mitigation is required are listed in this Mitigation Monitoring and Reporting Program. The mitigation measures contained in this MMRP table are prescriptive and are provided for use by the implementing agency.

Table 7.0-1
MITIGATION MONITORING AND REPORTING PROGRAM

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
4.1 Aesthetics				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**MM AES-1:** During project construction the project applicant shall place construction staging areas as far away as reasonably possible from adjacent residences so as to minimize, to the maximum extent possible, any potential lighting and/or glare impacts to nearby residences or businesses. The lighting used during project construction shall consist of the minimum amount of light necessary for safety and security on the project site.	Project Applicant	Field Verification	OC Public Works OC Public Works During construction
4.4 Biological Resources				
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-1: Qualified Biologist/Biological Monitor.** During the active construction phase of the project, OCPW or its assigned contractor will provide a qualified biologist to perform biological monitoring during the bird nesting season (January 31 to September 15) and/or the bat pupping season (May 1 to August 31) to perform weekly spot check monitoring of active nests (entire project) and/or active maternal bat colonies (Stage Road colony). If active nests are not found though periodic pre-construction nesting surveys (see **MM BIO-5**) and/or if the work is not occurring during the pupping season near Stage Road (**MM BIO-7**), then a biological monitor is not needed. Where appropriate, the biological monitor will mark/flag the limits of sensitive areas (such as active bird nests/sensitive bird habitat or active maternal bat habitat) to restrict project activities near the areas. These restricted areas will be monitored to protect the species during construction. The biological monitor will ensure that all biological mitigation measures, BMPs, avoidance and protection measures described in the relevant project permits, approvals, licenses, and environmental reports are in place and are adhered to. Monitoring will cease when the sensitive habitats and jurisdictional areas have been cleared or affected. All observations of special-status species will be documented and mapped in monitoring logs. Monitoring logs will be completed for each day of monitoring. All special-status species recordings will be submitted to the CNDDB. The biological monitor will have the authority to temporarily halt all construction activities and all non-emergency actions if sensitive areas and special-status species are identified and will be directly affected by project activities. The monitor will notify the County to notify the appropriate resource agency and consult if needed. If	Project Applicant	Field Verification	OC Public Works OC Public Works During construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	needed, and if possible, the biological monitor will allow the animal to leave the project site on its own, or it should be coaxed to move out of harm's way, outside of the project area. The biological monitor may use an object to "steer" the animal away from the project site, such as a snake stick or piece of plywood. For nesting birds or roosting bats, buffers will be established, as detailed in **MM BIO-5** and **MM BIO-7**. The biological monitor may collect and relocate non special-status species outside of the work area where it will not be harmed. Work can continue at the location if OCPW and/or the consulted resource agency determine that the activity will not result in impacts to the species. The biological monitor will notify OCPW or its assigned contractor, who will notify the appropriate agencies if a dead or injured protected special-status species is located within the project site. Written notification must be made within 15 days of the date and time of the finding or incident (if known) and must include; location of the carcass, a photograph, cause of death (if known), and other pertinent information.			
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-2: Worker Environmental Awareness Program** If required by forthcoming regulatory agency authorizations, prior to project construction activities, OCPW and/or its assigned contractor shall ensure that a qualified biologist will prepare and conduct a Worker Environmental Awareness Program (WEAP) training that will describe the biological constraints of the project. All personnel who will work within the project site will attend the WEAP prior to performing any work. The WEAP should cover the results of any pre construction surveys, jurisdictional area locations, and sensitive biological resources (such as coastal whiptail) potentially present on the site. In addition, the training should cover restrictions, avoidance and protection measures, mitigation measures, and individual responsibilities associated with the project, including measures provided within the forthcoming regulatory permits. The program will include the steps to take if workers encounter a sensitive wildlife species (i.e., notifying the biological monitor or the construction foreman, who will then notify the biological monitor). Training materials will be language-appropriate for all construction personnel. Upon completion of the WEAP, workers will sign a form stating that they attended the program, understand all protection measures, and will abide by all the rules of the WEAP. A record of all trained personnel will be kept with the construction foreman onsite. If new construction personnel are added to the project later, the construction foreman will ensure that new personnel receive training before they start working. The biologist will prepare and provide written hard copies of the WEAP and photos of the sensitive biological resources to the construction foreman.	Project Applicant	Field Verification	OC Public Works OC Public Works During construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-3: Project Limits and Designated Areas** To avoid impacts to environmentally sensitive areas (ESAs), if any are later identified, surrounding habitats and wildlife, OCPW and/or its assigned contractor will implement the following measures prior to project construction and commencement of any ground disturbing activities or vegetation removal. • Project footprint will be set at the minimum size to accomplish necessary work, resulting in minimal impacts to sensitive biological resources. • Specifications for the project boundary, limits of grading, project-related parking, storage areas, laydown sites, and equipment storage areas will be mapped and clearly marked in the field with temporary fencing, signs, stakes, flags, rope, cord, or other appropriate markers. All markers will be maintained until the completion of activities in that area. • To minimize the amount of disturbance, the construction/laydown areas, parking areas, staging areas, storage areas, spoil areas, and equipment access areas will be restricted to designated areas. Designated areas will comprise existing disturbed areas (parking lots, access roads, graded areas, etc.) to the extent possible. • Project related work limits will be defined and work crews will be restricted to designated work areas. Disturbance beyond the actual construction zone will be prohibited without site-specific surveys. If sensitive biological resources are detected in an area to be affected, then appropriate measures would be implemented to avoid effects (i.e., flag and avoid, erect orange construction fencing, biological monitor present during work, etc.). However, if avoidance is not possible and the sensitive biological resources will be directly affected by project activities, the biologist will mark and/or stake the site(s) and map the individuals on an aerial map and with a GPS unit. The biologist will then contact the appropriate resource agencies to develop additional avoidance, minimization and/or mitigation measures prior to commencing project activities. • ESAs will be identified, mapped, clearly marked in the field, and avoided to the maximum extent practicable in order to avoid and minimize effects to sensitive biological resources. • Existing roads will be utilized wherever possible to avoid unnecessary impacts. Project related vehicle traffic will be restricted to established roads, staging areas, and parking areas. Travel outside construction zones will be prohibited.	Project Applicant and/or Project Contractor	Field Verification	OC Public Works OC Public Works During construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	Monitoring would occur periodically during the length of construction activities to ensure project limits, designated areas (parking, storage, etc.), and ESAs are still clearly marked.			
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-4: General Vegetation Avoidance and Protection Measures** OCPW, or its assigned contractor, would implement the following general avoidance and protection measures to protect vegetation, to the extent practical. • Although no vegetation was noted along the bikeway route, efforts would be made to minimize vegetation removal. Cleared or trimmed vegetation and woody debris would be disposed of in a legal manner at an approved disposal site. • If any invasive species are subsequently discovered within the temporary disturbance areas they would be controlled to the maximum extent feasible using hand pulling or hand tool removal methods only. Limiting control methods to hand pulling or hand tools would further protect the surrounding habitat. • To minimize the transfer of exotic weed seed, vehicles and all equipment would be washed before first use at the project site. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc. would also be washed. All washing would take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill. Contractors, subcontractors, employees, and site visitors would be prohibited from collecting plants.	Project Applicant and/or Project Contractor	Field Verification	OC Public Works OC Public Works During construction
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-5: Pre-Construction and Construction Phase Nesting Bird Surveys** To be in compliance with the MBTA and the California Fish and Game Code, and to avoid and reduce direct and indirect impacts to migratory non-game breeding birds, and their nests, young, and eggs, the following measures should be implemented by OCPW and/or its assigned contractor, including the biological monitor. • Project activities that will remove or disturb potential nest sites should be scheduled outside the nesting bird season, if feasible. The nesting bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions. Raptors are known to begin nesting early in the year. The raptor nesting bird season begins January 31. • If project activities that will remove or disturb potential nest sites cannot be avoided during January 31 through September 15, a qualified biologist will conduct a pre-construction survey for breeding bird activity or active	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	nests within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. A lapse of no more than seven days should occur between nesting bird surveys. • If no breeding bird activity or active nests are observed during the pre-construction survey(s), or if they are observed and will not be affected, then project activities may begin and no further nesting bird monitoring will be required. • If an active bird nest is located during the pre-construction survey and potentially will be affected, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 300 feet for special-status avian species and raptors, or up to 100 feet for non-special-status avian species. Materials used to demarcate the nests will be removed as soon as work is complete or the fledglings have left the nest. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be affected by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone. • If special-status bird species, such as the Least Bell's Vireo, are observed within the project site during the pre-construction surveys, then a qualified biologist will delineate individual species' nesting territories, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary; and (2) select suitable mitigation measures. Project activities may not begin within the area until concurrence is received from the appropriate resource agencies.			
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or	**MM BIO-6: General Wildlife Avoidance and Protection Measures** The project site contains habitats which can support some wildlife species. Although few wildlife were observed utilizing this urban area (please see Section 4.4.2 for full list) during the two field surveys, bats were documented at Stage Road and the coastal whiptail was observed onsite. Therefore, OCPW, or its contractor, would implement the following general avoidance and protection measures to protect wildlife, to the extent practical.	Project Applicant	Field Verification	OC Public Works OC Public Works During construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	• To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. If nighttime work is required, the Qualified Biologist will assess the construction area to determine if there are any biological concerns for nighttime work. Nighttime work (and use of artificial lighting) would not be permitted unless specifically authorized by the wildlife agencies. If required, night lighting would be directed away from the preserved open space areas. All unnecessary lights would be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats. • If any wildlife is encountered during project activities, it will be allowed to freely leave the area unharmed. • Wildlife would not be disturbed, captured, harassed, or handled. Fishing would be prohibited at the project site. Animal nests, burrows and dens would not be disturbed without prior survey and authorization from a qualified biologist. • Active nests cannot be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist. • To avoid impacts to wildlife, OCPW, or its contractor, would comply with all litter and pollution laws and would institute a litter control program throughout project construction. All contractors, subcontractors, and employees would adhere to this program. Trash and food items would be disposed of promptly in predator-proof containers with resealing lids, or will be removed off the site each day. These covered trash receptacles would be placed at each designated work site and the contents would be properly disposed at least once a week. Trash removal would reduce the attractiveness of the area to opportunistic predators such as common ravens (Corvus corax), northern raccoons (Procyon lotor), Virginia opossums (Didelphis virginiana), and coyotes (Canis latrans). • Contractors, subcontractors, employees, and site visitors would be prohibited from feeding wildlife and collecting wildlife. • To avoid the potential for mortality and harassment of wildlife, all non security-related firearms, weapons, and domestic dogs would be prohibited from the project site. • All pitfalls (trenches, holes, bores, detention basins, and other excavations) greater than two feet deep would be completely covered at the end of each work day, or escape ramps provided.			

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-7: Bat Mitigation** **MM BIO-7a – Safety Measure, Standard Operating Procedures** **Safety Measure, Standard Operating Procedures:** A safety measure concerning the presence of bats within the Coyote Creek channel should be included in the Standard Operating Procedures by the contractor for the onsite construction crews. The safety measure should include precautions for working within 150 feet of any bridge with bat colonies, for the safety of the crews. The safety measure should disclose potential risk of disease from bat bites/scratches and inhalation of guano; requirements for use of Personal Protective Equipment; and responsibilities and actions of crews if a negative interaction with a bat is reported. Although negative interactions with bats are extremely rare, guidance for the contractor and construction crews is recommended. • Every effort should be made to avoid displacement of the special-status bats during the construction phase. • If work cannot occur simultaneously with the presence of special-status bats, due to safety hazard for the crew or the bats, the animals may require exclusionary method prior to construction, within 150 feet of bat-occupied structures. • If an exclusionary method is required, OCPW, or its contractor, will prepare a Bat Exclusion and Monitoring Plan (BEMP), for review and approval by CDFW. The BEMP, will detail alternate habitat to be provided if bats are to be excluded from maternity roosts. A roost with comparable spatial and thermal characteristics will be constructed as directed by a project biologist. (see **MM BIO-7c**, below) **MM BIO-7b - Pre-construction Bat Survey (Stage Road Bridge Only)** **Pre-Construction Bat Survey:** Within 30 days before construction, and if work is to be done near Stage Road during bat pupping season, generally from May 1 to August 31 (4 months), a project biologist who is qualified to survey for special-status bats will conduct pre-construction surveys for presence of roosting bat colonies (including the western mastiff bat). If roosting bat colonies or special-status bat species are present, the following should be implemented: • Saw cutting, jackhammering, piledriving, or similar activities within 150 feet of structures occupied by maternal bat roosts (colonies) should not occur	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	without prior consultation with CDFW. Maternal roosts are typically present between May 1 and August 31. • Avoid jackhammering, piledriving, or similar activities within 150 feet of the maternal roost until all young bats have left the roost, or as determined by a project biologist, or through consultation with CDFW. • If special-status bats are present, but there is not an active maternity roost, a consultation with the CDFW will be entered into to determine the approved best management practices, without directly impacting the bat colony. **Preconstruction Survey Methods**. Bat species with potential to occur in the project area employ varied roost strategies, from solitary roosting in foliage of trees to colonial roosting in trees and artificial structures, such as buildings and bridges. Daily and seasonal variations in habitat use are common. To obtain the highest likelihood of detection, preconstruction bat surveys will include these components. • Identification of potential roosting habitat within project area. • Daytime search for bats and bat sign in and around identified habitat. • Evening emergence surveys at potential day-roost sites, using night-vision goggles and/or active full-spectrum acoustic monitoring where species identification is sought. • Passive full-spectrum acoustic monitoring and analysis to detect bat use of the area from dusk to dawn over multiple nights. • Additional onsite night surveys as needed following passive acoustic detection of special-status bats to determine nature of bat use of the structure in question (e.g., use of structure as night roost between foraging bouts). • Qualified biologists will have knowledge of the natural history of the species that could occur in the project area and experience using full-spectrum acoustic equipment. During surveys, biologists will avoid unnecessary disturbance of occupied roosts. • Note that preconstruction surveys are triggered only if the project requires construction activities producing unusually loud activities or activities causing shaking or vibration of the bridge, generally resulting from saw cutting, jackhammering, piledriving, or similar activities (within 150 feet of the bat colony). **BIO-7c Bat Exclusion and Monitoring Plan (Stage Road Bridge Only)** **Bat Exclusion and Monitoring** Plan: If project plans are altered and high-vibration or sound activities (such as saw cutting, jackhammering and pile driving) will occur			

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	during the pupping season, within 150 feet of roosting bat colonies, including special-status bats (e.g. western mastiff bat), the bat biologist will determine if the project is likely to cause the failure of maternal (breeding) colonies. To avoid impacts maternal bat colonies a BEMP would be prepared for implementation during the construction phase of the project. • The BEMP would provide project-specific measures for noise attenuation devices, acoustic and visual monitoring during high-vibration and sound activities (such as saw cutting, jackhammering, and pile driving), visual disturbance buffers, and the installation of bat exclusion devices to safely and humanely evict bats outside of the maternity season, in the event they are needed. • If the BEMP is necessary, consultation with the CDFW would occur to finalize preparation of the BEMP for inclusion in the Streambed Alteration Agreement under Section 1600-1616 of the Fish and Game Code. Each SAA usually contains a section titled Measures to Protect Fish and Wildlife Resources, for which this plan would be incorporated. • Note that the BEMP is triggered only if the project requires high-vibration and sound activities causing shaking or vibration of the bridge, generally resulting from saw cutting, jackhammering, pile driving, or similar activities (within 150 feet of the bat colony).			
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	**MM BIO-8: Tree Removal Permit** Prior to any tree removal in the City of Buena Park, at Tree Removal Permit will be obtained by the project applicant. The project applicant and onsite contractors will be responsible for the additional measures provided by the tree permit, which will be incorporated into the final specifications for the project. City of Buena Park Ordinance 12.20.040 states the following: "A. Persons desiring to remove any standing or growing trees or shrubbery or any ornament or improvement from a parkway adjacent to property owned or lawfully occupied by such persons shall apply to the director of public works for a permit. The application for such permit shall be in writing and set forth the reasons such removal is desired. B. If the director finds upon investigation that the tree, shrub, ornament or improvement desired to be removed constitutes a private nuisance, is not of the type or species designated for such street or for other good cause shown, he or she shall issue a permit allowing such tree, shrub, ornament or improvement to be removed.	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to any tree removal in the City of Buena Park

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	C. The permit for the removal of any tree, shrub, ornament or improvement shall prescribe the method or manner in which such tree, shrub, ornament or improvement shall be removed by the applicant, shall be conditioned upon the fact that all expenses and costs shall be borne by the applicant and shall contain a provision signed by the applicant that the applicant agrees to save, indemnify and keep harmless the city against all liabilities, judgments, costs and expenses which may in any wise accrue against the city in consequence of the granting of the permit or in consequence of the use or occupancy of any sidewalk, street or other public place or in any other wise by virtue thereof and will in all things strictly comply with the conditions of the permit and of this code, all ordinances, rules and regulations of the city. D. The permit for the removal of any tree may require the replanting of another tree after the removal, and, if a replacement is required, the applicant shall deposit a sum fixed by the city council for each tree to be replaced before the permit shall be issued. If all the conditions of the permit are not complied with, the deposit required by this section will be forfeited to the city. If the conditions are complied with, the deposit shall be refunded to the applicant. E. Any person aggrieved by the refusal of the director to issue a permit for the removal of any tree, shrub, ornament or improvement or by the requirements of such permit may appeal to the city council. The city council shall have the right and authority upon investigation and findings to issue the permit." (Ord. 1505 § 1, 2007)			
4.5 Cultural Resources				
a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	**MM CUL-1**: Potential historical archaeological resources consisting of eight street bridges, three railroad bridges, and an oil pipeline crossing the Coyote Creek Channel are present within the project site. Prior to project construction a qualified archaeologist/architectural historian shall be retained to prepare California Department of Parks and Recreation (DPR) site records and National Register of Historic Places (NRHP) evaluations of these several built features. The archaeologist/architectural historian, upon evaluation of the features and study of the trail construction plans, will determine if there is need for monitoring of these features during construction and if warranted, the archaeologist/architectural historian shall prepare a monitoring plan.	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to Construction
b) Would the project cause a substantial adverse change in the significance of an archaeological	**MM CUL-2:** If prehistorical and/or historical archaeological resources are discovered during construction, the contractor shall halt construction activities in the immediate area and notify the County. An on call qualified archaeologist shall be notified and afforded the necessary time to recover, analyze, and curate the find(s). The qualified	Project Contractor	Field Verification	OC Public Works OC Public Works

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
resource pursuant to § 15064.5?	archaeologist shall recommend the extent of archaeological monitoring necessary to ensure the protection of any other resources that may be in the area and afforded the necessary time and funds to recover, analyze, and curate the find(s). Construction activities may continue on other parts of the construction site while evaluation and treatment of historical or unique archaeological resources takes place.			During Construction
c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	**MM CUL-3:** If human remains are encountered during project construction, the contractor shall stop all work within a 30-foot radius of the discovery and the Orange County Coroner (OCC)will be notified (§ 5097.98 of the Public Resources Code). The OCC will determine whether the remains are recent human origin or older Native American ancestry. If the OCC, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they will contact the NAHC. The NAHC will be responsible for designating the Most Likely Descendant (MLD). The MLD (either an individual or sometimes a committee) will be responsible for the ultimate disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. The MLD will make recommendations within 24 hours of their notification by the NAHC. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).	Project Contractor	Field Verification	OC Public Works OC Public Works During Construction
4.7 Geology and Soils				
f) Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**MM GEO-1:** If paleontological resources are uncovered during construction activities, the contractor shall halt construction activities in the immediate area and notify OC Public Works. The County's on-call paleontologist shall be notified and afforded the necessary time and funds to recover, analyze, and curate the find(s). Subsequently, a paleontological monitor shall remain onsite for the duration of the ground disturbance to ensure the protection of any other resources that may be in the area.	Project Contractor	Field Verification	OC Public Works OC Public Works During Construction Activities
4.8 Hazards and Hazardous Materials				
a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	**MM HAZ-1**: Prior to commencement of project construction, the project applicant shall prepare a soil management plan to identify and manage any contaminated soils and/or subsurface features encountered during the development of the proposed project.	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to Commencement of Project Construction
	MM HAZ-2: Prior to commencement of project construction, the project applicant shall prepare an aerially deposited lead plan to manage shallow surface soils in proximity to freeways that may be contaminated with lead from vehicle exhaust.	Project Applicant	Field Verification	OC Public Works

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
				OC Public Works Prior to Commencement of Project Construction
	MM HAZ-3: During excavation activities of the areas identified with environmental concerns in the March 23, 2020 Initial Site Assessment Prepared by Citadel EHS for the proposed project, the project applicant shall implement soil monitoring for volatile organic compounds, including the former print shop along Segment P and areas near pipelines in Segment Q.	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to Commencement of Project Construction
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Refer to **MM HAZ-1 – HAZ-3 a**bove.	See above.	See above.	See above.
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Refer to **MM HAZ-1 – HAZ-3** above.	See above.	See above.	See above.
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	**MM TRANS-1**: Prior to construction the General Contractor shall submit a detailed Construction Management Plan to be reviewed and approved by the County of Orange. The Construction Management Plan shall specify that the Construction Manager will schedule truck traffic and employee shifts to avoid creating trips during the peak traffic periods, as is feasible for construction operations. All measures, including identified truck routes and designated employee parking areas,	General Contractor	Field Verification	OC Public Works OC Public Works Prior to Construction

	shall be included in the Construction Management Plan. The Plan shall include but is not limited to the following provisions: a) To handle street traffic affected by at-grade construction work on Knott Avenue, South Firestone Boulevard and Stage Road, the Construction Management Plan shall specify how traffic will be routed and controlled during the construction phase, including which lane(s) of traffic will be temporarily blocked off for construction work. b) Specification of permitted hours for construction-related deliveries and removal of heavy equipment and material. c) Specification of where construction workers would park their personal vehicles during project construction with a requirement that at no time shall construction worker vehicles block any driveways. If complaints are received by the project applicant regarding issues with construction worker vehicle parking, the project applicant shall identify alternative parking options for construction workers so as not to interfere with any commercial and residential parking availability. d) Identification of how emergency access to and around the project site will be maintained during project construction. e) Specification of haul routes for delivery or removal of heavy and/or oversized equipment or material loads. Where feasible, delivery or removal of oversized equipment or material loads shall be conducted during off-peak traffic periods. f) Maintain pedestrian and bicycle connections around the project site designate safe crossing locations for all pedestrian detours. g) Maintain the security of the project site by erecting temporary fencing during the construction phase of the project. Any onsite night lighting used during the construction phase of the project shall be in compliance with lighting requirements of the Cities of Cerritos, La Mirada and Buena Park. h) If temporary lane closures are necessary for the installation of utilities, that emergency access should be maintained at all times. i) Flag persons and/or detours shall be provided as needed to ensure safe traffic operations. j) Construction signs shall be posted to advise of reduced construction zone speed limits. k) The project design shall include entry/exit gates for first responders' vehicles to gain access to the bike path along segments O, P, and Q.			

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	l) If required, ongoing regular maintenance shall occur along the bike path to deter crime.			
4.13 Noise				
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**MM N-1** At the start of construction near residences or other sensitive receivers, the construction contractor will conduct noise monitoring during construction activities estimated in the noise analysis to result in significant exposures. If the monitored noise levels exceed regulatory noise restrictions or standards, taking into account background noise, then the construction contractor will mitigate noise levels using temporary noise shields, noise barriers or other mitigation measures to preclude complaints and/or comply with those restrictions or standards (see below).	Construction Contractor	Field Verification	OC Public Works OC Public Works At the start of construction near residences or other sensitive receivers
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**MM N-2** The construction contractor will use the following source controls, except where not physically feasible: • Use of noise-producing equipment will be limited to the interval from 8:00 a.m. to 5:00 p.m., Monday through Friday unless Saturday work is approved in writing by the appropriate City jurisdiction. • For all noise producing equipment, use types and models that have the lowest horsepower and the lowest noise generating potential practical for their intended use. • The construction contractor will ensure that all construction equipment, fixed or mobile, is properly operating (tuned-up) and lubricated, and that mufflers are working adequately. • Have only necessary equipment onsite. • Use manually-adjustable or ambient-sensitive backup alarms	Construction Contractor	Field Verification	OC Public Works OC Public Works During project construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**MM N-3** Per **MM N-1**, if monitored noise levels exceed applicable regulatory noise restrictions or standards, taking into account background noise, the contractor will use the following path controls, except where not physically feasible: • Install portable noise barriers, including solid structures and noise blankets, between the active noise sources and the nearest noise receivers. • Temporarily enclose localized and stationary noise sources. • Store and maintain equipment, building materials, and waste materials as far as practical from as many sensitive receivers as practical. • Work with the complaining party to find acceptable solutions.	Construction Contractor	Field Verification	OC Public Works OC Public Works During project construction
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	**MM N-4** At least two weeks in advance of the start of construction in a new portion of the project, the construction contractor shall notify all noise-sensitive receivers adjacent to the project area. Since relatively few sensitive receivers will be near the construction site, such notices shall take the form of a flyer that can be hand-delivered or affixed to a doorway. The notice shall state specifically where and when construction activities will occur, and provide contact information for filing noise complaints with the contractor and the City.	Construction Contractor	Field Verification	OC Public Works OC Public Works At least two weeks in advance of the start of construction in a new portion of the project
b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	**MM N-5** During project construction the construction contractor will verify that vibratory rollers shall not be used within 75 feet of a residential property boundary or a structure deemed fragile or one that is under construction.	Construction Contractor	Field Verification	OC Public Works OC Public Works During project construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
4.15 Public Services				
a) Fire protection?	**MM PS-1**: During project operation the project applicant shall provide fire department and law enforcement vehicles' access to the proposed bikeway with the installation of access/exit gates to provide emergency access along the proposed Segments O, P, and Q of the OC Loop bikeway, including adequate turning radius for emergency vehicles.	Project Applicant	Field Verification	OC Public Works OC Public Works During Project Operation
b) Police protection?	**MM PS-2**: To ensure that homelessness on the trail system is addressed, prior to project operation a separate agreement shall be crafted between the project applicant and the County of Los Angeles, the project applicant and the City of Cerritos, the project applicant and the City of Buena Park and the project applicant and the City of La Mirada that clearly states who is responsible for patrolling the proposed trail and addressing law enforcement and cleanliness/graffiti.	Project Applicant	Field Verification	OC Public Works OC Public Works Prior to Project Operation
b) Police protection?	**Refer to MM PS-1 above and MM TRANS-1 below.**	See above and below.	See above and below.	See above and below.
4.16 Recreation				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Mitigation incorporated from **Sections 4.1** through **4.20**, as applicable.	Varies by Mitigation Measure	Field Verification	OC Public Works OC Public Works Varies by Mitigation Measure
4.17 Transportation				
a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	**MM TRANS-1**: Prior to construction the General Contractor shall submit a detailed Construction Management Plan to be reviewed and approved by the County of Orange, the City of Buena Park, the City of Cerritos, and the City of La Mirada. The Construction Management Plan shall specify that the Construction Manager will schedule truck traffic and employee shifts to avoid creating trips during the peak traffic periods, as is feasible for construction operations. All measures, including identified truck routes and designated employee parking areas, shall be included in the Construction Management Plan. The Plan shall include but is not limited to the following provisions: a) To handle street traffic affected by at-grade construction work on Knott Avenue, South Firestone Boulevard and Stage Road, and the	General Contractor	Field Verification	OC Public Works OC Public Works Prior to Construction

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
	temporary closure of South Firestone Boulevard, the Construction Management Plan shall specify how traffic will be routed and controlled during the construction phase, including which lane(s) of traffic will be temporarily blocked off for construction work. b) Specification of permitted hours for construction-related deliveries and removal of heavy equipment and material. c) Specification of where construction workers would park their personal vehicles during project construction with a requirement that at no time shall construction worker vehicles block any driveways. If complaints are received by the project applicant regarding issues with construction worker vehicle parking, the project applicant shall identify alternative parking options for construction workers so as not to interfere with any commercial and residential parking availability; d) Identification of how emergency access to and around the project site shall be maintained during project construction. e) Specification of haul routes for delivery or removal of heavy and/or oversized equipment or material loads. Where feasible, delivery or removal of oversized equipment or material loads shall be conducted during off-peak traffic periods. f) Maintain pedestrian and bicycle connections around the project site; designate safe crossing locations for all pedestrian detours. g) Maintain the security of the project site by erecting temporary fencing during the construction phase of the project. Any onsite night lighting used during the construction phase of the project shall be in compliance with lighting requirements of the Cities of Cerritos, La Mirada and Buena Park. h) If temporary lane closures are necessary for the installation of utilities, emergency access shall be maintained at all times. i) Flag persons and/or detours shall be provided as needed to ensure safe traffic operations. j) Construction signs shall be posted to advise of reduced construction zone speed limits. k) The project design shall include entry/exit gates for first responders' vehicles to gain access to the bikeway along segments O, P and Q. l) If required, ongoing regular maintenance shall occur along the bikeway to deter crime.			
c) Would the project substantially increase	Refer to **MM TRANS-1** above.	See above.	See above.	See above.

TOPICAL AREA IMPACT	MITIGATION MEASURE	RESPONSIBLE/ MONITORING PARTY	MONITORING ACTION	1. ENFORCEMENT AGENCY 2. MONITORING AGENCY 3. MONITORING PHASE
hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
d) Would the project result in inadequate emergency access?	Refer to **MM TRANS-1** above.	See above.	See above.	See above.
4.18 Tribal Cultural Resources				
a) Cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**MM TCR-1:** If unanticipated archaeological resources or deposits are discovered during earth moving activities, OC Public Works (OCPW) will implement the following measures. All work will halt within a 50-foot radius of the discovery. OCPW will have a qualified professional archaeologist assess the significance of the find. If the resources are Native American in origin, the County shall coordinate with the Tribe regarding evaluation, treatment, curation, and preservation of these resources. The archaeologist will have the authority to modify the no-work radius as appropriate, using professional judgment in consultation with OCPW. Work will not continue within the no-work radius until the archaeologist conducts sufficient research and evidence and data collection to establish that the resource is either: (1) not cultural in origin; or (2) not potentially eligible for listing on the CRHR. If a potentially eligible resource is encountered, then the archaeologist and OCPW, as lead agency, in consultation with the Tribe, will arrange for either: (1) avoidance of the resource, if possible; or (2) test excavations to evaluate eligibility, and if eligible, an attempt to resolve adverse effects to determine appropriate mitigation. The assessment of eligibility will be formally documented in writing as verification that the provisions in CEQA for managing unanticipated discoveries and PRC Section 5024 have been met.	Project Applicant	Field Verification	OC Public Works OC Public Works During earthmoving activities

APPENDIX A1

SEGMENT O, P AND Q IMPROVEMENT PLANS

Artesia Blvd
Valley View Ave
Industry Cir
City of La Mirada
LOS ANGELES COUNTY
ORANGE COUNTY
Artesia Blvd
Artesia Blvd Undercrossing
Wall
Altura Blvd
Bolsa Ln
Acoro St
Coyote Creek North Fork Flood Control Channel
Fabrica Way
Wall
Coyote Creek Flood Control Channel
Altura Blvd
Optional Fence
Vierra Ave
Optional Fence
Existing Valley View Street Bridge
Road Undercrossing
Descanso Ave
Rose St
Regio Ave
Descanso Cir
City of Cerritos
Valley View St
City of BUENA PARK
Prefabricated Truss Bridge
Re-align Existing Bikeway
Orange
Los Angeles
1
2
3

Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 14, 2020



N

Scale: 1:3,600
1 inch = 300 feet
1 cm = 36 meters

0 150 300 Feet

0 30 60 Meters

Legend

Segment O Class I Bikeway
Segment P Class I Bikeway
City Boundary
County Boundary

Proposed Features

Optional Fence
Prefabricated Truss Bridge
Re-align Existing Bikeway
Wall
Undercrossing

OC Loop
Segments O, P, and Q

Segment O

Map 1 of 3

UltraSystems
environmental • management • planning

Potential Driveway
At-grade Crossing
Proposed Railroad Crossing Signal
N Firestone Blvd
I-5/Santa Ana Freeway
S Firestone Blvd
Trojan Way
Trojan Way
Coyote Creek Flood Control Channel
Brea Creek Flood Control Channel
S Firestone Blvd Undercrossing
I-5 and N Firestone Blvd Undercrossing
Industry Pl
Industry Cir
Wall
Osmond Ave
Knott Ave
City of La Mirada
UPRR Undercrossing (Preferred) or Overcrossing (Alternative)
Cate Dr
City of BUENA PARK
Wall
Snell St
Osmond Ave
Union Pacific Railroad
Optional Fence
Artesia Blvd Undercrossing
Artesia Blvd
Wall
LOS ANGELES COUNTY
ORANGE COUNTY
Altura Blvd
Mid Counties
Orange
Los Angeles
1
2
3

Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd
October 14, 2020

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020



N

Scale: 1:3,300
1 inch = 275 feet
1 cm = 33 meters

0 140 280 Feet

0 30 60 Meters

Legend

- Segment O Class I Bikeway
- Segment P Class I Bikeway
- Segment Q Class I Bikeway
- City Boundary
- County Boundary

Proposed Features

- Optional Fence
- Potential Driveway
- Wall
- At-grade Crossing
- Undercrossing
- Alternative UPRR Overcrossing
- Proposed Railroad Crossing Signal

OC Loop
Segments O, P, and Q
Segment P

Map 2 of 3

UltraSystems
environmental • management • planning



Path: \\GISSVR\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_SegmentOPQ_Improvement_Plan_11x17_2020_10_01.mxd

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community; Los Angeles County, 2018; Orange County, 2018; Mark Thomas, July 2018; UltraSystems Environmental, Inc. 2020

October 14, 2020



N

Scale: 1:4,800
1 inch = 400 feet
1 cm = 48 meters

0 200 400 Feet

0 40 80 Meters

Legend

- Segment P Class I Bikeway
- Segment Q Class I Bikeway
- Segment Q Class II Bikeway
- Segment Q Class IV Bikeway with Concrete Barriers
- City Boundary
- County Boundary

Proposed Features

- Asphalt Trail and Cable Fence
- Optional Fence
- Wall
- At-grade Crossing
- Undercrossing
- Prefabricated Truss Bridge
- Proposed Railroad Crossing Signal

OC Loop
Segments O, P, and Q

Segment Q

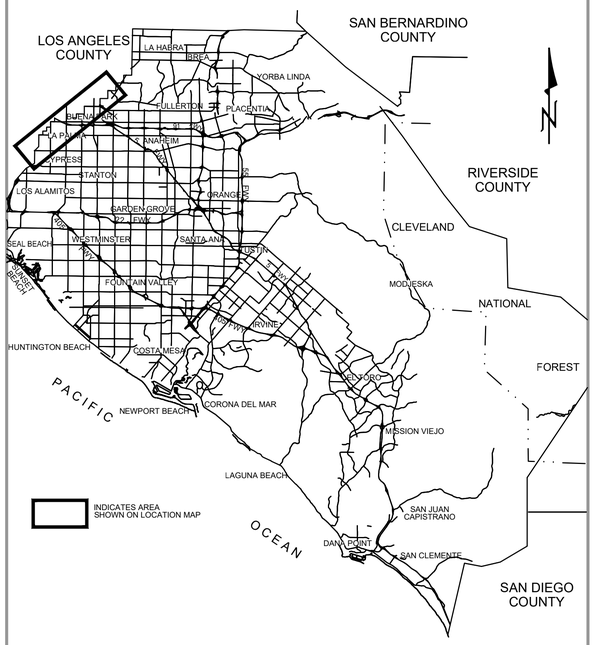
Map 3 of 3

UltraSystems
environmental • management • planning

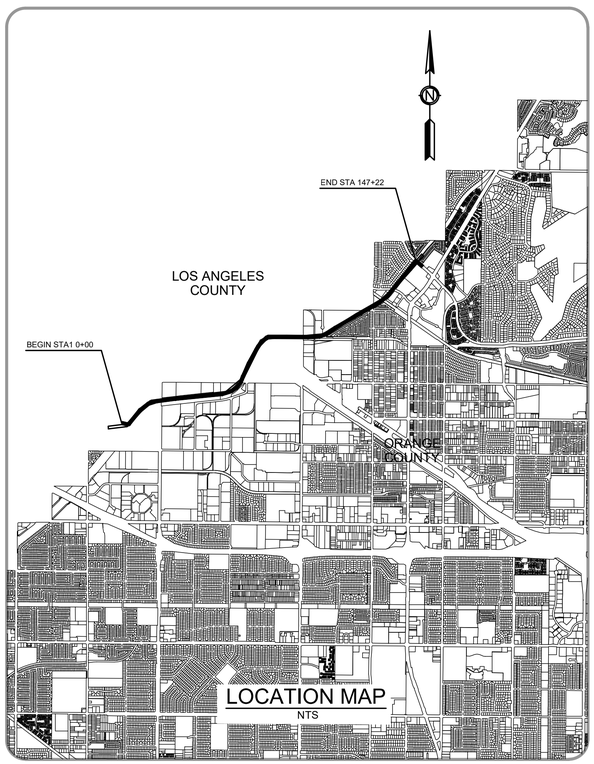
APPENDIX A2

2018 PROJECT PLANS

Note: These are predesign drawings and subject to modification during design.



VICINITY MAP
NTS



LOCATION MAP
NTS

County of Orange

OC PublicWorks

SANTA ANA, CALIFORNIA

SHANE L. SILSBY, DIRECTOR

PLANS FOR IMPROVEMENT OF COYOTE CREEK CLASS I BIKEWAY SEGMENTS O,P & Q

(OCFCD FACILITY NO. A01)

FROM: STATION 10+00.00 (COYOTE CREEK/NORTH FORK)
TO
TO: STATION 147+22.83 (LA MIRADA BLVD./MALVERN ABE.)

JULY 2018

FUNDED BY: OC PUBLIC WORKS AND
THE ACTIVE TRANSPORTATION PROGRAM

MAINTAINED BY: OC PARKS

DRAFT 25% SUBMITTAL
"NOT FOR CONSTRUCTION"

APPROVALS

APPROVED: _____
CITY ENGINEER DATE

COUNTY OF ORANGE OC PUBLIC WORKS DEPARTMENT

SUBMITTED: _____ DATE
ALI FAYAD, P.E.
SENIOR CIVIL ENGINEER
TRAFFIC & DESIGN DIVISION

RECOMMENDED: _____ DATE
FIONA MAN, P.E.
INTERIM MANAGER
TRAFFIC & DESIGN DIVISION

APPROVED: _____ DATE
KHALID BAZMI, P.E.
CHIEF ENGINEER
ORANGE COUNTY FLOOD CONTROL DISTRICT

RECORD DRAWING

CONTRACTOR: _____
RESIDENT ENGINEER: _____
INSPECTOR: _____
CONSTRUCTION START DATE: _____
CONSTRUCTION COMPLETION DATE: _____

PREPARED BY

PREPARED UNDER RESPONSIBLE CHARGE OF:

MARK THOMAS

REGISTERED PROFESSIONAL ENGINEER
RAVI P. SHAH
No. 79183
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA

_____ DATE

INDEX OF SHEETS

SHEET	DESCRIPTION
L-1	- TITLE SHEET
L-2	- NOTES SHEET
L-3	- PLAN & PROFILE, STA 10+00 TO STA 19+50
L-4	- PLAN & PROFILE, STA 19+50 TO STA 33+50
L-5	- PLAN & PROFILE, STA 33+50 TO STA 48+50
L-6	- PLAN & PROFILE, STA 48+50 TO STA 61+50
L-7	- PLAN & PROFILE, STA 61+50 TO STA 75+50
L-8	- PLAN & PROFILE, STA 75+50 TO STA 89+50
L-9	- PLAN & PROFILE, STA 89+50 TO STA 103+50
L-10	- PLAN & PROFILE, STA 103+50 TO STA 117+50
L-11	- PLAN & PROFILE, STA 117+00 TO STA 131+50
L-12	- PLAN & PROFILE, STA 131+50 TO STA 147+22
L-13	- PLAN & PROFILE, STA 10+00 TO STA 13+50

UTILITY OWNER	PHONE NO.	CONTACT

Note: These are predesign drawings and subject to modification during design.

BENCH MARK:

B.M. A1-12 L.A.C. 8-1, ELEV=53.995, O.C.F.C.D. DATUM

LOS ANGELES COUNTY SURVEYOR'S MONUMENT AT CENTERLINE INTERSECTION OF VALLEY VIEW AVENUE (MILLER STREET) AND ARTESIA AVENUE.

O.C.F.C.D. DATUM = O.C.S. DATUM +0.252'.

BASIS OF BEARINGS:

THE BASIS OF BEARINGS HEREON IS THE GRID INVERSE BETWEEN O.C.S. GPS STATIONS #R127 AND #R173, BEING N00°24'49"E, PER RECORDS ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR.

NO.	DESCRIPTION	SHT.	APPROVED	DATE

REVISIONS

W.O. NO. _____
DWG. NO. _____

SHEET 1 OF 13

GENERAL NOTES

1. PROTECT ALL EXISTING GATES, FENCES, SHRUBS, GROUND COVERING, AND OTHER FACILITIES IN CONSTRUCTION AREA (UNLESS OTHERWISE NOTED).
2. ALL CONSTRUCTION SHALL CONFORM TO THE 2010 STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, ORANGE COUNTY PUBLIC WORKS STANDARD PLANS DATED 2013, & 2012 GREENBOOK.
3. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS.IT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION OR THE EXISTENCE OR NONEXISTENCE OF ANY UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT UTILITY LINES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING WARNING SIGNS, DEVICES, LIGHTS, AND FLAGMEN IN ACCORDANCE WITH CHAPTER 6, "TEMPORARY TRAFFIC", OF FEDERAL HIGHW Y MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. ALL GRADE BREAKS OVER 1% SHALL BE ROUNDED WITH A 10' VERTICAL CURVE.
6. ALL PORTLAND CEMENT CONCRETE SHALL BE PER OC PUBLIC WORKS STANDARD PLAN 1803. ALL CONCRETE SHALL BE BROOM FINISHED FROM SIDE TO SIDE.
7. ALL INSTALLATIONS AND WORK AFFECTING FLOOD CONTROL DISTRICT FACILITIES SHALL CONFORM TO ARMY CORPS OF ENGINEER'S STANDARDS, OCFCD'S STANDARD SPECIFICATIONS, LOCAL REQUIREMENTS, AND RECOMMENDATIONS GIVEN IN THE SOILS REPORT, PREPARED BY OC PUBLIC WORKS, MATERIALS LABORATORY.
8. THE EDGE OF ALL SIGNS SHALL BE 2 FEET MINIMUM CLEAR OF THE BIKEWAY PAVED SURFACE.

CONSTRUCTION NOTES

1. REMOVE EX. AC & CONSTRUCT 4 IN. THICK AC OVER 6 IN. CAB PER PLAN PROFILE AND DETAILS. SUBGRADE SHALL HAVE 90% MIN. RELATIVE COMPACTION, CAB & AC SHALL HAVE 95% MIN. RELATIVE COMPACTION PER OC PUBLIC WORKS STD. PLAN 1801 (NOTE NO. 9) AND 1805.
2. REMOVE EX. CONCRETE & CONSTRUCT 10" CONCRETE PATHWAY PER PLAN PROFILE AND DETAIL.
3. 3.5 IN (Min) NORMAL WT Conc OVER 16 Ga 3 IN METAL DECK
4. FURNISH AND INSTALL 5' CHAIN LINK FENCE PER OCPW STANDARD PLAN 600-3-0C
5. INSTALL CABLE RAILING PER CAL TRANS STD. PLAN 811-47 AND DETAIL ON SHEET L-13
6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL
7. CONSTRUCT 4" CONCRETE OVER 4" AB

Note: These are predesign drawings and subject to modification during design.

LEGEND & ABBREVIATIONS

1. PROTECT IN PLACE
2. REMOVE & REPLACE
3. REMOVE
4. RELOCATE
5. REMOVE INTERFERING PORTIONS OF CONCRETE
6. CONTRACTOR TO VERIFY LOCATION & DEPTH OF UTILITY/INLET BY POTHOLING. LOCATION OF UTILITY BY USA IS NOT CONSIDERED SUFFICIENT VERIFICATION. ALL COSTS FOR DAMAGE TO UTILITY SHALL BE BORNE BY CONTRACTOR.

BNDY	=	BOUNDARY
FL	=	FLOW LINE
FG	=	FINISHED GRADE
FS	=	FINISHED SURFACE
HP	=	HINGE POINT
INV	=	INVERT
R/W	=	RIGHT OF WAY LINE
RIG	=	ROUGH GRADE
TC	=	TOP OF CURB
TF	=	TOP OF FOOTING
TW	=	TOP OF WALL
TOE	=	TOE OF SLOPE
GB	=	GRADE BREAK
PVI	=	POINT OF VERTICAL INFLECTION
BC	=	BEGIN CURVE
EC	=	END CURVE
FC	=	FACE OF CURB
	=	APPROX. LOCATION OF SOIL BORING
	=	PROPOSED BIKEWAY
	=	PROPOSED BIKEWAY/PEDESTRIAN PATH
2%	=	GRADE SWALE FLOW DIRECTION & RATE
	=	FLOW DIRECTION
	=	RETAINING WALL
	=	CHAIN LINK FENCE
	=	GUARD CABLE FENCE
	=	COUNTY BOUNDARY

POLLUTION PREVENTION NOTES

1. SEDIMENT FROM AREAS DISTURBED BY CONSTRUCTION SHALL BE RETAINED ON SITE USING STRUCTURAL CONTROLS TO THE MAXIMUM EXTENT PRACT CABLE.
2. STOCKPILES OF SOIL SHALL BE PROPERLY CONTAINED TO ELIMINATE OR REDUCE SEDIMENT TRANSPORT FROM THE. SITE TO THE STREETS, DRAINAGE FACILITIES, OR ADJACENT PROPERTIES VIA RUNOFF, VEHICLE TRACKING, OR WIND.
3. APPROPRIATE BMPS FOR CONSTRUCTION-RELATED MATERIALS, WASTES, SPILLS OR RESIDUE SHALL BE IMPLEMENTED TO MINIMIZE TRANSPORT FROM THE SITE TO STREETS, DRAINAGE FACILITIES, OR ADJOINING PROPERTIES BY WIND OR RUNOFF.
4. RUNOFF FROM EQUIPMENT AND VEHICLE WASHING SHALL BE CONTAINED AT CONSTRUCTION SITES UNLESS TREATED TO REDUCE OR REMOVE SEDIMENT AND OTHER POLLUTANTS.
5. ALL CONSTRUCTION CONTRACTOR AND SUBCONTRACTOR PERSONNEL ARE TO BE MADE AWARE OF THE REQIJIRED BEST MANAGEMENT PRACTICES AND GOOO HOUSEKEEPING MEASURES FOR THE PROJECT SITE AND ANY ASSOCIATED CONSTRUCTION STAGING AREAS.
6. AT THE END OF EACH DAY OF CONSTRUCTION ACTIVITY ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN TRASH OR RECYCLE BINS.
7. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT A STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. DISCHARGES OTHER THAN STORMWATER (NON-STORMWATER DISCHARGES) ARE PROHIBITED, EXCEPT AS AUTHORIZED BY AN INDIVIDUAL NPDES PERMIT OR STATEWIDE GENERAL CONSTRUCTION STORMWATER PERMIT. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, SOLVENTS, DETERGENTS, GLUES, LIME, PESTICIDES, HERBICIDES, FERTILIZERS, WOOD PRESERVATIVES, AND ASBESTOS FIBERS, PAINT FLAKES/STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR, OR BATTERY FLUIDS; CONCRETE AND RELATED CUTTING OR CURING RESIDUES; FLOATABLE WASTES; WASTES FROM ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING; WASTES FROM STREET CLEANING; AND SUPER-CHLORINATED POTABLE WATER FROM LINE FLUSHING AND TESTING. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON-SITE PHYSICALLY SEPARATED FROM POTENTIAL STORMWATER RUNOFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
8. DISCHARGING CONTAMINATED GROUNDWATER PRODUCED BY DEWATERING GROUNDWATER THAT HAS INFILTRATED INTO CONSTRUCTION SITES IS PROHIBITED. DISCHARGING OF CONTAMINATED SOILS VIA SURFACE EROSION IS ALSO PROHIBITED. DISCHARGING OF NON-CONTAMINTED GROUNDWATER PRODUCED BY DEWATERING SHALL COMPLY WITH ORDER NO. RS-2009-0030 NPDES MUNICIPAL STORMWATER PERMIT OF THE SANT ANA REGIONAL WATER QUALITY CONTROL BOARD. ANY INDICATION OR EVIDENCE OF WATER QUALITY THAT DOES NOT MEET REQUIRED STANDARDS WILL BE REPORTED TO OC PUBLIC WORKS/ ENVIRONMENTAL RESOURCES.

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER — RAVI P. SHAH — No. 79183 — Exp. 3/31/20 — CIVIL — STATE OF CALIFORNIA

DATE

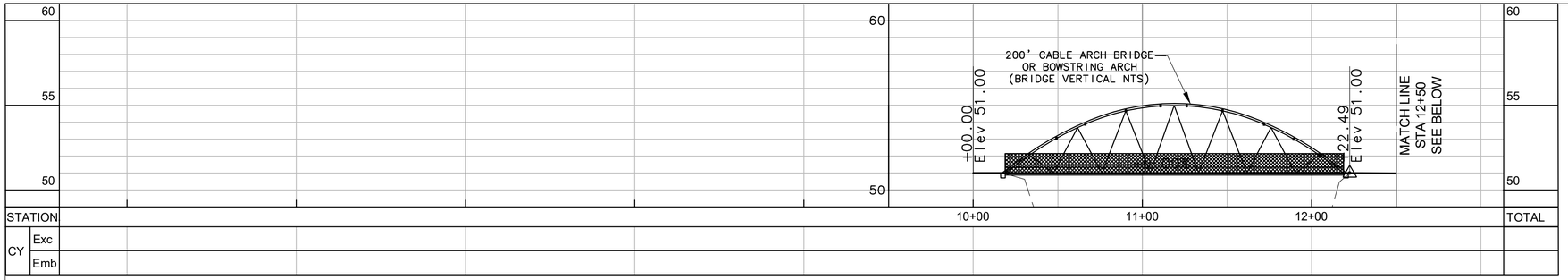
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CHECKED BY: RS
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FILE NAME: OCLP_LTP L-2.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

PREPARED BY: County of Orange OC PublicWorks — MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O, P & Q
OCFD FACILITY -A01

PLAN & PROFILE

SHEET
L-2
OF 13

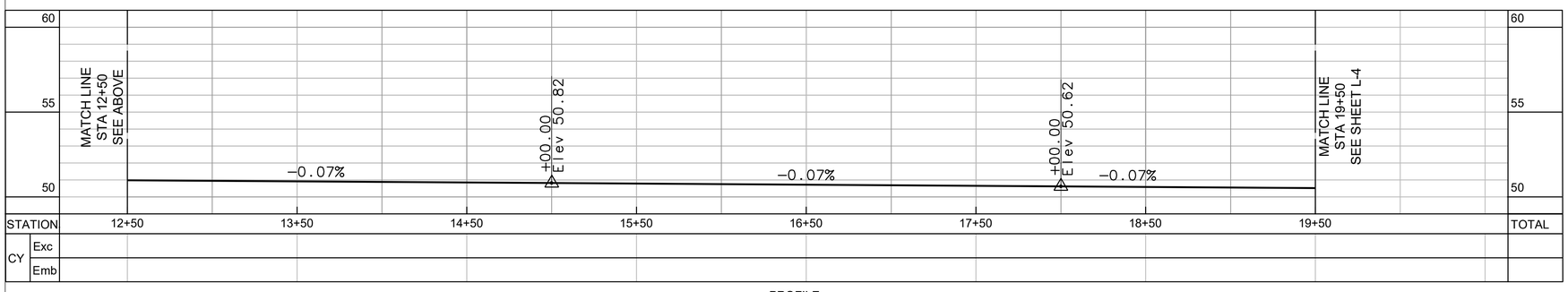


PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'

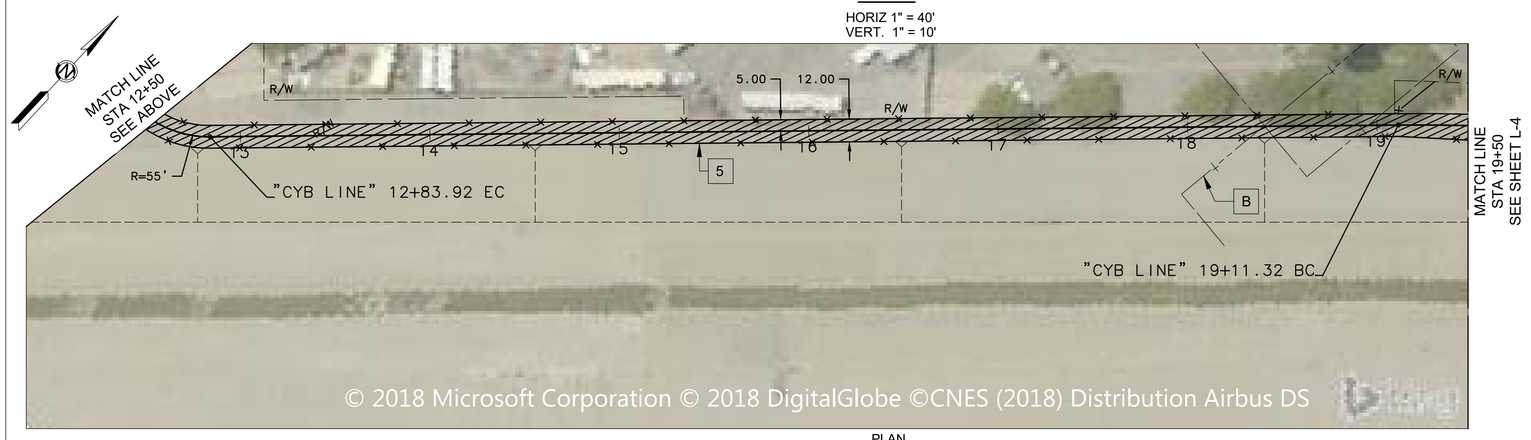


PLAN
1" = 40'



PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'

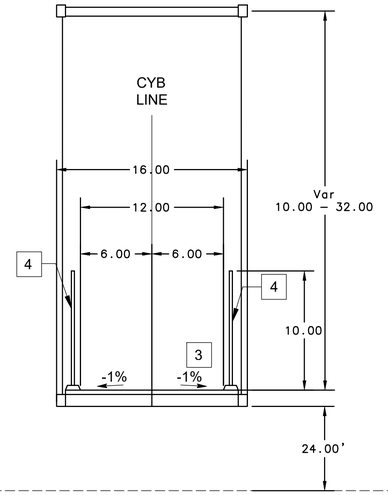
CONSTRUCTION NOTES

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2. REMOVE EX. CONCRETE & CONSTRUCT 10" CONCRETE PATHWAY PER PLAN PROFILE AND DETAIL.
3. 3.5 IN (Min) NORMAL WT Conc OVER 16 Ga 3 IN METAL DECK
4. FURNISH AND INSTALL 5' CHAIN LINK FENCE PER OCPW STANDARD PLAN 600-3-0C
5. INSTALL CABLE RAILING PER CAL TRANS STD. PLAN B11-47 AND DETAIL ON SHEET L-13
6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL

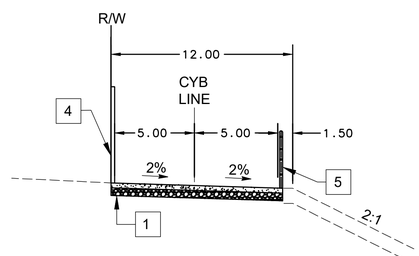
UTILITIES NOTES

B PROTECT IN PLACE

Note: These are predesign drawings and subject to modification during design.



TYPICAL SECTION
STA 10+00 TO STA 12+20
NTS



TYPICAL SECTION
STA 15+50 TO STA 19+20
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER
RAVI P. SHAH
No. 79183
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA

DATE

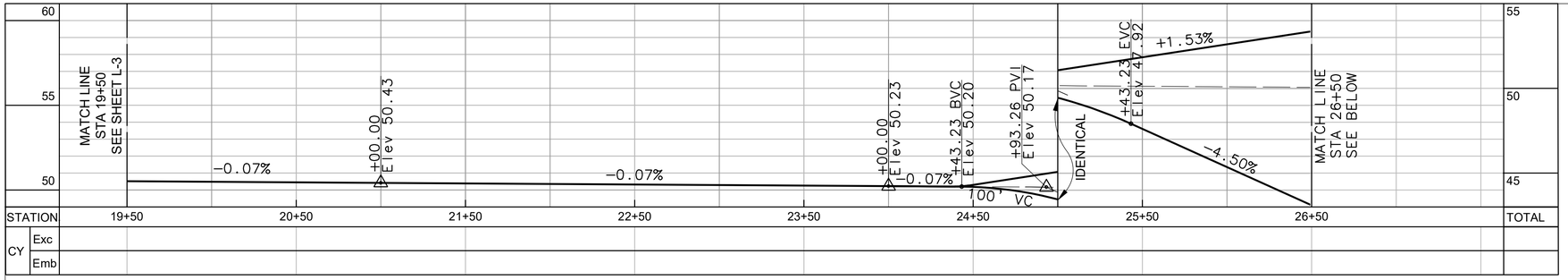
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CHECKED BY: RS
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FILE NAME: OCLP_L-3 TP_L-7.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

PREPARED BY: County of Orange OC Public Works
MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY -A01
STA. 10+00 TO STA. 19+50

PLAN & PROFILE

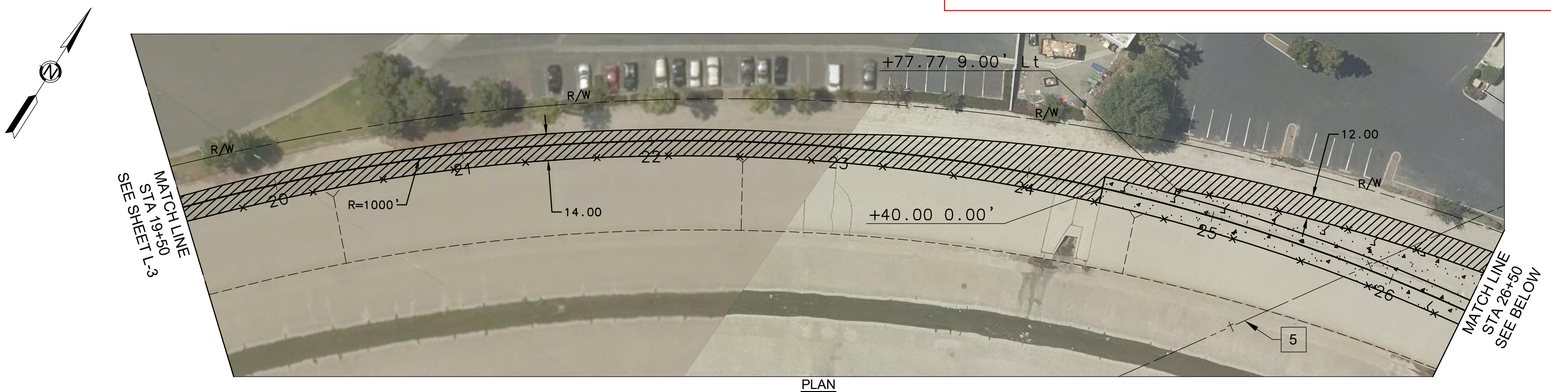
SHEET
L-3
OF 13



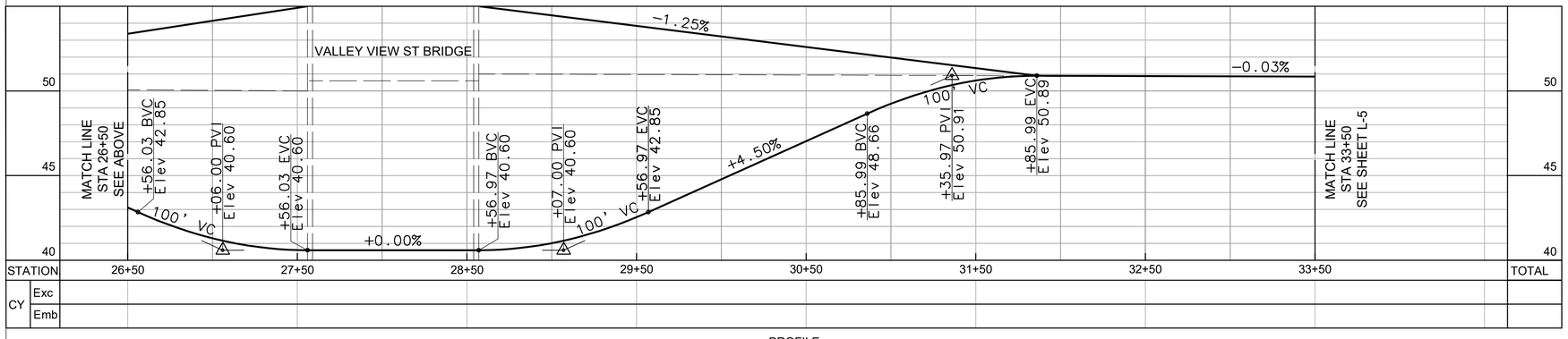
PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'

Note: These are predesign drawings and subject to modification during design.

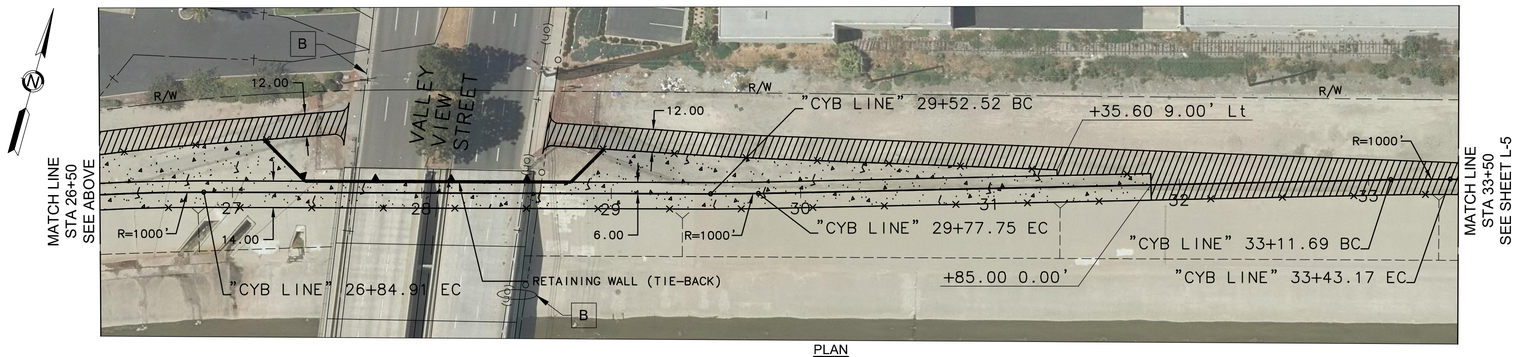


PLAN
1" = 40'



PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



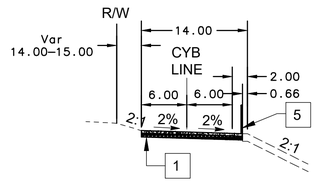
PLAN
1" = 40'

CONSTRUCTION NOTES

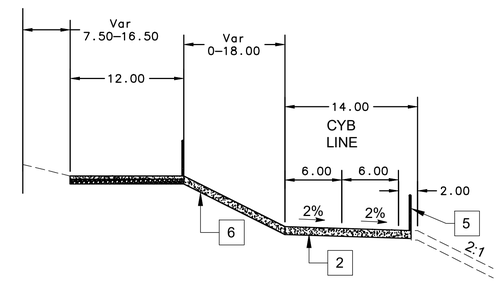
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2. REMOVE EX. CONCRETE & CONSTRUCT 10" CONCRETE PATHWAY PER PLAN PROFILE AND DETAIL.
3. 3.5 IN (Min) NORMAL WT Conc OVER 16 Ga 3 IN METAL DECK
4. FURNISH AND INSTALL 5' CHAIN LINK FENCE PER OCPW STANDARD PLAN 600-3-0C
5. INSTALL CABLE RAILING PER CAL TRANS STD. PLAN B11-47 AND DETAIL ON SHEET L-13
6. CONSTRUCT CONCRETE SLOPE 8". PER PLAN PROFILE AND DETAIL

UTILITIES NOTES

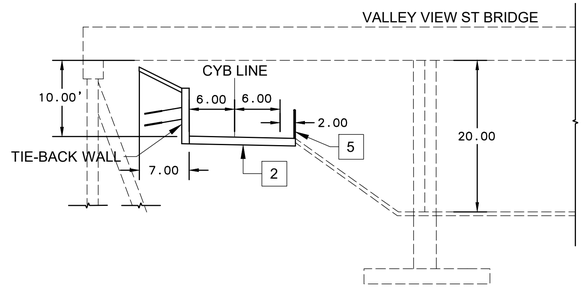
B PROTECT IN PLACE



TYPICAL SECTION
STA 19+50 TO STA 23+oo
NTS



TYPICAL SECTION
STA 24+40 TO STA 27+00
STA 29+00 TO STA 31+90
NTS



TYPICAL SECTION
STA 27+00 TO STA 29+00
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

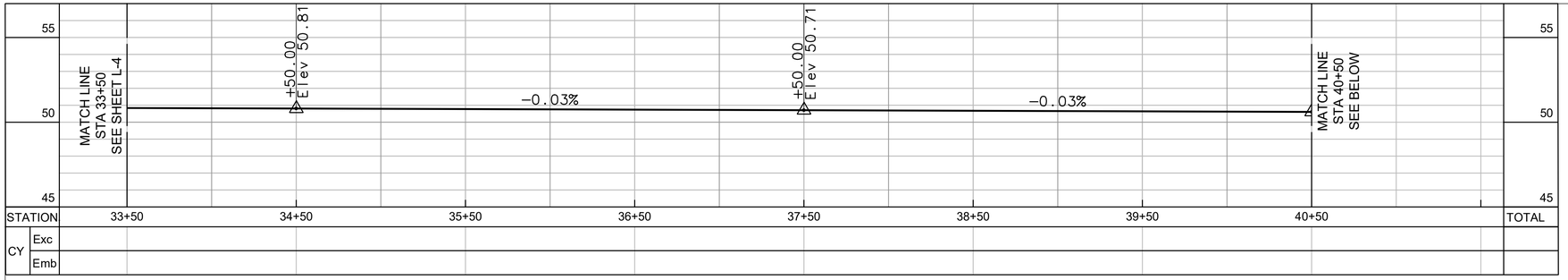
MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER RAVI P. SHAH No. 79183 Exp. 3/31/20 CIVIL STATE OF CALIFORNIA
DATE

DESIGNED BY: CK
DRAWN BY: CK
CHECKED BY: RS
PREPARED BY: County of Orange OC PublicWorks
DRAWING NO.: ViewTitle
FILE NAME: OCLP_L3 TP L-7.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN
MARK THOMAS

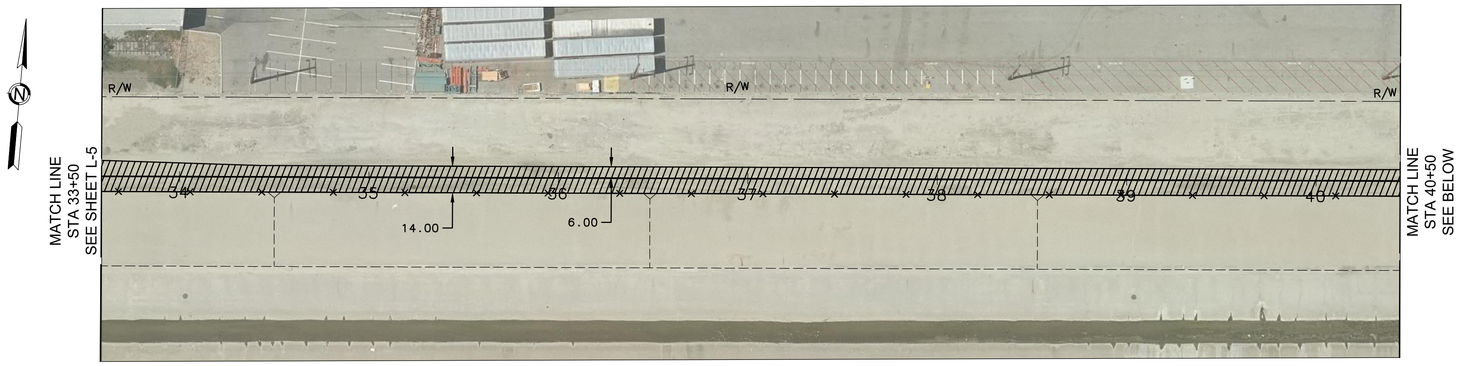
COYOTE CREEK CLASS I BIKEWAY SEGMENT O,P & Q
OCFD FACILITY -A01
STA. 19+50 TO STA. 33+50
PLAN & PROFILE

SHEET
L- 4
OF 13



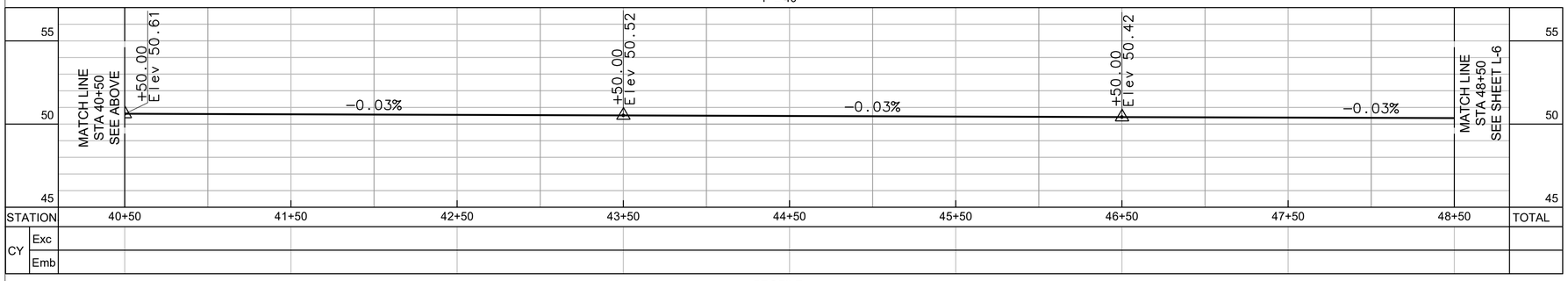
PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



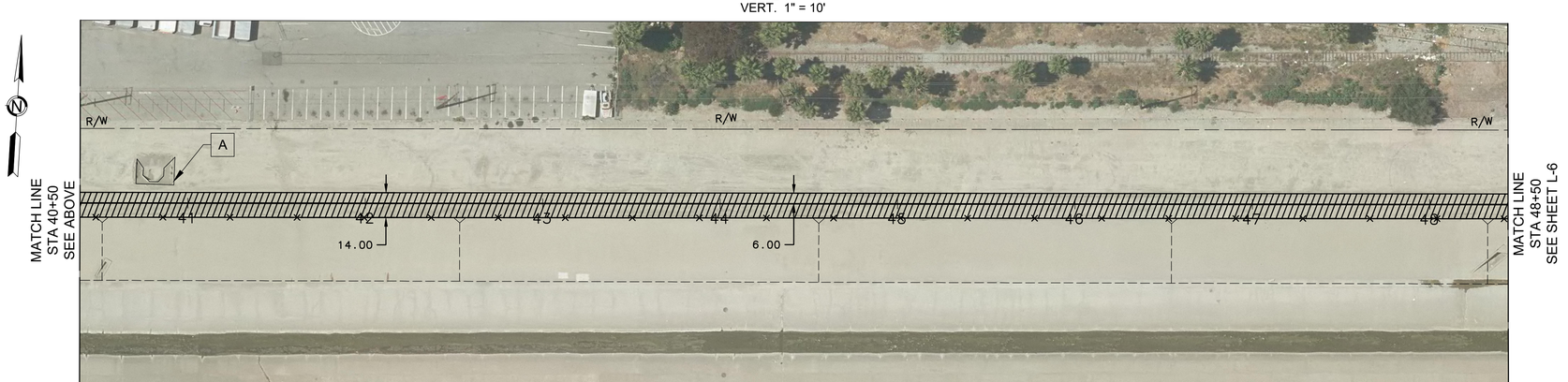
PLAN

1" = 40'



PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



PLAN

1" = 40'

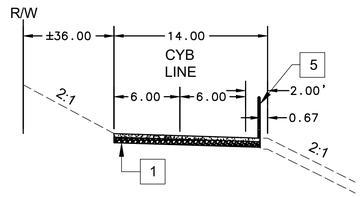
CONSTRUCTION NOTES

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   WT Conc OVER 16 Ga
   3 IN METAL DECK
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6. CONSTRUCT CONCRETE SLOPE 8" PER PLAN PROFILE AND DETAIL

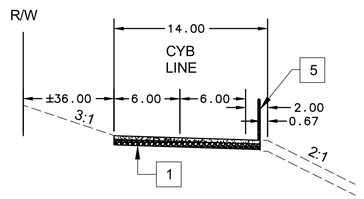
UTILITIES NOTES

A. PROTECT DRAINAGE FEATURE

Note: These are predesign drawings and subject to modification during design.



TYPICAL SECTION
STA 33+50 TO STA 40+50
NTS



TYPICAL SECTION
STA 40+50 TO STA 48+50
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

PROFESSIONAL ENGINEER — RAVI P. SHAH — No. 79183 — Exp. 3/31/20 — CIVIL — STATE OF CALIFORNIA

DATE

DESIGNED BY: CK	
DRAWN BY: CK	CHECKED BY: RS
DRAWING NO.: ViewTitle	
FILE NAME: OCLP_L-3_TP_L-7.dwg	
PLOT DATE: Wednesday, July 11, 2018	SCALE: AS SHOWN

County of Orange
OC Public Works

PREPARED BY: MARK THOMAS

COYOTE CREEK CLASS I BIKEWAY SEGMENT O,P & Q

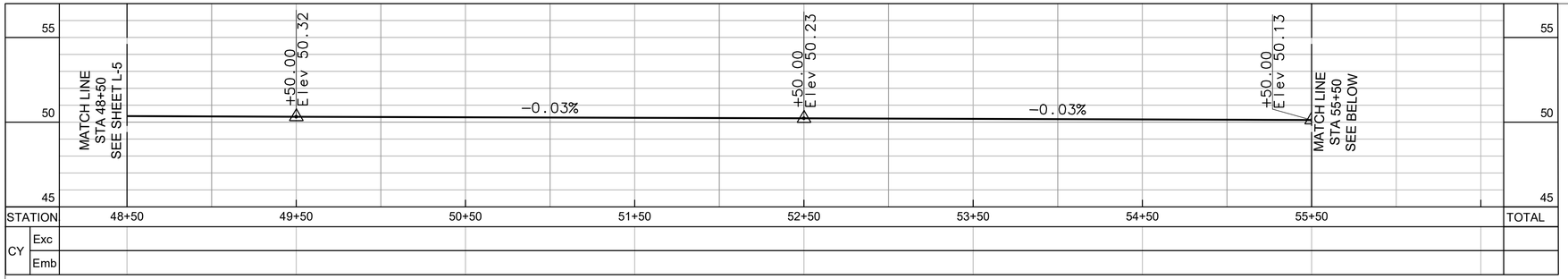
OCFD FACILITY -A01
STA. 33+50 TO STA. 48+50

PLAN & PROFILE

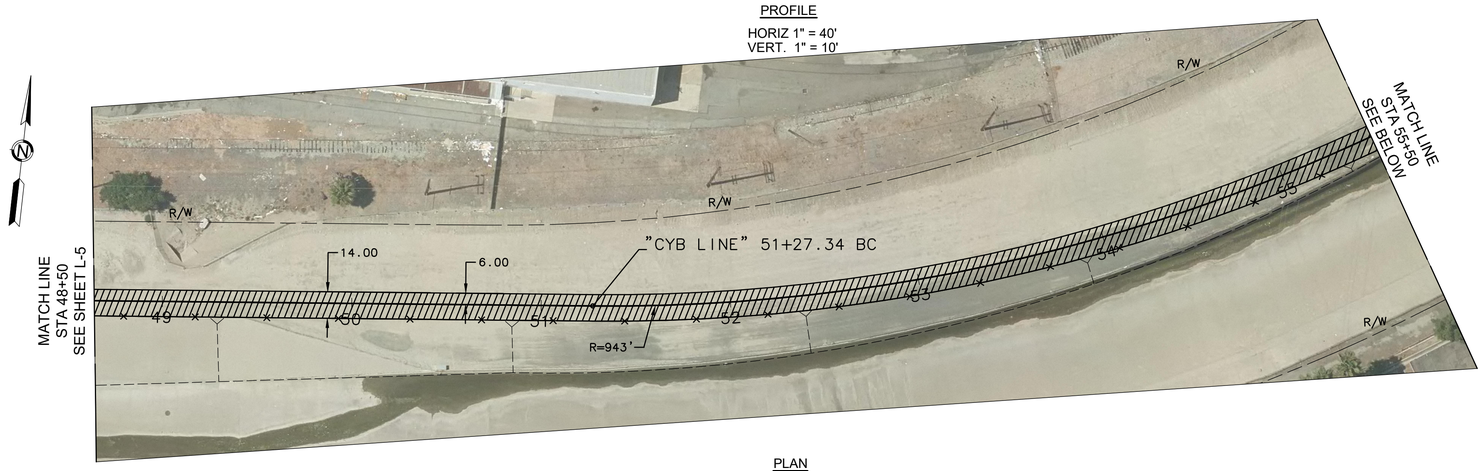
SHEET

L- 5

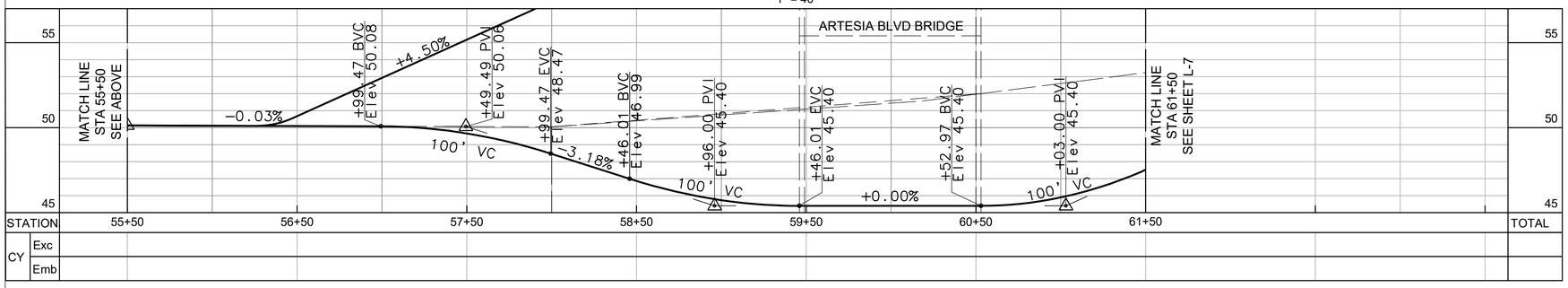
OF 13



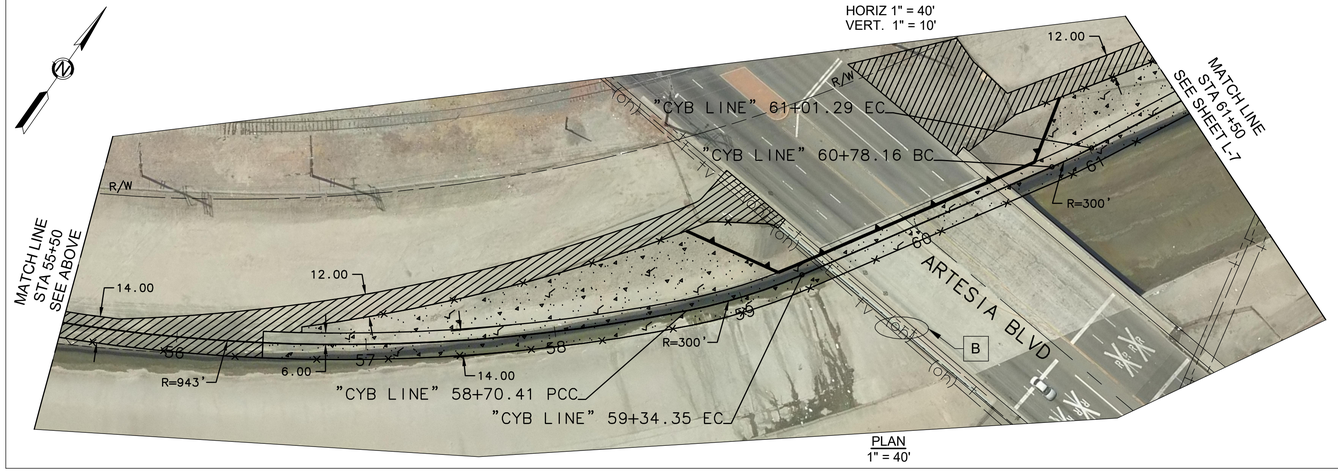
PROFILE
HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'



PROFILE
HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'

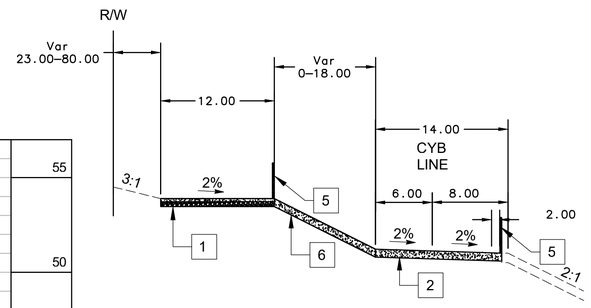
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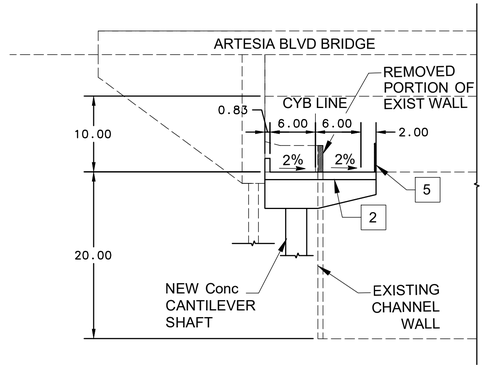
UTILITIES NOTES

B PROTECT IN PLACE

Note: These are predesign drawings and subject to modification during design.



TYPICAL SECTION
STA 56+50 TO STA 57+50
STA60+75 TO STA 61+50
NTS



TYPICAL SECTION
STA 57+50 TO STA 60+75
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER
RAVI P. SHAH
No. 79183
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA
DATE

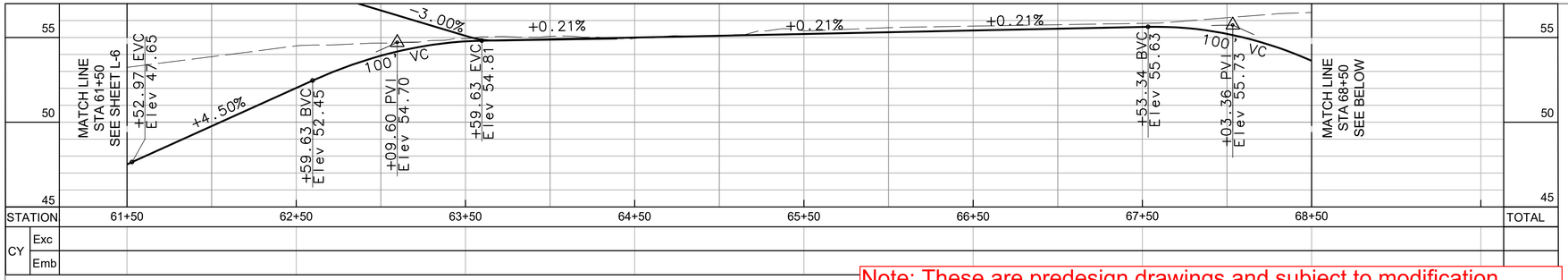
DESIGNED BY: CK
DRAWN BY: CK
CHECKED BY: RS
PREPARED BY:
DRAWING NO.: ViewTitle
FILE NAME: OCLP_L3 TP L-7.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

County of Orange
OC Public Works
MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY -A01
STA. 48+50 TO STA. 61+50

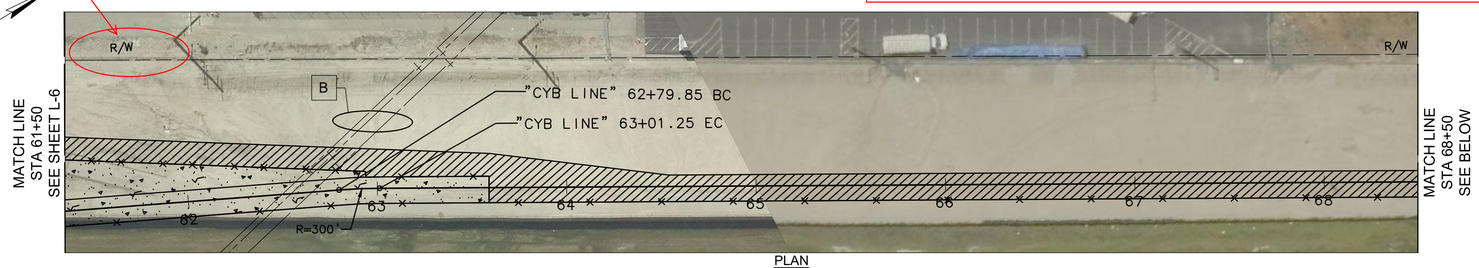
PLAN & PROFILE

SHEET
L- 6
OF 13

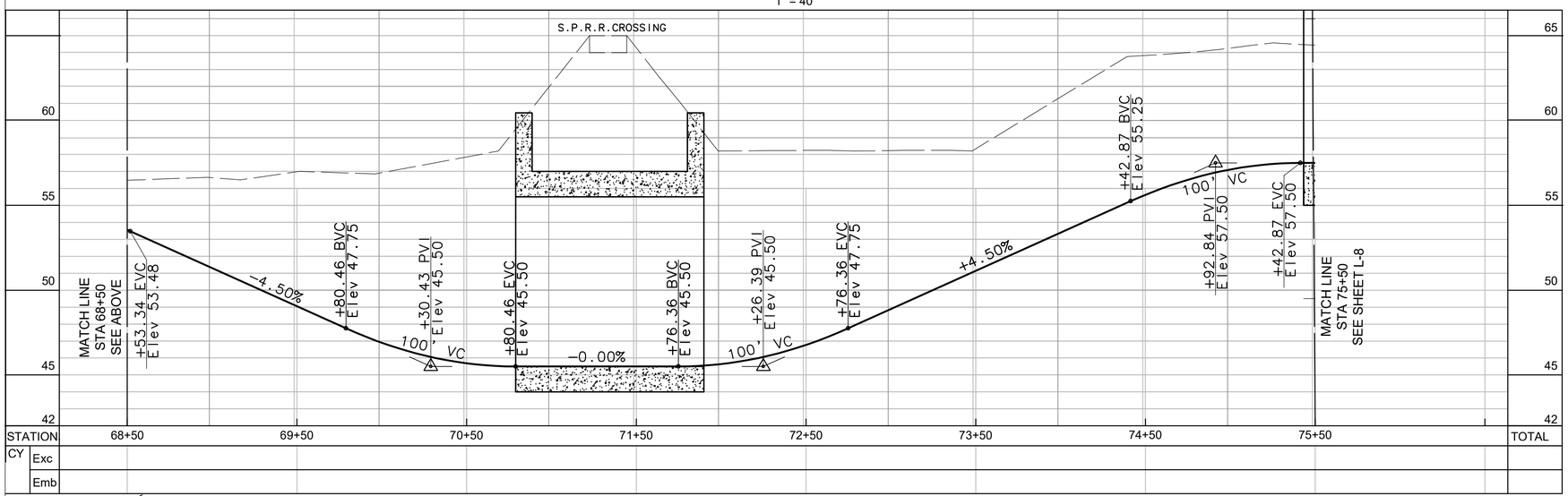


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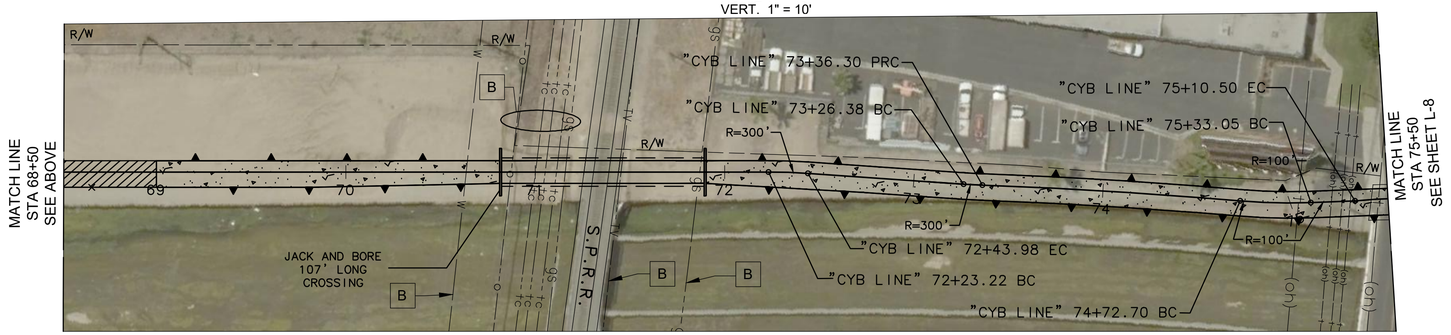
PROFILE
HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'



PROFILE
HORIZ 1" = 40'
VERT. 1" = 10'



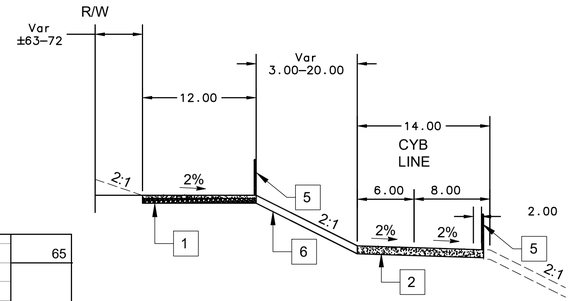
PLAN
1" = 40'

CONSTRUCTION NOTES

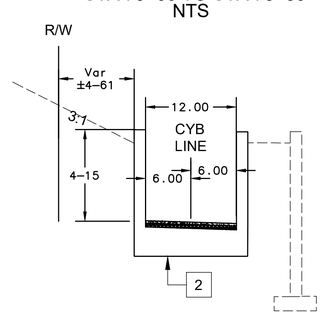
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UTILITIES NOTES

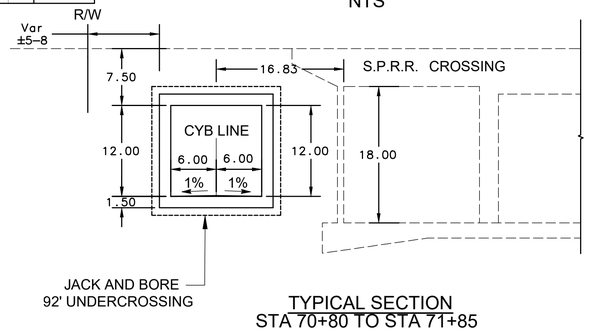
B PROTECT IN PLACE



TYPICAL SECTION
STA 61+50 TO STA 69+00
STA 73+00 TO STA 75+50
NTS



TYPICAL SECTION
STA 69+00 TO STA 70+80
STA 71+85 TO STA 73+00
NTS



TYPICAL SECTION
STA 70+80 TO STA 71+85
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER RAVI P. SHAH No. 79183 Exp. 3/31/20 CIVIL STATE OF CALIFORNIA
DATE

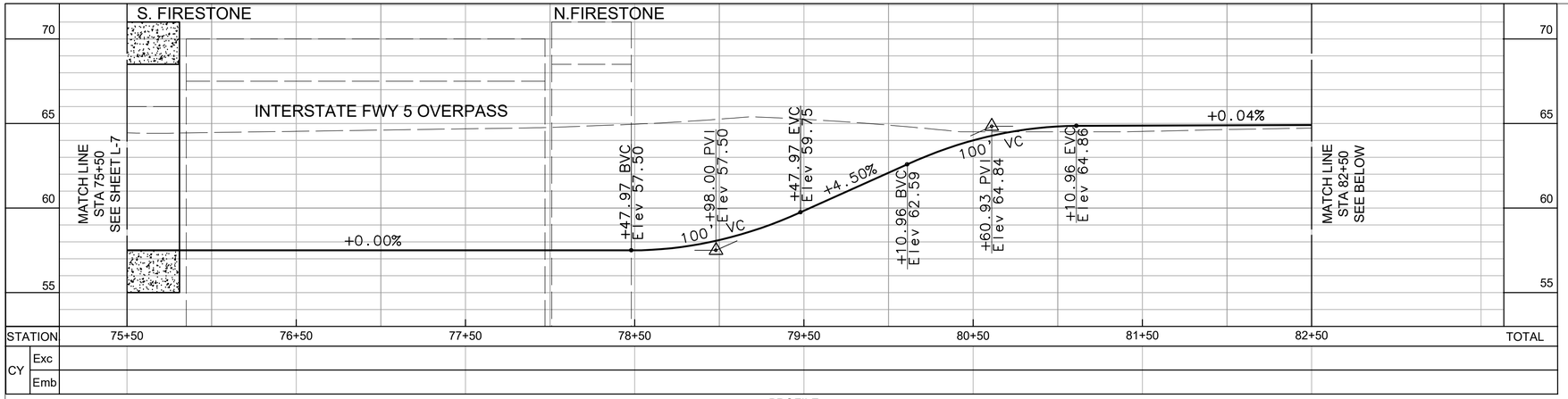
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DRAWN BY: CK
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FILE NAME: OCLP_L-8_Special.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

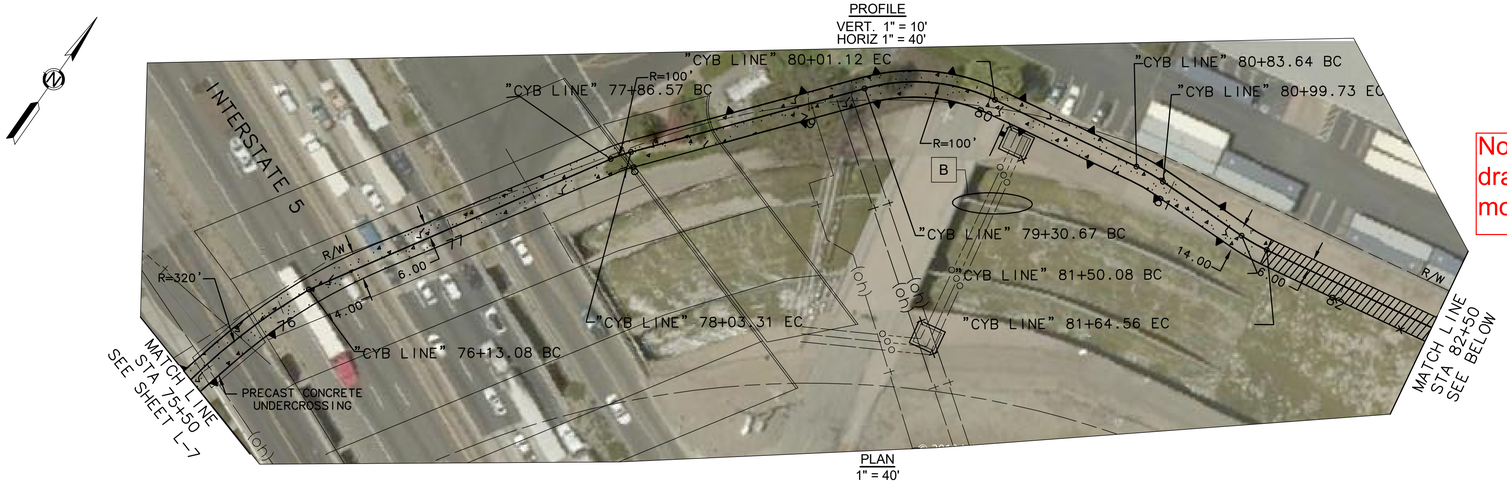
PREPARED BY: MARK THOMAS
County of Orange
PublicWorks

COYOTE CREEK CLASS I BIKEWAY SEGMENT O, P & Q
OCFD FACILITY -A01
STA. 61+50 TO STA. 75+50

PLAN & PROFILE

SHEET
L- 7
OF 13

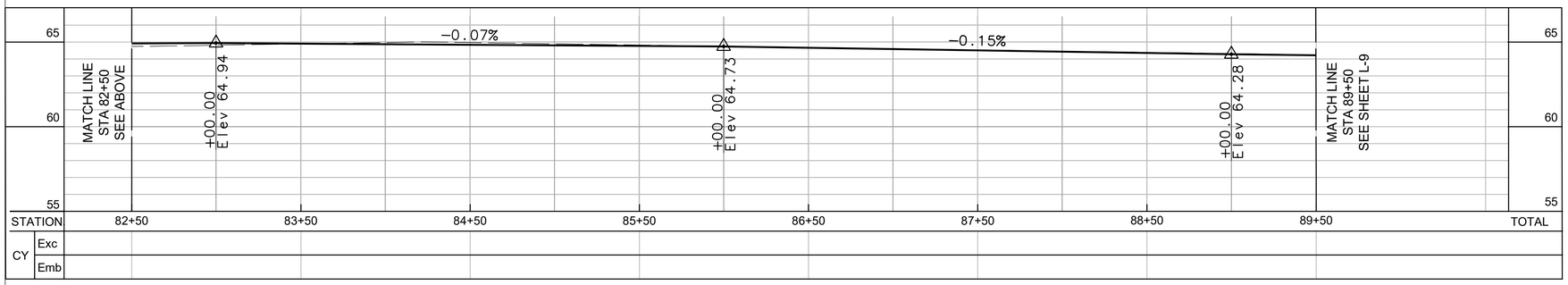


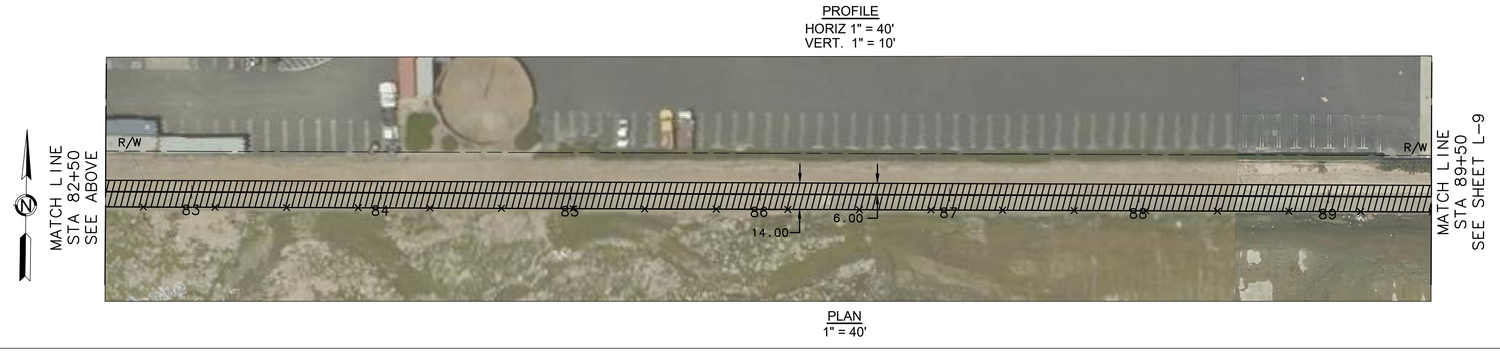


UTILITIES NOTES

B PROTECT IN PLACE

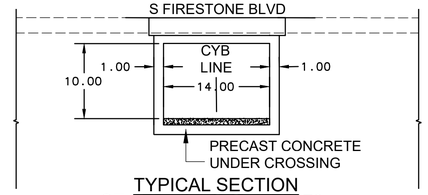
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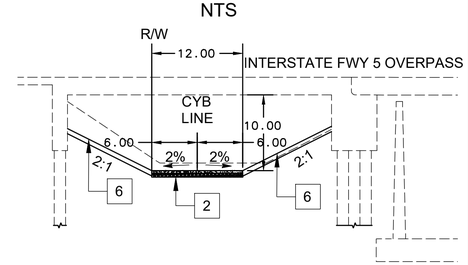


CONSTRUCTION NOTES

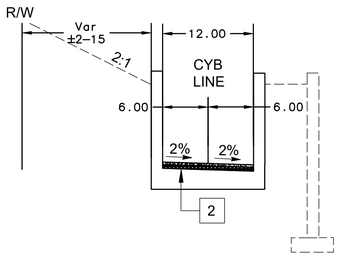
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6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL



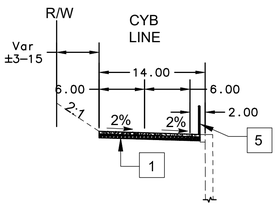
TYPICAL SECTION
STA 75+42 TO STA 75+79
NTS



TYPICAL SECTION
STA 75+50 TO STA 78+50
NTS



TYPICAL SECTION
STA 78+50 TO STA 81+00
NTS



TYPICAL SECTION
STA 81+00 TO STA 89+50
NTS

1 ½ 0 1 2
3 inches on original scale

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER — RAVI P. SHAH — No. 79183 — Exp. 3/31/20 — CIVIL — STATE OF CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

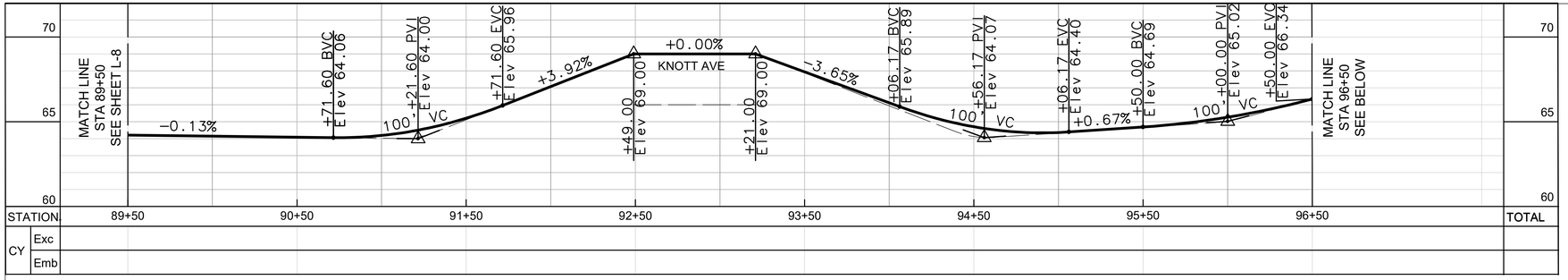
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DRAWN BY: CK
CHECKED BY: RS
DRAWING NO.: ViewTitle
FILE NAME: OCLP_L-8_Special.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN
PREPARED BY:

County of Orange
OC Public Works
MARK THOMAS

COYOTE CREEK CLASS I BIKEWAY SEGMENT O,P & Q
OCFD FACILITY -A01
STA. 75+50 TO STA. 89+50

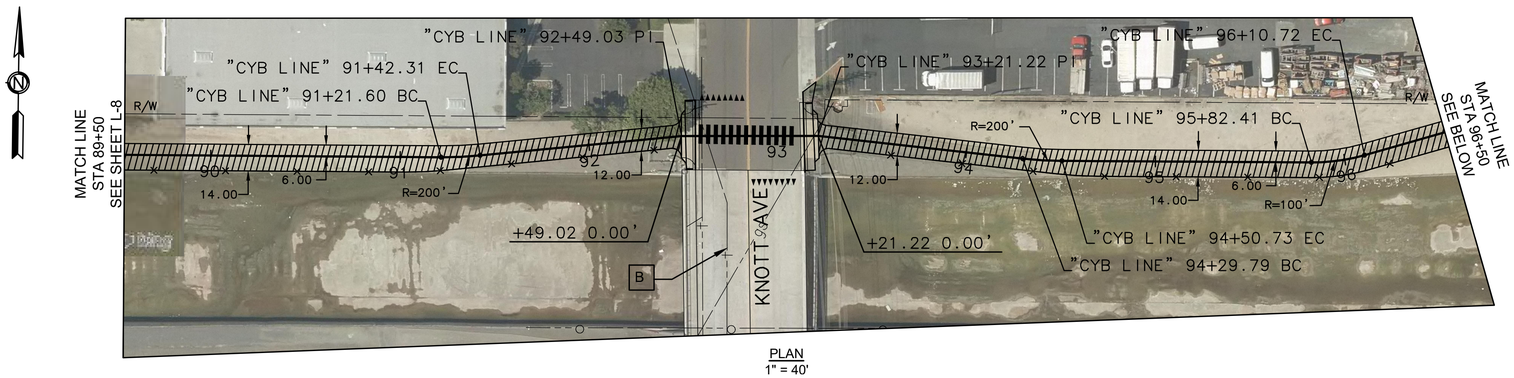
PLAN & PROFILE

SHEET
L- 8
OF 13



PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'

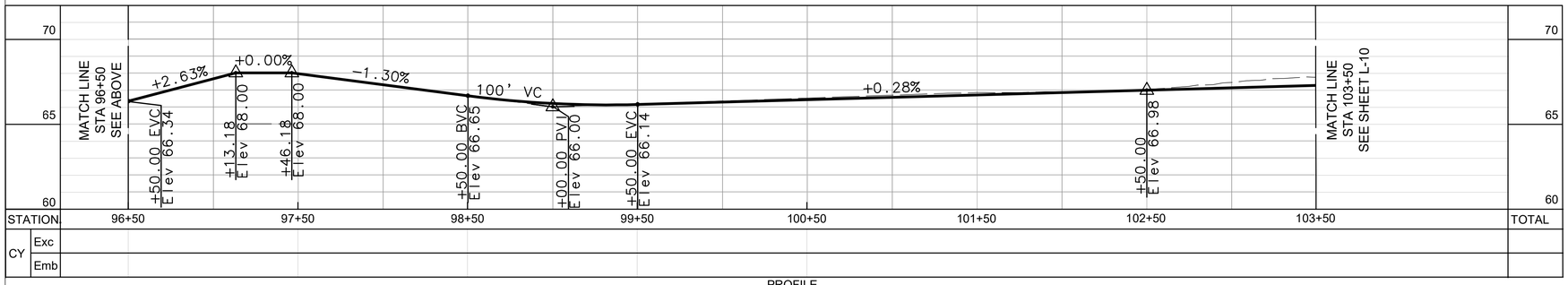
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UTILITIES

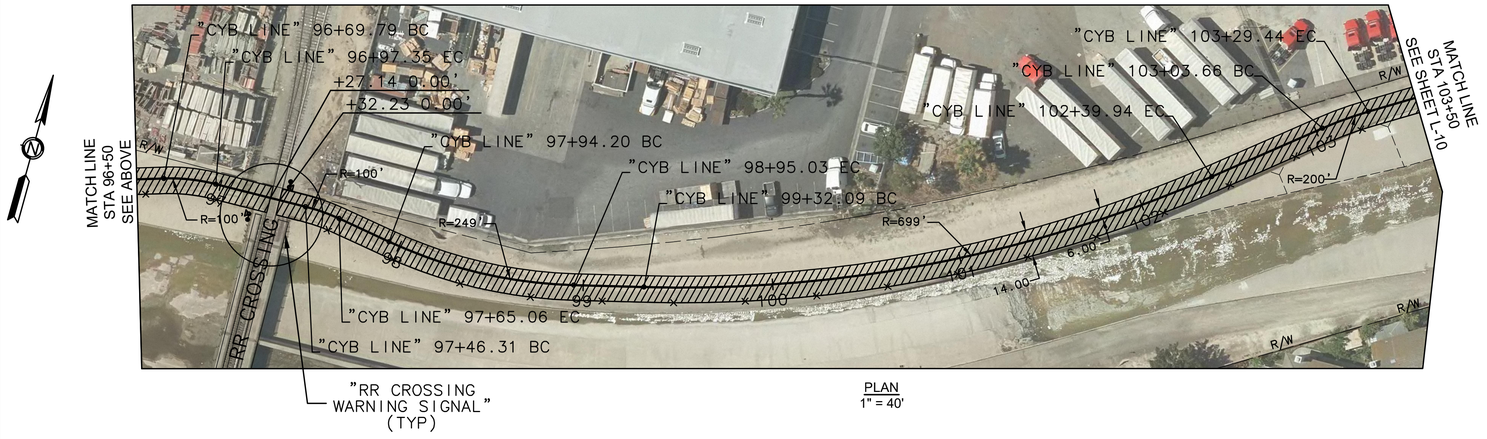
B PROTECT IN PLACE

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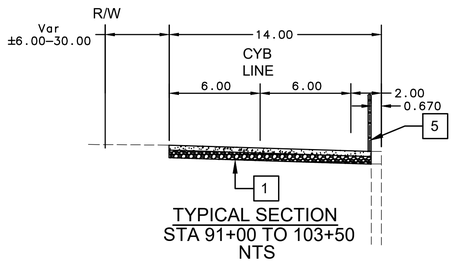


PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'



PLAN
1" = 40'



TYPICAL SECTION
STA 91+00 TO 103+50
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
RAVI P. SHAH
No. 79182
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA

DATE

DESIGNED BY:	CHECKED BY:	DRAWING NO.:	SCALE:
CK	RS	ViewTitle	PLOT DATE: Wednesday, July 11, 2018
DRAWN BY: CK		FILE NAME: OCLP_L-9.dwg	AS SHOWN
PREPARED BY:			

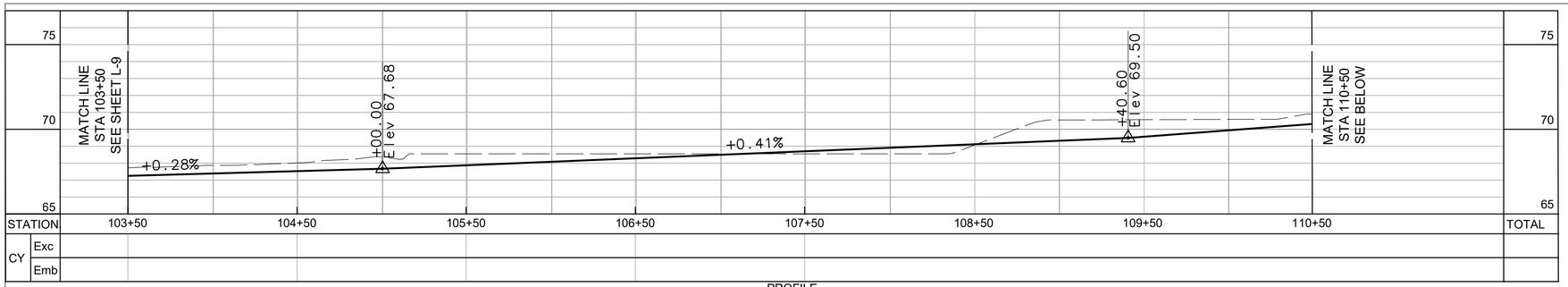
County of Orange
OC Public Works

MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY - A01
STA 89+50 TO STA 103+50

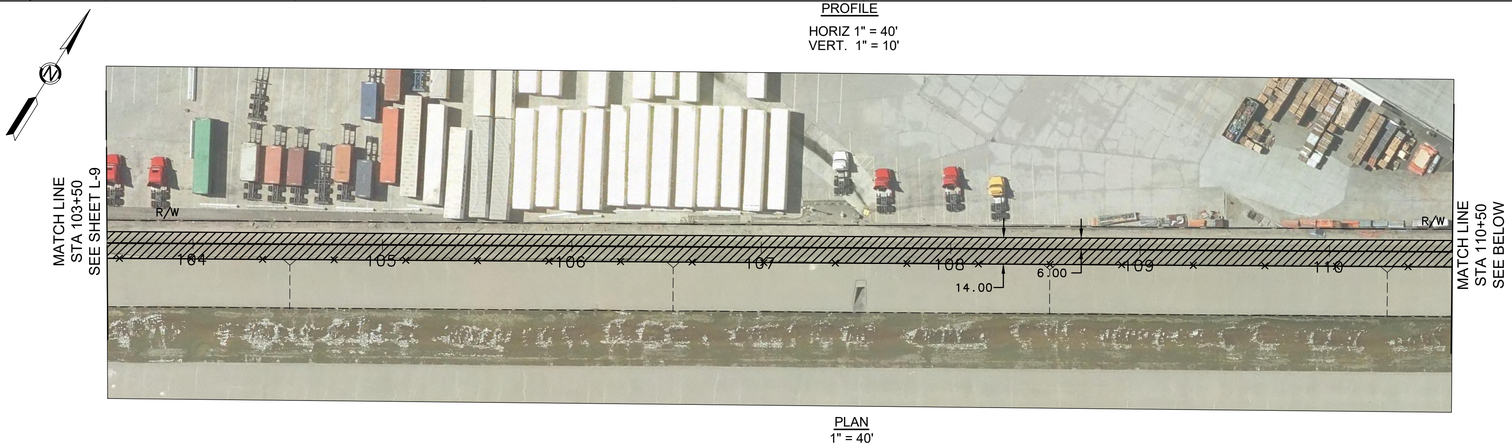
PLAN & PROFILE

SHEET
L- 9
OF 13

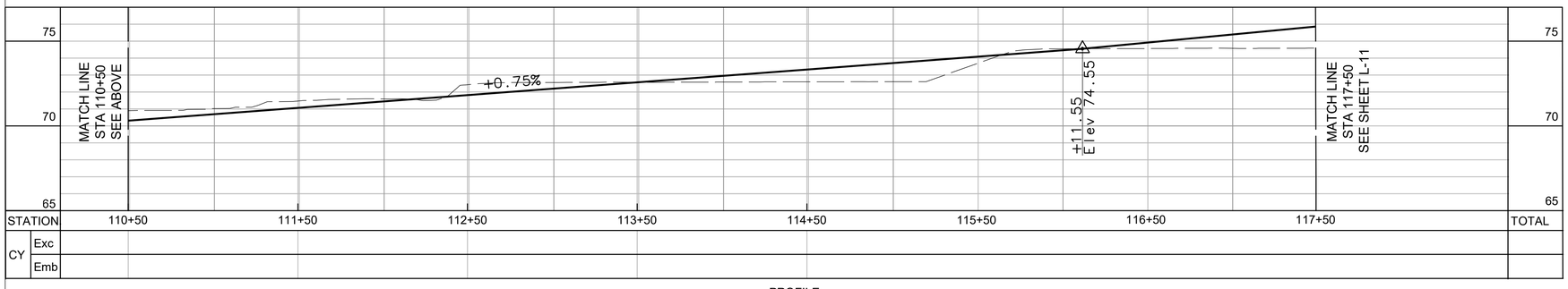


PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'

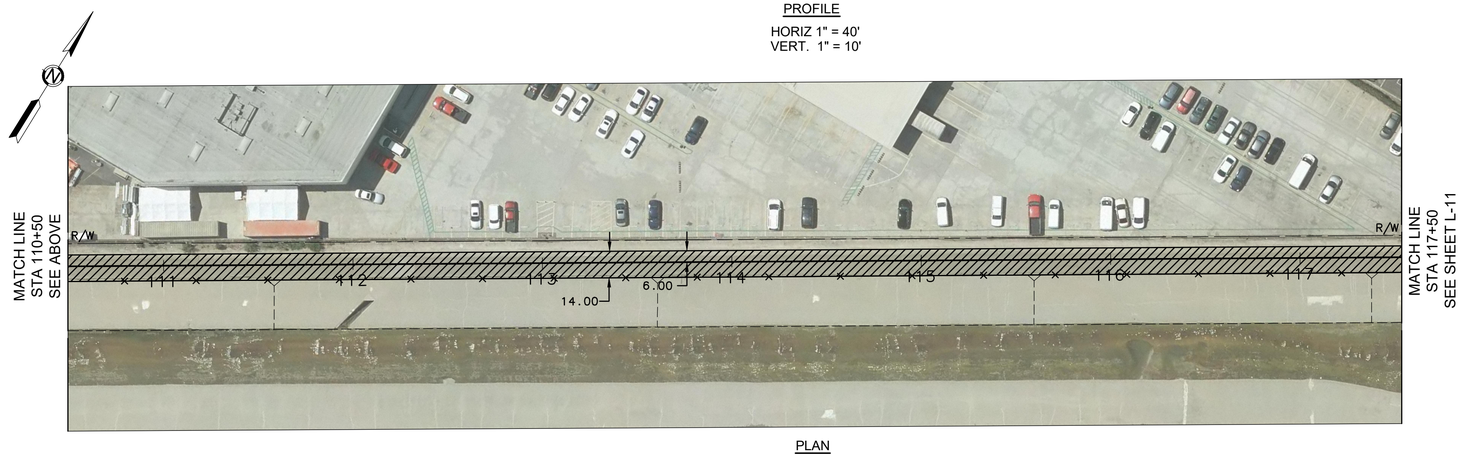


PLAN
1" = 40'



PROFILE

HORIZ 1" = 40'
VERT. 1" = 10'

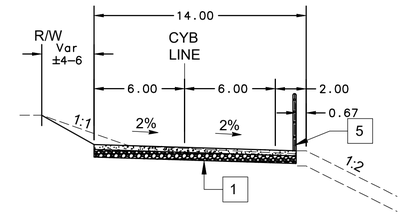


PLAN
1" = 40'

CONSTRUCTION NOTES

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4. FURNISH AND INSTALL 5' CHAIN LINK FENCE PER OCPW STANDARD PLAN 600-3-0C
5. INSTALL CABLE RAILING PER CAL TRANS STD. PLAN 811-47 AND DETAIL ON SHEET L-13
6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL

Note: These are predesign drawings and subject to modification during design.



TYPICAL SECTION
STA 103+50 TO STA 117+50
NTS

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER
RAVI P. SHAH
No. 79183
Exp. 3/31/20
CIVIL
STATE OF CALIFORNIA

DATE

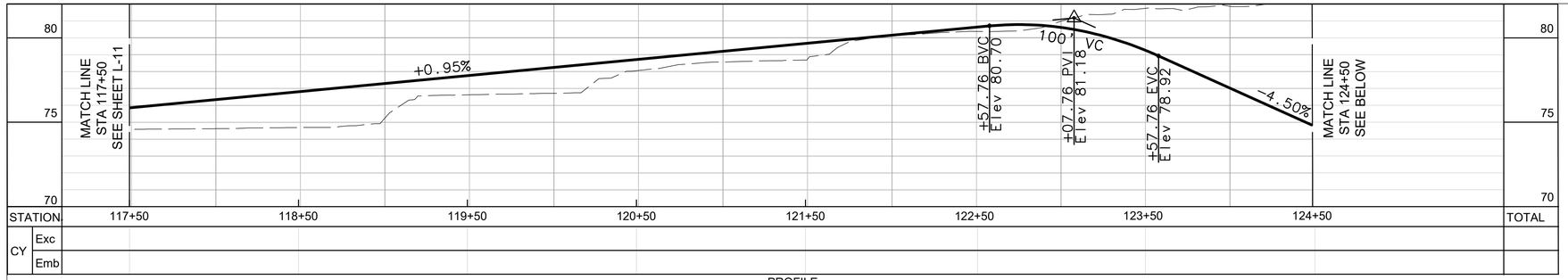
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DRAWN BY: CK
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PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

County of Orange
OC Public Works
PREPARED BY: MARK THOMAS

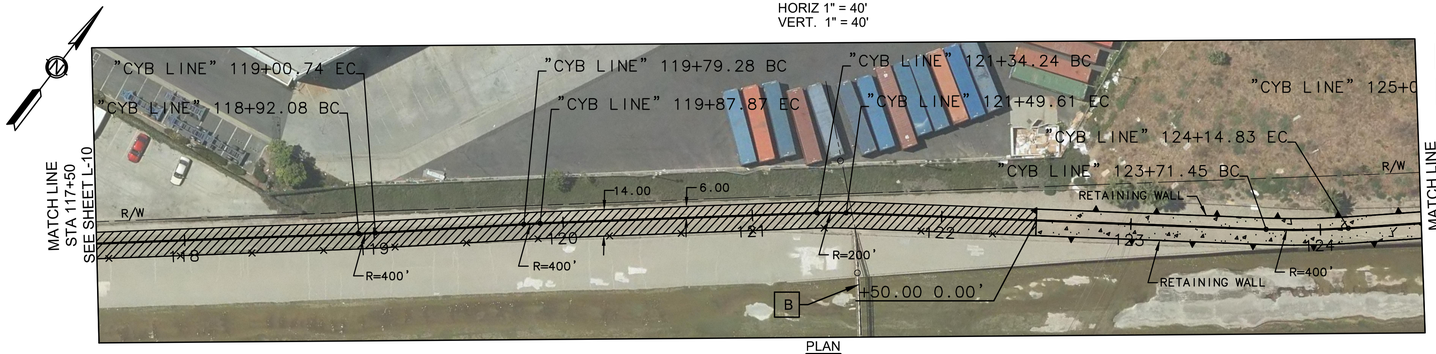
COYOTE CREEK CLASS I BIKEWAY SEGMENT O,P & Q
OCFD FACILITY - A01
STA. 103+50 TO STA. 117+50

PLAN & PROFILE

SHEET
L-10
OF 13



PROFILE
HORIZ 1" = 40'
VERT. 1" = 40'



PLAN
1" = 40'

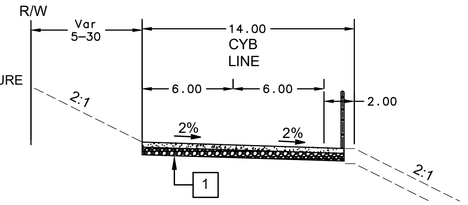
UTILITIES

B PROTECT IN PLACE

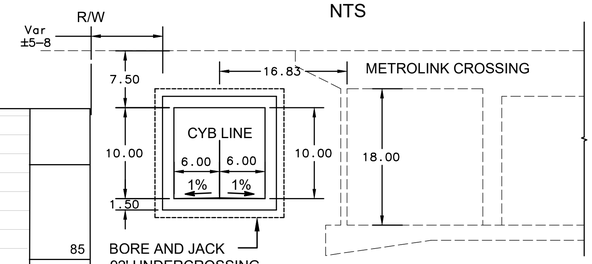
C RECONSTRUCT DRAINAGE FEATURE

CONSTRUCTION NOTES

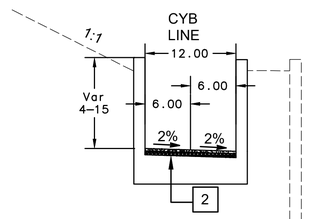
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6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL



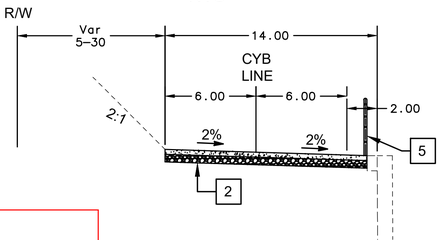
TYPICAL SECTION
STA 117+50 TO STA 122+00
NTS



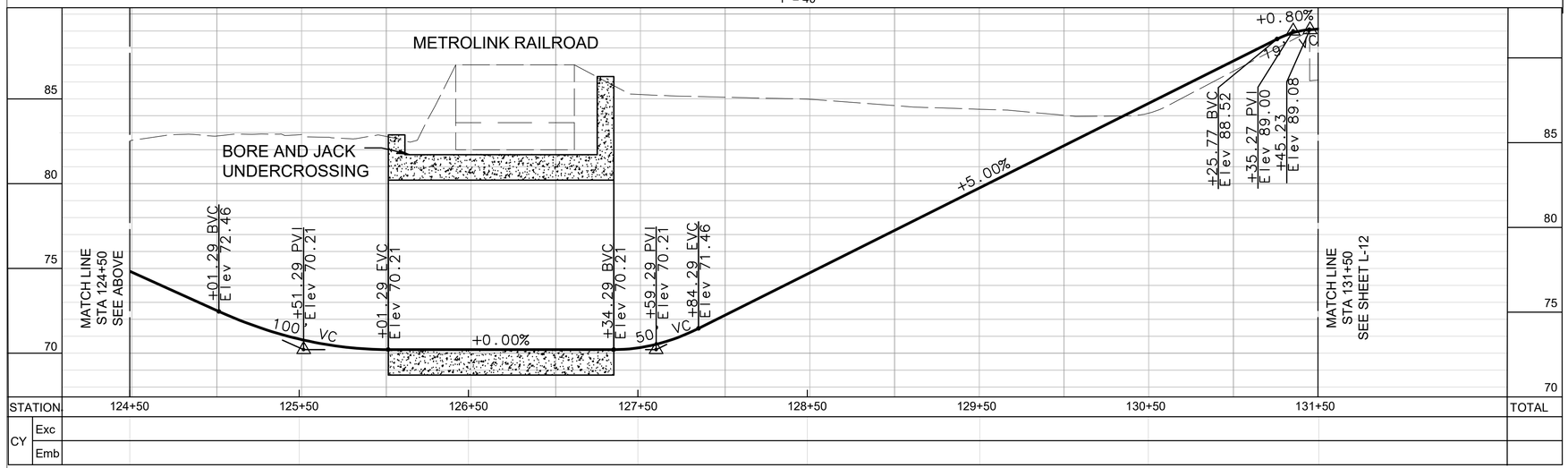
TYPICAL SECTION
STA 126+00 TO STA 127+34
NTS



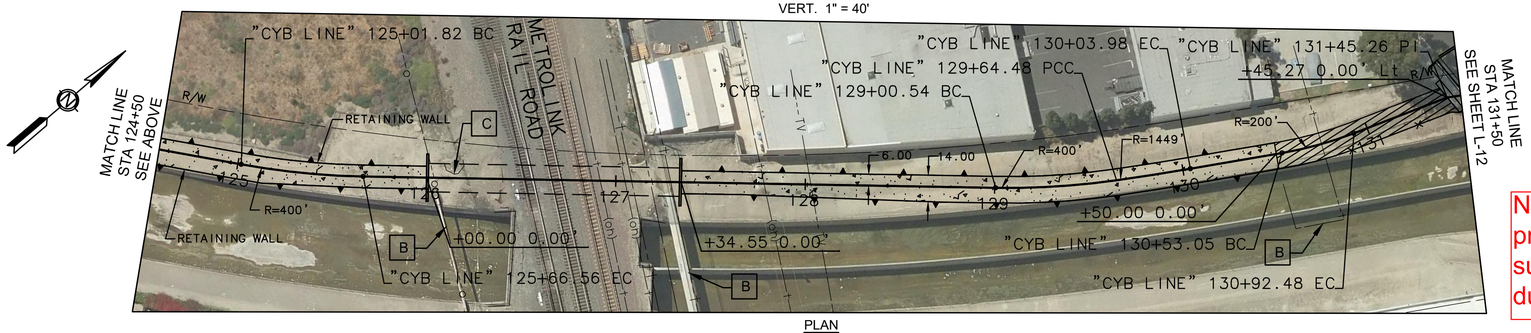
TYPICAL SECTION
STA 122+00 TO STA 126+00
STA 127+34 TO STA 130+50
NTS



TYPICAL SECTION
STA 130+50 TO STA 131+00
NTS



PROFILE
HORIZ 1" = 40'
VERT. 1" = 40'



PLAN
1" = 40'

Note: These are predesign drawings and subject to modification during design.

3 inches on original scale

MARK	DESCRIPTION	DATE	APPR.

COUNTY OF ORANGE CALIFORNIA

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER — RAVI P. SHAH — No. 79182 — Exp. 3/31/20 — CIVIL — STATE OF CALIFORNIA — REGISTERED
DATE

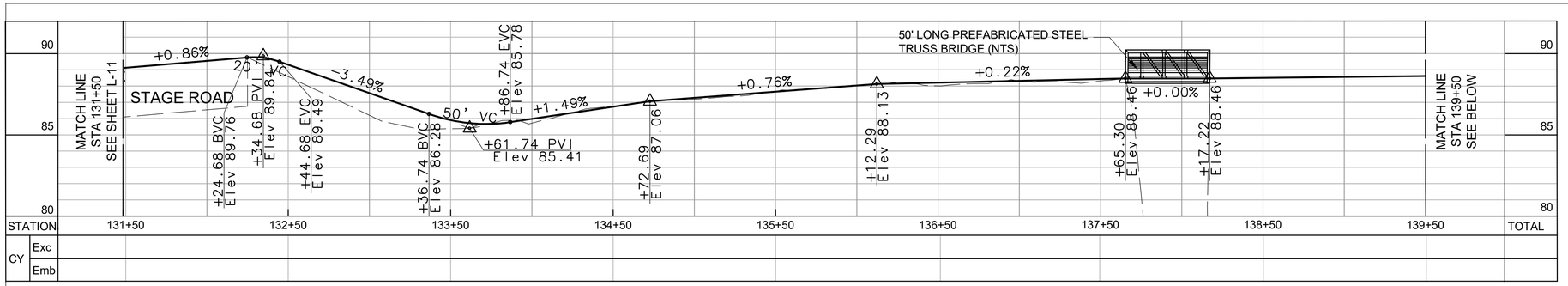
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DRAWN BY: CJK
CHECKED BY: RS
PREPARED BY:
DRAWING NO.: ViewTitle
FILE NAME: OCLP_L-11-13.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

County of Orange
OC Public Works
MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY -A01
STA 117+50 TO STA 131+50

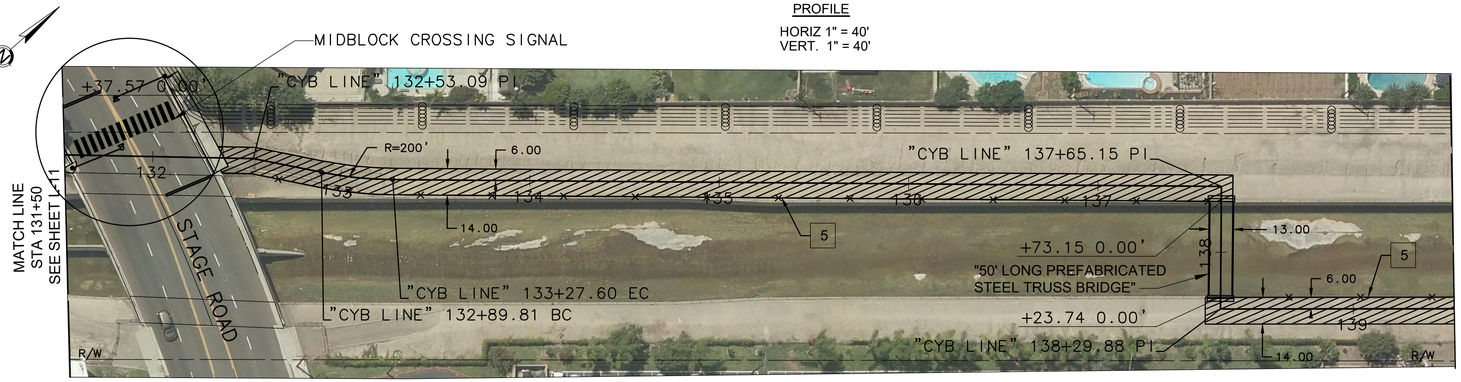
PLAN & PROFILE

SHEET
L-11
OF 13



PROFILE

HORIZ 1" = 40'
VERT. 1" = 40'



PLAN
1" = 40'

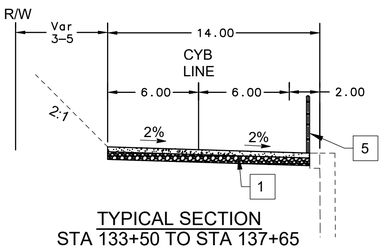
UTILITIES

B PROTECT IN PLACE

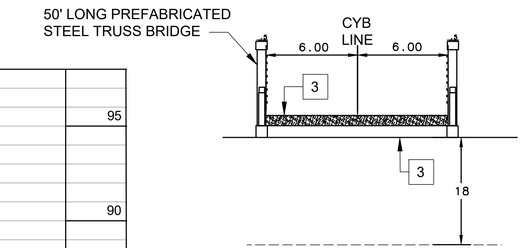
Note: These are predesign drawings and subject to modification during design.

CONSTRUCTION NOTES

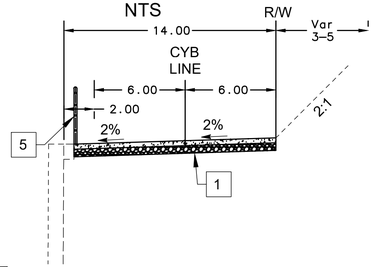
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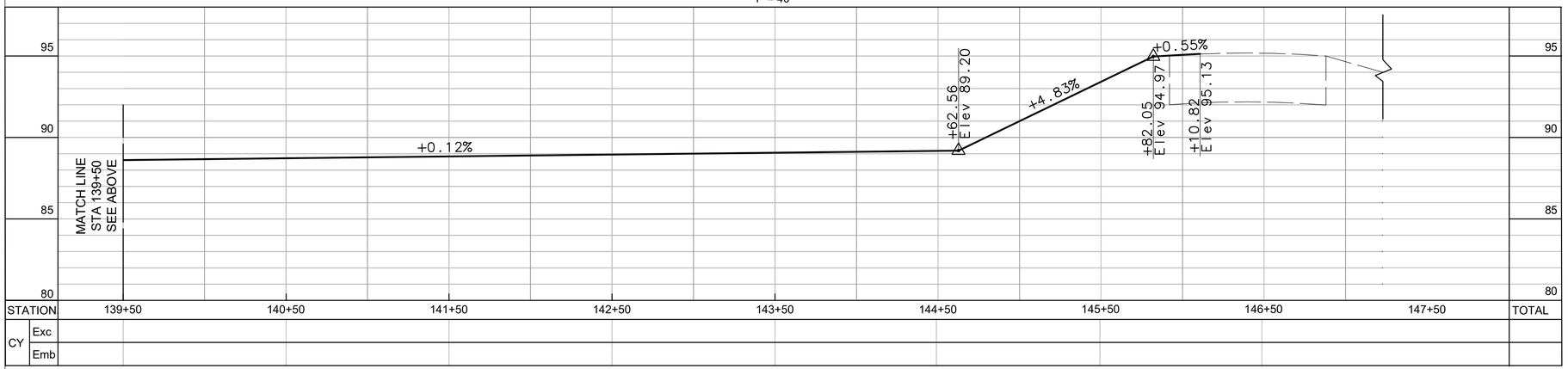
TYPICAL SECTION
STA 133+50 TO STA 137+65
NTS



TYPICAL SECTION
STA 137+65 TO STA 138+29
NTS

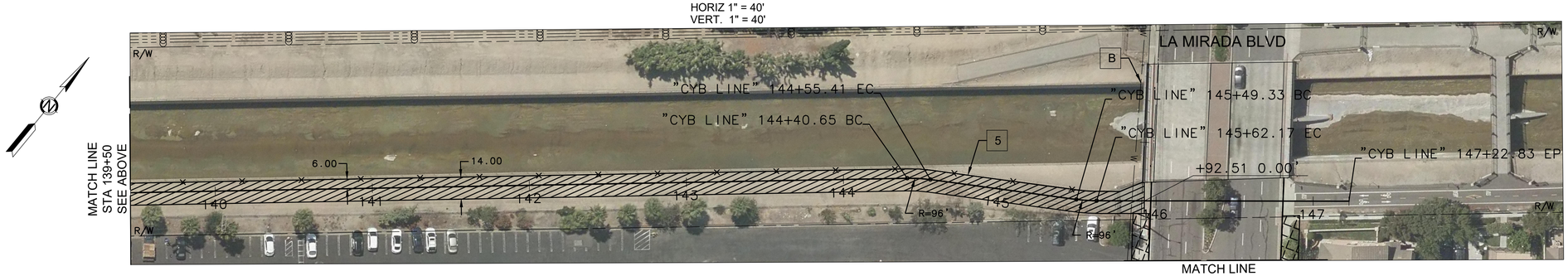


TYPICAL SECTION
STA 138+30 TO STA 144+40
NTS



PROFILE

HORIZ 1" = 40'
VERT. 1" = 40'



PLAN
1" = 40'

1 ½ 0 1 2
3 inches on original scale

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

PROFESSIONAL ENGINEER RAVI P. SHAH No. 79183 Exp. 3/31/20 CIVIL STATE OF CALIFORNIA

DATE

DESIGNED BY: CJK
DRAWN BY: CJK
CHECKED BY: RS
PREPARED BY:
DRAWING NO.: ViewTitle
FILE NAME: OCLP_L-11-13.dwg
PLOT DATE: Wednesday, July 11, 2018
SCALE: AS SHOWN

County of Orange
OC PublicWorks
MARK THOMAS

COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY -A01
STA 131+50 TO STA 144+22

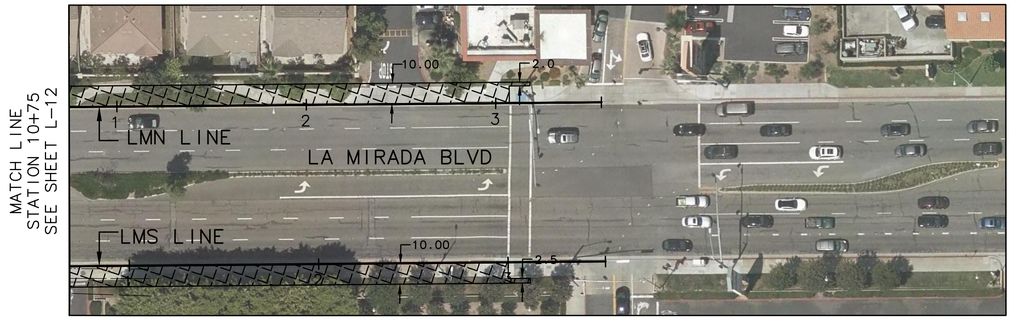
PLAN & PROFILE

SHEET
L-12
OF 13

NO PROFILE

			TOTAL
STATION			
CY	Exc		
	Emb		

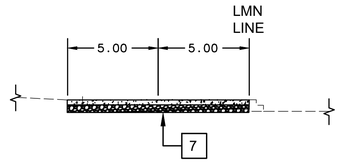
PROFILE
HORIZ 1" = 40'
VERT. 1" = 40'



PLAN
1" = 40'

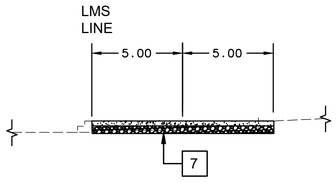
CONSTRUCTION NOTES

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6. CONSTRUCT CHANNEL WALL IN CONCRETE PER PLAN PROFILE AND DETAIL
7. CONSTRUCT 4" CONCRETE OVER 4" AB



TYPICAL SECTION
STA 10+24 TO STA 13+17
NTS

Note: These are predesign drawings and subject to modification during design.



TYPICAL SECTION
STA 10+11 TO STA 13+11
NTS

1 ½ 0 1 2
3 inches on original scale

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:
PROFESSIONAL ENGINEER RAVI P. SHAH No. 79183 Exp. 3/31/20 CIVIL STATE OF CALIFORNIA REGISTERED
DATE

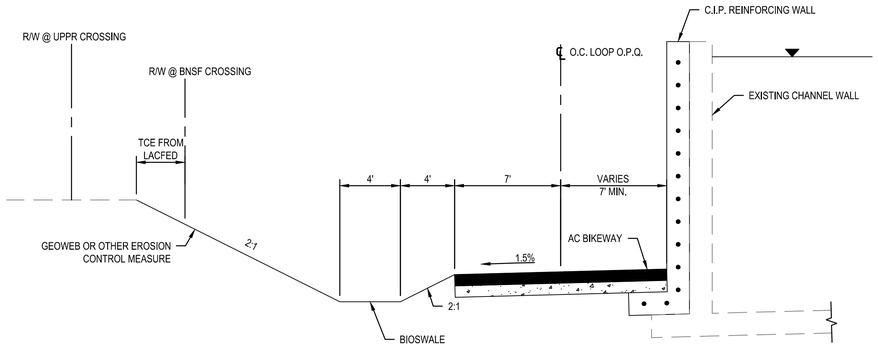
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DRAWN BY:	DRAWING NO.:
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PLOT DATE:	SCALE:
Wednesday, July 11, 2018	AS SHOWN

County of Orange
OCPublicWorks
PREPARED BY: MARK THOMAS

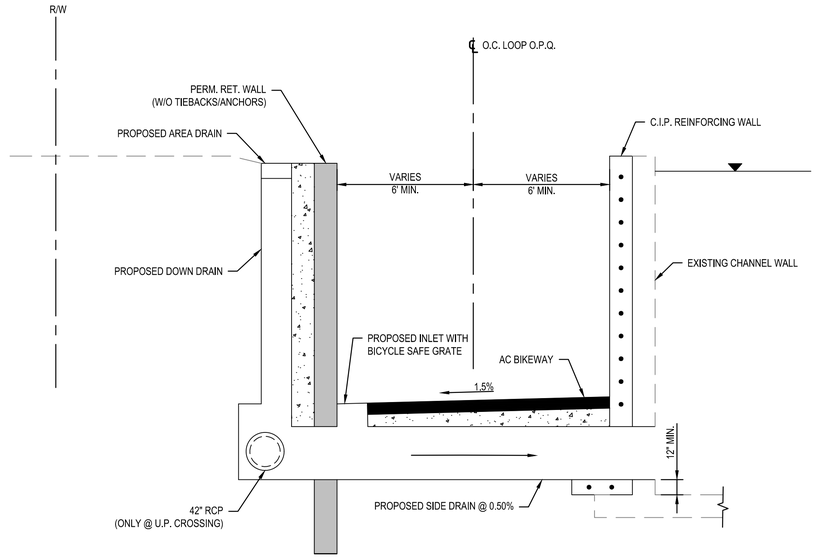
COYOTE CREEK
CLASS I BIKEWAY
SEGMENT O,P & Q
OCFD FACILITY -A01
STA 10+11 TO STA 13+17
PLAN & PROFILE

SHEET
L-13
OF 13

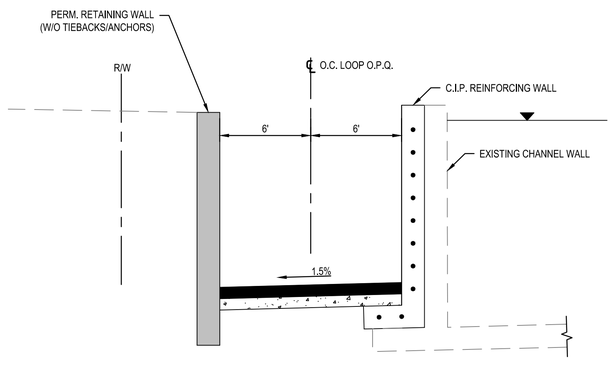
Note: These are predesign drawings and subject to modification during design.



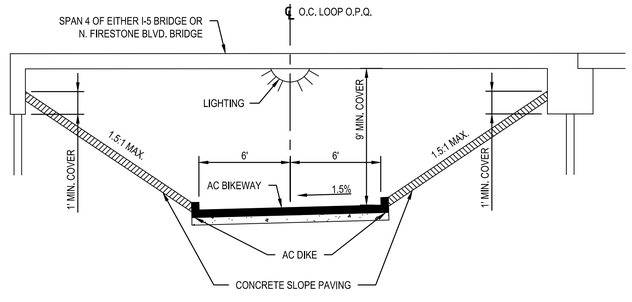
A SECTION
SCALE: 1" = 5'



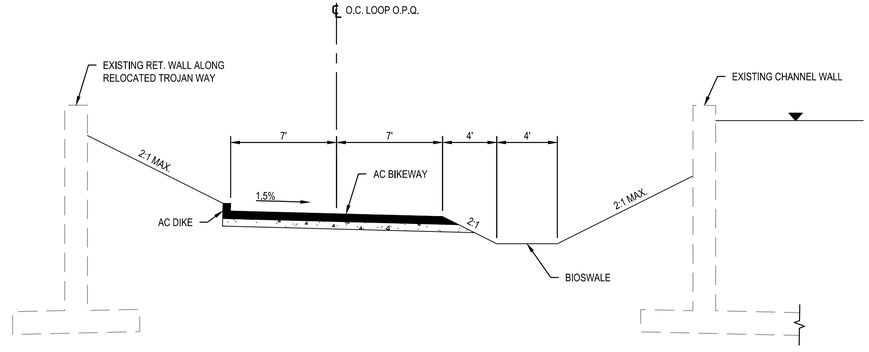
B SECTION
SCALE: 1" = 5'



C SECTION
SCALE: 1" = 5'



D SECTION
SCALE: 1" = 5'



E SECTION
SCALE: 1" = 5'

DIGALERT
DIAL TOLL FREE 811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF: DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NO: C-106
FILE NAME: 112807724-C301.dwng
PLOT DATE: ####
SCALE: AS SHOWN

County of Orange OCPublicWorks

PREPARED BY:
GHD Inc
300 Goddard Way Suite 200
Irvine California 92618 USA
T 1 949 848 5200
F 1 949 848 5299
W www.ghd.com

OC LOOP
SEGMENTS O, P, Q
STA 68+50 TO STA 73+50

TYPICAL CROSS SECTIONS

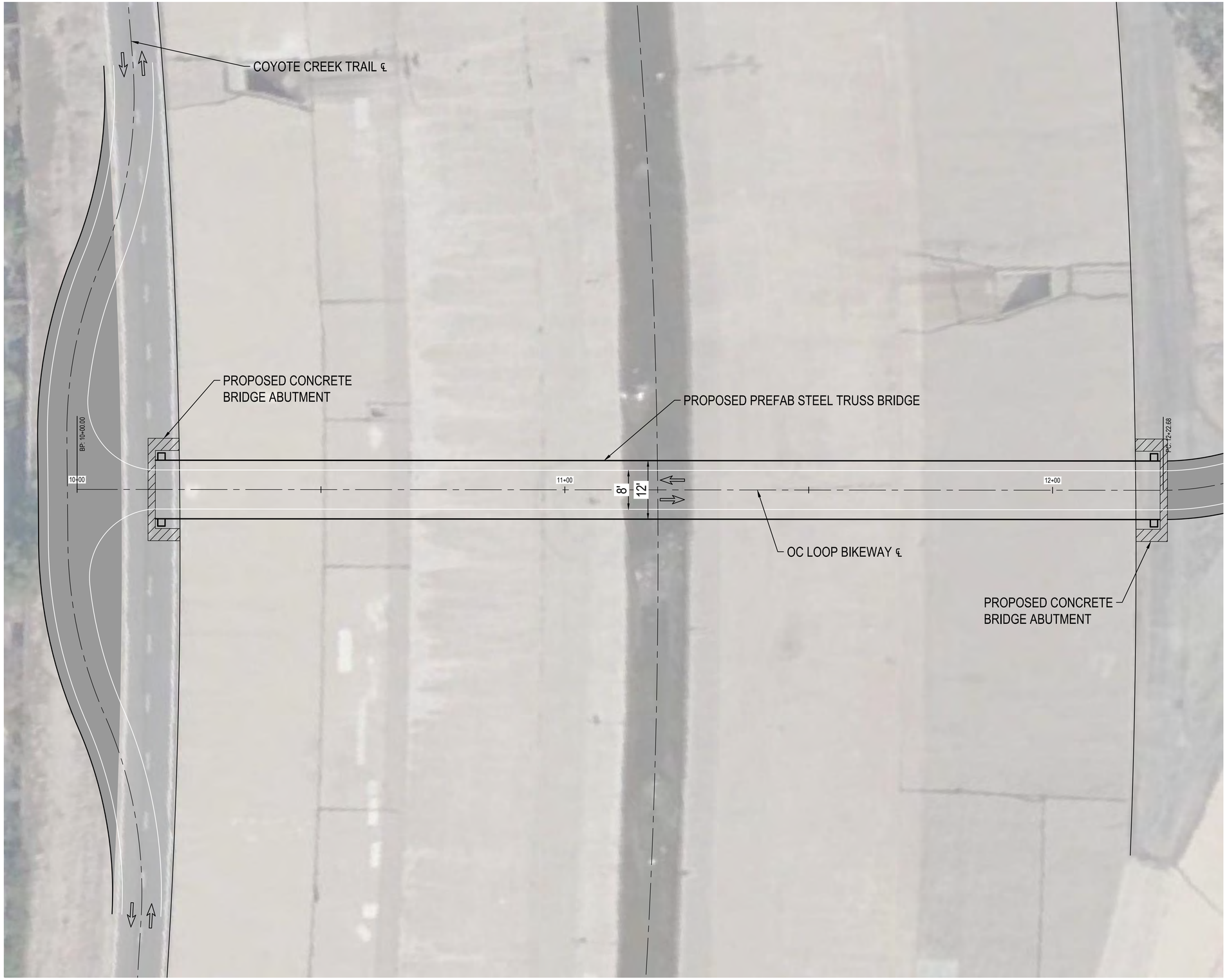
SHEET
C-301
9 OF 15

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Plotted By: Erika Hall
Plot Date: 27 March 2020 - 11:45 AM

APPENDIX A3

2020 UPDATED CROSSINGS PLANS

Note: These are predesign drawings and subject to modification during design.



Note: These are predesign drawings and subject to modification during design.

N

0 10' 20'

DIGALERT

DIAL TOLL FREE
811
AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE

DESIGNED BY: ---
DRAWN BY: ---
CHECKED BY: ---
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FILE NAME: 11260772-C-101-PedBridge.dwg
PLOT DATE: 4/10/2020 4:30 PM
SCALE: AS SHOWN

County of Orange
OC Public Works

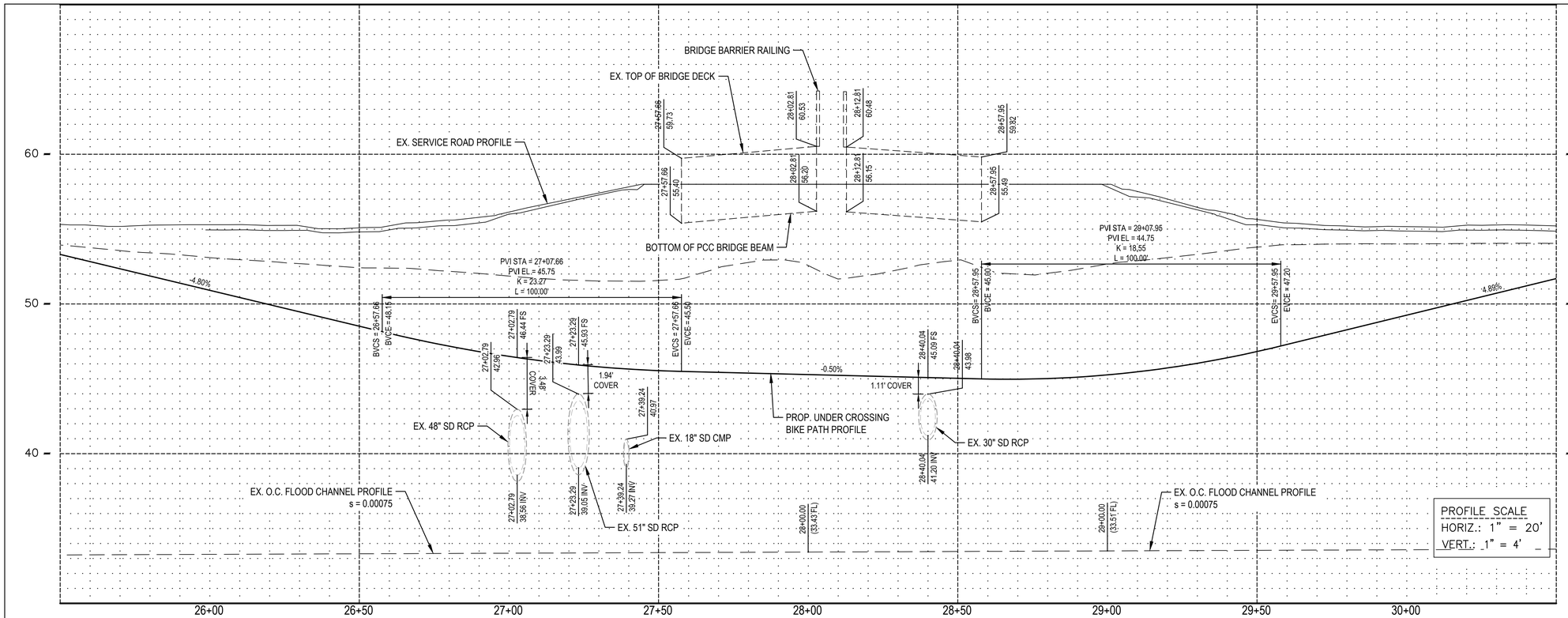
PREPARED BY:
GHD Inc.
3201 Goddard Way Suite 200
Irvine California 92618 USA
T 1 949 648 5200
F 1 949 648 5299
W www.ghd.com

SEGMENTS O, P, Q
STA 10+00 TO STA 12+50

1-PEDBRIDGE

SHEET
C-101
1 OF 15

Plotted By: Myung Choo
Plot Date: 10 April 2020 - 4:30 PM
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Note: These are predesign drawings and subject to modification during design.



DIGALERT
DIAL TOLL FREE
811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NO:
FILE NAME:
PLOT DATE:
SCALE:

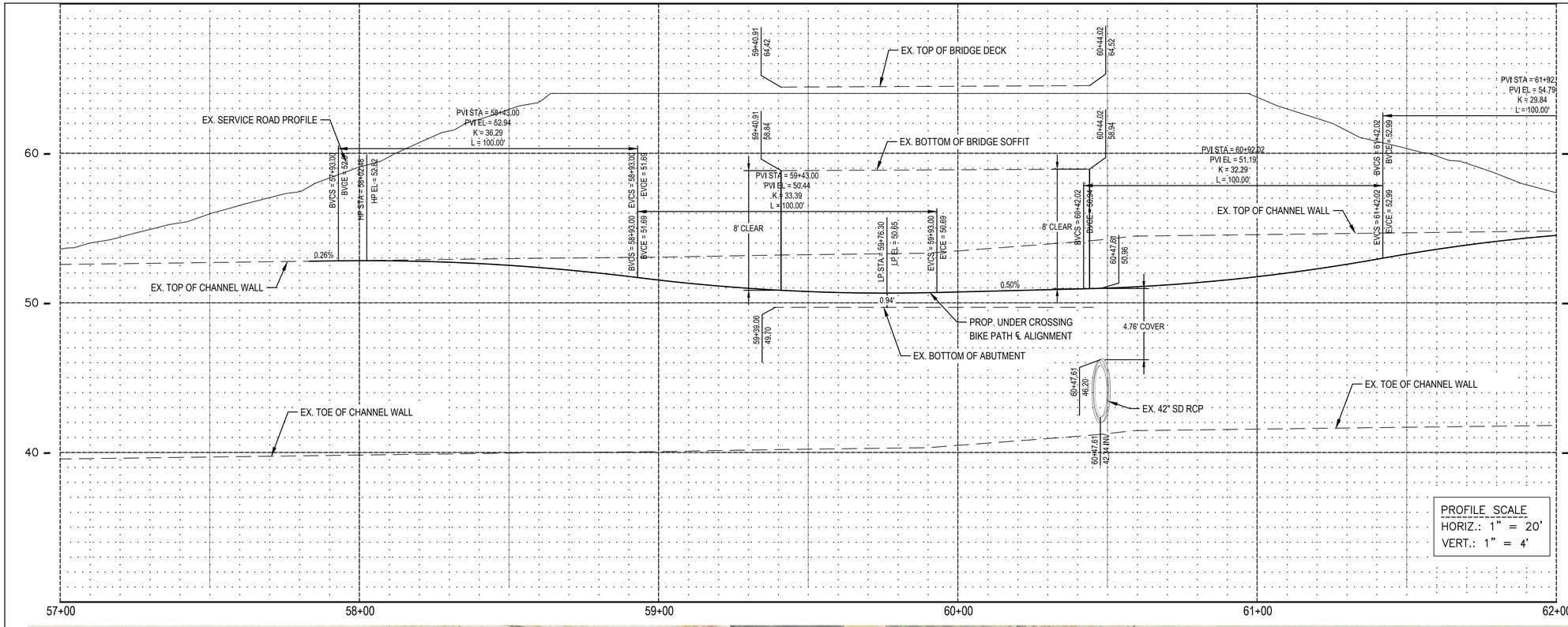
County of Orange
OC Public Works

PREPARED BY:
CHD Inc.
3200 El Camino Real Way Suite 200
Irvine California 92618 USA
T 1 949 648 5200
F 1 949 648 5299
W www.chd.com

SHEET

OF

Filename: N:\OB\Irvine\Projects\561111\226772\Digital_Design\ACAD 2018\Civil 3D\11226772-OC-Con-ValleyView.dwg
Plotted By: Erika Hall
Plot Date: 7 April 2020 - 1:03 PM



Note: These are predesign drawings and subject to modification during design.

DIGALERT
DIAL TOLL FREE
811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NO:
FILE NAME:
PLOT DATE:
SCALE:

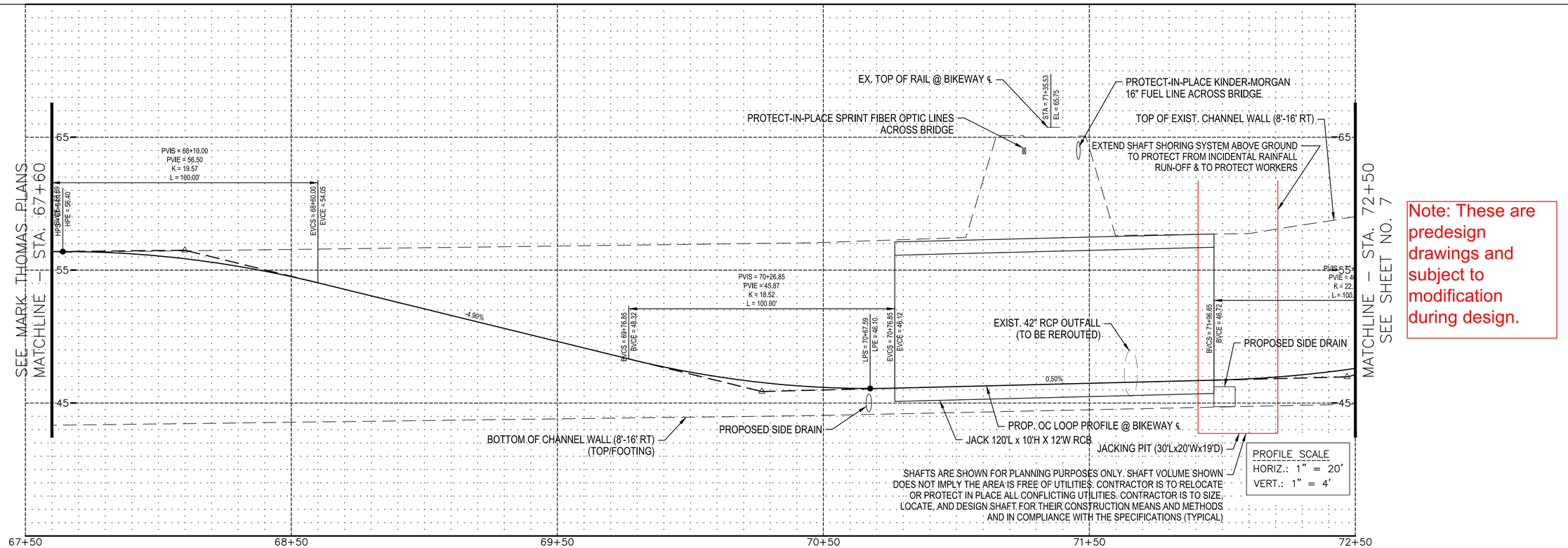
County of Orange
OC Public Works

PREPARED BY:
GHD Inc.
2020 Main Street 9th Way Suite 200
Irvine California 92618 USA
T: 1 949 648 5200
F: 1 949 648 5299
W: www.ghd.com

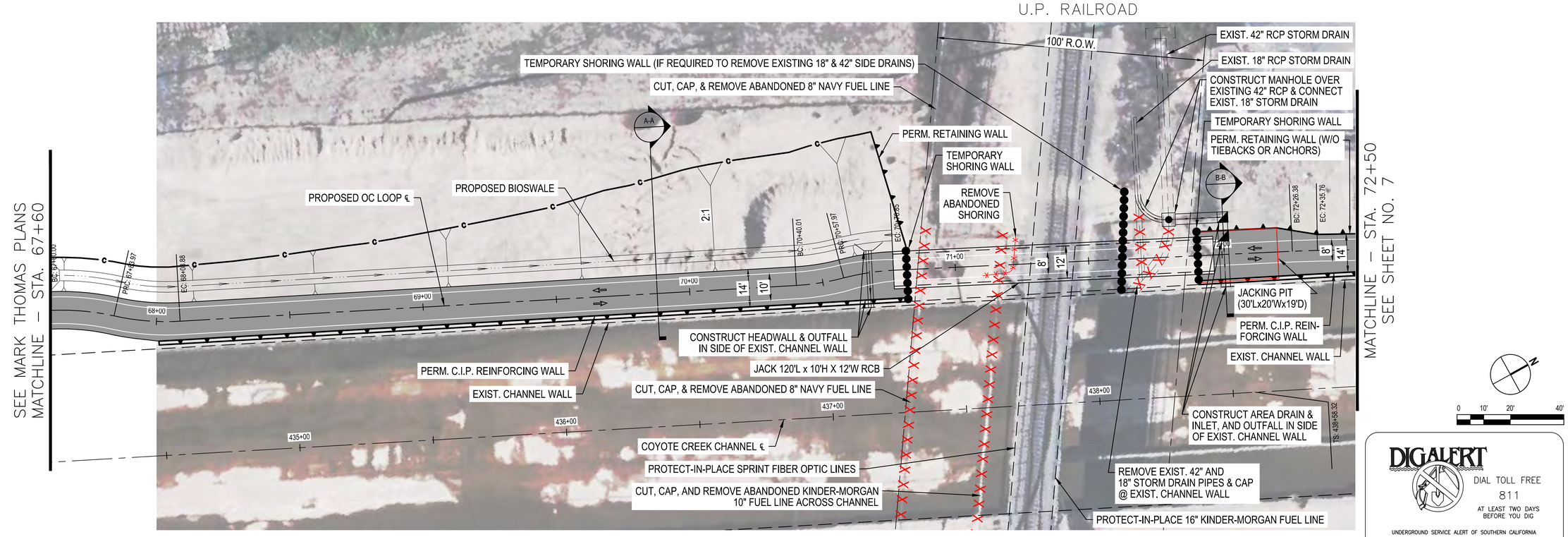
SHEET

OF

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Plotted By: Myung Choo
Plot Date: 7 April 2020 - 2:32 PM



Note: These are predesign drawings and subject to modification during design.



DIGALERT
DIAL TOLL FREE
811
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

COUNTY OF ORANGE CALIFORNIA

MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:

DRAWING NO: C-106
FILE NAME: 11206772-DC-Corr-UP-Firestone-I5.dwg
PLOT DATE: ####
SCALE: AS SHOWN

County of Orange
OC Public Works

PREPARED BY:
GHD Inc.
3200 Bristol Street, Suite 200
Irvine California 92618 USA
T 1 949 648 5200
F 1 949 648 5299
W www.ghd.com

OC LOOP
SEGMENTS O, P, Q
STA 68+50 TO STA 73+50

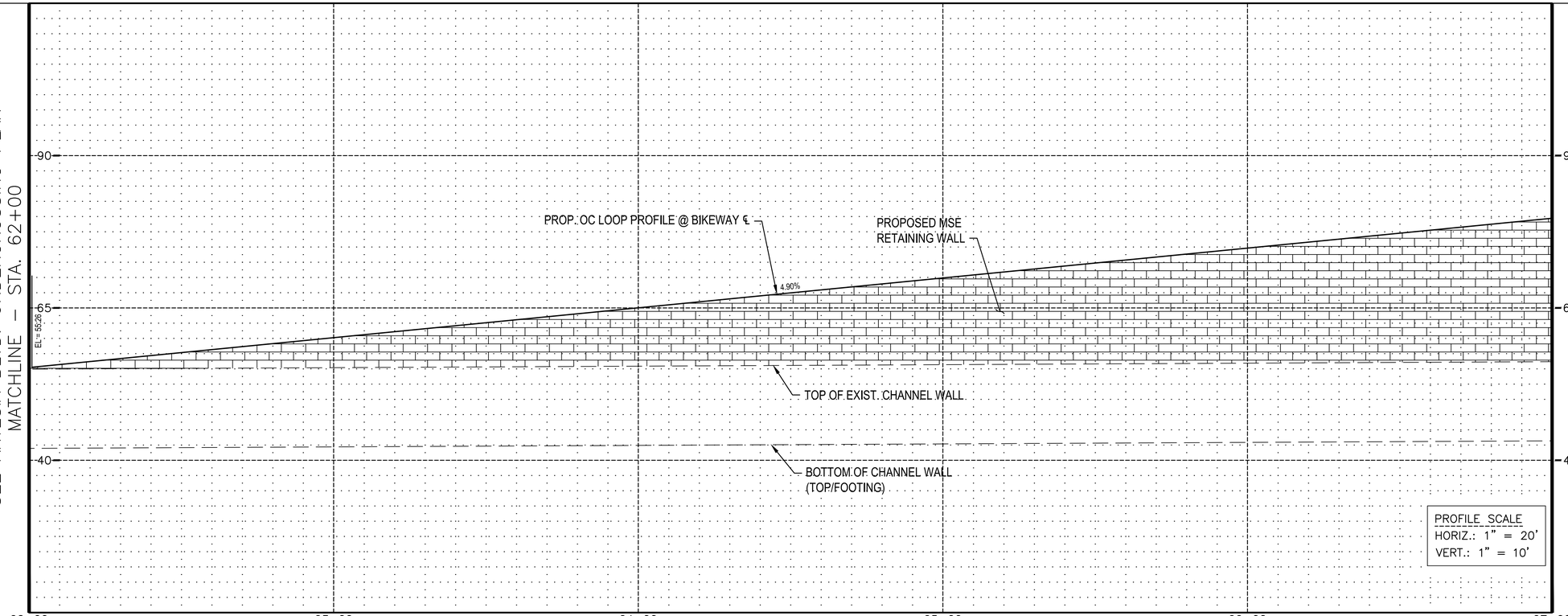
UPRR BOX-JACK UNDERCROSSING

SHEET
C-106
6 OF 15

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Plot Date: 4 April 2020 - 2:45 PM

SEE ARTESIA BLVD. UNDERCROSSING PLAN
MATCHLINE – STA. 62+00

SEE SHEET C-106B
MATCHLINE – STA. 67+00

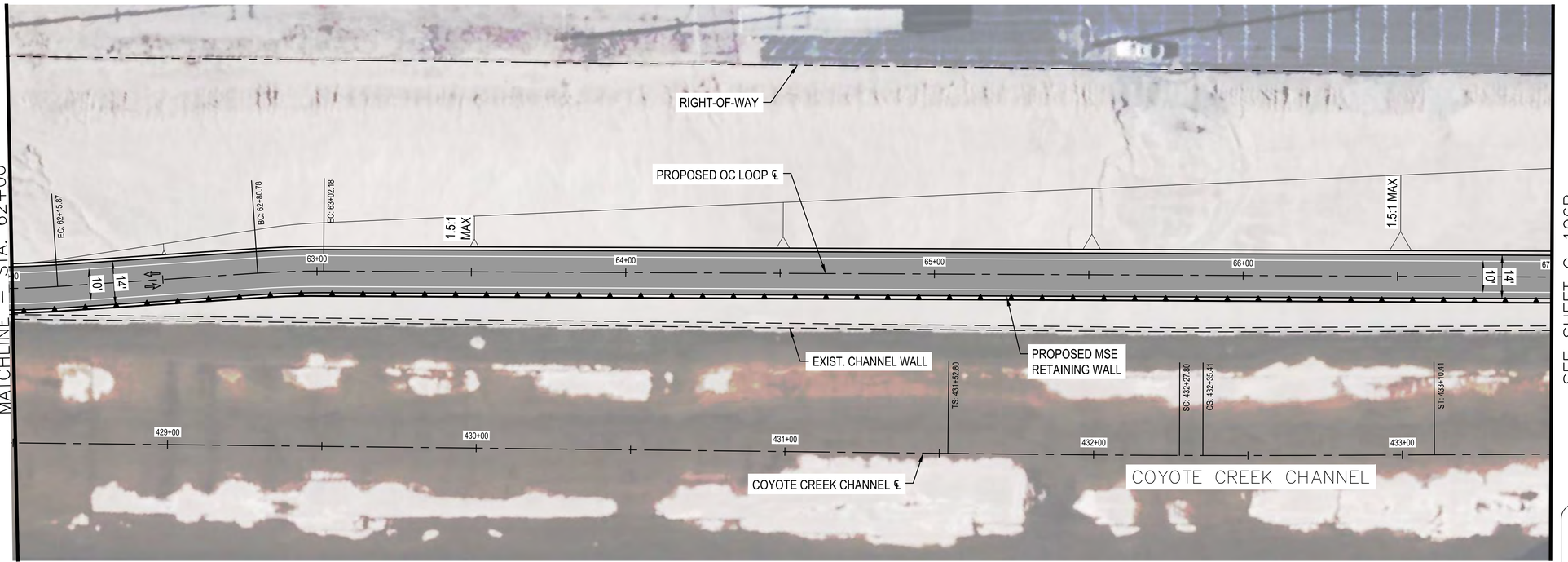


PROFILE SCALE
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VERT.: 1" = 10'

Note: These are predesign drawings and subject to modification during design.

SEE ARTESIA BLVD. UNDERCROSSING PLAN
MATCHLINE – STA. 62+00

SEE SHEET C-106B
MATCHLINE – STA. 67+00



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CALIFORNIA

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FILE NAME: 112067720C-Com-UP-Overcrossing.dwg
PLOT DATE: ####
SCALE: AS SHOWN

County of Orange
OC Public Works

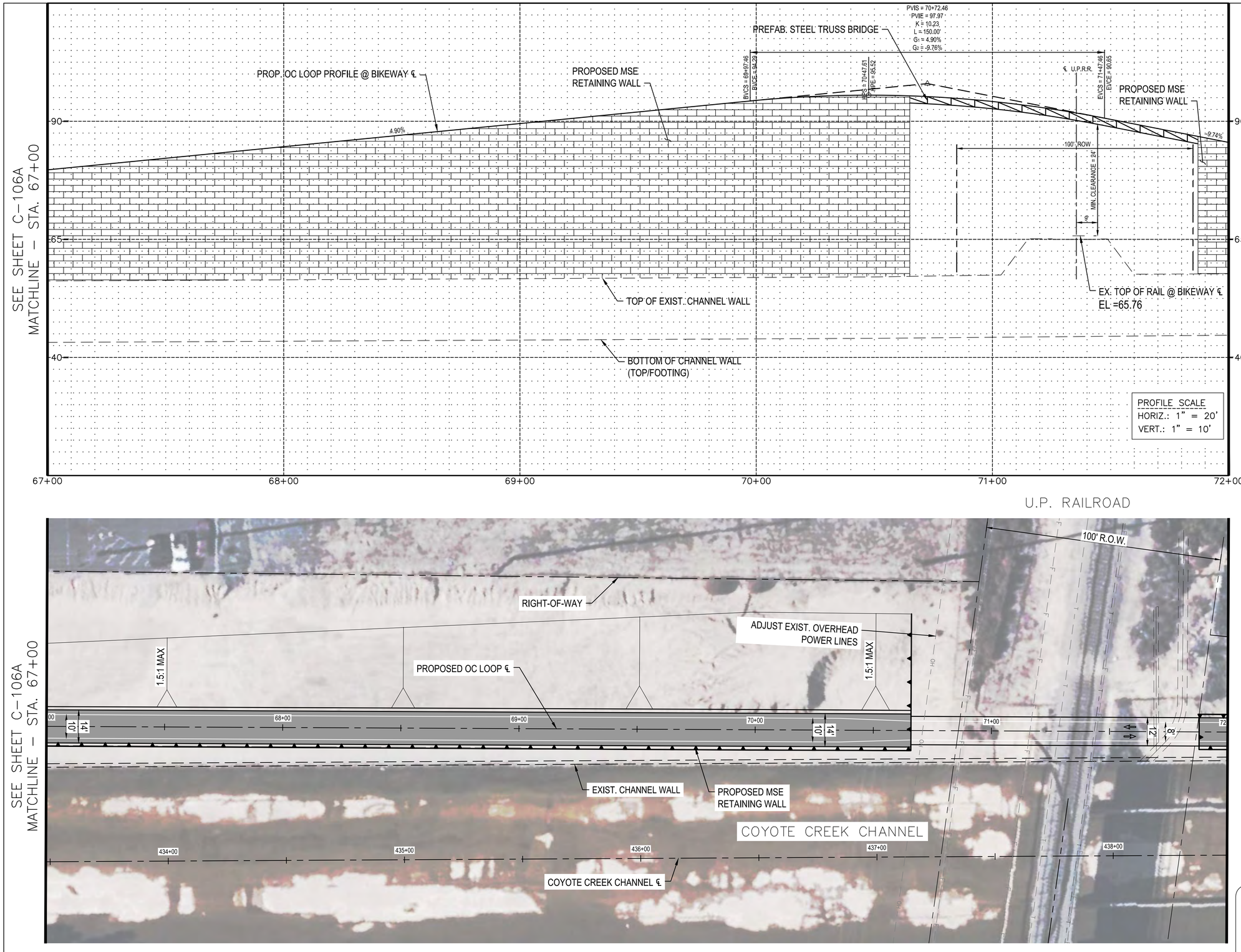
PREPARED BY:
GHD Inc.
2000 Main Street, Fifth Suite 200
Irvine California 92618 USA
T 1 949 648 5200
F 1 949 648 5299
W www.ghd.com

OC LOOP
SEGMENTS O, P, Q
STA 68+50 TO STA 73+50

UPRR
OVERCROSSING
1 OF 3

SHEET
C-106A
6 OF 15

Plotted By: Myung Choo
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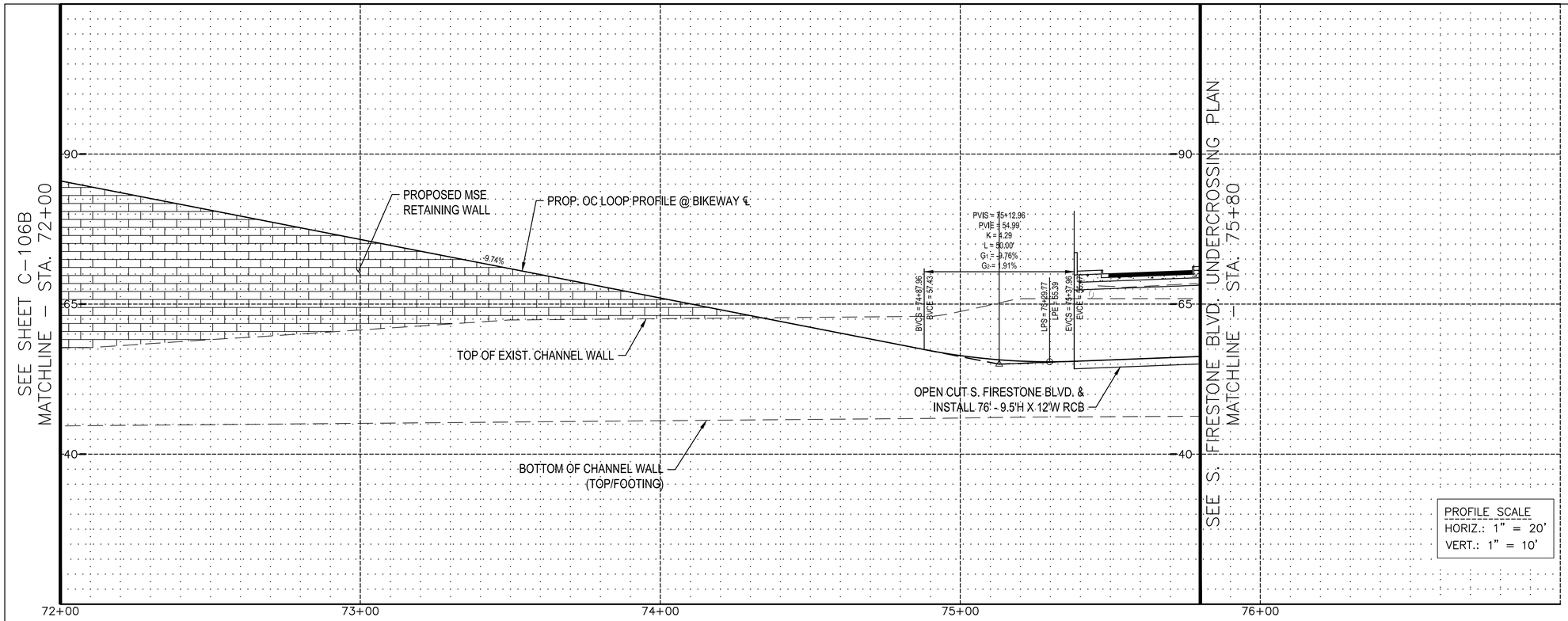
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Irvine California 92618 USA
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F 1 949 648 5299
W www.ghd.com

OC LOOP
SEGMENTS O, P, Q
STA 68+50 TO STA 73+50

UPRR OVERCROSSING 2 OF 3

SHEET
C-106B
6 OF 15

Plotted By: Myung Choo
Plot Date: 9 September 2020 - 5:04 PM
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Note: This is C-107 with the alternative bridge design.

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PLOT DATE: ####
SCALE: AS SHOWN

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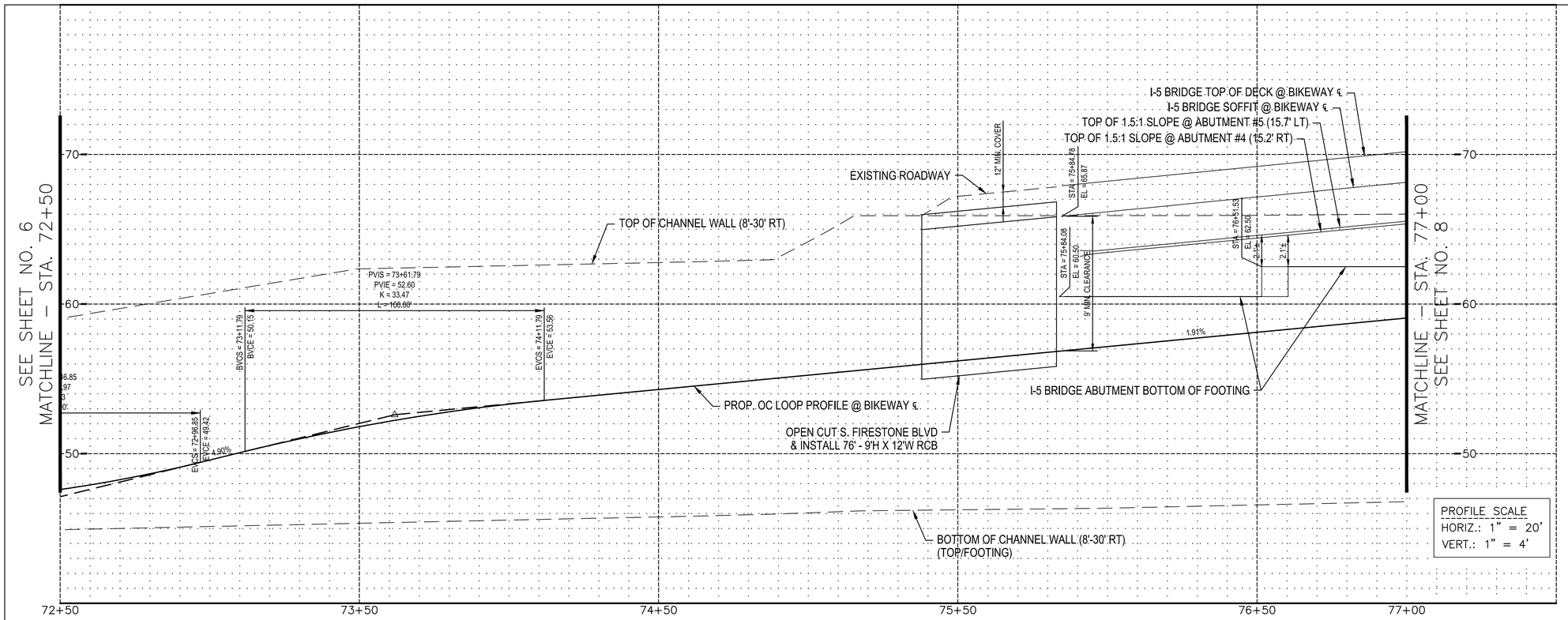
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Irvine California 92618 USA
T | 1 949 648 5200
F | 1 949 648 5299
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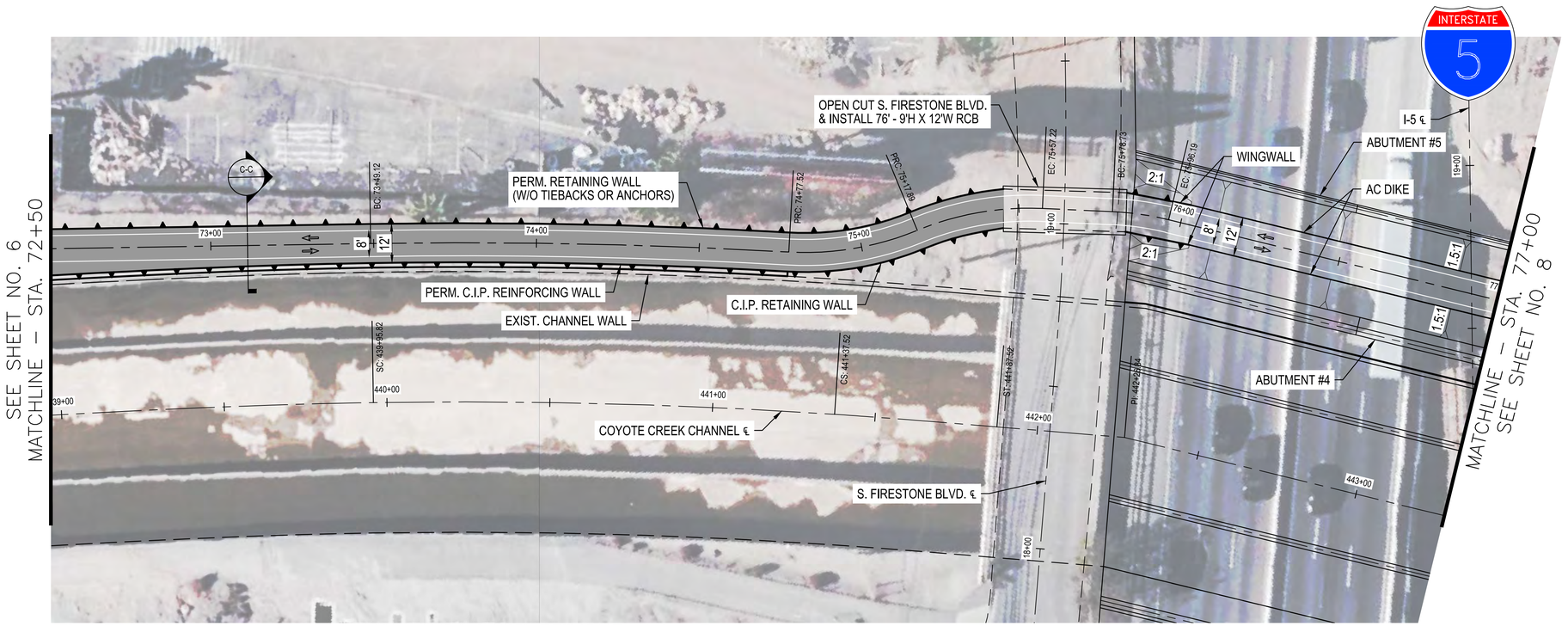
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SEGMENTS O, P, Q
STA 68+50 TO STA 73+50

UPRR
OVERCROSSING
3 OF 3

SHEET
C-107
6 OF 15

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Plot Date: 9 September 2020 - 5:04 PM





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0 10' 20' 40'

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SCALE: AS SHOWN

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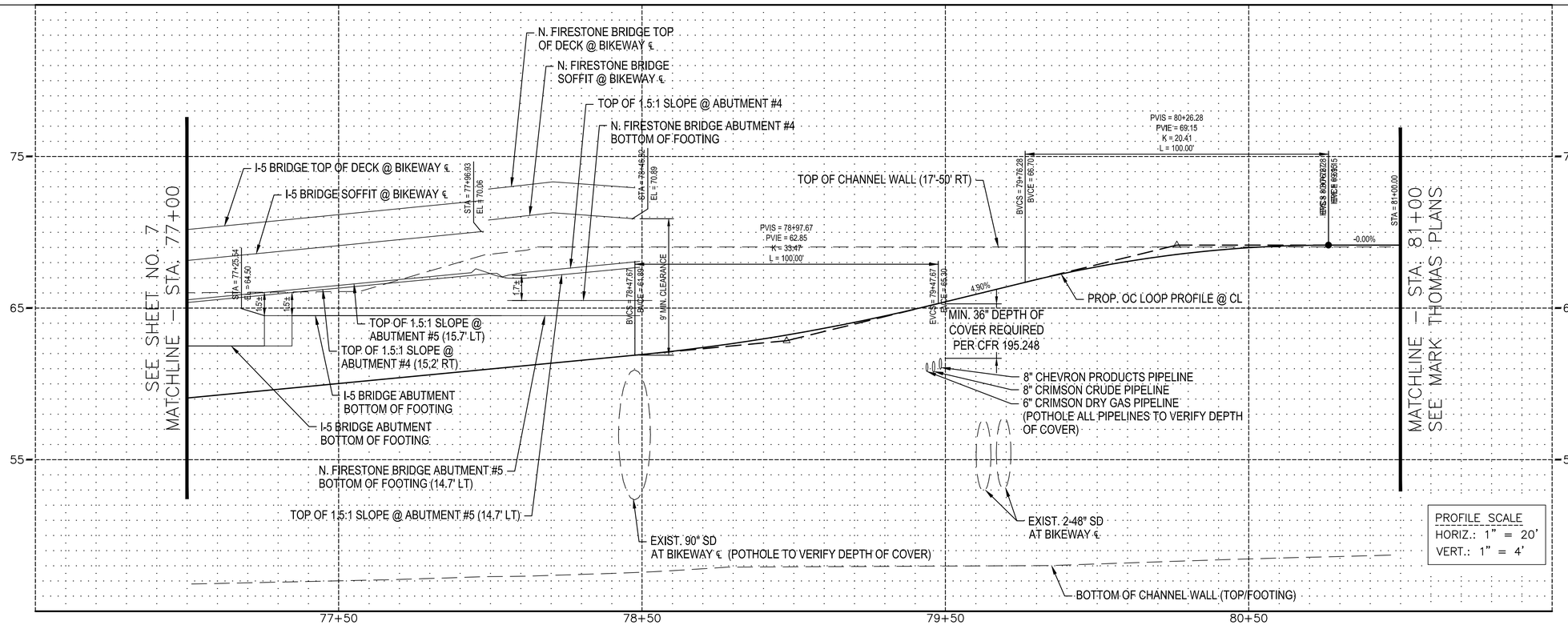
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OC LOOP
SEGMENTS O, P, Q
STA 73+50 TO STA 78+00

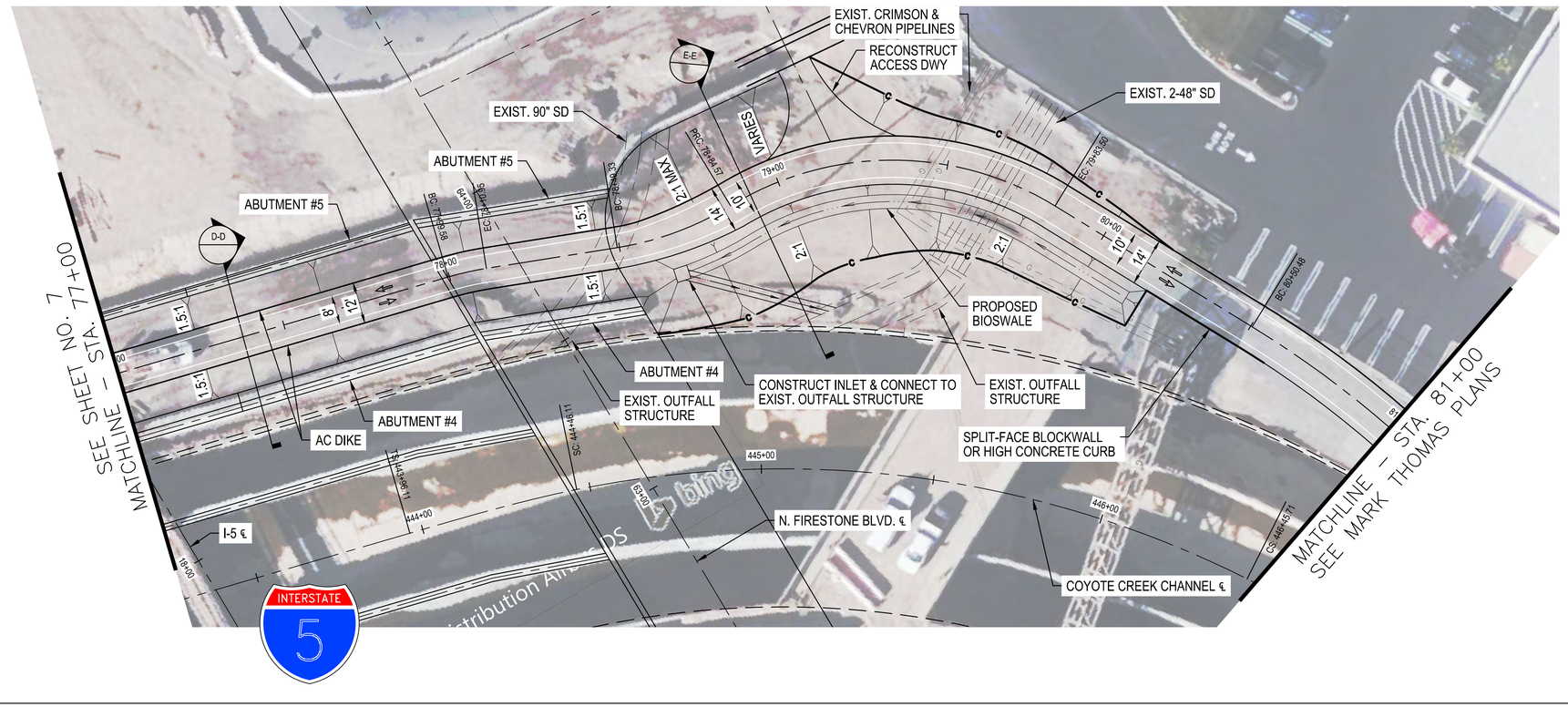
S. FIRESTONE & I-5 UNDERCROSSING

SHEET
C-107
7 OF 15

Plotted By: Elvia Hall
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Plot Date: 1 April 2020 - 11:59 AM



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PLOT DATE: ####
SCALE: AS SHOWN

County of Orange OC Public Works

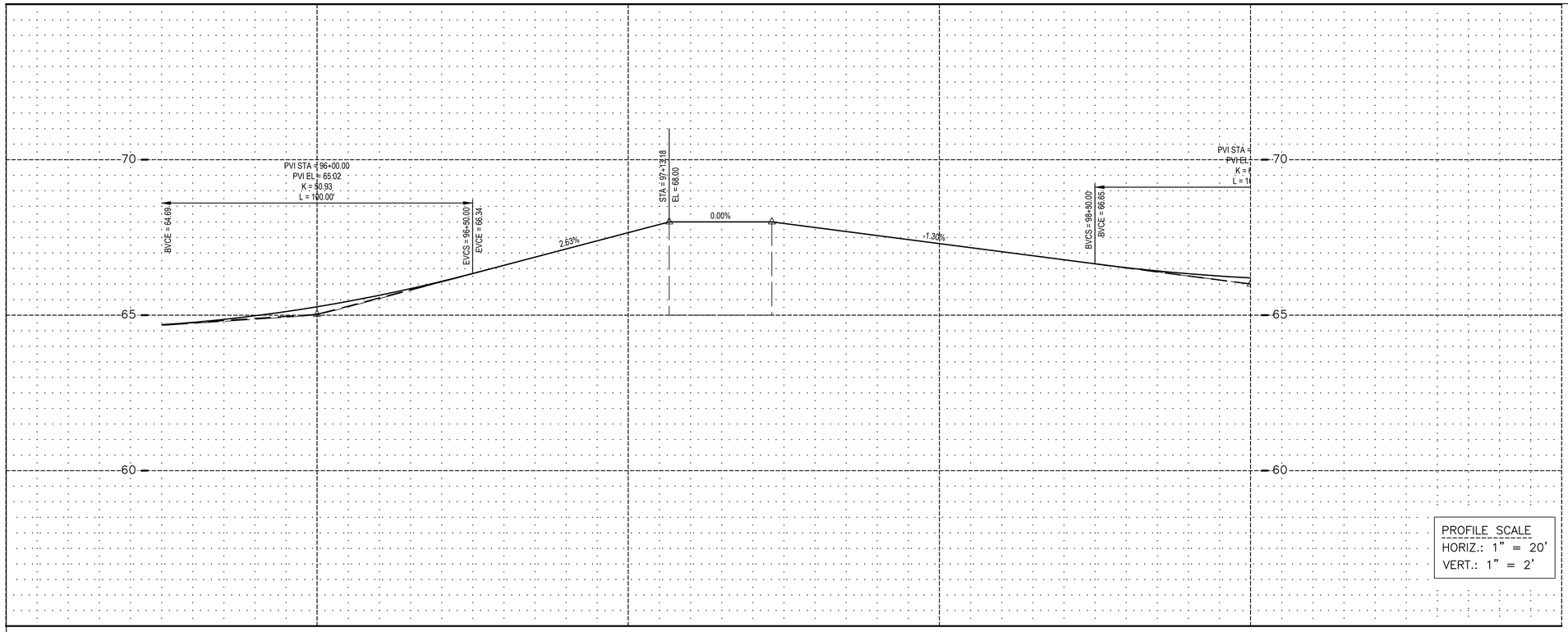
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3001 Dallas Parkway, Suite 200
Irvine, California 92618 USA
T 1 949 648 5200
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W www.ghd.com

OC LOOP
SEGMENTS O, P, Q
STA 78+00 TO STA 82+00

I-5 & N. FIRESTONE CROSSING

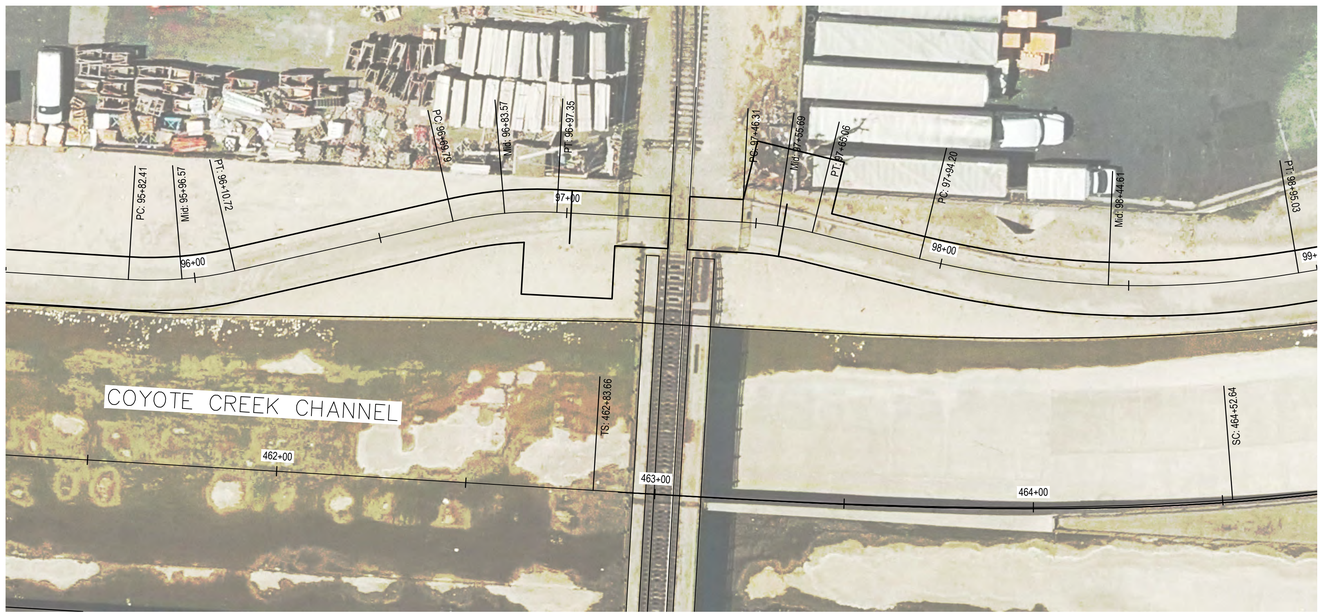
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Plotted By: Erika Hall
Plot Date: 2 April 2020 - 2:07 PM



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B.N.S.F. INDUSTRIAL LEAD TRACK



N

0 10' 20' 40'

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PLOT DATE: ---
SCALE: AS SHOWN

County of Orange
OC PublicWorks

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F 1 949 848 5289
W www.ghd.com

SEGMENTS O, P, Q
STA 95+50 TO STA 99+00

BNSF INDUSTRIAL LEAD AT-GRADE CROSSING

SHEET
C-110
10 OF 15

Plot Date: 9 April 2020 - 4:28 PM
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SEE MARK THOMAS PLANS
MATCHLINE – STA. 124+50

MATCHLINE – STA. 129+50
SEE SHEET NO. 12

STA = 126+54.95
EL = 97.28

STA = 126+69.77
EL = 97.73

STA = 126+85.44
EL = 97.53

PROTECT-IN-PLACE
INACTIVE AT&T CABLES

PROTECT-IN-PLACE EXIST. AT&T DUCT BANK IN CONCRETE BOX GIRDER

EXTEND SHAFT SHORING SYSTEM ABOVE GROUND
TO PROTECT FROM INCIDENTAL RAINFALL
RUN-OFF & TO PROTECT WORKERS

EX. TOP OF RAIL
@ BIKEWAY ℄

EG @ BIKEWAY ℄

TOP OF CHANNEL WALL (8' RT)

CUP, CAP, & REMOVE ABANDONED
8" CHEVRON OIL PIPELINE

TOP OF CHANNEL WALL (10' RT)

PVI STA = 125+45.00
PVI EL = 73.00
K = 18.52
L = 100.00'

PVI STA = 127+94.00
PVI EL = 74.25
K = 22.71
L = 100.00'

REMOVE EXIST. 36" SIDE DRAIN

REMOVE EXIST. 24" SIDE DRAIN

BVCS = 124+95.00
BVCE = 75.45

EVCS = 125+95.00
EVCE = 73.25

BVCS = 127+44.00
BVCE = 74.00

EVCS = 128+44.00
EVCE = 76.70

4.90%

0.59%

PROPOSED SIDE DRAIN

PROP. OC LOOP PROFILE @ CL

PROPOSED SIDE DRAIN

BOTTOM OF CHANNEL WALL (8' RT)

JACK 144'L x 10'H x 12'W BOX

JACKING PIT (30'Lx20'Wx21'D)

BOTTOM OF CHANNEL WALL (10' RT)

SHAFTS ARE SHOWN FOR PLANNING PURPOSES ONLY. SHAFT VOLUME SHOWN DOES NOT IMPLY THE AREA IS FREE OF UTILITIES. CONTRACTOR IS TO RELOCATE OR PROTECT IN PLACE ALL CONFLICTING UTILITIES. CONTRACTOR IS TO SIZE, LOCATE, AND DESIGN SHAFT FOR THEIR CONSTRUCTION MEANS AND METHODS AND IN COMPLIANCE WITH THE SPECIFICATIONS (TYPICAL)

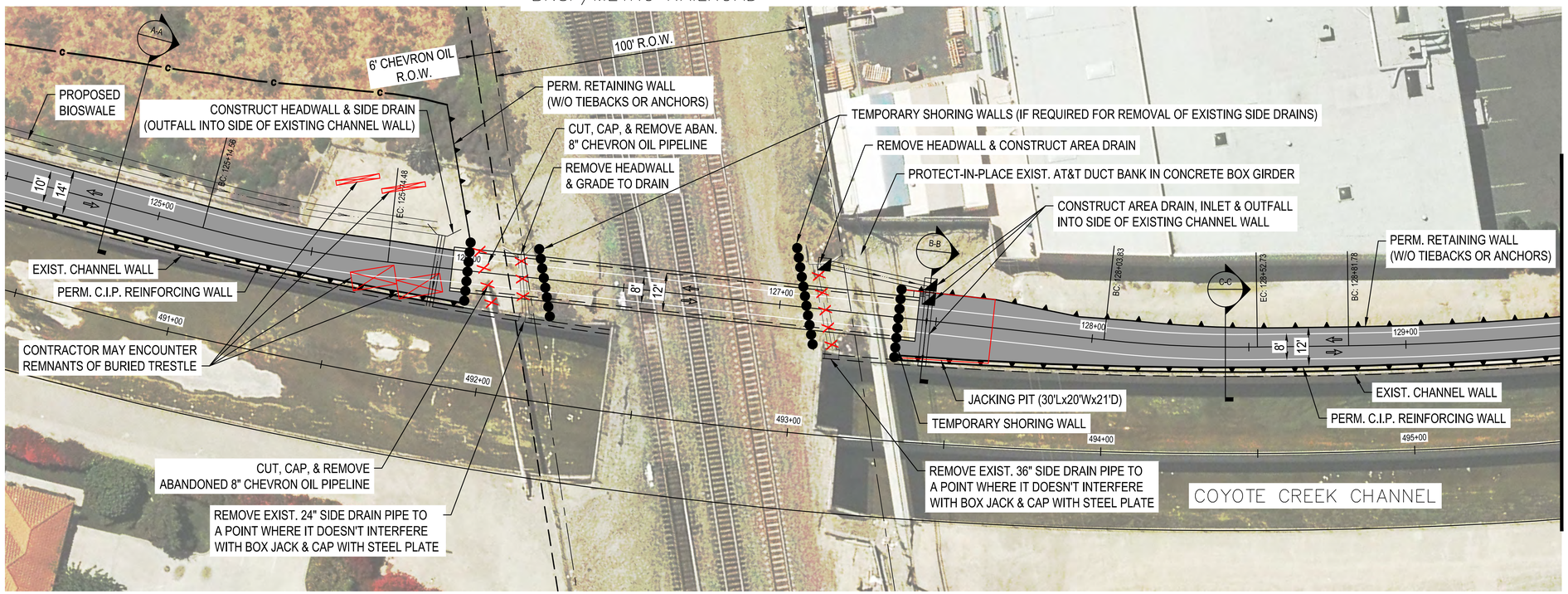
PROFILE SCALE
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VERT.: 1" = 4'

95
85
75

124+50 125+50 126+50 127+50 128+50 129+50

Note: These are predesign drawings and subject to modification during design.

BNSF/METRO RAILROAD



MATCHLINE – STA. 129+50
SEE SHEET NO. 12

0 10' 20' 40'

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COUNTY OF ORANGE CALIFORNIA

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PLOT DATE: ####
SCALE: AS SHOWN

County of Orange
OCPublicWorks

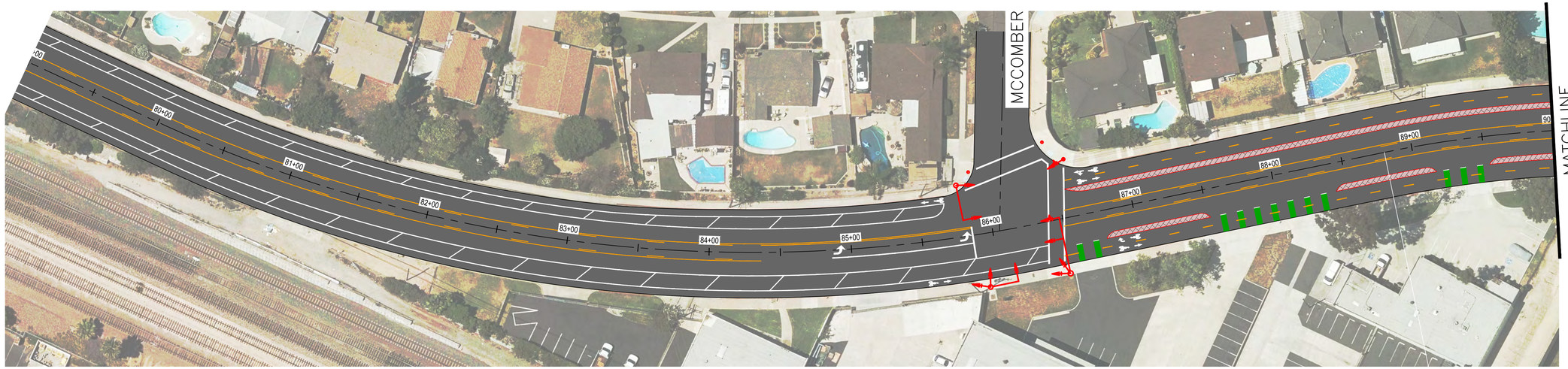
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Irvine California 92618 USA
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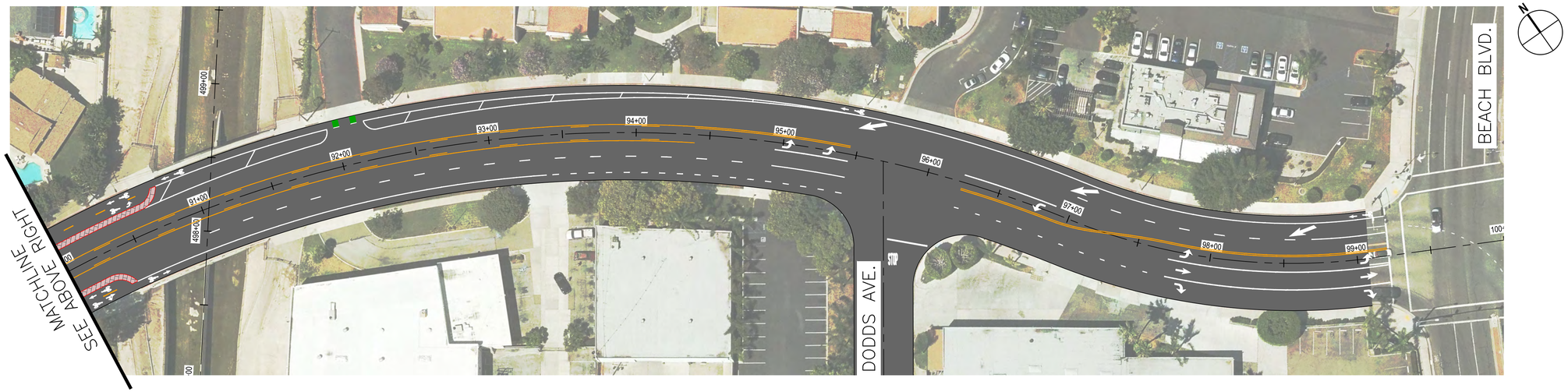
OC LOOP
SEGMENTS O, P, Q
STA 124+50 TO STA 129+50

BNSF/METROLINK
BOX-JACK
UNDERCROSSING

SHEET
C-111
11 OF 15

Filename: N:\US\Irvine\Projects\61\11290772\Digital_Design\ACAD 2018\Civil 3D\112907724DC-Com-BNSF.dwg
Plotted By: Erika Hall
Plot Date: 3 April 2020 - 8:07 AM





Note: These are predesign drawings and subject to modification during design.

0 20' 40' 80'

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FILE NAME: 11260772-Fig-StageRd-Prelim.dwg
PLOT DATE: ####
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OC PublicWorks

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300 Goddard Way Suite 200
Irvine California 92618 USA
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OC LOOP
SEGMENTS O, P, Q
STAGE RD. CROSSING

ALTERNATIVE 2

SHEET
2
2 OF 2

Plot Date: 2 April 2020 - 11:26 AM
Plotted By: Myung Choo
Filename: N:\US\Irvine\Projects\58\11260772\Digital_Design\ACAD 2018\Figures\11260772-Fig-StageRd-Prelim.dwg

APPENDIX A4

BRIDGE TYPE SELECTION REPORT

Bridge Type Selection Report

OC Loop Segments O, P, and Q Project

Bridges #1 and #6

County of Orange, California

Prepared for:

ORANGE COUNTY
OC PublicWorks

601 N. Ross St.
Santa Ana, CA 92701

Prepared by:

GHD Inc.

320 Goddard Way, Suite 200

Irvine, California 92618 USA

Contact Person: Amir Kangari, P.E., S.E.

Contract No. MA-080-20010599

April 2020

DRAFT

Table of Contents

1. Introduction 1
2. Bridge Descriptions 6
3. Bridge Design Criteria 6
4. Alternatives Considered 6
5. Bridge No. 1 Renderings 14
6. Bridge No. 6 Renderings 15
7. Bridge Construction Considerations 16
8. Preliminary Foundation Report 16
9. Seismic Design 16
10. Right-of-way 16
11. Lighting and Aesthetics 16

Appendix A: Proposed Bridge No. 1 and No. 6 - General Plan, Elevation, and Typical Section

Bridge Type Selection Report for Bridges 1 & 6

OC Loop Segments O, P, Q

1. Introduction

A gap in the 66-mile regional bikeway corridor, the OC Loop, is along the length of the Coyote Creek flood control channel, upstream and downstream of the Santa Ana Freeway (I-5). This gap is designated as segments O, P, and Q. The OC Loop Segments O, P, Q (proposed project) begins at the existing Coyote Creek Bikeway (cities of Cerritos and La Palma) where the flood channel divides into north and east forks, running 2.7 miles connecting to another portion of the Coyote Creek Bikeway at La Mirada Blvd./ Malvern Ave. in the cities of Buena Park and La Mirada. The Los Angeles County Flood Control District owns the majority of the property required for this project. See Figures 1 and 2 below for Vicinity Map as well as the OC Loop overview & Gap Segment Map.

Six structural sites, including two major control channel crossings are key elements of the project and necessary to traverse existing transportation assets in order to extend and complete the OC Loop bikeway corridor. The two proposed Coyote Creek flood channel crossings will be addressed in this Type Selection report, they are structure No.'s 1 and 6 within the proposed OC Loop limits.

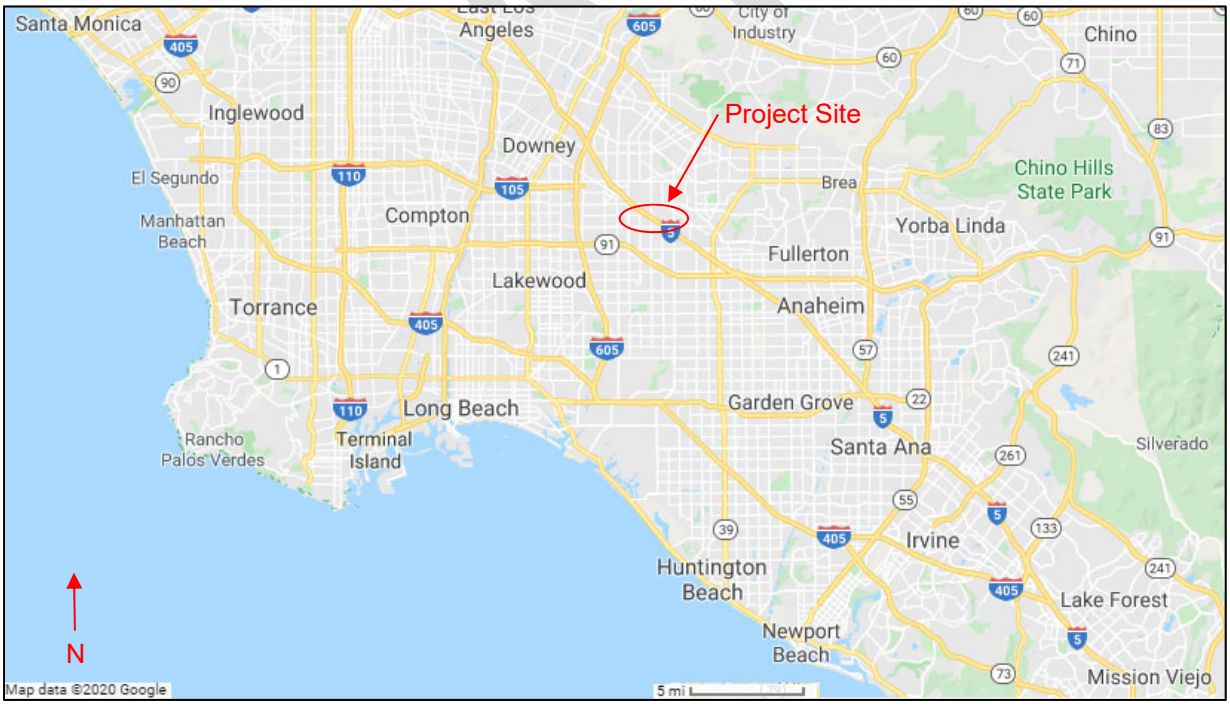


Figure 1: Vicinity Map

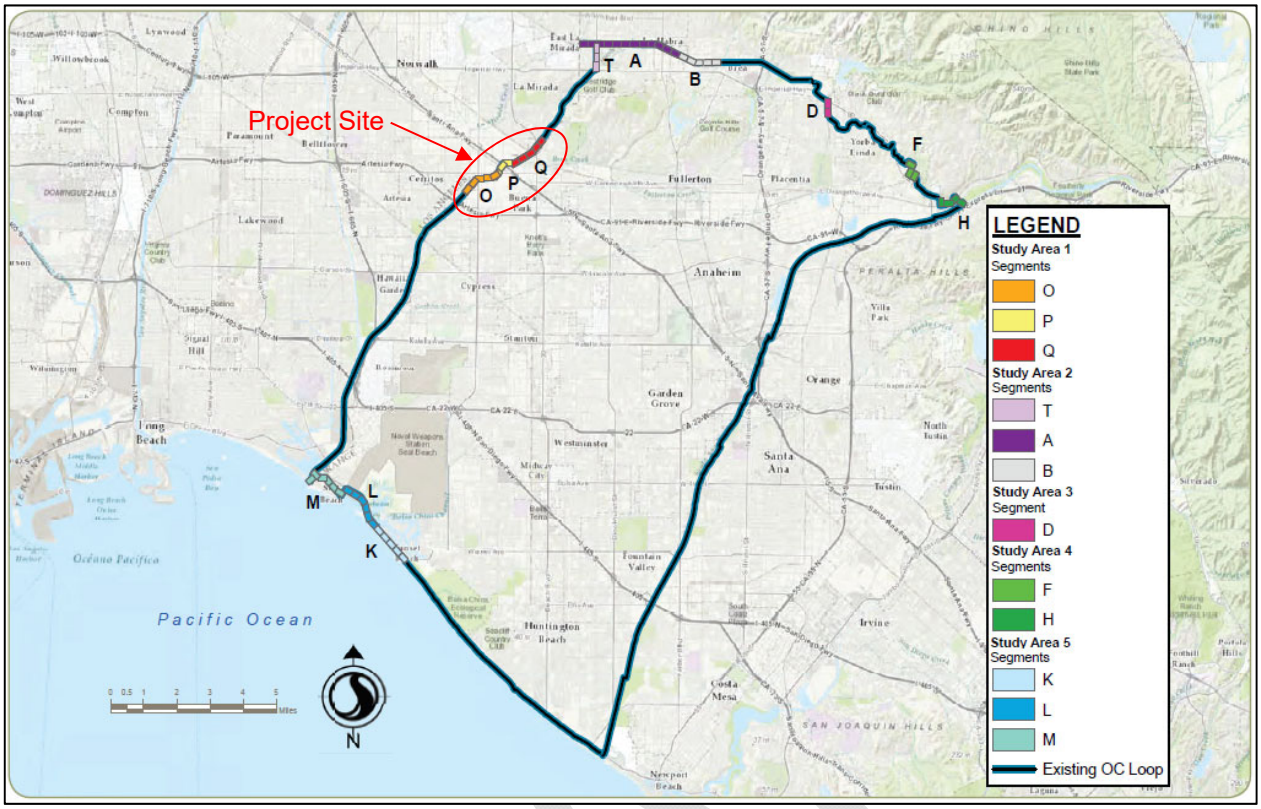


Figure 2: OC Loop Overview & Gap Segment Map

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Bridge #1: Coyote Creek Bikeway 1

Bridge #6: Coyote Creek Bikeway 3

Figure 3: Project Location Map – OC Loop segments O, P, Q

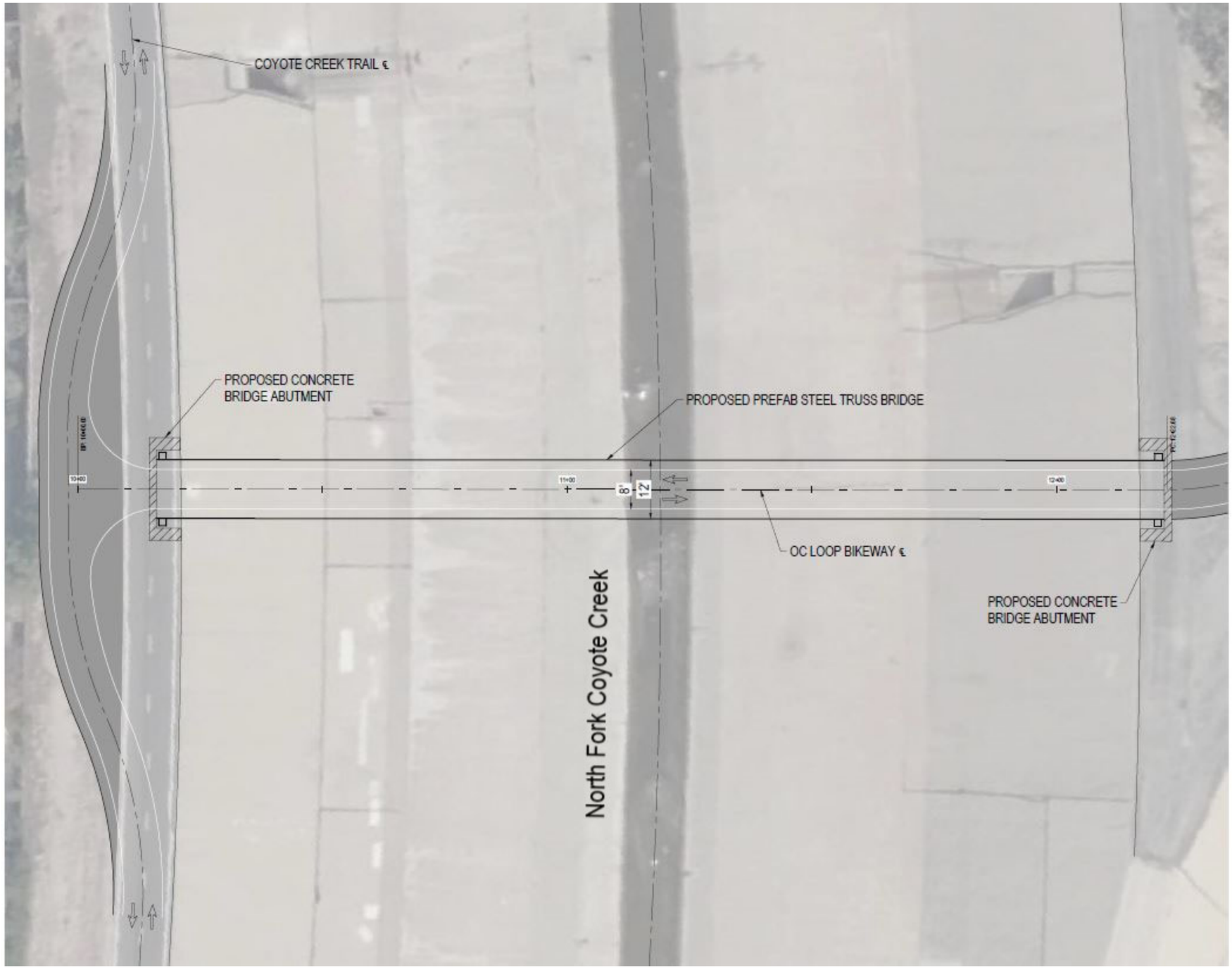


Figure 4: Bridge Location Map – Bridge #1: Coyote Creek 1 Bikeway Bridge

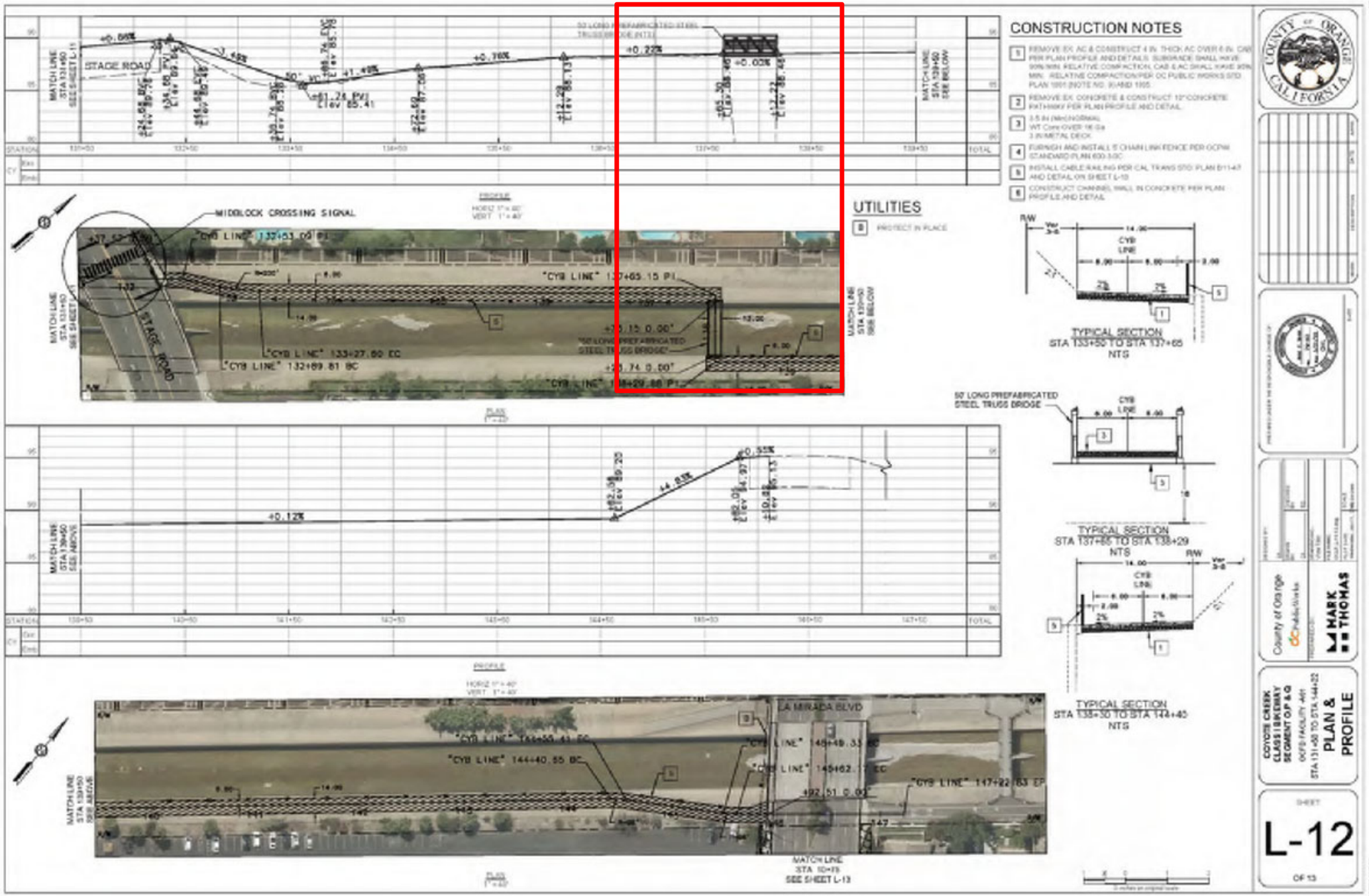


Figure 5: Bridge Location Map – Bridge #6: Coyote Creek 3 Bikeway Bridge

2. Bridge Descriptions

Bridge No. 1 is proposed at the beginning of Segment O, where the Coyote Creek flood channel divides into the north and east fork. It is proposed to be 202-ft long and 12-ft clear width, founded on two abutments with no intermediate supports within the channel. At 207-ft length, this bridge would typically justify an intermediate bent/ pier. However, due to the sensitive hydraulics in the channel at this location, coupled with the aged channel lining/ concrete, it was determined that the best alternative would be to span Coyote Creek flood channel completely and not to include any intermediate supports.

Bridge No. 6 is near the end in Segment Q, approximately 560-ft upstream of the State Road at grade crossing. The structure is proposed to be 65-ft long and 12-ft clear width, founded on two abutments with no intermediate supports within the channel.

See Figures 2, 3, and 4 for Project Location Map and each Bridge Location Map.

Each of the two bridges will carry a Class 1 (off-road, paved) Bikeway and pedestrians and be comprised of a prefabricated steel truss superstructure with wooden deck. GHD Inc. (GHD) will design the abutments for the bridges and work closely with the manufacturers of the prefabricated steel truss bridges to ensure superstructure design and plans are compliant with governing bridge design criteria and align with substructure design and overall OC Loop design as well. See Appendix A for General Plan sheets of both bridges.

3. Bridge Design Criteria

Project bridge and foundation designs will follow the latest editions of the following bridge manuals:

- AASHTO LRFD (Load and Resistance Factor Design) Guide Specifications for the Design of Pedestrian Bridges dated December 2015;
- AASHTO Guide Specifications for LRFD Seismic Bridge Design Specifications 2nd Edition with 2015 Interim Revisions.

Scour loading combinations will use the latest Caltrans standard:

- AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments.

Following the above specifications, the pedestrian bridges will be designed for 90 lbs per square ft pedestrian and H10 truck loading, a 20,000 lb truck. The wood deck or composite FRP will be checked for the point load of a truck wheel load.

4. Alternatives Considered

Both alternatives of concrete and steel superstructures are viable at both bridge sites. However, the bid RFP specifies prefabricated steel pedestrian bridges. Therefore, our focus will be on alternatives within steel prefabricated bridges.

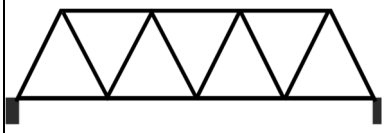
Additionally, steel truss bridges are already in use in Orange County, as part of existing trail and bikeway networks, to span creeks and streams. Steel truss bridges also offer a more pleasing aesthetic than the concrete trail and bikeway bridges.

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Truss Structure Configurations

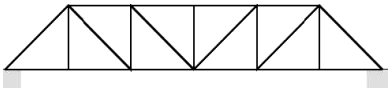
Truss bridges are comprised of load-bearing superstructures, comprised of connected elements forming units. The connected elements are typically straight and may be stressed from tension, compression, or sometimes both, in response to dynamic loads. Truss configurations considered for each bridge site are summarized below. Options are evaluated in the Type Selection Matrix.

- **Warren Truss**: Connected elements create equilateral triangles to alternate tension and compression members thereby spreading loads out along the length of the bridge



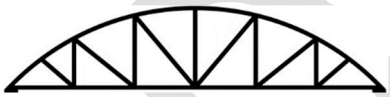


- **Pratt Truss**: Truss includes vertical components between upper and lower members and diagonal members sloping towards the middle. The diagonals act as tension and verticals are compression.





- **Bowstring Truss**: Truss consists of an arched beam (the bow) joined with both vertical and diagonal components. The “bow” meets the bottom member at both ends.



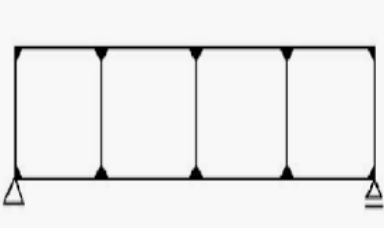


- **Modified Bowstring Truss:** Similar to a standard bowstring truss, the modified truss ends short of the bot meeting the bottom stringer and is instead connected by vertical components





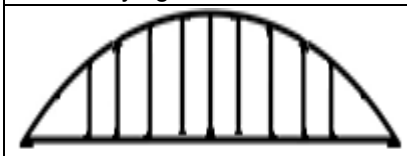
Vierendeel Truss: Structure where members for rectangular openings, framed with fixed joints to resist bending moments.







- **Tied Arch Truss:** Truss in which the outward direction horizontal forces of the arch are borne by a chord tying the arch ends, rather than by the ground or bridge foundations.







Truss Bridge Material and Finish Selection

- **Material Options**: Two main material options for the bridge crossings are steel and aluminum. Steel is efficient, versatile, and ideal for long-lasting structures. Aluminum is more lightweight and good for corrosive environments. Based on project location and needs, the team recommends the use of Steel.
- **Finish Options:** Steel has three standard finish options: Weathered, painted, or galvanized.



Weathered: Forms a rust-like appearance after years of weather exposure.



Painted: Adds protective layer of paint and can enhance the appearance of the bridge

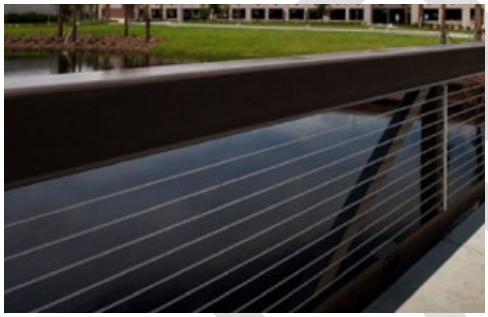
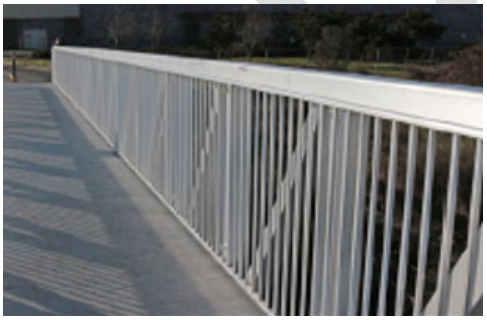


Galvanized: Hot-dipped chemical zinc process after fabrication. Protects the metal and extends service life.

Finish options are evaluated in the Type Selection Matrix below.

Bridge Railing Styles

There are four main railing styles available. They are:

	**Horizontal:** Most economical and classical choice for recreational / pedestrian bridges
	**Mesh:** Versatile with an array of opening sizes. Discourages climbing while maintaining the view. Also eliminates debris from passing through to the channel below.
	**Cable:** Ideal for highlighting panoramic vistas as it allows for the best view. Modern and minimal while still meeting code.
	**Vertical Picket:** Economical and discourages climbing, but can impede views.

Each railing type will be evaluated in the Type Selection Matrix below.

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Bikeway Deck Options

The riding surface, deck, options for the bikeway structures are split into two categories:

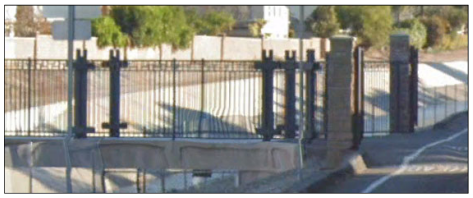
- **Natural Wood** – Typically is categorized into hard or soft wood options. Natural woods must be treated (pressure, stain, paint) to increase longevity and prevent deformation over time and exposure to elements. Wood decks can be shop installed but also may be installed plank by plank after bridge is set to reduce structure lifting weight.
- **Engineered Wood**- Includes materials such as composite and FRP and are typically longer lasting and more durable than natural wood options. Additionally, they are available in a variety of surface textures, able to mimic natural wood or provide additional slip resistance for pedestrian applications.

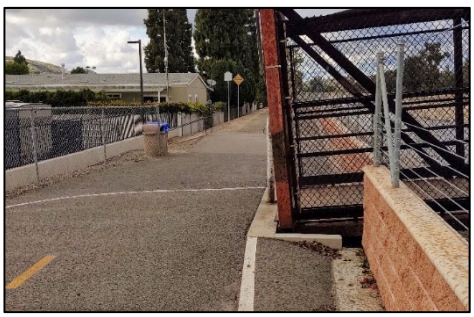
	
Hardwood: A hard, dense, wood providing greater dimensional stability and uniform smooth riding surface.	**Soft wood:** Treated with preservatives to prevent rot in moist or high-humidity environments. Less uniform than Hardwood.
	
Composite: A combination of industrial wood waste and recycled plastic materials. It is highly resistant to rot and decay, is pre-colored, and is virtually maintenance free.	**Fiber reinforced plastic:** (FRP) is water resistant, economic to install, and also virtually maintenance free.

Deck options will be evaluated in the Type Selection Matrix below.

Approach Railing

GHD suggests the inclusion of approach railing at each bridge location. This guides users onto the bridge and can match or compliment bridge railing. At Bridge site #1, the channel is sloped and there is no existing fencing/ fall protection into the channel. Approach railing will transition the user onto/ off the bridge. At Bridge site #6, the channel has vertical sides and the current fall protection is chain link fence with barbed wire topping. To create a more aesthetic and user-friendly feel to the bikeway bridge, an approach fence will transition from the existing fence to the bridge type railing selected. Additionally, the use of aesthetic pillars can create a pleasing look while giving the bridge a finite begin and end, similar to what is currently crossing the Coyote Flood Channel, north of La Mirada Blvd, where proposed Segment Q connects to the existing Bikeway.





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Bridge Type Selection Evaluation Matrix

The below bridge type selection matrix evaluated each of the aforementioned bridge components in the categories of Fabrication, Erection, Aesthetics, Cost, and Long-Term Maintenance on a scale of 1 to 5. The overall bridge type selection will be a combined value of each category, the highest score being the preferred alternative.

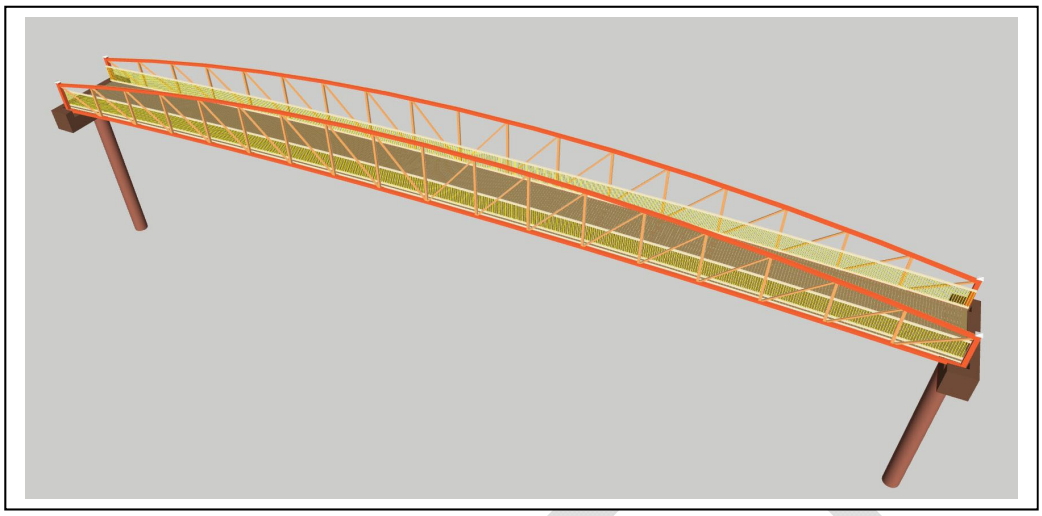
- Fabrication – Refers to the ease of fabrication of the truss, readiness of materials, available suppliers, etc. Score of 5 will be assigned to alternatives with the easiest fabrication process.
- Erection – Refers to the ease of fabrication, how many pieces the truss will need to be split into for transportation, difficulty of assembly at the bridge site, size of equipment required to hoist into final place, etc. Score of 5 will be assigned to the alternatives with the easiest erection process
- Aesthetics – As this is a bikeway and an extension of the OC Loop, the pathway should reflect the area, existing trail aesthetics, and be visually pleasing. Therefore, a score of 5 will be assigned to alternatives with the best aesthetic value.
- Cost – Refers to the overall cost of the alternative, including material availability, readiness, shipping, installation, etc. Score of 5 will be assigned to the alternatives with the lowest cost.
- Long-Term maintenance – Refers to the maintenance effort required over the life-span of the bridge. This may include inspections, material coatings, replacement of components as they wear, etc. Score of 5 will be assigned to the alternatives requiring the least amount of maintenance over the anticipated service life of the bridges.

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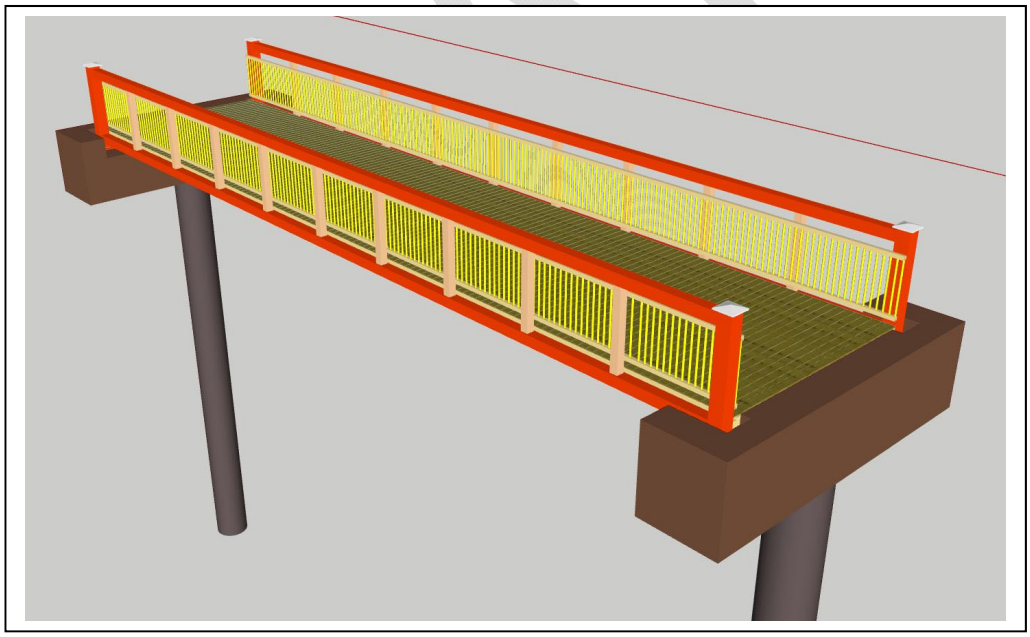
Bridge Type Selection Evaluation Matrix						
Category:	Fabrication	Erection	Aesthetics	Cost	Long-Term Maintenance	Total
Bridge #1: Coyote Creek Bikeway 1 Bridge						
Truss Configurations						
Warren	5	5	3	5	4	22
Pratt	4	5	4	4	4	21
Bowstring	4	5	5	3	3	20
Modified Bowstring	4	5	5	4	4	22
Vierendeel	5	5	3	5	4	22
Tied Arch	2	3	4	2	2	13
Truss Material and Finish						
Weathered Steel	5	5	3	5	5	23
Painted Steel	4	5	4	4	3	20
Galvanized Steel	3	5	5	3	4	20
Railing Style						
Horizontal	5	4	3	5	4	21
Mesh	5	5	4	4	3	21
Cable	5	3	5	3	2	18
Vertical Picket	5	5	3	5	5	23
Bikeway Deck Material						
Natural: Hardwood	5	4	5	4	3	21
Natural: Soft Wood	4	4	4	5	4	21
Engineered: Composite	3	5	3	3	5	19
Engineered: FRP	2	5	2	3	5	17
Bridge #6: Coyote Creek Bikeway 3 Bridge						
Truss Configurations						
Warren	5	5	3	5	4	22
Pratt	4	5	4	4	4	21
Bowstring	4	5	5	3	3	20
Modified Bowstring	4	5	5	4	4	22
Vierendeel	5	5	4	5	4	23
Tied Arch	2	3	4	2	2	13
Truss Material and Finish						
Weathered Steel	5	5	3	5	5	23
Painted Steel	4	5	4	4	3	20
Galvanized Steel	3	5	5	3	4	20
Railing Style						
Horizontal	5	4	3	5	4	21
Mesh	5	5	4	4	3	21
Cable	5	3	5	3	2	18
Vertical	5	5	3	5	5	23
Bikeway Deck Material						
Natural: Hardwood	5	4	5	4	3	21
Natural: Soft Wood	4	4	4	5	4	21
Engineered: Composite	3	5	3	3	5	19
Engineered: FRP	2	5	2	3	5	17

Based on the above truss component alternatives evaluation matrix, GHD recommends the following bridge alternative type at each site:

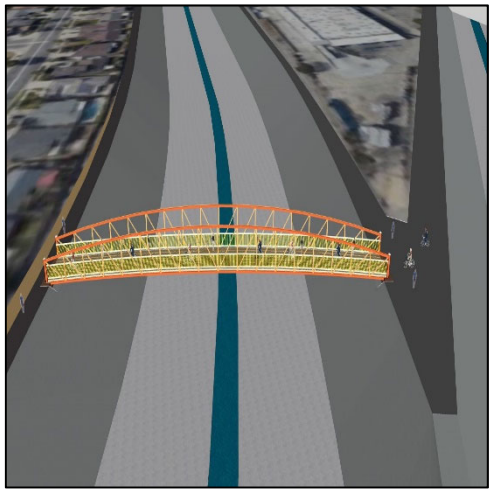
BRIDGE #1 Recommendation: Coyote Creek Bikeway 1 Bridge – Modified Bowstring Truss, Painted Steel, Vertical Picket Railing, Softwood/Composite Deck.

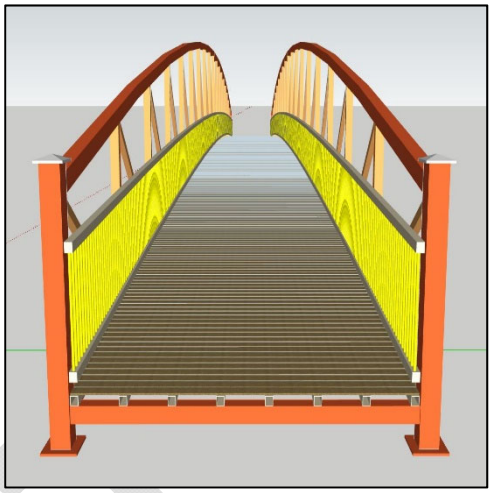


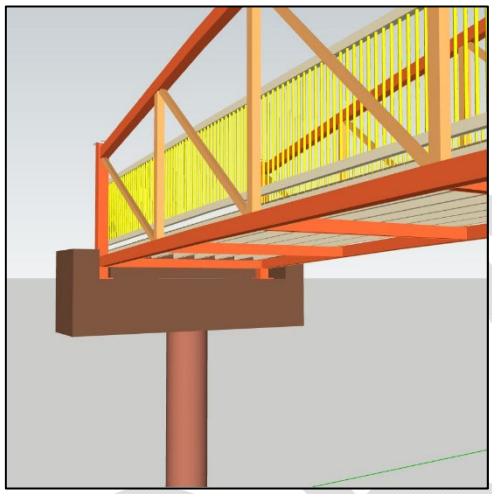
BRIDGE #6 Recommendation: Coyote Creek Bikeway 3 Bridge – Vierendeel Truss, Painted Steel, Vertical Picket Railing, Softwood/Composite Deck

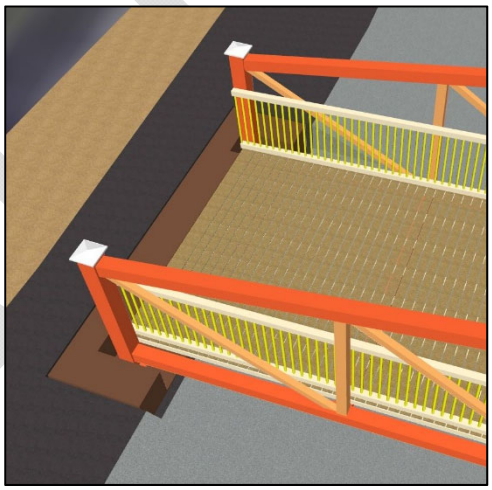


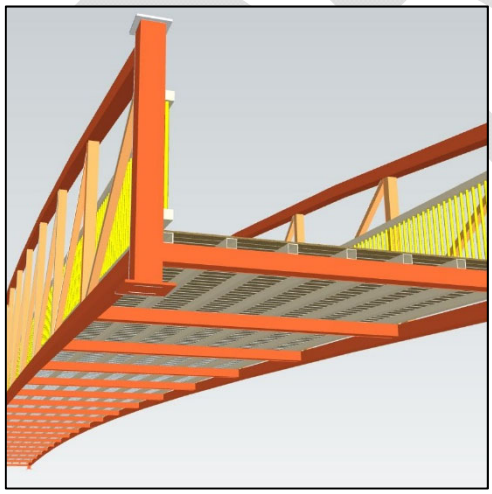
5. Bridge No. 1 Renderings

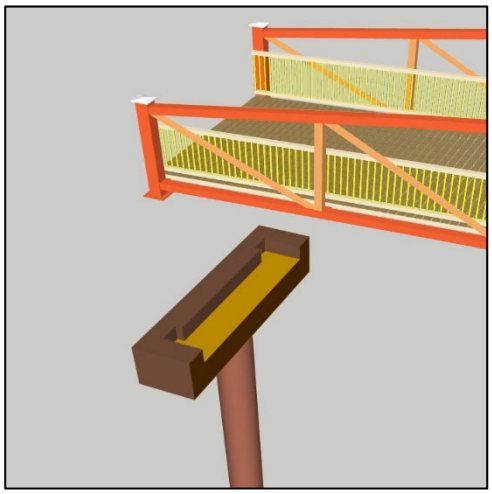




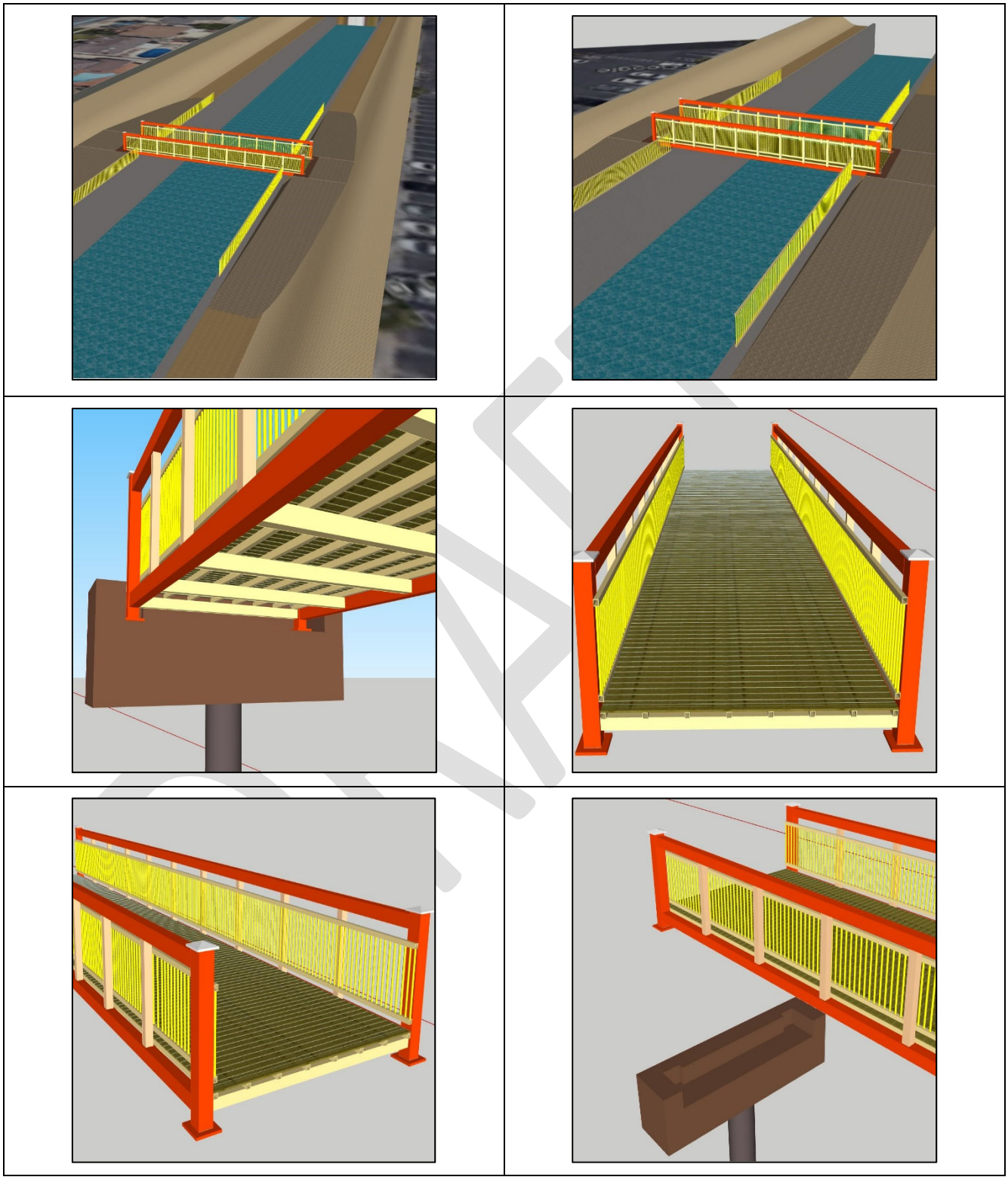








6. Bridge No. 6 Renderings



The following sections in the report will document reasoning for the recommendations here as well as support for assigned scores of components at each bridge site.

7. Bridge Construction Considerations

Suggested means & methods to be provided including information regarding site access, equipment sizing, transportation, crane locations and capacity, and erection methodology.

8. Preliminary Foundation Report

There are no preliminary foundation reports available at this time. Based on adjacent completed project, GHD anticipates that the two bridge sites will be founded on driven deep foundations or CIDH foundations, topped with concrete cast-in-place abutments which rest at their respective channel edge in order to not impede channel hydraulics during extreme events. More information will be provided, including anticipated pile depth, soil data, etc. when the report becomes available.

9. Seismic Design

GHD anticipates seismic design parameters to be provided with the preliminary geotechnical and foundation report(s).

10. Right-of-way

Project construction would take place in both Los Angeles and Orange counties along the 2.7 mile stretch of Coyote Creek Channel. Majority of the property required for the project is owned by the Los Angeles County Flood Control District.

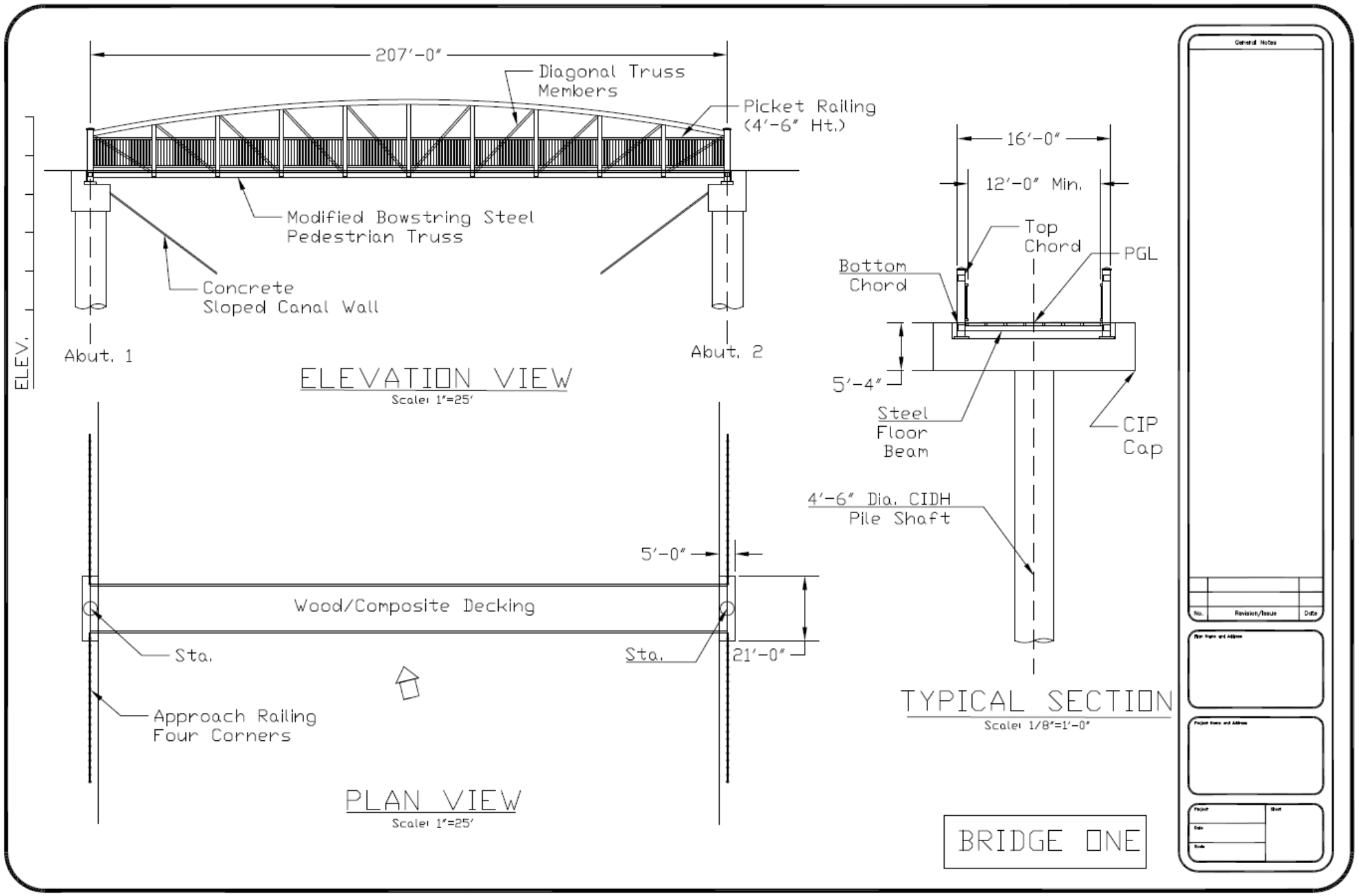
11. Lighting and Aesthetics

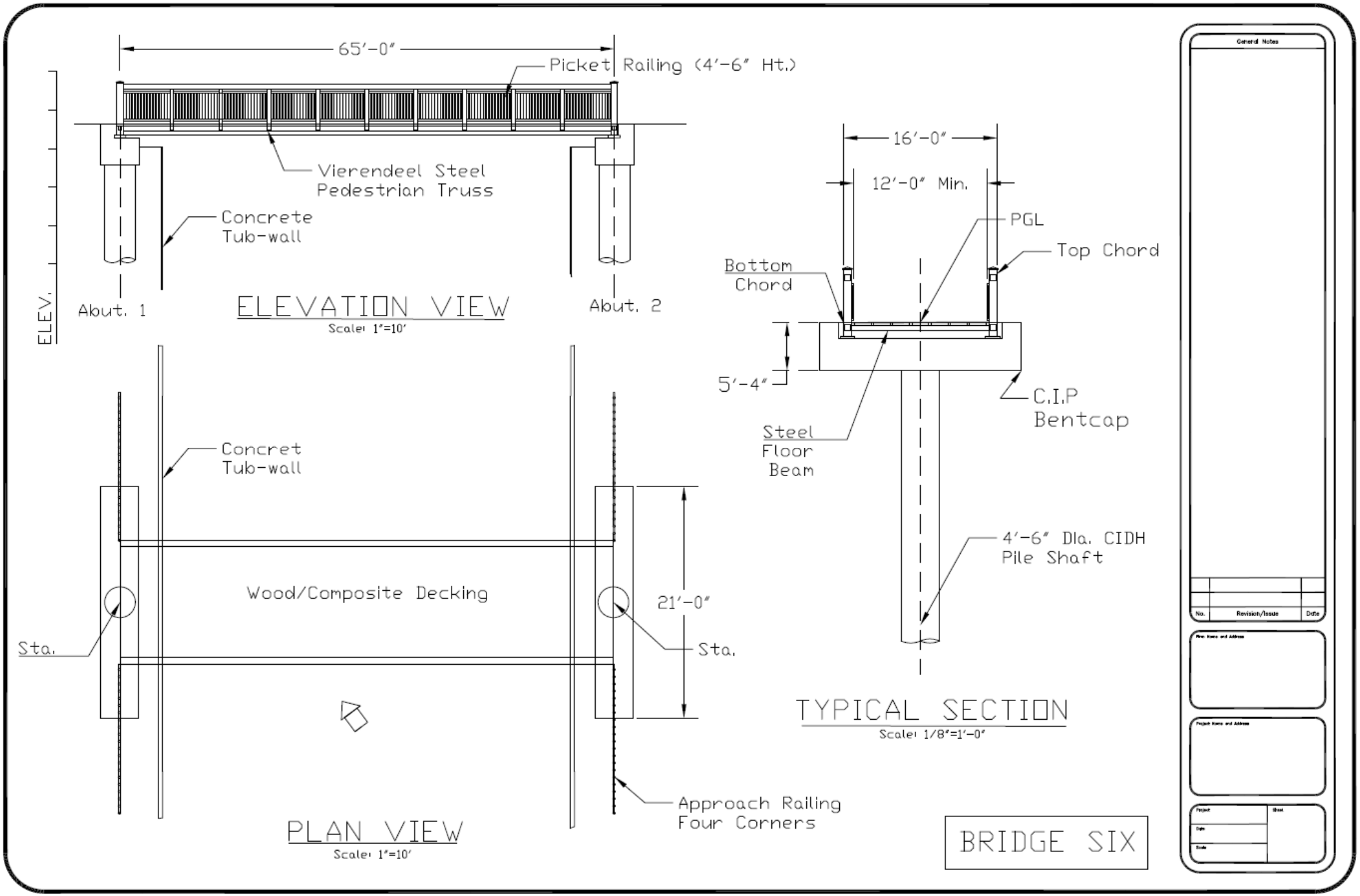
No lighting is proposed. Only required aesthetics is a weathered steel “rust patina” look for the bridge.

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Appendix A: Proposed Bridge No. 1 and No. 6 General Plan, Elevation, and Typical Section

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207'-0"
Diagonal Truss Members
Picket Railing (4'-6" Ht.)
Modified Bowstring Steel Pedestrian Truss
Concrete Sloped Canal Wall
ELEV.
Abut. 1
Abut. 2
ELEVATION VIEW
Scale: 1"=25'
16'-0"
12'-0" Min.
Top Chord
PGL
Bottom Chord
5'-4"
Steel Floor Beam
CIP Cap
4'-6" Dia. CIDH Pile Shaft
TYPICAL SECTION
Scale: 1/8"=1'-0"
5'-0"
Wood/Composite Decking
Sta.
Sta.
21'-0"
Approach Railing Four Corners
PLAN VIEW
Scale: 1"=25'
BRIDGE ONE


65'-0"
Picket Railing (4'-6" Ht.)
Vierendeel Steel
Pedestrian Truss
Concrete
Tub-wall
ELEV.
Abut. 1
Abut. 2
ELEVATION VIEW
Scale: 1"=10'
16'-0"
12'-0" Min.
PGL
Top Chord
Bottom
Chord
5'-4"
C.I.P
Bentcap
Steel
Floor
Beam
4'-6" Dia. CIDH
Pile Shaft
TYPICAL SECTION
Scale: 1/8"=1'-0"
Concret
Tub-wall
Wood/Composite Decking
21'-0"
Sta.
Sta.
Approach Railing
Four Corners
PLAN VIEW
Scale: 1"=10'
BRIDGE SIX

APPENDIX B1

AIR QUALITY & GREENHOUSE EMISSIONS TECHNICAL SUMMARY

1.0 PROJECT LOCATION AND DESCRIPTION

Air quality and greenhouse gas (GHG) emissions impacts were evaluated in support of an Initial Study/Mitigated Negative Declaration (IS/MND) prepared under the California Environmental Quality Act (CEQA) for a paved 2.7-mile Class I Bikeway component of the larger OC Loop. This section of the OC Loop would be broken into three segments, OC Loop Segments O, P and Q. OC Loop Segment O would be 1.1 miles long and extend from Coyote Creek North Fork to Artesia Boulevard. OC Loop Segment P would be 0.6 mile long and extend from Artesia Boulevard to Knott Avenue. OC Loop Segment Q would be one mile long and extend from Knott Avenue to Malvern Avenue.

In addition to the paved bikeway, the project would include numerous new structures, including bridges with abutments, jacked box undercrossings, a cantilevered bikeway section, a tie-back wall, and new traffic signals.

2.0 NEED AND METHODOLOGY

Under the California Environmental Quality Act (CEQA) and its guidelines, impacts on air quality and impacts of GHG emissions must be addressed for discretionary projects, unless specifically exempted. Any construction project of the scope of OC Loop Segments O, P and Q has the potential for short-term air quality and GHG emissions impacts.

2.1 Air Quality Methods

UltraSystems reviewed federal, State of California and South Coast Air Management District (SCAQMD) laws, regulations and standards for their applicability to the proposed project. The South Coast Air Basin, in which the project is located, is currently in nonattainment of federal standards for ambient concentrations of the criteria pollutants ozone (O_3) and fine particulate matter ($PM_{2.5}$) and of state standards for O_3, $PM_{2.5}$, and respirable particulate matter (PM_{10}). Recent data demonstrating nonattainment are summarized in the Initial Study. The SCAQMD, in concert with the Southern California Association of Governments (SCAG) has developed an air quality management plan (AQMP) to reduce criteria pollutant emissions enough to reach attainment with ambient air quality standards. It has also published CEQA-related significance thresholds for criteria pollutant emissions.

2.1.1 Short-term (Construction) Impacts

For the purpose of this analysis, it was assumed that the three proposed project segments would be built one at time, given uncertainties in the funding schedule. Construction emission sources, including soil disturbance and fossil fuel combustion by onsite construction equipment, from offsite employee commuting vehicles, vendor activity, and trucks hauling building materials and waste, would temporarily add pollutants to local and regional airsheds. The first step in estimating emissions was to divide project construction in each segment into discrete "activities" such as installing a bridge or paving a stretch of bike path. Each activity comprises one or several sub-activities, which were addressed in calculating emissions, such as grading, base compaction, asphalt laying, etc. **Table B.1-1** lists the activities whose emissions were estimated.

Table B.1-1
CONSTRUCTION ACTIVITIES, BY SEGMENT

Phase	Activity	Description
Segment O		
I	O-01	Construct cast-in-place concrete end bents on each side of North Fork of Coyote Creek
	O-03	Remove existing asphalt along north side of East Fork of Coyote Creek
	O-06	Remove portion of concrete slope underneath Valley View Avenue Bridge
	O-08	Place 3,010 feet of asphalt paving from Valley View Avenue to Artesia Boulevard
II	O-02	Install pedestrian truss bridge across North Fork of Coyote Creek
	O-04	Place 1,570 feet of asphalt paving from pedestrian Bridge to Valley View Avenue
	O-07	Install tieback wall underneath Valley View Avenue bridge
III	O-05	Install about 4,800 feet of cable railing fencing all along the route
Segment P		
I	P-12	Place 1,200 feet of asphalt paving between Artesia Boulevard and the UPRR undercrossing
	P-01	Assemble a concrete box via jacking method underneath UPRR Industrial lead
	P-02	Construct open U-cross section channels just down- and upstream of jacked box and extend 400 the U-channel for 400 feet
	P-02a	Construct cast-in-place concrete abutments on each side of UPRR right-of-way[a]
	P-02b	Install pedestrian truss bridge across UPRR right-of-way[a]
	P-04	Make a 12- or 14-foot wide cut perpendicular open cut across South Firestone Boulevard
	P-07	Excavate under Interstate 5
	P-08	Place 1,550 feet of asphalt paving between North Firestone Boulevard and Knott Avenue
	P-09	Install several concrete columns underneath the Artesia Boulevard bridge
	P-10	Remove a portion of concrete slope underneath Artesia Boulevard bridge
II	P-05	Install a 12-foot wide, 10-foot tall precast concrete box in channel; add 7.5-foot cover, base, and repave
	P-11	Install a cantilevered deck between the channel bottom and the bottom of the existing bridge carrying Artesia Boulevard over Coyote Creek channel
Segment Q		
I	Q-01	Install traffic signals and crosswalk for at-grade crossing of Knott Avenue
	Q-02	Place 420 feet of asphalt paving from Knott Avenue upstream
	Q-03	Install a railroad crossing warning signal for at-grade crossing east of Knott Avenue
	Q-04	Place 2,900 feet of asphalt paving upstream of railroad lead line east of Knott Avenue
	Q-05	Assemble a concrete box via jacking method at undercrossing of BNSF/Metrolink rail line
	Q-06	Relocate a Chevron fuel line (cut/cap/remove?)
	Q-07	Construct open U-cross section channels just down- and upstream of jacked box and extend U-channel for 500 feet
	Q-10	Install T intersection traffic signal for at-grade crossing of Stage Road

Phase	Activity	Description
	Q-11	Place 560 feet of asphalt paving between Stage Road and new pedestrian bridge
	Q-08	Construct cast-in-place concrete abutments for pedestrian bridge across East Fork of Coyote Creek
	Q-09	Install prefabricated cantilever bridge across East Fork of Coyote Creek
	Q-15	Place 700 feet of asphalt paving between new pedestrian bridge and La Mirada Boulevard
	Q-12	Remove ornamental trees from La Mirada Boulevard and do minor grading
	Q-13	Install 280-foot trail on either side of La Mirada Boulevard

Source: GHD and UltraSystems, 2020.
[a]If UPRR does not allow the concrete box undercrossing, then a truss bridge overcrossing will be installed.

Assumptions about the types and numbers of pieces of equipment anticipated for each activity were based upon information from GHD, the construction emissions module of the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, and experience with similar projects. In general, the calculations followed the same methods used in CalEEMod.[1] Calculations are shown in detail in **Appendix B.2**.

The SCAQMD has developed a screening method for "localized significance analysis" of nitrogen dioxide (NO_2), carbon monoxide (CO), PM_{10} and $PM_{2.5}$, which compares onsite construction emissions with thresholds based on geographical location and project area (in acres). If onsite emissions of nitrogen oxides (NO_x), CO, PM_{10}, or $PM_{2.5}$ exceed their published thresholds, then they are considered to be significant under CEQA. The method is conservative, in that in some cases a more detailed analysis, such as dispersion modeling, predicts lower exposures.

2.1.2 Long-term (Operational) Impacts

The only operational emissions for the proposed project would be from operation of onroad motor vehicles and offroad equipment for the routine maintenance of the bikeway. These emissions would be nominal and infrequent, and therefore would be less than significant.

2.2 Greenhouse Gas Emissions Methods

Short-term construction GHG emissions were estimated with the same methods used for the criteria air pollutants in Section 2.1.1. Details of all the calculations are provided in **Appendix** B2**.** Operational GHG emissions would be negligible and were therefore not quantified. To assess the overall lifetime project GHG emissions, the SCAQMD developed an Interim Guidance that recommends that construction emissions should be amortized over the life of the project, defined in the guidance as 30 years.

CEQA Guidelines require a determination of whether the project would interfere with various plans, policies, and regulations aimed at reducing GHG emissions. The IS/MND includes a review of relevant statewide GHG reduction targets, policies and plans, as well as local bicycle plans.

1 CalEEMod was not used to calculate emissions for this project.

3.0 PROJECT IMPACTS

3.1 Air Quality

3.1.1 Regional Criteria Pollutant Emissions

The analysis determined that emissions of all the criteria pollutants during both construction and operation of the project would be below their respective SCAQMD thresholds. This conclusion is the same for both the undercrossing and overcrossing options for the Union Pacific Railroad (UPRR) right-of-way. No project-specific mitigation is necessary.

3.1.2 Localized Significance Analysis

The proposed project is located in a predominantly industrial and commercial area. The nearest sensitive receptors are residential neighborhoods immediately west of the confluence of the north and east forks of Coyote Creek (Segment O); east of Knott Avenue and southeast of the east fork of Coyote Creek (Segment Q); and on both sides of the east fork of Coyote Creek, between Stage Road and La Mirada Boulevard (Segment Q) No other types of sensitive receivers near the project were identified, and none at all were found in Segment P.

Localized significance thresholds for projects in Source Receptor Areas 5 and 16 were obtained from tables in Appendix C of the SCAQMD's Final Localized Significance Threshold Methodology. Comparison of these thresholds with onsite construction emissions showed that localized short-term air quality impacts from construction of the proposed project would be less than significant.

3.2 Greenhouse Gas Emissions

3.2.1 Emission Estimates

Estimated construction GHG emissions are 225.1 metric tons (MT) of carbon dioxide equivalent (CO_2e). Offroad construction equipment would be responsible for about 88% of these emissions. For the UPRR overcrossing option, GHG emissions would be 176.6 MT, of which about 87% would be from offroad construction equipment.

Use of the bike path by bicycle riders and pedestrians would not result in GHG emissions. Routine maintenance with fossil-fuel burning equipment such as leaf blowers, and motor vehicles transporting maintenance workers, would generate a small amount of GHG emissions. In addition, indirect GHG emissions would occur when offsite fossil-fueled power plants generate electricity for the traffic signals to be installed for the project. As the state converts to a higher percentage of renewable fuel for electricity generation, the latter class of emissions would decrease over the life of the project. For these reasons, operational emissions were not quantified. The only project-related emissions during the operational phase would be the 7.5 tonnes per year (5.9 tonnes per year for the UPRR overcrossing option) of amortized emissions. This is far below the SCAQMD criterion of 3,000 tonnes per year. Under the first significance criterion, therefore, GHG emissions would be less than significant, and no mitigation is necessary.

3.2.2 Consistency with GHG Reduction Plans

None of the cities through which the project runs has a plan, policy or regulation adopted explicitly for the purpose of reducing the emissions of greenhouse gases. However, the following regional and local plans have at least some nexus with the proposed project:

- The 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All).
- The 2009 OCTA Commuter Bikeway Strategic Plan.
- The 2012 OCTA Fourth District Bikeways Strategy report.
- The 2014 County of Orange General Plan.
- The 2015 OC Loop Gap Feasibility Study (OC Parks).
- The City of La Mirada General Plan Circulation Element contains a "Master Plan of Bikeways" that includes over 14 miles of bicycle lanes along streets (Class III) and dedicated multiuse trails (Class I). If also acknowledges development of the OC Loop and its benefits to the city.[2]

Neither the City of Cerritos nor the City of Buena Park has a bicycle plan.

The proposed completion of segments O, P and Q is compatible with the above-listed plans. In addition, it furthers statewide GHG emission reduction policies by reducing vehicle miles traveled by fossil-fueled vehicles. Therefore, project impacts would be less than significant.

2 https://www.cityoflamirada.org/home/showdocument?id=914. Accessed April 29, 2020.

APPENDIX B2-1

TOTAL EMISSIONS WITH UPRR UNDERCROSSING

Emissions Summaries

Criteria Emissions

Segment	Category	Criteria Emissions (lbs/d)				
		ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Segment O	Offroad equipment	0.53	4.58	5.90	0.24	0.22
	Onroad trucks	0.01	0.08	0.42	0.03	0.01
	Employees	0.02	1.62	0.10	0.11	0.05
	Asphalt offgassing	3.31	---	---	---	---
	Maximum Daily	***3.9***	***6.3***	***6.4***	***0.4***	***0.3***
Segment P	Offroad equipment	6.69	56.73	56.34	2.31	2.18
	Onroad trucks	0.02	0.26	0.99	0.09	0.04
	Employees	0.04	2.84	0.17	0.19	0.08
	Asphalt offgassing	2.46	---	---	---	---
	Maximum Daily	***9.2***	***59.8***	***57.5***	***2.6***	***2.3***
Segment Q	Offroad equipment	6.48	50.37	57.30	2.27	2.14
	Onroad trucks	0.02	0.19	0.88	0.07	0.03
	Employees	0.04	2.84	0.17	0.19	0.08
	Asphalt offgassing	4.06	---	---	---	---
	Maximum Daily	***10.6***	***53.4***	***58.4***	***2.5***	***2.2***

GHG Emissions

Segment	Category	GHG Emissions (tonnes)			
		CO_2	CH_4	N_2O	CO_2e
Segment O	Offroad equipment	36.93	0.0099	N/A	37.17
	Onroad trucks	0.75	0.0000	0.0001	0.77
	Employees	3.80	0.0000	0.0001	3.82
	Total for Segment O	**41.5**	**0.010**	**0.000**	**41.8**
Segment P	Offroad equipment	86.29	0.0234	N/A	86.88
	Onroad trucks	2.71	0.0000	0.0002	2.77
	Employees	9.69	0.0001	0.0002	9.73
	Total for Segment P	**98.7**	**0.024**	**0.000**	**99.4**
Segment Q	Offroad equipment	72.62	0.0204	N/A	73.13
	Onroad trucks	2.69	0.0000	0.0002	2.75
	Employees	7.99	0.0001	0.0001	8.03
	Total for Segment Q	**83.3**	**0.020**	**0.000**	**83.9**
	Grand Total for Project	***223.5***	***0.054***	***0.001***	***225.1***
				Amortized	***7.50***

Employees

Segment O Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O-01	25	15	20	300	7,500	0.007	0.449	0.027	0.031	0.013	2.058	0.00002	0.00003	2.068
O-03	6	3	20	60	360	0.001	0.090	0.005	0.006	0.003	0.099	0.00000	0.00000	0.099
O-06	14	5	20	100	1,400	0.002	0.150	0.009	0.010	0.004	0.384	0.00000	0.00001	0.386
O-08	7	5	20	100	700	0.002	0.150	0.009	0.010	0.004	0.192	0.00000	0.00000	0.193
O-02	5	10	20	200	1,000	0.004	0.299	0.018	0.020	0.008	0.274	0.00000	0.00000	0.276
O-04	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
O-07	10	8	20	160	1,600	0.004	0.239	0.014	0.016	0.007	0.439	0.00000	0.00001	0.441
O-05	15	3	20	60	900	0.001	0.090	0.005	0.006	0.003	0.247	0.00000	0.00000	0.248
					Segment O Totals	***0.02***	***1.62***	***0.10***	***0.11***	***0.05***	***3.80***	***0.0000***	***0.0001***	***3.82***

Segment P Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
P-12	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
P-01	40	15	20	300	12,000	0.007	0.449	0.027	0.031	0.013	3.293	0.00003	0.00005	3.309
P-02	40	10	20	200	8,000	0.004	0.299	0.018	0.020	0.008	2.195	0.00002	0.00004	2.206
P-04	10	10	20	200	2,000	0.004	0.299	0.018	0.020	0.008	0.549	0.00001	0.00001	0.552
P-07	5	10	20	200	1,000	0.004	0.299	0.018	0.020	0.008	0.274	0.00000	0.00000	0.276
P-08	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
P-09	15	10	20	200	3,000	0.004	0.299	0.018	0.020	0.008	0.823	0.00001	0.00001	0.827
P-10	10	10	20	200	2,000	0.004	0.299	0.018	0.020	0.008	0.549	0.00001	0.00001	0.552
P-05	20	15	20	300	6,000	0.007	0.449	0.027	0.031	0.013	1.646	0.00002	0.00003	1.655
P-11	5	5	20	100	500	0.002	0.150	0.009	0.010	0.004	0.137	0.00000	0.00000	0.138
					Segment P Totals	***0.04***	***2.84***	***0.17***	***0.19***	***0.08***	***9.69***	***0.0001***	***0.0002***	***9.73***

Segment Q Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Q-01	6	3	20	60	360	0.001	0.090	0.005	0.006	0.003	0.099	0.00000	0.00000	0.099
Q-02	3	5	20	100	300	0.002	0.150	0.009	0.010	0.004	0.082	0.00000	0.00000	0.083
Q-03	5	3	20	60	300	0.001	0.090	0.005	0.006	0.003	0.082	0.00000	0.00000	0.083
Q-04	6	5	20	100	600	0.002	0.150	0.009	0.010	0.004	0.165	0.00000	0.00000	0.165
Q-05	40	15	20	300	12,000	0.007	0.449	0.027	0.031	0.013	3.293	0.00003	0.00005	3.309
Q-06	4	2	20	40	160	0.001	0.060	0.004	0.004	0.002	0.044	0.00000	0.00000	0.044
Q-07	40	10	20	200	8,000	0.004	0.299	0.018	0.020	0.008	2.195	0.00002	0.00004	2.206
Q-10	5	3	20	60	300	0.001	0.090	0.005	0.006	0.003	0.082	0.00000	0.00000	0.083
Q-11	3	5	20	100	300	0.002	0.150	0.009	0.010	0.004	0.082	0.00000	0.00000	0.083
Q-08	15	15	20	300	4,500	0.007	0.449	0.027	0.031	0.013	1.235	0.00001	0.00002	1.241
Q-09	5	15	20	300	1,500	0.007	0.449	0.027	0.031	0.013	0.412	0.00000	0.00001	0.414
Q-15	2	5	20	100	200	0.002	0.150	0.009	0.010	0.004	0.055	0.00000	0.00000	0.055
Q-12	5	4	20	80	400	0.002	0.120	0.007	0.008	0.003	0.110	0.00000	0.00000	0.110
Q-13	2	5	20	100	200	0.002	0.150	0.009	0.010	0.004	0.055	0.00000	0.00000	0.055
					Segment Q Totals	***0.04***	***2.84***	***0.17***	***0.19***	***0.08***	***7.99***	***0.0001***	***0.0001***	***8.03***

Onroad Trucks

Segment O - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O-03	dump truck	6	1	24	24	96	0.002	0.024	0.034	0.005	0.002	0.062	0.00000	0.00000	0.063
O-06	dump truck	14	1	24	24	240	0.002	0.024	0.034	0.005	0.002	0.154	0.00000	0.00001	0.157
O-02	product delivery	5	1	100	100	400	0.003	0.033	0.356	0.024	0.010	0.530	0.00000	0.00008	0.555
						Segment O Totals	***0.01***	***0.08***	***0.42***	***0.03***	***0.01***	***0.75***	***0.0000***	***0.0001***	***0.77***

Segment P - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
P-01	product delivery	2	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
P-02	dump truck	40	3	24	72	2,760	0.006	0.073	0.103	0.015	0.007	1.776	0.00001	0.00010	1.807
P-04	dump truck	10	2	24	48	384	0.004	0.049	0.069	0.010	0.004	0.247	0.00000	0.00001	0.251
P-07	dump truck	5	2	24	48	192	0.004	0.049	0.069	0.010	0.004	0.124	0.00000	0.00001	0.126
P-10	dump truck	10	1	24	24	48	0.002	0.024	0.034	0.005	0.002	0.031	0.00000	0.00000	0.031
P-05	product delivery	15	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
						Segment P Totals	***0.02***	***0.26***	***0.99***	***0.09***	***0.04***	***2.71***	***0.0000***	***0.0002***	***2.77***

Segment Q - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Q-05	product delivery	15	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
Q-07	dump truck	40	4	24	96	3,048	0.009	0.098	0.138	0.020	0.009	1.962	0.00001	0.00011	1.996
Q-09	product delivery	5	1	100	100	300	0.003	0.033	0.356	0.024	0.010	0.397	0.00000	0.00006	0.416
Q-12	dump truck	5	1	24	24	96	0.002	0.024	0.034	0.005	0.002	0.062	0.00000	0.00000	0.063
					Segment Q Totals		***0.02***	***0.19***	***0.88***	***0.07***	***0.03***	***2.69***	***0.0000***	***0.0002***	***2.75***

Offroad Equipment

Segment O - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
O-01	drilling rig	221	0.50	25	1	6	150	0.16	1.52	1.53	0.05	0.05	7.79	0.00252	7.85
	concrete mixer	9	0.56	25	1	6	150	0.04	0.23	0.28	0.01	0.01	0.43	0.00004	0.43
							Total	**0.2**	**1.8**	**1.8**	**0.1**	**0.1**	**8.2**	**0.0026**	**8.3**
O-03	tractor	97	0.37	6	1	8	48	0.44	2.91	2.46	0.10	0.10	0.98	0.00011	0.98
	grader	187	0.41	4	1	8	32	0.38	1.69	4.65	0.15	0.14	1.16	0.00038	1.17
							Total	**0.8**	**4.6**	**7.1**	**0.2**	**0.2**	**2.1**	**0.0005**	**2.2**
O-06	loader	97	0.37	14	1	8	112	0.44	2.91	2.46	0.10	0.10	2.28	0.00025	2.29
	concrete saw	81	0.73	14	1	8	112	0.33	3.66	2.58	0.13	0.13	3.76	0.00019	3.77
							Total	**0.8**	**6.6**	**5.0**	**0.2**	**0.2**	**6.0**	**0.0004**	**6.1**
O-08	roller	80	0.38	6	1	6	36	0.12	1.39	1.21	0.07	0.06	0.52	0.00017	0.53
	paving equipment	132	0.36	6	1	6	36	0.13	1.92	1.20	0.06	0.05	0.81	0.00026	0.82
	grader	187	0.41	6	1	6	36	0.29	1.27	3.49	0.11	0.10	1.32	0.00043	1.33
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**2.7**	**0.0009**	**2.7**
O-02	cranes	231	0.29	5	2	8	40	0.70	3.67	7.63	0.32	0.29	2.53	0.00082	2.56
	welder	46	0.45	5	2	8	40	0.51	3.36	2.84	0.11	0.11	0.94	0.00010	0.94
							Total	**1.2**	**7.0**	**10.5**	**0.4**	**0.4**	**3.5**	**0.0009**	**3.5**
O-04	roller	80	0.38	4	1	6	23	0.12	1.39	1.21	0.07	0.06	0.34	0.00011	0.34
	paving equipment	132	0.36	4	1	6	23	0.13	1.92	1.20	0.06	0.05	0.52	0.00017	0.52
	grader	187	0.41	4	1	6	23	0.29	1.27	3.49	0.11	0.10	0.85	0.00027	0.85
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**

O-07	crane	231	0.29	10	1	6	60	0.26	1.38	2.86	0.12	0.11	1.90	0.00061	1.92
	drilling rig	221	0.50	10	1	4	40	0.11	1.02	1.02	0.03	0.03	2.08	0.00067	2.09
							Total	**0.4**	**2.4**	**3.9**	**0.2**	**0.1**	**4.0**	**0.0013**	**4.0**
O-05	rail truck	402	0.38	15	1	8	120	0.50	3.29	3.57	0.13	0.12	8.71	0.00282	8.78
							Total	**0.5**	**3.3**	**3.6**	**0.1**	**0.1**	**8.7**	**0.0028**	**8.8**
							Segment O Totals	***5.0***	***34.8***	***43.7***	***1.7***	***1.6***	***36.9***	***0.010***	***37.2***

Segment P - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
P-12	roller	80	0.38	3	1	6	20	0.12	1.39	1.21	0.07	0.06	0.29	0.00009	0.29
	paving equipment	132	0.36	3	1	6	20	0.13	1.92	1.20	0.06	0.05	0.45	0.00014	0.45
	grader	187	0.41	3	1	6	20	0.29	1.27	3.49	0.11	0.10	0.72	0.00023	0.73
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.5**	**0.0005**	**1.5**
P-01	crane	231	0.29	40	1	8	320	0.35	1.83	3.82	0.16	0.15	10.14	0.00328	10.22
	hydraulic jack	221	0.50	40	1	8	320	0.21	2.03	2.04	0.07	0.06	16.61	0.00537	16.74
	loader	97	0.37	40	1	6	240	0.33	2.18	1.85	0.07	0.07	4.90	0.00053	4.91
							Total	**0.9**	**6.0**	**7.7**	**0.3**	**0.3**	**31.6**	**0.0092**	**31.9**
P-02	excavator	158	0.38	40	1	8	320	0.19	3.26	1.55	0.08	0.07	9.07	0.00294	9.15
	drilling rig	221	0.50	40	1	4	160	0.11	1.02	1.02	0.03	0.03	8.30	0.00269	8.37
	loader	97	0.37	40	1	8	320	0.44	2.91	2.46	0.10	0.10	6.53	0.00071	6.54
							Total	**0.7**	**7.2**	**5.0**	**0.2**	**0.2**	**23.9**	**0.0063**	**24.1**
P-04	excavator	158	0.38	10	1	8	80	0.19	3.26	1.55	0.08	0.07	2.27	0.00073	2.29
	loader	97	0.37	10	1	8	80	0.44	2.91	2.46	0.10	0.10	1.63	0.00018	1.64
							Total	**0.6**	**6.2**	**4.0**	**0.2**	**0.2**	**3.9**	**0.0009**	**3.9**

P-07	excavator	158	0.38	5	1	8	40	0.19	3.26	1.55	0.08	0.07	1.13	0.00037	1.14
	loader	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
							Total	**0.6**	**6.2**	**4.0**	**0.2**	**0.2**	**2.0**	**0.0005**	**2.0**
P-08	roller	80	0.38	4	1	6	23	0.12	1.39	1.21	0.07	0.06	0.33	0.00011	0.34
	paving equipment	132	0.36	4	1	6	23	0.13	1.92	1.20	0.06	0.05	0.52	0.00017	0.52
	grader	187	0.41	4	1	6	23	0.29	1.27	3.49	0.11	0.10	0.84	0.00027	0.85
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
P-09	drilling rig	221	0.50	15	1	6	90	0.16	1.52	1.53	0.05	0.05	4.67	0.00151	4.71
	concrete mixer	9	0.56	15	1	6	90	0.04	0.23	0.28	0.01	0.01	0.26	0.00003	0.26
							Total	**0.2**	**1.8**	**1.8**	**0.1**	**0.1**	**4.9**	**0.0015**	**5.0**
P-10	loader	97	0.37	10	1	8	80	0.44	2.91	2.46	0.10	0.10	1.63	0.00018	1.64
	concrete saw	81	0.73	10	1	8	80	0.33	3.66	2.58	0.13	0.13	2.69	0.00013	2.69
							Total	**0.8**	**6.6**	**5.0**	**0.2**	**0.2**	**4.3**	**0.0003**	**4.3**
P-05	excavator	158	0.38	15	1	8	120	0.19	3.26	1.55	0.08	0.07	3.40	0.00110	3.43
	crane	231	0.29	15	1	8	120	0.35	1.83	3.82	0.16	0.15	3.80	0.00123	3.83
	loader	97	0.37	15	1	6	90	0.33	2.18	1.85	0.07	0.07	1.84	0.00020	1.84
	roller	80	0.38	5	1	6	30	0.12	1.39	1.21	0.07	0.06	0.43	0.00014	0.44
	paving equipment	132	0.36	5	1	6	30	0.13	1.92	1.20	0.06	0.05	0.67	0.00022	0.68
	grader	187	0.41	5	1	6	30	0.29	1.27	3.49	0.11	0.10	1.09	0.00035	1.10
							Total	**1.4**	**11.9**	**13.1**	**0.5**	**0.5**	**11.2**	**0.0032**	**11.3**
P-11	crane	231	0.29	5	1	8	40	0.35	1.83	3.82	0.16	0.15	1.27	0.00041	1.28
							Total	**0.4**	**1.8**	**3.8**	**0.2**	**0.1**	**1.3**	**0.0004**	**1.3**
							Segment P Totals	***6.7***	***56.7***	***56.3***	***2.3***	***2.2***	***86.3***	***0.023***	***86.9***

Segment Q - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
Q-01	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-02	roller	80	0.38	2	1	6	13	0.12	1.39	1.21	0.07	0.06	0.18	0.00006	0.19
	paving equipment	132	0.36	2	1	6	13	0.13	1.92	1.20	0.06	0.05	0.29	0.00009	0.29
	grader	187	0.41	2	1	6	13	0.29	1.27	3.49	0.11	0.10	0.47	0.00015	0.47
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**0.9**	**0.0003**	**0.9**
Q-03	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-04	roller	80	0.38	6	1	6	35	0.12	1.39	1.21	0.07	0.06	0.51	0.00016	0.51
	paving equipment	132	0.36	6	1	6	35	0.13	1.92	1.20	0.06	0.05	0.79	0.00026	0.80
	grader	187	0.41	6	1	6	35	0.29	1.27	3.49	0.11	0.10	1.28	0.00041	1.30
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**2.6**	**0.0008**	**2.6**
Q-05	crane	231	0.29	40	1	8	320	0.35	1.83	3.82	0.16	0.15	10.14	0.00328	10.22
	hydraulic jack	221	0.50	40	1	8	320	0.21	2.03	2.04	0.07	0.06	16.61	0.00537	16.74
	loader	97	0.37	40	1	6	240	0.33	2.18	1.85	0.07	0.07	4.90	0.00053	4.91
							Total	**0.9**	**6.0**	**7.7**	**0.3**	**0.3**	**31.6**	**0.0092**	**31.9**
Q-06	welder	46	0.45	4	1	8	32	0.25	1.68	1.42	0.06	0.06	0.38	0.00004	0.38
							Total	**0.3**	**1.7**	**1.4**	**0.1**	**0.1**	**0.4**	**0.0000**	**0.4**
Q-07	excavator	158	0.38	40	1	8	320	0.19	3.26	1.55	0.08	0.07	9.07	0.00294	9.15
	drilling rig	221	0.50	40	1	4	160	0.11	1.02	1.02	0.03	0.03	8.30	0.00269	8.37
	loader	97	0.37	40	1	8	320	0.44	2.91	2.46	0.10	0.10	6.53	0.00071	6.54
							Total	**0.7**	**7.2**	**5.0**	**0.2**	**0.2**	**23.9**	**0.0063**	**24.1**

Q-10	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-11	roller	80	0.38	2	1	6	14	0.12	1.39	1.21	0.07	0.06	0.20	0.00007	0.20
	paving equipment	132	0.36	2	1	6	14	0.13	1.92	1.20	0.06	0.05	0.32	0.00010	0.32
	grader	187	0.41	2	1	6	14	0.29	1.27	3.49	0.11	0.10	0.51	0.00017	0.52
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.0**	**0.0003**	**1.0**
Q-08	drilling rig	221	0.50	15	1	8	120	0.21	2.03	2.04	0.07	0.06	6.23	0.00202	6.28
	concrete mixer	9	0.56	15	1	8	120	0.06	0.31	0.37	0.01	0.01	0.34	0.00004	0.34
							Total	**0.3**	**2.3**	**2.4**	**0.1**	**0.1**	**6.6**	**0.0021**	**6.6**
Q-09	cranes	231	0.29	5	1	8	40	0.35	1.83	3.82	0.16	0.15	1.27	0.00041	1.28
	welder	46	0.45	5	1	8	40	0.25	1.68	1.42	0.06	0.06	0.47	0.00005	0.47
							Total	**0.6**	**3.5**	**5.2**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
Q-15	roller	80	0.38	3	1	6	15	0.12	1.39	1.21	0.07	0.06	0.22	0.00007	0.22
	paving equipment	132	0.36	3	1	6	15	0.13	1.92	1.20	0.06	0.05	0.34	0.00011	0.35
	grader	187	0.41	3	1	6	15	0.29	1.27	3.49	0.11	0.10	0.56	0.00018	0.56
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.1**	**0.0004**	**1.1**
Q-12	tractor	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
	loader	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
							Total	**0.9**	**5.8**	**4.9**	**0.2**	**0.2**	**1.6**	**0.0002**	**1.6**
Q-13	roller	80	0.38	2	1	6	10	0.12	1.39	1.21	0.07	0.06	0.15	0.00005	0.15
	paving equipment	132	0.36	2	1	6	10	0.13	1.92	1.20	0.06	0.05	0.23	0.00007	0.23
	grader	187	0.41	2	1	6	10	0.29	1.27	3.49	0.11	0.10	0.37	0.00012	0.37
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**0.7**	**0.0002**	**0.7**
							Segment Q Totals	***6.5***	***50.4***	***57.3***	***2.3***	***2.1***	***72.6***	***0.020***	***73.1***

2023 Offroad Emission Factors

Equipment Type	BHP	Load Factor	Emission Factor (g/bhp-hr)						
			ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Bore/Drill Rig	221	0.50	0.110	1.043	1.047	0.034	0.031	469.7	0.152
Cement and Mortar Mixer	9	0.56	0.661	3.469	4.142	0.161	0.161	568.3	0.059
Concrete/Industrial Saws	81	0.73	0.320	3.507	2.478	0.123	0.123	568.3	0.028
Crane	231	0.29	0.297	1.553	3.229	0.135	0.124	473.0	0.153
Excavator	158	0.38	0.178	3.076	1.462	0.072	0.066	472.3	0.153
Grader	187	0.41	0.284	1.252	3.441	0.111	0.103	473.9	0.153
Hydraulic Jack	221	0.50	0.110	1.043	1.047	0.034	0.031	469.7	0.152
Off-highway Truck	402	0.38	0.187	1.221	1.324	0.048	0.044	475.0	0.154
Paving Equipment	132	0.36	0.204	3.051	1.913	0.093	0.086	470.7	0.152
Roller	80	0.38	0.287	3.455	3.003	0.165	0.152	473.9	0.153
Signal Boards	6	0.82	0.661	3.469	4.142	0.161	0.161	568.3	0.059
Tractors/Loaders/Backhoes	97	0.37	0.239	3.525	2.426	0.120	0.110	476.4	0.154
Welder	46	0.45	0.697	4.596	3.891	0.151	0.151	568.3	0.062

From: CalEEMod Users Guide - Appendix D (November 2017)

EMFAC2017 (v1.0.2) Emission Rates

Calendar Year 2023

EMFAC2011 Vehicle Categories

Orange County

Vehicle Info			Emission Factor (grams/mile)											
Type	Fuel	VMT	ROG	CO	NO_X	PM_{10}			$PM_{2.5}$			CO_2	CH_4	N_2O
						Exhaust	TW+BW	Total	Exhaust	TW+BW	Total			
LDA	GAS	49,965,794	0.0077	0.6049	0.0305	0.0015	0.0448	0.0462	0.0014	0.0178	0.0191	256.70	0.0021	0.0039
LDA	DSL	521,945	0.0136	0.2272	0.0486	0.0056	0.0448	0.0504	0.0054	0.0178	0.0231	199.12	0.0006	0.0313
LDT1	GAS	5,324,604	0.0204	1.0343	0.0775	0.0020	0.0448	0.0467	0.0018	0.0178	0.0196	299.40	0.0048	0.0065
LDT1	DSL	970	0.1739	0.9704	0.8500	0.1360	0.0448	0.1808	0.1301	0.0178	0.1479	397.42	0.0081	0.0625
LDT2	GAS	16,860,834	0.0130	0.8015	0.0578	0.0015	0.0448	0.0462	0.0014	0.0178	0.0191	321.22	0.0033	0.0054
LDT2	DSL	131,714	0.0177	0.1576	0.0382	0.0049	0.0448	0.0497	0.0047	0.0178	0.0225	273.44	0.0008	0.0430
Weighted Average for Employees			***0.010***	***0.678***	***0.040***	***0.002***	***0.045***	***0.046***	***0.001***	***0.018***	***0.019***	***274.4***	***0.0026***	***0.0044***
LHD1	GAS	1,293,611	0.0226	0.5571	0.1550	0.0012	0.0844	0.0856	0.0011	0.0348	0.0358	786.39	0.0049	0.0100
LHD1	DSL	1,009,903	0.0641	0.3410	1.2884	0.0137	0.0884	0.1021	0.0131	0.0358	0.0488	460.69	0.0030	0.0724
Weighted Average for LHD1			***0.041***	***0.462***	***0.652***	***0.007***	***0.086***	***0.093***	***0.006***	***0.035***	***0.042***	***643.6***	***0.0041***	***0.0374***
T7 Single	DSL	171,547	0.014	0.1484	1.6143	0.0113	0.0977	0.1090	0.0108	0.0355	0.0462	1,324.3	0.0006	0.2082

Notes: - Criteria and GHG factors come from EMFAC2017 (v1.0.2) and represent Estimated Annual Emission Rates for Orange County in the South Coast Air Basin for the calandar year 2023

- Employee Weighted Average is 69.3% LDA + 7.3% LDT1 + 23.3% LDT2 based on VMT

Bicycle Path Sections Data

Path Section	Activity	Length (ft)	Time (hrs)	Time (days)	Width (ft)	Depth (in)		Amount (yd^3)		Number of Trucks			
						Asphalt	Agg	Asphalt	Agg	Asphalt	Agg	$Total_C$	$Total_A$
Coyote Pedestrian Bridge upstream to Valley View	O-04	1,570	4.8	3.9	12	4	6	232.6	348.9	11.6	17.4	29.1	30
Valley View upstream to Artesia	O-08	3,010	9.1	6.1	12	4	6	445.9	668.9	22.3	33.4	55.7	56
Artesia upstream to RR Xing jackbox	P-12	1,200	3.6	3.3	16	4	6	237.0	355.6	11.9	17.8	29.6	30
Firestone upstream to Knott	P-08	1,550	4.7	3.8	14	4	6	267.9	401.9	13.4	20.1	33.5	34
Knott upstream to RR Xing Warning Signal	Q-02	420	1.3	2.1	14	4	6	72.6	108.9	3.6	5.4	9.1	10
RR Xing Warning Signal upstream to RR Xing jackbox	Q-04	2,900	8.8	5.9	14	4	6	501.2	751.9	25.1	37.6	62.7	62
Stage Rd upstream to Pedestrian Bridge	Q-11	560	1.7	2.3	14	4	6	96.8	145.2	4.8	7.3	12.1	13
Pedestrian Bridge upstream to La Mirada	Q-15	700	2.1	2.6	16	4	6	138.3	207.4	6.9	10.4	17.3	18
Either side of La Mirada south of Coyote Creek	Q-13	128	0.4	1.7	16	4	6	25.3	37.9	1.3	1.9	3.2	4

$Total_C$ = calculated # *$Total_A$ = $Total_C$ rounded up*

*Formula for # hrs = rate of paving was 1/2 mi/day**
*Formula for # days = (hrs*3 / 6 hrs/d) + 1 day prep + 0.5 day cleanup*

LL Pelling Encounters Paving in Tight Spaces, Limited Entry Points . ConstructionPros.com. October 11, 2012.

Onroad Truck Data

Dump Trucks

Activity	Dimensions (ft)			Amount (ft^3)	Amount (yd^3)	# of Trucks	
	Length	Width	Depth			$Total_C$	$Total_A$
O-03				1,750	64.8	3.2	4
O-06				5,000	185.2	9.3	10
P-02	500	13	9.5	61,750	2,287.0	114.4	115
P-04	50	14	12	8,400	311.1	15.6	16
P-05	50	14	7.5	5,250	194.4	9.7	10
P-07	110	12	3	3,960	146.7	7.3	8
P-10				1,000	37.0	1.9	2
Q-07	600	12	9.5	68,400	2,533.3	126.7	127
Q-08				2,500	92.6	4.6	5

$Total_C$ = *calculated #* $Total_A$ = $Total_C$ *rounded up*

Product Delivery

Activity	# of Trucks
O-02	4
P-01	2
P-05	2
Q-05	2
Q-09	3

Asphalt Offgassing Data

Path Section	Segment	Activity	Length (ft)	Width (ft)	Area (ft^2)	Area (acres)	VOC (lb)
Coyote Pedestrian Bridge upstream to Valley View	O	O-04	1,570	12	18,840	0.43	1.1
Valley View upstream to Artesia	O	O-08	3,010	12	36,120	0.83	2.2
				Segment O Total	**54,960**	**1.26**	**3.3**
Artesia upstream to RR Xing jackbox	P	P-12	1,200	16	19,200	0.44	1.2
Firestone upstream to Knott	P	P-08	1,550	14	21,700	0.50	1.3
				Segment P Total	**40,900**	**0.94**	**2.5**
Knott upstream to RR Xing Warning Signal	Q	Q-02	420	14	5,880	0.13	0.4
RR Xing Warning Signal upstream to RR Xing jackbox	Q	Q-04	2,900	14	40,600	0.93	2.4
Stage Rd upstream to Pedestrian Bridge	Q	Q-11	560	14	7,840	0.18	0.5
Pedestrian Bridge upstream to La Mirada	Q	Q-15	700	16	11,200	0.26	0.7
Either side of La Mirada south of Coyote Creek	Q	Q-13	128	16	2,048	0.05	0.1
				Segment Q Total	**67,568**	**1.55**	**4.1**
				Grand Total	***163,428***	***3.75***	***9.8***

Asphalt Paving Off-Gassing Emissions

CalEEMod estimates VOC off-gassing emissions associated with asphalt paving of parking lots using the following equation:

$$E_{AP} = EF_{AP} \times A_{Parking}$$

where:

E_{AP} = emissions (lb)

EF_{AP} = emission factor (lb/acre) *(SCAQMD default = 2.62)*

$A_{Parking}$ = area of the parking lot (acre)

Equipment Data

Segment O

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	O-01	Construct cast-in-place concrete end bents on each side of north fork	Drill rig, concrete mixer				3 wks
I	O-03	Remove existing asphalt along north side of East Fork	Tractors, graders	dump truck	1,750 ft^3 of asphalt	1	1 wk
I	O-06	Remove portion of concrete slope underneath Valley View Bridge	loader, concrete saw	2 dump truck	5,000 ft^3 of concrete	2	1 - 2 wks
I	O-08	Place 3,010 feet of asphalt paving from Valley View Ave to Artesia Blvd	roller, paving equipment, grader	asphalt truck		11	
II	O-02	Install truss bridge across north fork of Coyote Creek	2 cranes, welder	4 trucks			2 days
II	O-04	Place 1,570 feet of asphalt paving from pedestrian bridge to Valley View Ave	roller, paving equipment, grader	asphalt truck		6	
II	O-07	Install tieback wall underneath Valley View bridge	Crane, drill	truck			
III	O-05	Install about 4,800 feet of cable railing fencing	rail truck				

Segment P

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	P-12	Place 1,200 feet of asphalt paving between Artesia Blvd and UPRR udercrossing	roller, paving equipment, grader	asphalt truck		6	
I	P-01	Assemble a concrete box via jacking method underneath UPRR Industrial lead	crane, jack	truck			2 months
I	P-02	Construct open U-cross section channels just down- & up-stream of jacked box +400' channel	excavator, loader, drill rig	dump trucks *concrete trucks*	61,750 ft^3 of earth	22	
I	P-04	Make a 12- or 14-foot wide cut perpendicular open cut across South Firestone Blvd	excavator, loader	trucks in & out	8,400 ft^3 of earth	3	3 weeks
I	P-07	Excavate under Interstate 5	excavator, loader	Dump truck	3,960 ft^3 of earth	2	
I	P-08	Place 1,550 feet of asphalt paving between North Firestone Blvd and Knott Ave	roller, paving equipment, grader	asphalt truck		7	
I	P-09	Install several concrete columns underneath Artesia Blvd Bridge	Bore/Drill Rigs	cement truck			
I	P-10	Remove a portion of concrete slope underneath Artesia Blvd Bridge	loader / jackhammer?	dump truck	1,000 ft^3 of concrete	1	
II	P-05	Install a 12-foot wide, 10-foot tall precast concrete box in channel + 7.5' cover, base, and repave	Crane, excavator, loader, roller, paver, grader	trucks	5,250 ft^3 of earth	2	1 wk
II	P-11	Install a cantilevered deck between the channel bottom and the bottom of the existing bridge	Cranes				

Segment Q

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	Q-01	Install traffic signals & crosswalk @ at-grade crossing	Signal Boards				
I	Q-02	Place 420 feet of asphalt paving from Knott Avenue upstream	roller, paving equipment, grader	asphalt truck		2	
I	Q-03	Install a railroad crossing warning signal @ at-grade crossing	Signal Boards				
I	Q-04	Place 2,900 feet of asphalt paving upstream of railroad lead line	roller, paving equipment, grader	asphalt truck		12	
I	Q-05	Assemble a concrete box via jacking method @ undercrossing	crane, jack	truck			
I	Q-06	Relocate a Chevron fuel line (cut/cap/remove?)					
I	Q-07	Construct open U-cross section channels just down- and up-stream of jacked box + 500' channel	excavator, loader, drill rig	dump trucks *concrete trucks*	68,400 ft^3 of earth	24	
I	Q-10	Install T intersection traffic signal @ at-grade crossing	Signal Boards				
I	Q-11	Place 560 feet of asphalt paving between Stage Rd and new pedestrian bridge	roller, paving equipment, grader	asphalt truck		3	
	Q-08	Construct cast-in-place concrete end bents on each side of north fork	Drill rig, concrete mixer		2,500 ft^3 of concrete	1	3 wks
	Q-09	Install truss bridge across north fork of Coyote Creek	2 cranes, welder	4 trucks			2 days
I	Q-15	Place 700 feet of asphalt paving between new pedestrian bridge and La Mirada Blvd	roller, paving equipment, grader	asphalt truck		4	
I	Q-12	Remove ornamental trees and do minor grading	backhoe, tractor			1	
I	Q-13	Install 280-foot trail on either side of La Mirada Blvd	roller, paving equipment, grader	asphalt truck		1	

APPENDIX B2-2

TOTAL EMISSIONS WITH UPRR OVERCROSSING

Emissions Summaries

Criteria Emissions

Segment	Category	Criteria Emissions (lbs/d)				
		ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Segment O	Offroad equipment	0.53	4.58	5.90	0.24	0.22
	Onroad trucks	0.01	0.08	0.42	0.03	0.01
	Employees	0.02	1.62	0.10	0.11	0.05
	Asphalt offgassing	3.31	---	---	---	---
	Maximum Daily	***3.9***	***6.3***	***6.4***	***0.4***	***0.3***
Segment P	Offroad equipment	6.71	55.91	56.29	2.33	2.20
	Onroad trucks	0.02	0.22	1.24	0.10	0.04
	Employees	0.04	2.99	0.18	0.20	0.08
	Asphalt offgassing	2.46	---	---	---	---
	Maximum Daily	***9.2***	***59.1***	***57.7***	***2.6***	***2.3***
Segment Q	Offroad equipment	6.48	50.37	57.30	2.27	2.14
	Onroad trucks	0.02	0.19	0.88	0.07	0.03
	Employees	0.04	2.84	0.17	0.19	0.08
	Asphalt offgassing	4.06	---	---	---	---
	Maximum Daily	***10.6***	***53.4***	***58.4***	***2.5***	***2.2***

GHG Emissions

Segment	Category	GHG Emissions (tonnes)			
		CO_2	CH_4	N_2O	CO_2e
Segment O	Offroad equipment	36.93	0.0099	N/A	37.17
	Onroad trucks	0.75	0.0000	0.0001	0.77
	Employees	3.80	0.0000	0.0001	3.82
	Total for Segment O	**41.5**	**0.010**	**0.000**	**41.8**
Segment P	Offroad equipment	43.37	0.0107	N/A	43.64
	Onroad trucks	1.33	0.0000	0.0002	1.38
	Employees	5.84	0.0001	0.0001	5.87
	Total for Segment P	**50.5**	**0.011**	**0.000**	**50.9**
Segment Q	Offroad equipment	72.62	0.0204	N/A	73.13
	Onroad trucks	2.69	0.0000	0.0002	2.75
	Employees	7.99	0.0001	0.0001	8.03
	Total for Segment Q	**83.3**	**0.020**	**0.000**	**83.9**
	Grand Total for Project	***175.3***	***0.041***	***0.001***	***176.6***
	Amortized				***5.89***

Employees

Segment O Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O-01	25	15	20	300	7,500	0.007	0.449	0.027	0.031	0.013	2.058	0.00002	0.00003	2.068
O-03	6	3	20	60	360	0.001	0.090	0.005	0.006	0.003	0.099	0.00000	0.00000	0.099
O-06	14	5	20	100	1,400	0.002	0.150	0.009	0.010	0.004	0.384	0.00000	0.00001	0.386
O-08	7	5	20	100	700	0.002	0.150	0.009	0.010	0.004	0.192	0.00000	0.00000	0.193
O-02	5	10	20	200	1,000	0.004	0.299	0.018	0.020	0.008	0.274	0.00000	0.00000	0.276
O-04	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
O-07	10	8	20	160	1,600	0.004	0.239	0.014	0.016	0.007	0.439	0.00000	0.00001	0.441
O-05	15	3	20	60	900	0.001	0.090	0.005	0.006	0.003	0.247	0.00000	0.00000	0.248
					Segment O Totals	***0.02***	***1.62***	***0.10***	***0.11***	***0.05***	***3.80***	***0.0000***	***0.0001***	***3.82***

Segment P Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
P-12	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
P-2a	15	15	20	300	4,500	0.007	0.449	0.027	0.031	0.013	1.235	0.00001	0.00002	1.241
P-2b	5	15	20	300	1,500	0.007	0.449	0.027	0.031	0.013	0.412	0.00000	0.00001	0.414
P-04	10	10	20	200	2,000	0.004	0.299	0.018	0.020	0.008	0.549	0.00001	0.00001	0.552
P-07	5	10	20	200	1,000	0.004	0.299	0.018	0.020	0.008	0.274	0.00000	0.00000	0.276
P-08	4	5	20	100	400	0.002	0.150	0.009	0.010	0.004	0.110	0.00000	0.00000	0.110
P-09	15	10	20	200	3,000	0.004	0.299	0.018	0.020	0.008	0.823	0.00001	0.00001	0.827
P-10	10	10	20	200	2,000	0.004	0.299	0.018	0.020	0.008	0.549	0.00001	0.00001	0.552
P-05	20	15	20	300	6,000	0.007	0.449	0.027	0.031	0.013	1.646	0.00002	0.00003	1.655
P-11	5	5	20	100	500	0.002	0.150	0.009	0.010	0.004	0.137	0.00000	0.00000	0.138
					Segment P Totals	***0.04***	***2.99***	***0.18***	***0.20***	***0.08***	***5.84***	***0.0001***	***0.0001***	***5.87***

Segment Q Employees

Activity	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
	# of days	# of employees	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Q-01	6	3	20	60	360	0.001	0.090	0.005	0.006	0.003	0.099	0.00000	0.00000	0.099
Q-02	3	5	20	100	300	0.002	0.150	0.009	0.010	0.004	0.082	0.00000	0.00000	0.083
Q-03	5	3	20	60	300	0.001	0.090	0.005	0.006	0.003	0.082	0.00000	0.00000	0.083
Q-04	6	5	20	100	600	0.002	0.150	0.009	0.010	0.004	0.165	0.00000	0.00000	0.165
Q-05	40	15	20	300	12,000	0.007	0.449	0.027	0.031	0.013	3.293	0.00003	0.00005	3.309
Q-06	4	2	20	40	160	0.001	0.060	0.004	0.004	0.002	0.044	0.00000	0.00000	0.044
Q-07	40	10	20	200	8,000	0.004	0.299	0.018	0.020	0.008	2.195	0.00002	0.00004	2.206
Q-10	5	3	20	60	300	0.001	0.090	0.005	0.006	0.003	0.082	0.00000	0.00000	0.083
Q-11	3	5	20	100	300	0.002	0.150	0.009	0.010	0.004	0.082	0.00000	0.00000	0.083
Q-08	15	15	20	300	4,500	0.007	0.449	0.027	0.031	0.013	1.235	0.00001	0.00002	1.241
Q-09	5	15	20	300	1,500	0.007	0.449	0.027	0.031	0.013	0.412	0.00000	0.00001	0.414
Q-15	2	5	20	100	200	0.002	0.150	0.009	0.010	0.004	0.055	0.00000	0.00000	0.055
Q-12	5	4	20	80	400	0.002	0.120	0.007	0.008	0.003	0.110	0.00000	0.00000	0.110
Q-13	2	5	20	100	200	0.002	0.150	0.009	0.010	0.004	0.055	0.00000	0.00000	0.055
					Segment Q Totals	***0.04***	***2.84***	***0.17***	***0.19***	***0.08***	***7.99***	***0.0001***	***0.0001***	***8.03***

Onroad Trucks

Segment O - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
O-03	dump truck	6	1	24	24	96	0.002	0.024	0.034	0.005	0.002	0.062	0.00000	0.00000	0.063
O-06	dump truck	14	1	24	24	240	0.002	0.024	0.034	0.005	0.002	0.154	0.00000	0.00001	0.157
O-02	product delivery	5	1	100	100	400	0.003	0.033	0.356	0.024	0.010	0.530	0.00000	0.00008	0.555
					Segment O Totals		***0.01***	***0.08***	***0.42***	***0.03***	***0.01***	***0.75***	***0.0000***	***0.0001***	***0.77***

Segment P - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
P-01	product delivery	2	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
P-2b	product delivery	5	1	100	100	300	0.003	0.033	0.356	0.024	0.010	0.397	0.00000	0.00006	0.416
P-04	dump truck	10	2	24	48	384	0.004	0.049	0.069	0.010	0.004	0.247	0.00000	0.00001	0.251
P-07	dump truck	5	2	24	48	192	0.004	0.049	0.069	0.010	0.004	0.124	0.00000	0.00001	0.126
P-10	dump truck	10	1	24	24	48	0.002	0.024	0.034	0.005	0.002	0.031	0.00000	0.00000	0.031
P-05	product delivery	15	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
					Segment P Totals		***0.02***	***0.22***	***1.24***	***0.10***	***0.04***	***1.33***	***0.0000***	***0.0002***	***1.38***

Segment Q - Onroad Trucks

Activity	Truck Type	Activity					Criteria Emissions (lbs/d)					GHG Emissions (tonnes)			
		# of days	Trucks /day	Round Trip	VMT/ day	total VMT	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Q-05	product delivery	15	1	100	100	200	0.003	0.033	0.356	0.024	0.010	0.265	0.00000	0.00004	0.277
Q-07	dump truck	40	4	24	96	3,048	0.009	0.098	0.138	0.020	0.009	1.962	0.00001	0.00011	1.996
Q-09	product delivery	5	1	100	100	300	0.003	0.033	0.356	0.024	0.010	0.397	0.00000	0.00006	0.416
Q-12	dump truck	5	1	24	24	96	0.002	0.024	0.034	0.005	0.002	0.062	0.00000	0.00000	0.063
					Segment Q Totals		***0.02***	***0.19***	***0.88***	***0.07***	***0.03***	***2.69***	***0.0000***	***0.0002***	***2.75***

Offroad Equipment

Segment O - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
O-01	drilling rig	221	0.50	25	1	6	150	0.16	1.52	1.53	0.05	0.05	7.79	0.00252	7.85
	concrete mixer	9	0.56	25	1	6	150	0.04	0.23	0.28	0.01	0.01	0.43	0.00004	0.43
							Total	**0.2**	**1.8**	**1.8**	**0.1**	**0.1**	**8.2**	**0.0026**	**8.3**
O-03	tractor	97	0.37	6	1	8	48	0.44	2.91	2.46	0.10	0.10	0.98	0.00011	0.98
	grader	187	0.41	4	1	8	32	0.38	1.69	4.65	0.15	0.14	1.16	0.00038	1.17
							Total	**0.8**	**4.6**	**7.1**	**0.2**	**0.2**	**2.1**	**0.0005**	**2.2**
O-06	loader	97	0.37	14	1	8	112	0.44	2.91	2.46	0.10	0.10	2.28	0.00025	2.29
	concrete saw	81	0.73	14	1	8	112	0.33	3.66	2.58	0.13	0.13	3.76	0.00019	3.77
							Total	**0.8**	**6.6**	**5.0**	**0.2**	**0.2**	**6.0**	**0.0004**	**6.1**
O-08	roller	80	0.38	6	1	6	36	0.12	1.39	1.21	0.07	0.06	0.52	0.00017	0.53
	paving equipment	132	0.36	6	1	6	36	0.13	1.92	1.20	0.06	0.05	0.81	0.00026	0.82
	grader	187	0.41	6	1	6	36	0.29	1.27	3.49	0.11	0.10	1.32	0.00043	1.33
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**2.7**	**0.0009**	**2.7**
O-02	cranes	231	0.29	5	2	8	40	0.70	3.67	7.63	0.32	0.29	2.53	0.00082	2.56
	welder	46	0.45	5	2	8	40	0.51	3.36	2.84	0.11	0.11	0.94	0.00010	0.94
							Total	**1.2**	**7.0**	**10.5**	**0.4**	**0.4**	**3.5**	**0.0009**	**3.5**
O-04	roller	80	0.38	4	1	6	23	0.12	1.39	1.21	0.07	0.06	0.34	0.00011	0.34
	paving equipment	132	0.36	4	1	6	23	0.13	1.92	1.20	0.06	0.05	0.52	0.00017	0.52
	grader	187	0.41	4	1	6	23	0.29	1.27	3.49	0.11	0.10	0.85	0.00027	0.85
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
O-07	crane	231	0.29	10	1	6	60	0.26	1.38	2.86	0.12	0.11	1.90	0.00061	1.92
	drilling rig	221	0.50	10	1	4	40	0.11	1.02	1.02	0.03	0.03	2.08	0.00067	2.09
							Total	**0.4**	**2.4**	**3.9**	**0.2**	**0.1**	**4.0**	**0.0013**	**4.0**
O-05	rail truck	402	0.38	15	1	8	120	0.50	3.29	3.57	0.13	0.12	8.71	0.00282	8.78
							Total	**0.5**	**3.3**	**3.6**	**0.1**	**0.1**	**8.7**	**0.0028**	**8.8**
							Segment O Totals	***5.0***	***34.8***	***43.7***	***1.7***	***1.6***	***36.9***	***0.010***	***37.2***

Segment P - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
P-12	roller	80	0.38	3	1	6	20	0.12	1.39	1.21	0.07	0.06	0.29	0.00009	0.29
	paving equipment	132	0.36	3	1	6	20	0.13	1.92	1.20	0.06	0.05	0.45	0.00014	0.45
	grader	187	0.41	3	1	6	20	0.29	1.27	3.49	0.11	0.10	0.72	0.00023	0.73
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.5**	**0.0005**	**1.5**
P-2a	drilling rig	221	0.50	15	1	8	120	0.21	2.03	2.04	0.07	0.06	6.23	0.00202	6.28
	concrete mixer	9	0.56	15	1	8	120	0.06	0.31	0.37	0.01	0.01	0.34	0.00004	0.34
							Total	**0.3**	**2.3**	**2.4**	**0.1**	**0.1**	**6.6**	**0.0021**	**6.6**
P-2b	cranes	231	0.29	5	1	8	40	0.35	1.83	3.82	0.16	0.15	1.27	0.00041	1.28
	welder	46	0.45	5	1	8	40	0.25	1.68	1.42	0.06	0.06	0.47	0.00005	0.47
							Total	**0.6**	**3.5**	**5.2**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
P-04	excavator	158	0.38	10	1	8	80	0.19	3.26	1.55	0.08	0.07	2.27	0.00073	2.29
	loader	97	0.37	10	1	8	80	0.44	2.91	2.46	0.10	0.10	1.63	0.00018	1.64
							Total	**0.6**	**6.2**	**4.0**	**0.2**	**0.2**	**3.9**	**0.0009**	**3.9**

P-07	excavator	158	0.38	5	1	8	40	0.19	3.26	1.55	0.08	0.07	1.13	0.00037	1.14
	loader	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
							Total	**0.6**	**6.2**	**4.0**	**0.2**	**0.2**	**2.0**	**0.0005**	**2.0**
P-08	roller	80	0.38	4	1	6	23	0.12	1.39	1.21	0.07	0.06	0.33	0.00011	0.34
	paving equipment	132	0.36	4	1	6	23	0.13	1.92	1.20	0.06	0.05	0.52	0.00017	0.52
	grader	187	0.41	4	1	6	23	0.29	1.27	3.49	0.11	0.10	0.84	0.00027	0.85
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
P-09	drilling rig	221	0.50	15	1	6	90	0.16	1.52	1.53	0.05	0.05	4.67	0.00151	4.71
	concrete mixer	9	0.56	15	1	6	90	0.04	0.23	0.28	0.01	0.01	0.26	0.00003	0.26
							Total	**0.2**	**1.8**	**1.8**	**0.1**	**0.1**	**4.9**	**0.0015**	**5.0**
P-10	loader	97	0.37	10	1	8	80	0.44	2.91	2.46	0.10	0.10	1.63	0.00018	1.64
	concrete saw	81	0.73	10	1	8	80	0.33	3.66	2.58	0.13	0.13	2.69	0.00013	2.69
							Total	**0.8**	**6.6**	**5.0**	**0.2**	**0.2**	**4.3**	**0.0003**	**4.3**
P-05	excavator	158	0.38	15	1	8	120	0.19	3.26	1.55	0.08	0.07	3.40	0.00110	3.43
	crane	231	0.29	15	1	8	120	0.35	1.83	3.82	0.16	0.15	3.80	0.00123	3.83
	loader	97	0.37	15	1	6	90	0.33	2.18	1.85	0.07	0.07	1.84	0.00020	1.84
	roller	80	0.38	5	1	6	30	0.12	1.39	1.21	0.07	0.06	0.43	0.00014	0.44
	paving equipment	132	0.36	5	1	6	30	0.13	1.92	1.20	0.06	0.05	0.67	0.00022	0.68
	grader	187	0.41	5	1	6	30	0.29	1.27	3.49	0.11	0.10	1.09	0.00035	1.10
							Total	**1.4**	**11.9**	**13.1**	**0.5**	**0.5**	**11.2**	**0.0032**	**11.3**
P-11	crane	231	0.29	5	1	8	40	0.35	1.83	3.82	0.16	0.15	1.27	0.00041	1.28
							Total	**0.4**	**1.8**	**3.8**	**0.2**	**0.1**	**1.3**	**0.0004**	**1.3**
							Segment P Totals	***6.7***	***55.9***	***56.3***	***2.3***	***2.2***	***43.4***	***0.011***	***43.6***

Segment Q - Offroad Equipment

Activity	Equipment Type	Activity						Criteria Emissions (lbs/d)					GHG Emissions (tonnes)		
		BHP	Load Factor	# of days	# of pieces	hrs / day	total hours	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4	CO_2e
Q-01	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-02	roller	80	0.38	2	1	6	13	0.12	1.39	1.21	0.07	0.06	0.18	0.00006	0.19
	paving equipment	132	0.36	2	1	6	13	0.13	1.92	1.20	0.06	0.05	0.29	0.00009	0.29
	grader	187	0.41	2	1	6	13	0.29	1.27	3.49	0.11	0.10	0.47	0.00015	0.47
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**0.9**	**0.0003**	**0.9**
Q-03	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-04	roller	80	0.38	6	1	6	35	0.12	1.39	1.21	0.07	0.06	0.51	0.00016	0.51
	paving equipment	132	0.36	6	1	6	35	0.13	1.92	1.20	0.06	0.05	0.79	0.00026	0.80
	grader	187	0.41	6	1	6	35	0.29	1.27	3.49	0.11	0.10	1.28	0.00041	1.30
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**2.6**	**0.0008**	**2.6**
Q-05	crane	231	0.29	40	1	8	320	0.35	1.83	3.82	0.16	0.15	10.14	0.00328	10.22
	hydraulic jack	221	0.50	40	1	8	320	0.21	2.03	2.04	0.07	0.06	16.61	0.00537	16.74
	loader	97	0.37	40	1	6	240	0.33	2.18	1.85	0.07	0.07	4.90	0.00053	4.91
							Total	**0.9**	**6.0**	**7.7**	**0.3**	**0.3**	**31.6**	**0.0092**	**31.9**
Q-06	welder	46	0.45	4	1	8	32	0.25	1.68	1.42	0.06	0.06	0.38	0.00004	0.38
							Total	**0.3**	**1.7**	**1.4**	**0.1**	**0.1**	**0.4**	**0.0000**	**0.4**
Q-07	excavator	158	0.38	40	1	8	320	0.19	3.26	1.55	0.08	0.07	9.07	0.00294	9.15
	drilling rig	221	0.50	40	1	4	160	0.11	1.02	1.02	0.03	0.03	8.30	0.00269	8.37
	loader	97	0.37	40	1	8	320	0.44	2.91	2.46	0.10	0.10	6.53	0.00071	6.54
							Total	**0.7**	**7.2**	**5.0**	**0.2**	**0.2**	**23.9**	**0.0063**	**24.1**

Q-10	signal boards	6	0.82	5	1	8	40	0.06	0.30	0.36	0.01	0.01	0.11	0.00001	0.11
							Total	**0.1**	**0.3**	**0.4**	**0.0**	**0.0**	**0.1**	**0.0000**	**0.1**
Q-11	roller	80	0.38	2	1	6	14	0.12	1.39	1.21	0.07	0.06	0.20	0.00007	0.20
	paving equipment	132	0.36	2	1	6	14	0.13	1.92	1.20	0.06	0.05	0.32	0.00010	0.32
	grader	187	0.41	2	1	6	14	0.29	1.27	3.49	0.11	0.10	0.51	0.00017	0.52
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.0**	**0.0003**	**1.0**
Q-08	drilling rig	221	0.50	15	1	8	120	0.21	2.03	2.04	0.07	0.06	6.23	0.00202	6.28
	concrete mixer	9	0.56	15	1	8	120	0.06	0.31	0.37	0.01	0.01	0.34	0.00004	0.34
							Total	**0.3**	**2.3**	**2.4**	**0.1**	**0.1**	**6.6**	**0.0021**	**6.6**
Q-09	cranes	231	0.29	5	1	8	40	0.35	1.83	3.82	0.16	0.15	1.27	0.00041	1.28
	welder	46	0.45	5	1	8	40	0.25	1.68	1.42	0.06	0.06	0.47	0.00005	0.47
							Total	**0.6**	**3.5**	**5.2**	**0.2**	**0.2**	**1.7**	**0.0005**	**1.7**
Q-15	roller	80	0.38	3	1	6	15	0.12	1.39	1.21	0.07	0.06	0.22	0.00007	0.22
	paving equipment	132	0.36	3	1	6	15	0.13	1.92	1.20	0.06	0.05	0.34	0.00011	0.35
	grader	187	0.41	3	1	6	15	0.29	1.27	3.49	0.11	0.10	0.56	0.00018	0.56
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**1.1**	**0.0004**	**1.1**
Q-12	tractor	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
	loader	97	0.37	5	1	8	40	0.44	2.91	2.46	0.10	0.10	0.82	0.00009	0.82
							Total	**0.9**	**5.8**	**4.9**	**0.2**	**0.2**	**1.6**	**0.0002**	**1.6**
Q-13	roller	80	0.38	2	1	6	10	0.12	1.39	1.21	0.07	0.06	0.15	0.00005	0.15
	paving equipment	132	0.36	2	1	6	10	0.13	1.92	1.20	0.06	0.05	0.23	0.00007	0.23
	grader	187	0.41	2	1	6	10	0.29	1.27	3.49	0.11	0.10	0.37	0.00012	0.37
							Total	**0.5**	**4.6**	**5.9**	**0.2**	**0.2**	**0.7**	**0.0002**	**0.7**
							Segment Q Totals	***6.5***	***50.4***	***57.3***	***2.3***	***2.1***	***72.6***	***0.020***	***73.1***

2023 Offroad Emission Factors

Equipment Type	BHP	Load Factor	Emission Factor (g/bhp-hr)						
			ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Bore/Drill Rig	221	0.50	0.110	1.043	1.047	0.034	0.031	469.7	0.152
Cement and Mortar Mixer	9	0.56	0.661	3.469	4.142	0.161	0.161	568.3	0.059
Concrete/Industrial Saws	81	0.73	0.320	3.507	2.478	0.123	0.123	568.3	0.028
Crane	231	0.29	0.297	1.553	3.229	0.135	0.124	473.0	0.153
Excavator	158	0.38	0.178	3.076	1.462	0.072	0.066	472.3	0.153
Grader	187	0.41	0.284	1.252	3.441	0.111	0.103	473.9	0.153
Hydraulic Jack	221	0.50	0.110	1.043	1.047	0.034	0.031	469.7	0.152
Off-highway Truck	402	0.38	0.187	1.221	1.324	0.048	0.044	475.0	0.154
Paving Equipment	132	0.36	0.204	3.051	1.913	0.093	0.086	470.7	0.152
Roller	80	0.38	0.287	3.455	3.003	0.165	0.152	473.9	0.153
Signal Boards	6	0.82	0.661	3.469	4.142	0.161	0.161	568.3	0.059
Tractors/Loaders/Backhoes	97	0.37	0.239	3.525	2.426	0.120	0.110	476.4	0.154
Welder	46	0.45	0.697	4.596	3.891	0.151	0.151	568.3	0.062

From: CalEEMod Users Guide - Appendix D (November 2017)

EMFAC2017 (v1.0.2) Emission Rates

Calendar Year 2023

EMFAC2011 Vehicle Categories

Orange County

Vehicle Info			Emission Factor (grams/mile)											
Type	Fuel	VMT	ROG	CO	NO_X	PM_{10}			$PM_{2.5}$			CO_2	CH_4	N_2O
						Exhaust	TW+BW	Total	Exhaust	TW+BW	Total			
LDA	GAS	49,965,794	0.0077	0.6049	0.0305	0.0015	0.0448	0.0462	0.0014	0.0178	0.0191	256.70	0.0021	0.0039
LDA	DSL	521,945	0.0136	0.2272	0.0486	0.0056	0.0448	0.0504	0.0054	0.0178	0.0231	199.12	0.0006	0.0313
LDT1	GAS	5,324,604	0.0204	1.0343	0.0775	0.0020	0.0448	0.0467	0.0018	0.0178	0.0196	299.40	0.0048	0.0065
LDT1	DSL	970	0.1739	0.9704	0.8500	0.1360	0.0448	0.1808	0.1301	0.0178	0.1479	397.42	0.0081	0.0625
LDT2	GAS	16,860,834	0.0130	0.8015	0.0578	0.0015	0.0448	0.0462	0.0014	0.0178	0.0191	321.22	0.0033	0.0054
LDT2	DSL	131,714	0.0177	0.1576	0.0382	0.0049	0.0448	0.0497	0.0047	0.0178	0.0225	273.44	0.0008	0.0430
Weighted Average for Employees			***0.010***	***0.678***	***0.040***	***0.002***	***0.045***	***0.046***	***0.001***	***0.018***	***0.019***	***274.4***	***0.0026***	***0.0044***
LHD1	GAS	1,293,611	0.0226	0.5571	0.1550	0.0012	0.0844	0.0856	0.0011	0.0348	0.0358	786.39	0.0049	0.0100
LHD1	DSL	1,009,903	0.0641	0.3410	1.2884	0.0137	0.0884	0.1021	0.0131	0.0358	0.0488	460.69	0.0030	0.0724
Weighted Average for LHD1			***0.041***	***0.462***	***0.652***	***0.007***	***0.086***	***0.093***	***0.006***	***0.035***	***0.042***	***643.6***	***0.0041***	***0.0374***
T7 Single	DSL	171,547	0.014	0.1484	1.6143	0.0113	0.0977	0.1090	0.0108	0.0355	0.0462	1,324.3	0.0006	0.2082

Notes: - Criteria and GHG factors come from EMFAC2017 (v1.0.2) and represent Estimated Annual Emission Rates for Orange County in the South Coast Air Basin for the calandar year 2023

- Employee Weighted Average is 69.3% LDA + 7.3% LDT1 + 23.3% LDT2 based on VMT

Bicycle Path Sections Data

Path Section	Activity	Length (ft)	Time (hrs)	Time (days)	Width (ft)	Depth (in)		Amount (yd^3)		Number of Trucks			
						Asphalt	Agg	Asphalt	Agg	Asphalt	Agg	$Total_C$	$Total_A$
Coyote Pedestrian Bridge upstream to Valley View	O-04	1,570	4.8	3.9	12	4	6	232.6	348.9	11.6	17.4	29.1	30
Valley View upstream to Artesia	O-08	3,010	9.1	6.1	12	4	6	445.9	668.9	22.3	33.4	55.7	56
Artesia upstream to RR Xing jackbox	P-12	1,200	3.6	3.3	16	4	6	237.0	355.6	11.9	17.8	29.6	30
Firestone upstream to Knott	P-08	1,550	4.7	3.8	14	4	6	267.9	401.9	13.4	20.1	33.5	34
Knott upstream to RR Xing Warning Signal	Q-02	420	1.3	2.1	14	4	6	72.6	108.9	3.6	5.4	9.1	10
RR Xing Warning Signal upstream to RR Xing jackbox	Q-04	2,900	8.8	5.9	14	4	6	501.2	751.9	25.1	37.6	62.7	62
Stage Rd upstream to Pedestrian Bridge	Q-11	560	1.7	2.3	14	4	6	96.8	145.2	4.8	7.3	12.1	13
Pedestrian Bridge upstream to La Mirada	Q-15	700	2.1	2.6	16	4	6	138.3	207.4	6.9	10.4	17.3	18
Either side of La Mirada south of Coyote Creek	Q-13	128	0.4	1.7	16	4	6	25.3	37.9	1.3	1.9	3.2	4

$Total_C$ = calculated # *$Total_A$ = $Total_C$ rounded up*

*Formula for # hrs = rate of paving was 1/2 mi/day**
*Formula for # days = (hrs*3 / 6 hrs/d) + 1 day prep + 0.5 day cleanup*

LL Pelling Encounters Paving in Tight Spaces, Limited Entry Points . ConstructionPros.com. October 11, 2012.

Onroad Truck Data

Dump Trucks

Activity	Dimensions (ft)			Amount (ft^3)	Amount (yd^3)	# of Trucks	
	Length	Width	Depth			$Total_C$	$Total_A$
O-03				1,750	64.8	3.2	4
O-06				5,000	185.2	9.3	10
P-2b				2,500	92.6	4.6	5
P-04	50	14	12	8,400	311.1	15.6	16
P-05	50	14	7.5	5,250	194.4	9.7	10
P-07	110	12	3	3,960	146.7	7.3	8
P-10				1,000	37.0	1.9	2
Q-07	600	12	9.5	68,400	2,533.3	126.7	127
Q-08				2,500	92.6	4.6	5

$Total_C$ = *calculated #* $Total_A$ = $Total_C$ *rounded up*

Product Delivery

Activity	# of Trucks
O-02	4
P-01	2
P-05	2
Q-05	2
Q-09	3

Asphalt Offgassing Data

Path Section	Segment	Activity	Length (ft)	Width (ft)	Area (ft^2)	Area (acres)	VOC (lb)
Coyote Pedestrian Bridge upstream to Valley View	O	O-04	1,570	12	18,840	0.43	1.1
Valley View upstream to Artesia	O	O-08	3,010	12	36,120	0.83	2.2
				Segment O Total	**54,960**	**1.26**	**3.3**
Artesia upstream to RR Xing jackbox	P	P-12	1,200	16	19,200	0.44	1.2
Firestone upstream to Knott	P	P-08	1,550	14	21,700	0.50	1.3
				Segment P Total	**40,900**	**0.94**	**2.5**
Knott upstream to RR Xing Warning Signal	Q	Q-02	420	14	5,880	0.13	0.4
RR Xing Warning Signal upstream to RR Xing jackbox	Q	Q-04	2,900	14	40,600	0.93	2.4
Stage Rd upstream to Pedestrian Bridge	Q	Q-11	560	14	7,840	0.18	0.5
Pedestrian Bridge upstream to La Mirada	Q	Q-15	700	16	11,200	0.26	0.7
Either side of La Mirada south of Coyote Creek	Q	Q-13	128	16	2,048	0.05	0.1
				Segment Q Total	**67,568**	**1.55**	**4.1**
				Grand Total	***163,428***	***3.75***	***9.8***

Asphalt Paving Off-Gassing Emissions

CalEEMod estimates VOC off-gassing emissions associated with asphalt paving of parking lots using the following equation:

$$E_{AP} = EF_{AP} \times A_{Parking}$$

where:

E_{AP} = emissions (lb)

EF_{AP} = emission factor (lb/acre) *(SCAQMD default = 2.62)*

$A_{Parking}$ = area of the parking lot (acre)

Equipment Data

Segment O

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	O-01	Construct cast-in-place concrete end bents on each side of north fork	Drill rig, concrete mixer				3 wks
I	O-03	Remove existing asphalt along north side of East Fork	Tractors, graders	dump truck	1,750 ft^3 of asphalt	1	1 wk
I	O-06	Remove portion of concrete slope underneath Valley View Bridge	loader, concrete saw	2 dump truck	5,000 ft^3 of concrete	2	1 - 2 wks
I	O-08	Place 3,010 feet of asphalt paving from Valley View Ave to Artesia Blvd	roller, paving equipment, grader	asphalt truck		11	
II	O-02	Install truss bridge across north fork of Coyote Creek	2 cranes, welder	4 trucks			2 days
II	O-04	Place 1,570 feet of asphalt paving from pedestrian bridge to Valley View Ave	roller, paving equipment, grader	asphalt truck		6	
II	O-07	Install tieback wall underneath Valley View bridge	Crane, drill	truck			
III	O-05	Install about 4,800 feet of cable railing fencing	rail truck				

Segment P

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	P-12	Place 1,200 feet of asphalt paving between Artesia Blvd and UPRR	roller, paving equipment, grader	asphalt truck		6	
	P-2a	Construct cast-in-place concrete abutments on each side of UPRR right-of-way	Drill rig, concrete mixer		2,500 ft^3 of concrete	1	3 wks
	P-2b	Install pedestrian truss bridge across UPRR right-of-way	2 cranes, welder	4 trucks			2 days
I	P-04	Make a 12- or 14-foot wide cut perpendicular open cut across South Firestone Blvd	excavator, loader	trucks in & out	8,400 ft^3 of earth	3	3 weeks
I	P-07	Excavate under Interstate 5	excavator, loader	Dump truck	3,960 ft^3 of earth	2	
I	P-08	Place 1,550 feet of asphalt paving between North Firestone Blvd and Knott Ave	roller, paving equipment, grader	asphalt truck		7	
I	P-09	Install several concrete columns underneath Artesia Blvd Bridge	Bore/Drill Rigs	cement truck			
I	P-10	Remove a portion of concrete slope underneath Artesia Blvd Bridge	loader / jackhammer?	dump truck	1,000 ft^3 of concrete	1	
II	P-05	Install a 12-foot wide, 10-foot tall precast concrete box in channel + 7.5' cover, base, and repave	Crane, excavator, loader, roller, paver, grader	trucks	5,250 ft^3 of earth	2	1 wk
II	P-11	Install a cantilevered deck between the channel bottom and the bottom of the existing bridge	Cranes				

Segment Q

Phase	Activity	Description	Off-road	On-road	Amt Removed	# Onroad Trucks	Est. Time
I	Q-01	Install traffic signals & crosswalk @ at-grade crossing	Signal Boards				
I	Q-02	Place 420 feet of asphalt paving from Knott Avenue upstream	roller, paving equipment, grader	asphalt truck		2	
I	Q-03	Install a railroad crossing warning signal @ at-grade crossing	Signal Boards				
I	Q-04	Place 2,900 feet of asphalt paving upstream of railroad lead line	roller, paving equipment, grader	asphalt truck		12	
I	Q-05	Assemble a concrete box via jacking method @ undercrossing	crane, jack	truck			
I	Q-06	Relocate a Chevron fuel line (cut/cap/remove?)					
I	Q-07	Construct open U-cross section channels just down- and up-stream of jacked box + 500' channel	excavator, loader, drill rig	dump trucks *concrete trucks*	68,400 ft^3 of earth	24	
I	Q-10	Install T intersection traffic signal @ at-grade crossing	Signal Boards				
I	Q-11	Place 560 feet of asphalt paving between Stage Rd and new pedestrian bridge	roller, paving equipment, grader	asphalt truck		3	
	Q-08	Construct cast-in-place concrete end bents on each side of north fork	Drill rig, concrete mixer		2,500 ft^3 of concrete	1	3 wks
	Q-09	Install truss bridge across north fork of Coyote Creek	2 cranes, welder	4 trucks			2 days
I	Q-15	Place 700 feet of asphalt paving between new pedestrian bridge and La Mirada Blvd	roller, paving equipment, grader	asphalt truck		4	
I	Q-12	Remove ornamental trees and do minor grading	backhoe, tractor			1	
I	Q-13	Install 280-foot trail on either side of La Mirada Blvd	roller, paving equipment, grader	asphalt truck		1	

Construction Emissions UPRR Overcrossing

Maximum Daily Criteria Emissions

Category	Criteria Emissions (lbs/d)				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Overcrossing	10.60	53.40	58.35	2.63	2.33
U-Channel	10.60	53.40	58.35	2.54	2.25
Change	**0.00**	**0.00**	**0.00**	**0.09**	**0.08**

Total GHG Emissions

Category	GHG Emissions (tonnes)			
	CO_2	CH_4	N_2O	CO_2e
Overcrossing	175.32	0.0412	0.0008	176.58
U-Channel	223.46	0.0539	0.0009	225.07
Change	**-48.14**	**-0.0127**	**-0.0001**	**-48.49**

APPENDIX C

NATURAL ENVIRONMENT STUDY (MINIMAL IMPACTS)

OC LOOP SEGMENTS O, P, & Q COYOTE CREEK BIKEWAY PROJECT
NATURAL ENVIRONMENT STUDY REPORT
(MINIMAL IMPACTS)

CITIES OF CERRITOS, LA MIRADA AND BUENA PARK
ORANGE AND LOS ANGELES COUNTY, CALIFORNIA
District 12-ORA

ATPL-5955(112)

September 2020

STATE OF CALIFORNIA
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TABLE OF CONTENTS

List Of Acronyms And Abbreviations ..... **iii**

Executive Summary **1**

1.0 Introduction **3**
1.1 Project Location 3
1.2 Project Purpose and Need 3
1.3 Project Description 4
1.4 Projection Construction 10
1.5 Construction Staging 12
1.6 Easements 12
1.7 Discretionary Actions 12

2.0 Study Methods **14**
2.1 Regulatory Requirements 15
2.2 Studies Required 25
2.3 Personnel Survey Dates 28
2.4 Agency Coordination and Professional Contacts 29
2.5 Limitations That May Influence Results 29

3.0 Results: Environmental Setting **30**
3.1 Description of the Existing Biological and Physical Conditions 30
3.2 Physical Conditions in the Study Area 30

4.0 Results: Biological Resources, Discussion of Impacts and Mitigation **38**
4.1 Land Cover Types and Natural Communities within the BSA 38
4.2 Potential Impacts to Protected Trees 40
4.3 Potential Impacts to Special-Status Plant Species 46
4.4 Potential Impacts to Special-Status Wildlife 47
4.5 Potential Impacts to Waters of the U.S. and State 56
4.6 Potential Impacts to Wildlife Corridors 59
4.7 Potential Impacts to USFWS Critical Habitats 60
4.8 Potential Impacts to Significant Ecological Areas 61

5.0 Conclusions and Regulatory Determination **62**
5.1 Federal Endangered Species Act Consultation Summary 62
5.2 Wetlands and Other Waters Coordination Summary 62
5.3 Invasive Species 64
5.4 Migratory Bird Treaty Act 65

6.0 References **66**

TABLES

Table 1.7-1 - Discretionary Actions 13
Table 2.2-1 - Field Survey Information 26
Table 3.2-1 - Total Maximum Daily Loads for Coyote Creek and Coyote Creek North Fork 31
Table 3.2-2 - Temperature Statistics for Anaheim Station #040192 (1989– 2012) 32

Table 3.2-3 - Precipitation Statistics for Anaheim Station #040192 (1989 – 2012) 32
Table 3.2-4 - USDA NRCS Soils Mapped Within the BSA 33
Table 3.2-5 – CNDDB Sensitive Communities within Ten Miles of the Project Site 34
Table 4.1-1 - Land Cover Types Recorded in the BSA 39
Table 4.1-2 - Land Cover Area in the BSA 39
Table 4.1-3 - Area of Anticipated Direct Impacts to Land Cover in the BSA 40
Table 4.2-1 - Tree Inventory 41
Table 4.5-1 - Jurisdictional Areas and Impacts Summary Table 58

APPENDICES

Appendix A Figures

- Figure 1 - Regional Overview
- Figure 2 - Project Vicinity
- Figure 3 - Project Location
- Figure 4 - USGS Topographic Map
- Figure 5 - OC Loop Segment O Improvement Plan
- Figure 6 - OC Loop Segment P Improvement Plan
- Figure 7 - OC Loop Segment Q Improvement Plan
- Figure 8 - Project Boundary and Biological Study Area (BSA)
- Figure 9 - USGS Surface Waters and Watersheds
- Figure 10a-c - National Wetlands Inventory
- Figure 11 - USDA Soils
- Figure 12 - Land Cover Types
- Figure 13 - CDFW Regional Wildlife Corridors
- Figure 14 - CNDDB Plant Species and Habitats
- Figure 15 - CNDDB Wildlife Species
- Figure 16a-o - Impacts to Land Cover Mapbook
- Figure 17 - Tree Inventory Map
- Figure 18 - Potential Bat Maternity Colonies
- Figure 19a-o - Jurisdictional Areas Mapbook
- Figure 20a-o - Impacts to Jurisdictional Areas Mapbook
- Figure 21 - Critical Habitats

Appendix B1 2018 Project Design Plans

Appendix B2 2020 Updated Crossing Plans

Appendix C IPaC Species List

Appendix D Plant Special-Status Species Inventory and Potential Occurrence Determination

Appendix E Wildlife Special-Status Species Inventory and Potential Occurrence Determination

Appendix F Focused Bat Survey Report

Appendix G Site Photographs

Appendix H Lists of Species Observed During Surveys

Appendix I Jurisdictional Delineation Report

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Term
Agreement	Lake or Streambed Agreement
BEP	Bat Exclusion Plan
BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographic Information and Observation System
BMP	Best Management Practice(s)
BNSF	Burlington Northern Santa Fe Railway
BSA	Biological Study Area
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CRAM	California Rapid Assessment Method
CRPR	California Rare Plant Rank
CWA	Clean Water Act
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Sensitive Area
FESA	Federal Endangered Species Act
FGC	(California) Fish and Game Code
GIS	Geographic Information System
HU	Hydrologic Unit
IPaC	Information for Planning and Consultation
I-5	Interstate 5
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MCV2	Manual of California Vegetation Online (Second Edition)
NEPA	National Environmental Policy Act
NES (MI)	Natural Environment Study (Minimal Impacts)
NOAA	National Oceanic and Atmospheric Administration

Acronym/Abbreviation	Term
NRCS	National Resources Conservation Service
NWI	National Wetland Inventory
NWP	Nationwide Permit Program
OC	Orange County
OCPW	Orange County Public Works
OCTA	Orange County Transit Authority
OHWM	ordinary high-water mark
PCN	Preconstruction Notification
RCB	reinforced concrete box
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
RWQCBs	Regional Water Quality Control Boards
SEA	Significant Ecological Area
SWRCB	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
U.S.	United States
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program
WQC	Water Quality Certification
WQMP	Water Quality Management Plan
§	section
§§	sections

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EXECUTIVE SUMMARY

The proposed project site traverses the City of La Mirada, City of Buena Park and City of Cerritos, (see **Figure 1,** *Regional Overview*, and **Figure 2** *Project Vicinity,* and **Figure 3***, Project Location,* located in **Appendix A***, Figures*). The OC Loop Segments O, P, Q Coyote Creek Bikeway Project (proposed project) involves the construction and operation of a 2.7-mile Class I Bikeway component of a larger and longer 66-mile regional bikeway corridor called the OC Loop. Comprised of OC Loop Segments O, P, and Q, the new proposed facilities, scheduled to become part of the Coyote Creek Bikeway, will be located along the northwest Orange County/southeast Los Angeles County border from its point of origin along the Coyote Creek flood control channel in the City of Cerritos on the southwest to the City of Buena Park to the northeast.

Project components include installation of a pre-fabricated truss bridge across Coyote Creek at Station 10+00 (confluence of the north and east forks of the Coyote Creek flood control channel) and another pre-fabricated truss bridge (similar to the first one but much shorter) across Coyote Creek upstream of Stage Road. The project also involves undercrossings at Valley View Avenue, Artesia Boulevard, Union Pacific Railroad (UPRR) Industrial Lead, South Firestone Boulevard, Interstate 5 (I-5), North Firestone Blvd, Burlington Northern Santa Fe Railway (BNSF)/Metrolink Railway Line; alternatively, since UPRR has preliminarily indicated they may not be able to support an underpass of their tracks by policy, a pedestrian/cyclist truss bridge may be required as an alternative option. At-grade crossings include Knott Avenue, BNSF Railway lead, and Stage Road. The at-grade crossing at Stage Road would use a signalized intersection at McComber Road approximately 500 feet west of Coyote Creek and would involve installation of a fully functional "T intersection" traffic signal and crosswalk.

The new and existing bikeway would be connected by directing cyclists east onto La Mirada Boulevard and constructing a new 10-foot wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Several ornamental trees would be removed and replaced if the landowner/City desire and minor grading would be conducted to install the new Class I trail. The existing sidewalks for this 280-foot reach of La Mirada Boulevard would be included in the Class I trail.

A reconnaissance-level biological resource field review was conducted on February 21 and March 6, 2020. Additional surveys included a tree inventory conducted on March 6, focused acoustic bat surveys conducted on July 14 and 15, 2020, and a desktop jurisdictional delineation conducted on April 9, 2020, which utilized photos and data collected during each aforementioned biological resources and tree inventory surveys. A desktop delineation was performed: 1) due to the stay-at-home order issued by Governor Gavin Newsom on March 19, 2020; 2) due to the static nature of the concrete-lined channel; and 3) the availability of storm drain plans to digitize jurisdictional boundaries using the approximate location of the ordinary high water mark and top of bank, as observed during the field surveys.

Three land cover types (habitats/natural communities) were observed within the project's 126.2-acre Biological Study Area (BSA): 1) Developed/Ornamental; 2) Concrete-lined channel; and 3) Disturbed habitats.

No listed endangered, threatened, candidate or state rare plant species or sensitive plant species were observed within the BSA during the field surveys conducted on February 21 or March 6, 2020 by UltraSystems Environmental. The literature review and field surveys concluded that habitat

conditions within the BSA create a moderate potential for one sensitive plant species to occur: lucky morning glory (*Calystegia felix*) (California Rare Plant Rank (CRPR): 1B.1).

One special-status wildlife species, Coastal Whiptail (*Aspidoscelis tigris stejnegeri*; California Department of Fish and Wildlife [CDFW] Species of Special Concern [CDFW, 2019; CDFW, 2020a; CDFW, 2020b; Association of Environmental Professionals, 2019), S-Rank = S3) was observed during the surveys. In addition, the literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential for one sensitive wildlife species to occur: the Western Mastiff bat (*Eumops perotis californicus*; CDFW Species of Special Concern [SSC]). The focused acoustic bat surveys (which were performed July 14 and 15, 2020) are the only accepted industry-standard approach to determine presence/absence of this species.

Sixteen additional "common" wildlife species were detected (visually or aurally) during the survey. These include the mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), least sandpiper (*Calidris minutilla*), killdeer (*Charadrius vociferus*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), black phoebe(*Sayornis nigricans*) and two bat species, big brown bat (*Eptesicus fuscus*) and Mexican free-tailed bat (*Tadarida brasiliensis*). Stage Road bridge contained a bat colony, as noted by sign (excrement) and aural cues (vocalizations and movement sounds). The focused acoustic bat survey conducted on July 14 and 15, 2020 confirmed a roosting colony on Stage Road Bridge and all other bridges were deemed as low risk for presence of a bat colony due to lack of suitable crevices or cavities and a lack of bat guano. The focused acoustic bat survey also confirmed suitable roosting habitat for the Western Mastiff Bat. Focused pre-construction surveys will be conducted to determine presence of roosting bats and to determine the particular bat species using the bridges.

Coyote Creek, a channelized intermittent stream that flows west/southwest through the BSA, discharges into the San Gabriel River (a known water of the U.S.); therefore, Coyote Creek is considered a water of the U.S. and a water of the State of California (water of the State).

The OC Loop segments O, P and Q Coyote Creek Bikeway Project may require a § 404 Clean Water Act (CWA) Nationwide Permit (NWP) and a §408 Authorization to Alter a "Civil Works" project, both from the United States Army Corps of Engineers (USACE), a § 401 CWA Water Quality Certification through the California State Water Resources Control Board (SWRCB), and a § 1602 California Fish and Game Code (FGC) Lake or Streambed Alteration Agreement from the South Coast Region of the California Department of Fish and Wildlife.

1.0 Introduction

1.1 Project Location

OC Loop Segments O, P, and Q Coyote Creek Bikeway Project ("proposed project" or "project") site goes through the City of La Mirada, City of Buena Park, and the City of Cerritos (see **Figure 1***, Regional Overview,* **Figure 2**, *Project Vicinity,* and **Figure 3**, *Project Location,* located in **Appendix A***, Figures*) United States Geological Survey (USGS) 7.5-Minute topographic map in Township 3 South, Range 11 West, Section 26,27,33 and 34 (see **Figure 4**, *Topography*, located in **Appendix A***, Figures*).

The proposed project would involve the development of a 2.7-mile Class I Bikeway component of a larger 66-mile regional bikeway corridor called the OC Loop, Segments O, P and Q (hereby referred to as the "proposed project" or "project") that will become part of the Coyote Creek Bikeway. The proposed project, scheduled to become part of the Coyote Creek Bikeway, will be located along the northwest Orange County/southeast Los Angeles County border from its point of origin along the Coyote Creek flood control channel in the City of Cerritos to the project terminus in the City of Buena Park.

Specifically, Segment O would be 1.1 miles long and extend from Coyote Creek North Fork to Artesia Boulevard. OC Loop Segment P would be 0.6-mile-long and extend from Artesia Boulevard to Knott Avenue. OC Loop Segment Q would be one mile long and extend from Knott Avenue to Malvern Avenue. (see **Figure 3**, *Project Location*, in **Appendix A**, *Figures*)

1.2 Project Purpose and Need

Areas along the OC Loop corridor that are open for bicycle traffic are in poor condition and the bikeway surface is not marked clearly. Bicycle traffic at the junction of the Coyote Creek Bikeway and the San Gabriel River Bikeway does not continue along Coyote Creek Bikeway (Stantec Consulting Services Inc., 2015, p. 40). In some areas, the bikeway is improved on one bank, while in other areas it is improved on both sides. Bicyclists can find themselves at the end of a bikeway facing a heavily used arterial highway with a high-speed limit. In addition, there may be no traffic signals to facilitate crossing, a raised median may prohibit crossing and no suitable way to use the roadway bridge to ride across the creek to reach the bikeway on the opposite bank (Stantec Consulting Services Inc., 2015, pp. 40-41).

Once constructed, the proposed project would close an existing bikeway gap along the OC Loop with a Class I bikeway physically separated from vehicular traffic. As an alternative mode of transportation, the proposed project would also increase the use of active transportation travel modes, enhance safety and mobility for non-motorized users, advance efforts to achieve greenhouse gas reduction goals, improve access and maintenance to the flood control channel, and enhance public health. In addition, the proposed project is a safety and mobility enhancement for the County of Orange, and is included in the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 Orange County Transit Authority (OCTA) Commuter Bikeway Strategic Plan, 2012 OCTA/County of Orange Fourth District Bikeways Strategy Report, 2014 County of Orange General Plan Transportation Element (as part of the Orange County Seven-Year Plan), and the 2015 OC Loop Gap Feasibility Study (OC Parks).

The proposed project has the following objectives.

- To further establish the OC Loop as a significant regional recreational and alternative transportation facility resource.
- To facilitate increases in the public's use of active transportation travel modes.
- To enhance the safety and mobility for non-motorized users.
- To advance efforts to achieve greenhouse gas reduction goals.
- To improve the maintenance of, and access to, the flood control channel.
- To enhance public health via the facilitation of increased public use of active transportation travel modes.
- To serve as a viable contributor to County policies and physical improvements designed to promote safety and mobility enhancement.
- To accurately serve its stated purpose in various adopted County/OCTA policy and planning documents including the 2008 Coyote Creek Bikeway Master Plan (Rivers and Mountains Conservancy and Trails4All), 2009 OCTA Commuter Bikeway Strategic Plan, 2012 OCTA/County of Orange Fourth District Bikeways Strategy Report, 2014 County of Orange General Plan, and the 2015 OC Loop Gap Feasibility Study.

1.3 Project Description

As indicated previously, the proposed project is broken down into three Segments (O, P and Q) of the overall OC Loop. **Figure 3,** *Project Location*, (located in **Appendix A**, *Figures*) depicts the arrangement of the three Segments. From south to north, OC Loop Segment O extends northeasterly from the point of origin near the north fork of the Coyote Creek flood control channel to Artesia Boulevard. OC Loop Segment P extends northeasterly from Artesia Boulevard to Knott Avenue, while OC Loop Segment Q extends northeasterly from Knott Avenue to the terminus of the proposed project at La Mirada Boulevard. Conceptual drawings showing all of the improvements associated with the proposed project are provided herein as **Appendix B1**, *Project Design Plans*, and **Appendix B2**, *2020 Updated Crossing Plans*, for Improvement of Coyote Creek Class I Bikeway Segments O, P and Q (Orange County Flood Control District Facility No. A01). The plans originate at Station 10+00.0 (Coyote Creek/North Fork) and terminate at Station 147+22.83 (La Mirada Boulevard/Malvern Avenue).

Following are summary descriptions of the main improvements planned as part of the proposed project presented on a Segment-by-Segment basis. A number of utility crossings would be necessary to accommodate the proposed project. Existing flood control maintenance road ramps from the flood control channel to existing roadways would be improved for bicycle access as well. Chain link or wire fencing would be provided where safety dictates on one or both sides of the bikeway.

Summary of Segment O Improvements

Location

Segment O is the southernmost portion of the project area and is located within the cities of Cerritos and Buena Park. Segment O begins at the existing Coyote Creek Bikeway at the confluence of the channel's east and north forks. The segment runs east-northeast for approximately 4,800 feet, or 0.91 mile, along the east fork of the Coyote Creek Channel to Artesia Boulevard. A plan view of the proposed improvements within OC Loop Segment O is depicted in **Figure 5,** *OC Loop Segment O Improvement Plan*.

Pedestrian/Cyclist Bridge

At Station 10+00, at the confluence of the north and east forks of the flood control channel, a 200-foot-long and 12-foot-wide pre-fabricated truss bridge would be installed across Coyote Creek at the north fork. Approximately four 18-wheeled flatbed trucks would deliver the bridge in several sections and workers would bolt the bridge together onsite. The pre-fabricated bridge would be bolted together on the floor of the concrete flood control channel. It is estimated to take about two days to assemble the bridge on site. Reinforced concrete end bents would be constructed (cast in place) prior to delivery of the bridge. The bridge would be lifted and placed on the end bents by two large cranes. Only pedestrians and cyclists would use the bridge, as it would not be rated for the weight of motor vehicles. The bridge would be steel and designed to have a rust patina ("weathered steel" look), to eliminate the need for future painting. The deck of the pedestrian bridge would be wood.

Approximately 1,570 linear feet of a 12 to 16 foot-wide asphalt would be placed upstream of the pre-fabricated bridge to Valley View Avenue. About 1,750 cubic feet of asphaltic concrete used for the existing maintenance road would be removed and recycled before any new asphalt paving would be placed. The new asphalt would be approximately four inches thick over six inches of crushed aggregate base. Fencing, such as a five-foot high chain link fence or four-feet tall cable fence with six strands of cable may be installed on one or both sides. The fencing may be installed along the entire 2.7 miles of new bikeway if necessary. The location of the fencing (either on one or both sides of the bikeway) would be determined later in the design process.

Valley View Avenue Crossing

The next feature of Segment O would be a concrete undercrossing of Valley View Avenue that would be constructed into the side of the existing sloped bank of the concrete flood control channel. An under-bridge bundle of AT&T conduit will need to be relocated. The existing concrete slope under the Valley View Bridge would be removed and steepened to near vertical to accommodate the new 12-foot-wide trail undercrossing. A tieback wall would be installed under the bridge and the construction would be located above the existing outfalls. Upstream of the Valley View undercrossing to Artesia Boulevard, approximately 3,010 feet of 14 to 16 foot-wide asphalt paving would be placed adjacent to the flood control channel.

Artesia Boulevard Ramp

The bikeway ramp up to the south side of Artesia Blvd would generally follow the existing maintenance access road.

Summary of Segment P Improvements

Location

Segment P is located generally within the City of La Mirada in Los Angeles County and runs parallel to the north side of the Coyote Creek channel from the Artesia Boulevard undercrossing to Knott Avenue. It is approximately 3,000 feet long (equivalent to 0.57 mile) and crosses under the Interstate 5 (I-5) freeway, its frontage roads (North and South Firestone Boulevard), and the Union Pacific Railroad[1] (UPRR) industrial lead. It includes 1,085 linear feet of new 14 to 16 foot-wide asphalt trail. A plan view of the proposed improvements within OC Loop Segment P is provided in **Figure 6**, *OC Loop Segment P Improvement Plan.*

Undercrossing at Artesia Boulevard

Segment P begins at the Artesia Boulevard undercrossing, where there is currently a six-foot-wide strip of exposed dirt under the bridge between the bridge abutment and the vertical wall of the flood control channel. Several concrete columns would be installed into the six-foot-wide strip of exposed soil between the bridge abutment wall and the concrete channel wall. The concrete columns would support a 13-foot-wide concrete deck, six to seven feet of which would cantilever over the flood control channel. Approximately two to three feet of the top of the concrete flood control wall would be removed to ensure that there would be sufficient vertical clearance between the new bikeway and the bridge soffit. The existing concrete bridge abutment wall would act as the new flood control wall. Upstream from the Artesia Boulevard undercrossing would be about 1,200 feet of new 12- to 16-foot-wide asphalt paving.

Union Pacific Railroad Box Jack (Concrete Box) Underground Tunnel or Overcrossing

The next feature in Segment P would be a 120-foot-long box jack construction of a reinforced concrete box culvert underground tunnel under the UPRR railroad line. The box jacking operation would take two months and involve jacking a linear 134-feet-long, 12-foot-wide and 10-foot-tall[2] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Upstream from the UPRR undercrossing to the South Firestone Boulevard undercrossing, the bikeway elevation remains below the top of the channel. Between the UPRR crossing and South Firestone Boulevard would be an open concrete U-channel to contain the new trail. The vertical U-channel walls would vary from 0 feet to about 13 feet high. This channel would slope down into the tunnel, with the wall height increasing as the depth increases, and then would slope upwards as it leaves the tunnel, with its walls decreasing in height. One method to construct this depressed cross-section is to make use of the existing channel wall and then excavate away from it toward the ROW line. A wall would then be needed on the opposite side to support the below-grade bikeway. It is anticipated that this wall's height most likely could not be supported without ground anchors (or tiebacks) that would extend beyond the ROW; therefore, a top-down wall without tiebacks could be constructed (such as a secant or tangent pile wall). Another method is to use shoring to excavate the "u-shape" then construct a "U-wall" similar to what is done in creek channels.

1 Formerly Southern Pacific.
2 Inside dimensions.

On the downstream side of this crossing are two abandoned fuel lines, a U.S. Navy jet fuel line and a Kinder Morgan oil pipeline. The project would cut, cap and remove the Kinder Morgan fuel pipeline and the Navy jet fuel line.

Alternatively, since UPRR has preliminarily indicated they may not be able to support an underpass of their tracks by policy, a pedestrian/cyclist truss bridge may be required as an alternate (see **Appendix B2**, *2020 Updated Crossing Plans*). This would require a 1200-foot-long, 35-foot-high truss bridge. It is undesirable because the slope on the northeast end would reach a minimum of 9.6% to allow for the south Firestone underpass entrance. This exceeds ADA standards and is extremely difficult for cyclists. The bridge would be located within a heavily industrial area.

The alternate option, the UPRR overcrossing, has approximately the same overall footprint of the underground box jack (concrete box) option, therefore, the analysis within this report applies to either option.

South Firestone Boulevard Undercrossing

The project proposes an open cut of South Firestone Boulevard west of Coyote Creek and the installation of a 12-foot-wide by 9.25 foot-tall precast concrete box. The box under South Firestone Boulevard would be completed by closing all lanes of the road for approximately three weeks. A detour can be provided for each direction since South Firestone Boulevard has access on both ends. There are no residences within 2,400 feet of this site (the nearest residence is approximately 2,400 feet east of the site at the westerly end of the Kensington Drive cul-de-sac). After the concrete box has been installed, it would be covered with road base and paved to its original elevation. The existing Southern California Edison pole at South Firestone Boulevard may need to be relocated as part of the proposed project. If it is relocated, it would be moved within the ROW to the north side of the box culvert.

I-5, South and North Firestone Boulevard Undercrossing

The 1-5, South and North Firestone Boulevard undercrossing would be located in the City of La Mirada. South Firestone requires an open cut, concrete box culvert beneath the existing roadway. The I-5 Widening Project, which is separate from the proposed project, provides sufficient width for the tunnel between two bridge abutments at both the I-5 and North Firestone Boulevard. The section under the 1-5 and North Firestone Boulevard would need to be excavated to accommodate the proposed 12-feet-wide bikeway. Upstream of the l-5 and North Firestone Boulevard, the trail would continue adjacent to the top of the flood control channel. Approximately 1,550 linear feet of 14- to 16-feet-wide asphalt trail would be placed between North Firestone Boulevard and Knott Avenue.

Summary of Segment Q Improvements

Location

Segment Q begins in the City of Buena Park, extend northwest into the City of La Mirada and ends in the City of Buena Park. More specifically, Segment Q extends from Knott Avenue, crosses Stage Road at McComber Road and ends at La Mirada Boulevard in Buena Park and is approximately one mile long. It crosses beneath the Burlington Northern Santa Fe Railway Company (BNSF) industrial lead, the heavily used BNSF Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor, and Stage Road at grade at McComber Road before ending at La Mirada Boulevard. A plan view of the

proposed improvements within OC Loop Segment P is provided in **Figure 7**, *OC Loop Segment Q Improvement Plan*.

Knott Avenue At-Grade Crossing

The first component of Segment Q would be a signalized at-grade crossing at Knott Avenue. Traffic signals with push-button activation and crosswalk striping would be installed. Approximately 420 linear feet of 12 to 14 feet-wide asphalt trail would be installed upstream of Knott Avenue.

At-Grade Crossing of BNSF Railway Lead

Additionally, upstream of Knott Avenue (downstream of the confluence of Coyote Creek and Brea Creek) would be an at-grade crossing of a railroad industrial lead that serves only a few customers. BNSF is evaluating if this lead can be closed to the north of this crossing. If not closed, then because of the low volume, the California Public Utilities Commission and BNSF will not require warning signals; rather, zigzag fencing would be constructed on both sides so bicyclists are made to look in both directions before crossing. Upstream of this railroad crossing would be approximately 2,900 feet of new 14 to 16 feet-wide new asphalt pavement along the Coyote Creek flood control channel.

Undercrossing of the BNSF/Metrolink Railway Line

The next feature in Segment Q would be a 144-feet-long bore and jack construction of a reinforced concrete box culvert tunnel under an existing BNSF and Metrolink railway corridor, which carries three tracks as well as a railroad turnout (i.e., railroad switch).[3] It is anticipated that the corridor will be widened for a fourth railroad track in a couple of years. The box jacking operation would take two months and involve jacking a linear 144 feet long, 12-foot-wide and 10-feet-tall[4] precast reinforced concrete box. There would be 7.5 feet of earthen cover between the top of the box and the railroad tracks.

Various utility lines are located in this area. On the downstream side of the existing railroad corridor there is an abandoned Chevron fuel line. On the upstream side of the railroad tracks are telecommunication lines in a concrete box girder conduit, but the fuel line and the telecommunication lines would not be in conflict with the proposed tunnel because they are above ground rather than underground. The project would cut, cap and remove the abandoned Chevron Oil fuel pipeline. A utility conflict can be avoided by jacking the reinforced concrete box under the existing AT&T conduit (which is supported just above ground).

A vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

Upstream of the BNSF/Metrolink Undercrossing

Upstream of the box section, between the BNSF/Metrolink undercrossing and Stage Road, would be an open U-channel to contain the new trail. The vertical U channel walls would vary from 0 feet to

3 A railroad turnout is a mechanical installation enabling railway trains to be guided from one track to another, such as at a railway junction or where a spur or siding branches off.

4 Inside dimensions.

about 13 feet high. This portion of the trail would provide safe passage for pedestrian and bicyclists from the BNSF Metrolink undercrossing to the at-grade crossing of Stage Road described below.

At-Grade Crossing of Stage Road

The next feature in Segment Q would be an at-grade crossing of Stage Road in Buena Park. The fully signalized intersection would be located at McComber Road approximately 500 feet west of the channel. A typical fully functional "T intersection" traffic signal and crosswalk would be installed. This option would involve restriping the existing roadway to allow for a 12-foot-wide, barrier-separated bikeway on both sides of Stage Road between McComber Road and Coyote Creek. This Class IV bikeway would be located between McComber Road and the Stage Road crossing. Class II striping transition would be located along Stage Road to the east of Coyote Creek and along Stage Road to the west of the intersection of McComber Road and Stage Road, as follows: restriping Class II bikeways would occur along Stage Road between Beach Boulevard to the east and approximately 300 feet west of the intersection of McComber Road and Stage Road. Additionally, new curb ramps would be installed at McComber Road and at Coyote Creek.

Pedestrian/Cyclist Bridge North of Stage Road Crossing Coyote Creek

Upstream from Stage Road would be about 560 feet of new 12 to 16 feet-wide asphalt paving along the east bank of Coyote Creek. To meet up with the already constructed OC Loop Segment R on the other side of the channel, a pre-fabricated truss bridge, similar to the one being installed at the beginning of the project, but much shorter, would be installed across Coyote Creek. The bridge would be approximately 50 feet long, no more than about five to eight feet high and 12 feet wide. Installation of the bridge would be completed in one day by using a large crane. Prior to the arrival of the bridge, the reinforced concrete bridge abutments would be formed and poured. Upstream from the pedestrian bridge would be 640 feet of new 12 to 16 foot-wide asphalt paving along the west bank of Coyote Creek.

La Mirada Boulevard Detour

The new and existing bikeway would be connected by directing cyclists onto La Mirada Boulevard and constructing a new 10-foot wide asphalt Class I trail on both sides of La Mirada Boulevard for a distance of 280 feet (on each side) where bicyclists could cross via an existing signalized intersection at the entrance of the Los Coyotes Shopping Center. Several ornamental trees (up to 22 trees) would be removed (and replaced if desired by landowners/or required by the City). Minor grading would be required to install the new Class I trail. The existing sidewalks for this 280-feet reach of La Mirada Boulevard would be included in the Class I trail.

Improvements at La Mirada Boulevard/Malvern Avenue

Along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor will "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities will remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on each side.

Landscaping

Other than an existing 280-feet-long by about 10-feet-wide strip of landscaping on both sides of La Mirada Boulevard behind the existing sidewalk, no other existing landscaping would be impacted. New or replacement landscaping will be provided as part of this project if the landowners and the City desire, at La Mirada Boulevard. Signage and maps would be installed along the bikeway to direct users.

Stormwater

A Water Quality Management Plan (WQMP) that may include constructed stormwater quality enhancements would be prepared as a part of this project. The project would add impervious area. During project design, pervious pavement or impervious pavement with bioswale will be used for the bikeway to meet Regional Water Quality Control Board requirements. If bioswales are incorporated, periodic drainage pipes will be installed to the channel. Storm drain pipes would be placed at the lowest elevation of undercrossings to allow storm water to drain into the adjacent channel. Bioswales for water quality treatment would be employed at the downstream sides of both railroad undercrossings.

Lighting

The only lighting associated with the proposed project for approximately 200 feet of bikeway under North and South Firestone Boulevard and the I-5, and the two railroad underpasses. The project does not propose any trail lighting. Light would be produced from signals (such as traffic signals) along the project alignment, as well as from existing street lighting in the vicinity of the bikeway.

Signage

Only standard and minimal bike signage and location maps conforming to OC Parks signage codes and criteria are required.

Bikeway

Where the bikeway is at grade, the path would be asphalt and be 14 to 16 feet wide, inclusive of the two-feet wide shoulders on each side of the trail, wherever a chain link fence or cable railing is added for safety. Where the bikeway would travel beneath grade, the bikeway surface would be concrete and 10 to 14 feet wide with no shoulders.

1.4 Projection Construction

Construction is anticipated to take between 18 months and two years and occur sometime between January 2023 and December 2024. Construction would occur in one stage, unless federal funding is provided in incremental amounts. Construction workers would be able to park within the Coyote Creek right-of-way via the street crossings (Valley View, Artesia, Firestone, Stage Road). All lanes of South Firestone Boulevard would be closed for approximately three weeks to install the precast box culvert beneath the roadway for the bikeway.

Depending upon funding, project construction would occur in one, two or three phases; for example, the three segments (O, P, and Q) could be done one at a time. The project includes three contiguous gap closure segments; O, P, and Q. Because of the significant cost of the project overall and the need

for state/federal grant funds to move forward, it is possible that grant funds will come in separate years for separate segments. The State has indicated that the County should simultaneously submit grant requests for the entire project and for each of the three segments separately for their next grant cycle. Therefore, the project may be done in two or three phases in different fiscal years, depending upon annual grant funding cycles. In general, construction phases could include:

- Demolition.
- Grading and excavation.
- At grade crossing construction.
- Installing 2 prefabricated bridges, 2 roadway underpasses, walls and box jacking under both railroads.
- Placing asphalt and fencing.
- Final items (striping, signage, etc.).

It is anticipated that an average of about 20 construction employees would be onsite over 24 months.

Several utilities would be protected in place and the abandoned fuel lines mentioned previously on the downstream sides of the two railroad undercrossings would be cut, capped and removed. AT&T conduit must be relocated beneath Valley View Boulevard. A power pole in the northwest quadrant at South Firestone Boulevard would require relocating. This pole supports a Southern California Edison power line and communications lines that would require relocating.

Construction Equipment

Proposed equipment anticipated to be used during project construction includes, but is not limited to, the following:

- Grading equipment for preparing the bikeway for paving.
- Excavation equipment (concrete saws, bulldozers, excavators, dump trucks) for going under Valley View Avenue, Artesia Boulevard, North and South Firestone Boulevard, and the I-5.
- Drilling rigs for end bents for the pedestrian bridge over the north fork of Coyote Creek, the tieback wall at Valley View Avenue, the piles for the bikeway foundation slab under Artesia Boulevard and the temporary shoring walls at both railroad undercrossings.
- Box-jacking equipment in pits for jacking the reinforced concrete box under the two railroad corridors.
- Flatbed trucks and cranes for installing the steel prefabricated pedestrian bridges.
- Asphalt paving equipment for installing the bikeway surface where the bikeway is at grade.
- Concrete trucks for pouring the end bents for the pedestrian bridge over the north fork of Coyote Creek, and concrete walls on either side of the railroad undercrossings.

- Two cranes to install the two prefabricated bridges, with a period of use of approximately two weeks for each bridge.

1.5 Construction Staging

Construction staging would involve detouring traffic for the closure of South Firestone Boulevard for installation of the reinforced concrete box. Additionally, a vacant triangular 0.5-acre parcel owned by the Los Angeles County Flood Control District is located on the downstream side of the Metrolink line and could be used for construction staging.

1.6 Easements

The project would include the following permanent easements:

- Along the north side and south side of La Mirada Boulevard between the Coyote Creek Channel and the shopping center driveway at Village Circle Way, the contractor will "clear & grub" from the back of curb to the privacy wall on the north side and from the back/curb to the retaining wall along the south side. Any surface-evident utilities will remain in place and a 10-foot-wide combined pedestrian/Class I bikeway would be constructed on both sides. Approximately 12 feet (or less) of new permanent easement is required on both sides.

- A permanent driveway easement for access to the Flood Control Channel at Trojan Way may be required. The Los Angeles County Flood Control District maintenance access driveway that Caltrans constructed needs to be reconnected after the bikeway is constructed. However, because of the difference in grade between the access driveway and the proposed bikeway, this reconstructed driveway may be as steep as 15 percent. Therefore, if the grade cannot be achieved, then a permanent access easement would need to be obtained from the property owner so that the Los Angeles Flood Control District could use the property owner's driveway to access the flood control channel when needed.

1.7 Discretionary Actions

Discretionary actions required for the implementation of the proposed project are provided in **Table 1.7-1**, *Discretionary Actions*.

Table 1.7-1
DISCRETIONARY ACTIONS

Federal	
Agency	**Required Permit and/or Agreements**
U.S. Army Corps of Engineers (USACE)	• 404 Dredge and Fill permit • 408 Authorization to Alter a "Civil Works" project
State	
Agency	**Required Permit and/or Agreements**
Caltrans	• Construction and Encroachment permit
California Department of Fish and Wildlife (CDFW)	• 1602 Streambed Alteration Agreement
California Public Utilities Commission (CPUC)	• Approval of GO-88b permits at all three railroad crossings
Metrolink/Southern California Regional Rail Authority (SCRRA)	• Plan specification and estimate (PS&E) review and approval
State Water Resources Control Board (SWRCB)	• 401 Water Quality Certification
Regional	
Agency	**Required Permit and/or Agreements**
Los Angeles County Flood Control District (LACFCD)	• Construction and Encroachment permit
Orange County Flood Control District (OCFD)	• Construction and Encroachment permit
Los Angeles Regional Water Quality Control Board (LARWQCB)	• 401 Water Quality Certification
Santa Ana Regional Water Quality Control Board (SARWQCB)	• 401 Water Quality Certification
Local	
Agency	**Required Permit and/or Agreements**
Orange County Public Works	• Construction permit
City of Cerritos	• Construction and Encroachment permit
City of Buena Park	• Construction and Encroachment permit
City of La Mirada	• Construction and Encroachment permit
Railroads and Utilities	
Agency	**Required Permit and/or Agreements**
Union Pacific (UP) Railroad and California Public Utilities Commission	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements
Burlington Northern and Santa Fe (BNSF) Railway and California Public Utilities Commission	• CPUC new grade crossing permits and Construction & Maintenance (C&M) Agreements • Plan specification and estimate (PS&E) review and approval
Chevron, AT&T & SCE	• Agreement for removal/possible relocation of SCE utility pole
Kinder-Morgan & U.S. Navy	• Agreements for removal

2.0 Study Methods

The preliminary study methods for this analysis included the identification and characterization of biological resources, including vegetation community types and alliances, and special-status plant and animal species that are known to occur or have potential to occur in the project area and the larger BSA. The project area (footprint of disturbance) is defined as the area directly affected by the proposed construction and is represented by three different colored polygons; the red polygon represents Segment O, the turquoise polygon represents Segment P, and the purple polygon represents Segment Q (please see **Figure 8**, *Project Boundary and Biological Study Area (BSA)*, located in **Appendix A**). The BSA was defined as a zone approximately 150 feet around the boundary of the project area; the BSA encompass a sufficient area to allow biologists to compile information regarding biological resources that could potentially be affected by site preparation activities and construction. The assessed areas of the BSA include the overall project site, as presented in **Figure 8** (located in **Appendix A**), with the exception of areas that were topographically inaccessible or to which biologists did not have right-of-access. Should the project alignment change prior to construction, it is expected, given the nature of the proposed project, that the revised project footprint would still be within the limits of the BSA.

"Special-status," as used in this report, refers to species that are:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] Part 17.12 [listed plants], 50 CFR Part 17.11 [listed animals], 67 Federal Register [FR] 40657 [candidate species], Birds of Conservation Concern (BCC), and various notices in the FR [proposed species]) (USFWS, 2020a);

- Listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (CNDDB, 2020);

- Identified by the CDFW as fully protected species, including fish and wildlife that do not have State or federal threatened or endangered status but may still be threatened with extinction (CDFW, 2020c);

- California Species of Special Concern: vertebrate species that have been designated as "species of special concern" or "Special Animals" by the CDFW because declining population levels, limited range, and/or continuing threats have made them vulnerable to extinction (CDFW, 2019; CDFW, 2020d);

- Included in the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS, 2020a); or

- Otherwise defined as rare, threatened, or endangered under the California Environmental Quality Act (CEQA).

Prior to conducting fieldwork, biologists reviewed records of known occurrences to identify special-status species that may occur within the BSA, including the defined project area. Those records were then compared with lists of federal- or state-listed threatened, endangered, or other special-status species.

2.1 Regulatory Requirements

2.1.1 Federal Statutes, Regulations, and Executive Orders

2.1.1.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] § 4321) requires federal agencies carrying out, funding, or permitting projects, or implementing any other major federal action that significantly adversely affects the quality of the human environment to prepare a detailed environmental impact analysis for the major federal action. The analysis, known as the Environmental Impact Statement or an Environmental Assessment, must address the adverse environmental impacts of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, alternatives to the proposed action, the relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

2.1.1.2 Federal Endangered Species Act

The FESA of 1973 (Title 16, U.S.C. §§ 1531-1543), as amended, designates and provides for protection of listed threatened and endangered plant and animal species, and their Critical Habitat. The USFWS, in the Department of the Interior, and National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service, in the Department of Commerce, share responsibility for administration of the ESA. These responsibilities include listing and delisting species, designating Critical Habitat, and formulating recovery plans. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of National Marine Fisheries Service are mainly marine wildlife.

Critical Habitat

The ESA of 1973, as amended (16 U.S.C. 1531 et seq.) states that the purposes of the Act are to provide a means to conserve the ecosystems upon which listed species depend. In passing the Act, Congress viewed habitat loss as a significant factor contributing to species endangerment. The present or threatened destruction, modification, or curtailment of a species' habitat or range is included in the Act as one of the factors on which to base a determination of threatened or endangered species (USFWS, 2016).

The designation of Critical Habitat provides a significant regulatory protection in that federal agencies are required to ensure, in consultation with the Services under § 7(a)(2) of the Act, that their actions are not likely to destroy or adversely modify Critical Habitat. This benefit is especially valuable when, for example, a species presence or habitats are ephemeral in nature, species presence is difficult to establish through surveys, or when protection of unoccupied habitat is essential for the conservation of the species (USFWS, 2016).

2.1.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (Title 16, U.S.C. §§ 703 - 712), as amended, includes provisions for protection of migratory birds, including basic prohibitions against any take not authorized by federal regulation. The administering agency for the above authority is the USFWS. The law contains no requirement to prove intent to violate any of its provisions. Wording in the MBTA

makes it clear that most actions that result in "take" or possession (permanent or temporary) of a protected species can be a violation of the act. The word "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (including nests, eggs, and feathers)." The provisions of the MBTA are nearly absolute; "except as permitted by regulations" is the only exception.

2.1.1.4 Bald and Golden Eagle Protection Act

Bald eagles (*Haliaeetus leucocephalus*) were removed from the federal list of threatened and endangered species in 2007, and are no longer protected under the ESA. However, bald eagles remain protected under the Bald and Golden Eagle Protection Act (BGEPA) (Title 16, U.S.C. §§ 668-668c). The BGEPA was enacted in 1940 to protect bald eagles, and revised in 1962 to include golden eagles (*Aquila chrysaetos*) due to their declining populations. The agency administering this Act is the USFWS. The BGEPA prohibits anyone, without a permit issued by USFWS, from "taking" bald eagles or golden eagles, including their parts, nests, or eggs. The BGEPA defines take as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Exceptions may be granted by USFWS for scientific or exhibition use, or for traditional and cultural use by Native Americans. However, no permits may be issued for import, export, or commercial activities involving eagles.

2.1.1.5 Federal Clean Water Act of 1977

The federal CWA (33 U.S.C. §§ 1251-1376) is an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of dredged or fill into waters of the United States (waters of the U.S.) Several sections of this act pertain to regulating the discharge of dredge and fill, as well as pollutants, into wetlands.

§ 401 CWA specifies additional requirements for obtaining a water quality certification. § 401 CWA is administered by the U.S. Environmental Protection Agency (USEPA). The USEPA has occasionally ceded authority to individual states whose water quality regulations meet or exceed the federal regulations; thus, the USEPA has ceded authority to the State of California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs) for issuing Water Quality Certifications.

a. Through the § 401 Program, the SWRCB and its nine RWQCBs certify that an activity's discharge complies with federal (and state) water quality standards and ensures that there is no net loss of wetlands through impact avoidance, minimization, and mitigation. A Water Quality Certification (WQC) requires project owners or proponents to obtain a Water Quality Certification which requires their project to prevent the discharge or dredge and fill material in quantities that would violate federal water quality standards.

b. The SWRCB and its RWQCBs may, at their discretion, use the § 401 Water Quality Certification Program to also implement the California Porter-Cologne Water Quality Control Act (Porter-Cologne; see Section 2.1.2.7 of this document) since both § 401 and Porter-Cologne require that a proposed discharge will comply with water quality standards, which include numeric and narrative water quality objectives applicable to identified surface and ground waters in the State of California. These water quality objectives are designated in the Water Quality Control Plans (Basin Plans) that are prepared, updated, and implemented by each Regional Water Quality Control Boards (RWQCB).

The proposed project occurs in the jurisdictions of both the Santa Ana RWQCB (Region 8) and Los Angeles RWQCB (Region 4); therefore, the SWRCB would provide review and water quality certification services for this project

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the U.S. The United States Army Corps of Engineers (USACE) implementing regulations define "dredged material" as material that is excavated or dredged from waters of the U.S. The CWA implementing regulations define "fill material" as material placed in waters of the U.S. where the material has the impact of either replacing any portion of waters of the U.S. with dry land or changing the bottom elevation of any portion of a waters of the U.S. Examples include discharges of rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure for development projects in waters of the U.S.

a. No discharge of dredged or fill material may be permitted if there is a practicable alternative that would be less damaging to aquatic resources, so long as that alternative does not have other significant adverse environmental consequences [40 CFR § 230.10(a)]. Under 40 CFR § 230.10(a), a potential project alternative is "practicable" if it "is available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purpose." These regulations are jointly administered and enforced by the USACE and the EPA.

b. Under the law, any project that discharges dredged or fill material (temporarily or permanently) into waters of the U.S., including wetlands, may require a § 404 permit. The § 404 permit may be a nationwide permit or an individual permit from the USACE pursuant to § 404 of the CWA. The USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S. provided that a proposed activity can demonstrate compliance with standard terms and conditions. No activity is authorized under any nationwide permit that is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the ESA, or that will destroy or adversely modify the Critical Habitat of such species. If the conditions cannot be met, a regional or individual permit will be required.

The discharge of dredge or fill material into wetlands and other waters of the U.S. is subject to permitting under § 404 CWA, which is administered by the USACE. The USACE, Los Angeles District Office, would provide review and permitting services for this project.

2.1.1.6 Impaired Waters and Total Maximum Daily Loads

Section 303(d) of the Clean Water Act authorizes the USEPA to assist states, territories and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A Total Maximum Daily Load (TMDL) is a number that represents the assimilative capacity of a receiving water to absorb a pollutant. The TMDL is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources plus an allotment for natural background loading, and a margin of safety. (RWQCB, 2018).

Under CWA § 303(d), states are required to submit to the USEPA a list identifying waters within its boundaries not meeting water quality standards (impaired waters) and the water quality parameter (i.e., pollutant requirements) not being met [referred to as the 303(d) List]. States are also required to include a priority ranking of such waters, taking into account the severity of the pollution and the

impacted beneficial uses, for the development of TMDLs. The Water Quality Control Policy for Developing California's Clean Water Act § 303(d) List (Listing Policy) provides the requirements for developing the 303(d) List in California.

In addition to the 303(d) List, the CWA § 305(b) requires states to report to USEPA on the overall water quality conditions of their surface waters, not just those that are impaired (this is referred to as the 305(b) Report). Both Clean Water Act § 303(d) and § 305(b) requirements are being satisfied by the 2014 and 2016 California Integrated Report (RWQCB, 2018).

Consistent with Section 2 of the Listing Policy, the California 303(d) List is made up of Integrated Report Categories 4a, 4b, and 5. These categories contain water bodies that [4a] have a water segment where all of its 303(d) listings are being addressed; [4b] have a water segment where all of its 303(d) listings are being addressed by action(s) other than TMDL.

2.1.1.7 Rivers and Harbors Act

Section 14 of the Rivers and Harbors Act of 1899, as amended and codified at 33 USC 408 (Section 408), authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers of the USACE, to grant permission for the alteration or occupation or use of a USACE civil works project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. Public works projects include dams, basins, levees, channels, navigational channels, and any other local flood protection works constructed by the Corps. The Los Angeles District of the USACE will provide review and permitting services for this project.

2.1.1.8 Executive Order 11990 – Protection of Wetlands (May 24, 1977)

Executive Order (EO) 11990 provides for the protection of wetlands, as described under applicably current rule. The administering agency for the above authority is the USACE. If impacts to wetlands cannot be avoided, then all practicable measures to minimize harm to those wetlands must be included and documented in the final environmental document for the proposed project or activity (NARA, 1977).

2.1.1.9 Executive Order 13112 – Invasive Species (February 3, 1999)

This EO called upon executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. EO 13112 also created a coordinating body - the Invasive Species Council, also referred to as the National Invasive Species Council - to oversee implementation of the order, encourage proactive planning and action, develop recommendations for international cooperation, and take other steps to improve the Federal response to invasive species (USFWS, 2020b).

Non-native flora and fauna can cause substantial changes to native ecosystems, upset native ecological balances, and have the potential to also cause economic harm. Roads and highways provide opportunities for the movement and spread of non-native, invasive species through an area, from the local to the national level.

2.1.2 State Statutes and Regulations

2.1.2.1 California Environmental Quality Act

The CEQA of 1970 (Public Resources Code §§ 21000-21178) and its implementing CEQA Guidelines (California Code of Regulations §§ 15000-15387), applies to discretionary projects proposed to be carried out by public agencies or private projects subject to public agency approval. CEQA defines projects broadly to include an activity which may cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment, and is an activity directly undertaken by a public agency, an activity undertaken by a person that is supported by a public agency, or an activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement.

2.1.2.2 California Endangered Species Act of 1984 (California Fish and Game Code §§ 2050 2098)

The CESA of 1984 is outlined in California Fish and Game Codes (FGC) §§ 2050 – 2098, and includes provisions for the protection and management of wildlife species listed by the State of California as endangered or threatened, or designated as candidates for such listings. This act declares "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy" (§ 2053).

Plants of California declared to be endangered, threatened, or rare are listed under 14 California Code of Regulations (CCR) § 670.2. Wildlife of California declared to be endangered, threatened, or rare (also referred to as "sensitive" wildlife species) are listed under 14 CCR § 670.5. The administering agency for the above Act is the CDFW.

2.1.2.3 Native Plant Protection Act of 1977 (California Fish and Game Code § 1900 et. seq.)

The Native Plant Protection Act prohibits importation of rare and endangered plants into California, take of rare or endangered plants, and sale of rare and endangered plants. The CESA defers to the California Native Plant Protection Act (CNPPA), which ensures that plant species listed by the State as endangered, threatened, or rare ("sensitive" plant species) are protected when state agencies are involved in projects or activities subject to CEQA. In this instance, plants listed as rare under the CNPPA are not protected under CESA, but rather under CEQA.

2.1.2.4 California Fish and Game Code § 3503 and § 3503.5

These codes provide for the protection of birds by declaring, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto" (§ 3503), and that, "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto" (§ 3503.5).

2.1.2.5 California Fish and Game Code §§ 1930 – 1940

These code sections provide for the Significant Natural Areas program and database. The administering agency for the above authority is the CDFW.

2.1.2.6 California Fish and Game Code § 4150

Bats are considered non-game mammals and are afforded protection by state law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs, § 251.1). Several bat species are considered California Species of Special Concern (SSC) and meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15065). Take of SSC could require a mandatory finding of significance by the Lead Agency (CEQA Guidelines, § 15065).

2.1.2.7 California Fish and Game Code §§ 1600 – 1616 Lake or Streambed Alteration

Section § 1600 - § 1616 FGC protect the natural flow, bed, channel, and bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource, or from which ecosystem these resources derive benefit. General project plans must be submitted to CDFW in sufficient detail to indicate the nature of a project for construction, if the project would: divert, obstruct, or change a streambed; use material from the streambed; result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a stream.

Any person or entity whose project or activity may result in any of the above must first notify CDFW in writing. CDFW will review the project or activity and decide if may continue or if they must issue an Agreement, which would stipulate mitigation measures for the protection of the aquatic resource in question.

2.1.2.8 Porter-Cologne Water Quality Control Act (as amended)

The Porter-Cologne Water Quality Control Act (Porter-Cologne) defines "water quality objectives" as the allowable "limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area". Thus, water quality objectives are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water. Water quality objectives apply to both Waters of the United States and Waters of the State (see Section 2.1.1.6, *Clean Water Act of 1977*; Section 401). In the State of California, the Porter-Cologne Water Quality Control Act is administered in concurrence with the § 401 CWA Water Quality Certification. As with § 401 CWA, the SWRCB would provide review and water quality certification for this Act.

2.1.2.9 Basin Plans

The SWRCB requires its nine RWQCBs to develop Basin Plans (water quality control plans) designed to preserve and enhance water quality and protect the beneficial uses of all Regional waters. Specifically, Basin Plans designate beneficial uses for surface waters and groundwater, set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State antidegradation policy, and describe implementation programs to protect all waters in the Regions. In addition, Basin Plans incorporate by reference all applicable State

and Regional Board plans and policies, and other pertinent water quality policies and regulations. This project is regulated by the Basin Plans of the Santa Ana RWQCB and the Los Angeles RWQCB.

2.1.2.10 California State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

As discussed in Section 2.1.1.5, in California the discharge of dredged or fill material to waters of the state may be regulated by the Federal Water Pollution Control Act Amendments of 1972, as amended (Clean Water Act) (33 U.S.C. § 1251 et seq.), and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Wat. Code, Div. 7, § 13000 et seq.). Under the Porter-Cologne Act, discharges of dredged or fill material to waters of the state are subject to waste discharge requirements or waivers thereof. Under the Clean Water Act, applicants for a federal license or permit for an activity that may result in a discharge of dredged or fill material to waters of the United States must obtain a certification from the state that the discharge will comply with certain provisions of the Clean Water Act and set forth any other appropriate requirement of state law.

As set forth in Resolution No. 2008-0026, although the state has historically relied primarily on requirements in the Clean Water Act to protect wetlands, U.S. Supreme Court rulings reducing the jurisdiction of the Clean Water Act over wetland areas by limiting the definition of "waters of the United States" have necessitated the use of California's independent authorities under the Porter-Cologne Act to protect these vital resources.

2.1.2.11 California State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

On April 2, 2019, the SWRCB Resolution No. 2019-0015, Amendment to the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to Establish a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures; subsequently approved by the Office of Administrative Law on August 28, 2019). These Procedures went into effect on May 28, 2020.

When a discharge is proposed to waters outside of federal jurisdiction, the SWRCB or the RWQCBs regulate the discharge under Porter-Cologne through the issuance of WDRs. The Procedures provide guidance for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

2.1.2.12 Construction General Permit Order 2009-009-DWQ (as amended)

The SWRCB and its nine RWQCBs implement water quality regulations under the federal CWA and California Porter-Cologne Water Quality Control Act. Existing water quality regulations require compliance with the National Pollutant Discharge Elimination System for discharges of storm water runoff associated with a construction activity.

Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the Project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The complete Notice of Intent package (including SWPPP) must be submitted to the SWRCB via the Storm Water Multiple Application and Report Tracking System (SMARTS) Database.

2.1.3 Regional and Local Ordinances, Plans, and Policies

2.1.3.1 Orange County General Plan

The Orange County General Plan primarily focuses on the unincorporated area and also addresses regional services and facilities provided by the County such as regional parks, roads, flood control facilities, etc. The Orange County General Plan consists of nine elements which include, Land Use, Transportation, Public Services and Facilities, Resources, Recreation, Noise, Safety, Housing, and Growth Management. The Resources element in particular contains official County policies and the conservation and management of resources and is comprised of six components, one of which is the Natural Resources Component and is primarily concerned with agricultural resources, mineral resource, vegetation and wildlife habitat, and landforms.

2.1.3.2 Los Angeles County General Plan

The Los Angeles County 2035 General Plan was adopted by the Los Angeles County Board of Supervisors on October 6, 2015. The new General Plan went into effect on November 5, 2015. The Conservation and Natural Resources Element (Chapter 9) of the plan guides the long-term conservation of natural resources and preservation of available open space. This section describes the County's role in the protection, conservation and preservation of natural resources and open space within the unincorporated areas of Los Angeles County.

2.1.3.3 Los Angeles County – Significant Ecological Areas

Significant Ecological Areas (SEAs) are officially designated areas within Los Angeles County identified for their irreplaceable biological resources and value. These areas warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of County habitat types; or serve as linkages. Individual SEAs include undisturbed or lightly disturbed habitat supporting valuable and threatened species, linkages and corridors to promote species movement, and are sized to support sustainable populations of its component species. The SEAs are not wilderness preserves, and much of the land within the SEAs is privately-held, used for public recreation, or abuts developed areas.

The SEA Program was updated as a component of the Los Angeles County General Plan 2035. The update included SEA boundary revisions and grouping smaller SEAs into larger connected SEAs. The new General Plan went into effect on November 5, 2015 with the updated SEA Boundaries. The new

General Plan includes 21 SEAs and nine Coastal Resource Areas, and greatly expanded technical descriptions for each of the SEAs. Cumulatively, the 21 SEAs and nine Coastal Resource Areas represent the wide-ranging biodiversity of Los Angeles County, and contain its most important biological resources.

2.1.3.4 Municipal Tree-Related Ordinances (Buena Park)

Sections as described in City of Buena Park (2020) Municipal Code:

12.20.010: Prohibition against installing, damaging and removing vegetation, etc.
12.20.020: Installing, damaging, removing and maintain vegetation, ornaments, etc.
12.20.030: Obligations of Residential Property Owners
12.20.040: Removal Permits

12.20.010 Prohibition against installing, damaging and removing vegetation, ornaments and improvements in and from public property other than parkways. No person other than a city employee shall in any public street, alley, parkway, thoroughfare or place within the city other than a parkway abutting property owned or occupied by such person:

A. Plant or cut down, injure, girdle or remove any tree, shrub, bush or other vegetation;

B. Install, damage or destroy any ornament or improvement. (Ord. 1505 § 1, 2007)

12.20.020 Installing, damaging, removing and maintaining vegetation, ornaments and landscaping in and from parkways. No person shall in any parkway abutting property owed or occupied by such person:

A. Place, plant or cause to be placed or planted any tree, shrub or vegetation other than grass without obtaining a permit from the director of public works;

B. Cut down, injure, girdle, destroy or remove any vegetation, or install, damage or remove any ornament or improvement; provided, however, that this section shall not apply to the removal of vegetation or any ornament or improvement by a city employee;

C. Pave and/or resurface any portion of the parkway;

D. Permit the growth of any vegetation to exceed twenty-four inches in height above the curb or to obstruct any portion of the adjoining sidewalk or street. (Ord. 1505 § 1, 2007)

12.20.030 Obligations of residential property owners.

Owners and occupants of residentially zoned property shall:

A. Except for parkways lawfully paved or landscaped prior to the effective date of subsections C and D of Section 12.20.020, install grass and properly maintain all landscaping within the parkway adjacent to the property. The requirement to maintain landscaping within the adjacent parkway as set forth in this subsection shall exclude the obligation to maintain a city tree in said parkway other than providing water to the tree;

B. Notify the department of public works of any suspected tree hazards or maintenance needs of any tree in the parkway adjacent to the property;

C. Maintain the parkway adjacent to the property lawfully paved prior to the effective date of subsection D of Section 12.20.020 in a manner that does not create a hazard to any other person. Any person who fails to maintain a paved parkway as required by this subsection shall, upon receipt of written notification from the director of public works or his or her representative, remove the paving and install landscaping in compliance with subsection A of this section. (Ord. 1505 § 1, 2007)

12.20.040 Removal permits.

A. Persons desiring to remove any standing or growing trees or shrubbery or any ornament or improvement from a parkway adjacent to property owned or lawfully occupied by such persons shall apply to the director of public works for a permit. The application for such permit shall be in writing and set forth the reasons such removal is desired.

B. If the director finds upon investigation that the tree, shrub, ornament or improvement desired to be removed constitutes a private nuisance, is not of the type or species designated for such street or for other good cause shown, he or she shall issue a permit allowing such tree, shrub, ornament or improvement to be removed.

C. The permit for the removal of any tree, shrub, ornament or improvement shall prescribe the method or manner in which such tree, shrub, ornament or improvement shall be removed by the applicant, shall be conditioned upon the fact that all expenses and costs shall be borne by the applicant and shall contain a provision signed by the applicant that the applicant agrees to save, indemnify and keep harmless the city against all liabilities, judgments, costs and expenses which may in any wise accrue against the city in consequence of the granting of the permit or in consequence of the use or occupancy of any sidewalk, street or other public place or in any other wise by virtue thereof and will in all things strictly comply with the conditions of the permit and of this code, all ordinances, rules and regulations of the city.

D. The permit for the removal of any tree may require the replanting of another tree after the removal, and, if a replacement is required, the applicant shall deposit a sum fixed by the city council for each tree to be replaced before the permit shall be issued. If all the conditions of the permit are not complied with, the deposit required by this section will be forfeited to the city. If the conditions are complied with, the deposit shall be refunded to the applicant.

E. Any person aggrieved by the refusal of the director to issue a permit for the removal of any tree, shrub, ornament or improvement or by the requirements of such permit may appeal to the city council. The city council shall have the right and authority upon investigation and findings to issue the permit. (Ord. 1505 § 1, 2007)

2.2 Studies Required

2.2.1 Literature and Database Search

Preliminary investigation included review of information obtained from literature searches, examinations of habitat as discernible from aerial photographs, and database searches including:

- the USFWS Information for Planning and Consultation (IPaC) system (2020a; located in **Appendix C**, *IPaC Species List*);
- CNPS Inventory of Rare and Endangered Plants of California (online edition; 2020a);
- The Manual of California Vegetation Online Edition (MCV2; Sawyer et al., 2009, CNPS, 2020b);
- CDFW's California Natural Diversity Database (CNDDB) was used to identify special-status plant and wildlife species that may occur within the project site and within a ten-mile radius of the site (**Appendix D,** *Plant Special-Status Species Inventory and Potential Occurrence Determination* and **Appendix E,** *Wildlife Special-Status Species Inventory and Potential Occurrence Determination*).
- To identify the existing and potential biological resources present in the vicinity of the proposed Project, a geographic information system (GIS) search was performed. This consisted of mapping baseline biological resource data (CNDDB 2020, and National Hydrography Database (2020) waterways, and USFWS, 2020c);
- GIS datasets for USFWS Critical Habitat in the project region (USFWS, 2020c);
- Soils data was retrieved from the Natural Resources Conservation Service Web Soil Survey to determine type, consistency, and pH of the soils in the BSA (Soil Survey Staff, 2020);
- Other sources as cited in the text.

2.2.2 Field Reviews

A reconnaissance-level biological resource field review was conducted on February 21 and March 6, 2020 to ground-truth the results of the literature and database search and to document baseline conditions of the project site and BSA. The field review included a habitat assessment and vegetation community mapping, general plant survey, and a general wildlife survey. All vegetation and wildlife species observed during the survey were recorded on field maps and in field notes. Field surveys were conducted as shown on **Table 2.2-1**, *Field Survey Information*.

Table 2.2-1
FIELD SURVEY INFORMATION

Survey Date	Survey Time	Temperature	Weather	Surveyors	Survey Conducted
February 21, 2020	11:45 a.m. – 5:45 p.m.	61 - 68°F	60 to 95% Cloud Cover	MT & HF	Habitat Assessment
March 6, 2020	10:30 a.m. – 5: 15 p.m.	64 - 65°F	50% Cloud Cover	MT & HF	Habitat Assessment & Tree Inventory
July 13, 2020	8:00 a.m. – 9:15 a.m.	69 – 73°F	Clear	CM & HF	Site walkthrough for the Focused Acoustic Bat Survey
July 14, 2020	7:33 p.m.[5]	68 - 78°F	Clear	CM & CN	Focused Acoustic Bat Survey
July 15, 2020	7:33 p.m.[6]	69 - 73°F	Clear	CM & CN	Focused Acoustic Bat Survey

CM: Courtney McCammon
CN: Christian Nordal
HF: Hugo Flores
MT: Michelle Tollett

2.2.2.1 Survey Methods

The reconnaissance-level surveys, tree surveys, and a field investigation of waters of the US and State of California were conducted on foot during daylight hours; all accessible areas of the BSA were surveyed, especially those areas within and adjacent to the proposed project (see **Figure 8**, *Project Boundary and Biological Study Area*, located in **Appendix A**, *Figures*).

Reconnaissance-level survey

The reconnaissance-level survey included vegetation community mapping of the BSA. General botanical and wildlife observations were noted within and adjacent to the Project area. Vegetation communities were classified according urban land cover types typically used to describe "Developed" and "Disturbed" habitats, and utilizing the Natural and Semi-Natural Communities as described within MCV2 Alliances/Associations when applicable. The botanical observations of the sites were floristic in nature, meaning that dominant and subdominant plant species incidentally observed were identified to the taxonomic level needed to determine whether they were special-status plant species. Wildlife species were detected either by observation, by vocalization, or by sign (e.g., tracks, burrows, scat).

Tree Surveys

UltraSystems performed a tree inventory within the project's direct impact area to identify, collect location data (via GPS), measure, and perform a health assessment of trees that may impacted.

Jurisdictional Delineation

On February 21 and March 6, 2020, UltraSystems' biologists Michelle Tollett and Hugo Flores conducted a field investigation of potentially jurisdictional features (including hydrophytic

5 This is the start time of the survey. Surveys concluded one hour after bats had finished emerging from the roost.
6 This is the start time of the survey. Surveys concluded one hour after bats had finished emerging from the roost.

vegetation and soil surfaces within the OWHM [USACE/RWQCB] and bed, bank and channel[CDFW]) within the impact area of the proposed project to the lateral extent of jurisdictional waters, and continued their survey 150 feet upstream and downstream of the project footprint (at Segment O and Segment Q). Wetlands and other waters of the U.S. and State that are located outside of this segment of the BSA and not within known or anticipated areas of project-related ground disturbance would not be affected by the project and were therefore not delineated.

Prior to conducting the general field evaluations, a review of readily available data relevant to the project was performed and the results were compiled from aerial imagery, USGS topographic maps, National Wetland Inventory (NWI) (USFWS, 2020b) maps, data from the U.S. Environmental Protection Agency's Watershed Assessment, Tracking, & Environmental Results System (WATERS; USEPA, 2020), and Natural Resources Conservation Service (NRCS) soil surveys (Soil Survey Staff, 2020) to determine areas of potential USACE, SWRCB, and CDFW jurisdiction, e.g. the location of any potential waters of the U.S. and State, including wetlands. Additionally, the Orange County and Los Angeles County Flood Control Districts' Storm Drain System online mapping programs were reviewed for the "as-built" limits of the concrete-lined channels.

Suspected jurisdictional areas were field checked for the presence of definable channels and/or wetland vegetation, soils and hydrology. It was expected that the channel was devoid of hydrophytic vegetation and hydrophytic soils within the proposed impact area, due to the concrete channel bottom and the ongoing maintenance of the channel by the Orange County Flood Control District (OCFCD). Therefore, use of the Manual (USACE, 1987) for identification and analysis of hydrophytic vegetation and hydrophytic soils was unnecessary; however, it was used to determine hydrology, as several hydrologic indicators were present. In addition to the hydrologic indicators in the Manual, the OHWM Field Guide (Lichvar and McColley, 2008) and the OHWM Supplement (Curtis and Lichvar, 2010) were used to determine the OHWM. The OHWM is a defining element used to identify the lateral limits of non-wetland waters under Section 404 of the Clean Water Act (33 U.S.C. 1344).

Due to the Novel Coronavirus (COVID-19) pandemic and ongoing State of California Stay at Home Order (Executive Order N-33-20), UltraSystems opted to use the previously recorded field data to conduct the jurisdictional delineation via desktop review. Therefore, on the recommendation of the USACE Los Angeles District Office (Veronica Li, personal communication). UltraSystems' biologists Michelle Tollett and Allison Carver conducted digital delineations of Coyote Creek using historic and recent aerial imagery (Google Earth, 2020), as described in detail within the Jurisdictional Delineation Report for the OC Loop Segments O, P, and Q Coyote Creek Bikeway Project (UltraSystems, 2020).

Because Coyote Creek and Coyote Creek North Fork are concrete-lined channels throughout the project area, which is developed and urbanized, areas of potential jurisdiction to the USACE and SWRCB were evaluated and digitally delineated in accordance with the guidelines set forth in the following manuals:

- USACE 1987 *Wetland Delineation Manual* (Manual),
- The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Arid West Supplement*; USACE, 2008),
- *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (OHWM Guide*; Lichvar and McColley, 2008)

- *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OHWM Supplement*; Curtis and Lichvar, 2010).

Notes and photographs from an earlier biological field investigation (UltraSystems, 2020) were also used to assist with the digital jurisdictional delineation. Due to private property and ROW restrictions, only those potentially jurisdictional features within the project footprint and within a 150-foot buffer, which together comprised the Biological Study Area (BSA; e.g., in and along the channel, channel walls, and berms), were investigated.

The project area is comprised of concrete-lined flood control channels which serve to convey flows from the historic Coyote Creek and Coyote Creek North Fork, both tributaries to the San Gabriel River. The concrete-lined channels were originally built by the USACE to protect property and control flows originating from northern Orange County and eastern Los Angeles County flowing towards the San Gabriel River and, ultimately, to the Pacific Ocean.

Focused Acoustic Bat Surveys

A site walkthrough for the focused bat survey was conducted on July 13, 2020, by bat biologist Courtney McCammon and UltraSystems staff biologist Hugo Flores. The focused acoustic bat surveys were conducted on July 14 and 15, 2020, by Courtney McCammon, and bat biologist Christian Nordal. (See **Appendix F**, Bat Report).

2.3 Personnel Survey Dates

The reconnaissance-level biological resource field review was conducted on February 21 and March 6 of 2020, by UltraSystems Senior Biologist Michelle Tollett and Staff Biologist Hugo Flores. Additional surveys included a tree inventory conducted by Ms. Tollett and Mr. Flores on March 6, 2020, a desktop jurisdictional delineation conducted on April 9, 2020, by Michelle Tollett and Allison Carver (Senior Biologist/Regulatory Specialist), which utilized photos and data collected during each aforementioned biological resources and tree inventory surveys. A desktop delineation was performed: 1) due to the stay-at-home order issued by Governor Gavin Newsom on March 19, 2020; 2) due to the static nature of the concrete-lined channel; and 3) relying on the availability of storm drain plans to digitize jurisdictional boundaries using the approximate location of the ordinary high water mark and top of bank, as observed during the field surveys.

A site walkthrough for the focused bat survey was conducted by bat biologist Courtney McCammon and UltraSystems staff biologist Hugo Flores. The focused acoustic bat surveys were conducted on July 14 and 15, 2020, by Courtney McCammon, and bat biologist Christian Nordal.

Ms. Tollett has 19 years of experience as a field and consulting biologist working with private companies and public agencies throughout California and the Rocky Mountains. Ms. Tollett is familiar with the regulatory framework to prepare defensible biological resources technical reports and environmental documents including biological constraints surveys, reconnaissance-level field surveys, wetland delineations, California Rapid Assessment Method (CRAM) assessments, focused special-status species surveys, and habitat mitigation and monitoring plans.

Ms. Carver has 19 years of experience as a field and consulting biologist working with private companies and public agencies in California. She specializes in jurisdictional determination of waters of the U.S. and State, including regulatory framework and permitting, and project impact analyses for projects ranging in size from small school upgrade projects to major infrastructure projects.

Ms. Carver has conducted jurisdictional delineations and authored jurisdictional delineation reports, prepared Preconstruction Notifications required by Section 404 Clean Water Act, Water Quality Certification applications required by Section 401 Clean Water Act, and Lake or Streambed Alteration Notifications as required by Section 1602 of the California Fish & Game Code.

Ms. McCammon is a bat biologist. She has at least ten years of biological monitoring experience performing assessments of both plant and animal species in varied habitats throughout California. She has managed and conducted several biological and ecological projects in the course of her graduate studies and various professional positions. These projects have utilized her skills in field data collection and analysis, time and schedule management, literature review, correspondence and coordination, and working in a team to successfully complete project goals. Ms. McCammon has participated in bat workshops and multiple bat presence surveys in southern California.

Mr. Nordal's bat experience began at Bowling Green State University with a two-year research project that focused on acoustic monitoring for local bat species and statistical analysis on the data to compare trends over space and time. Knowledge acquired from workshops and research has since been applied to Mr. Nordal's work as a consultant. Mr. Nordal performed acoustic monitoring during his work at Caltrans for bats living in bridges, and he has continued acoustic monitoring at multiple consulting firms including Jericho Systems.

Mr. Flores has 10 years of experience as a field and consulting biologist and is familiar with biological and construction monitoring, permit compliance, wetland delineations, CRAM assessments, and technical writing for biological reports. He has conducted numerous botanical and wildlife surveys. Mr. Flores is very knowledgeable about environmental policy and planning practices (CEQA, NEPA) and is also experienced in the implementation of habitat mitigation and restoration.

2.4 Agency Coordination and Professional Contacts

At this time, formal consultation and/or agency coordination has not been conducted with the USFWS, CDFW, USACE, or the SWRCB.

2.5 Limitations That May Influence Results

Parts of the BSA were inaccessible private properties (residential, commercial, or gated) to which the biologists lacked right-of-access. If possible, areas such as these were surveyed using binoculars, and vegetation and wildlife observed were recorded and mapped. However, cryptic vegetation and wildlife may not have been visible through binoculars and therefore may not have been observed during the survey.

The general biological field survey, and protected tree surveys[7] were conducted during daylight hours to maximize the detection of most wildlife and plant species. Some nocturnal wildlife species may not have been observable during the survey; however, if occurrence of their sign (e.g. tracks, scat) was observed, presence of the species within the BSA would have been assumed.

7 The jurisdictional delineation was completed through desktop review and daylight field photos.

3.0 Results: Environmental Setting

According to *Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin* (USDA, 2006):

> "The project site is within the Southern California Coastal Plain of the California Subtropical Fruit, Truck, and Specialty Crop Region, which was once characterized by annual and perennial grasses, scattered coast live oak; stands of brush consisting of buckwheat, ceanothus, California sagebrush, chamise, and scrub oak; and rangeland supporting wild oats, soft chess, red brome, filaree, burclover, needlegrass, tarweed, mustard, and annual lupine interspersed with coast live oak occurring as scattered individual trees to dense stands. Major wildlife species included deer, feral hog, mountain lion, coyote, bobcat, raccoon, skunk, jackrabbit, gray squirrel, ground squirrel, rattlesnake, turkey vulture, roadrunner, crow, quail, pigeon, blackbird, dove, heron, and coot. However, at least two-thirds of this area now consists of urban or suburban areas, and other land in the area is rapidly being converted to suburban, commercial, and industrial uses."

Elevation within the BSA ranges between 32 feet above mean sea level to 119 feet above mean sea level; (refer to **Figure 4,** *USGS Topographic Map*, located in **Appendix A**). The proposed project is located in the cities of Cerritos, Buena Park, and La Mirada (see **Figure 8,** *Project Boundary and Biological Study Area [BSA]* located in **Appendix A**).

3.1 Description of the Existing Biological and Physical Conditions

Land use in the BSA and vicinity primarily consists of residential and commercial development. Most of the properties within the BSA are privately owned other than public roads, and the Coyote Creek and Coyote Creek North Fork channels and maintenance roads.

3.2 Physical Conditions in the Study Area

3.2.1 Water Resources

As shown in **Figure 9**, *Surface Waters and Watersheds*, the project site is manly located in the Brea Creek-Coyote Creek Hydrologic Unit (HU; HU Code 180701060603); however, the pedestrian bridge located at station 10+00 in Coyote Creek North Fork, is in the La Mirada HU (HU Code 18071060602).

The entirety of Coyote Creek (north fork and east fork) within the project area is channelized. The channel structure varies regularly between trapezoidal (slant-walled), wide channel bottom (slant-walled), and rectangular (vertical-walled) throughout the project area.

The channels convey nuisance runoff and storm flow, and now comprise the current (and historic) _Coyote Creek and Coyote Creek North Fork. The southernmost portion of the project area is the confluence of Coyote Creek and Coyote Creek North Fork, both of which are tributaries to the San Gabriel River, ultimately discharging into the Pacific Ocean, in Seal Beach, California. All flows within the channel are considered jurisdictional waters of the U.S. and waters of the State, protected under §§ 401 and 404 CWA, §§ 1600-1616 FGC, and SWRCB Resolution No. 2019-0015, as described in **Section 2.1**, *Regulatory Requirements*.

With regard to Section 303(d) Clean Water Act, those sections of Coyote Creek and Coyote Creek North Fork that are located within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB, Region 4) are on the current 303(d) List. These streams and the related water pollutants for which they are listed are presented in **Table 3.2-1**, *Total Maximum Daily Loads for Coyote Creek and Coyote Creek North Fork*.

The majority of the proposed project (along Coyote Creek) falls under the jurisdiction of the Santa Ana RWQCB (SARWQCB, Region 8); however, Coyote Creek is not listed as an impaired waterbody by the SARWQCB (SWRCB, 2017).

Table 3.2-1
TOTAL MAXIMUM DAILY LOADS FOR COYOTE CREEK AND COYOTE CREEK NORTH FORK

Stream Name	Regional Board	Pollutant	Pollutant Category	Potential Sources
Coyote Creek North Fork	Los Angeles (Region 4)	Indicator Bacteria	Fecal Indicator Bacteria	Source Unknown
		Selenium	Metals/Metalloids	Source Unknown
Coyote Creek	Los Angeles (Region 4) a	Copper, Dissolved	Metals/Metalloids	Source Unknown
		pH	Miscellaneous	Source Unknown
		Toxicity	Toxicity	Source Unknown
		Indicator Bacteria	Fecal Indicator Bacteria	Source Unknown
		Malathion	Pesticides	Source Unknown
		Iron	Metals/Metalloids	Source Unknown

Source: SWRCB 2017

USFWS National Wetland Inventory. the National Wetland Inventory (NWI) has mapped Coyote Creek mainly as riverine, with an intermittent flow, with a streambed that is seasonally flooded and was excavated by humans at some point (R4SBCX), the only exception is a section that starts approximately 0.8 mile upstream of Knott Avenue and ends approximately 0.2 miles downstream of Knott Avenue and is mapped as palustrine with emergent and persistent vegetation (remains standing at least until the beginning of the next growing season), is seasonally flooded and was excavated by humans at some point (PEM1Cx) (**Figure 10a** through **10c**, *National Wetlands Inventory*; also see Photo 2 in **Appendix G**, *Site Photographs*); however, no hydrophobic vegetation or hydric soils were observed during the field surveys.

At the time of the field investigation, surface water was observed in Coyote Creek North Fork and Coyote Creek. No wetlands, or signs of wetlands, were observed within the BSA.

3.2.2 Climate

The Western Regional Climate Center has a co-op weather station located near Tuffree Middle School, located in Anaheim approximately 7.5 miles northeast of the end of Segment Q (Anaheim, California Station #040192; WRCC, 2020). This weather station has recorded climate records from 1989 through 2012 and provides the best available insight into the climate in the project area. As with much of southern California, the recorded data show that the region receives the most precipitation during the wet season, e.g. winter and spring (November – April).

Climate summaries recorded at the Anaheim weather station (#040192) for the period of record 1989 through 2012 are presented in **Table 3.2-2,** *Temperature Statistics for Anaheim Station #040192 (1989- 2012)* and **Table 3.2-3**, *Precipitation Statistics for Anaheim Station #040192 (1989- 2012)*.

Table 3.2-2
TEMPERATURE STATISTICS FOR ANAHEIM STATION #040192 (1989 – 2012)

	Monthly Averages (°F)			Monthly Extremes (°F)	
	Max	Min	Mean	Highest Mean	Lowest Mean
Annual	77.4	55.4	66.4	67.7	64.2
Winter	69.9	47.6	58.7	61.2	56.7
Spring	74.7	55.5	58.7	68.6	59.4
Summer	84.1	63.0	73.6	78.6	70.7
Fall	81.0	57.4	69.2	73.3	66.2

Table 3.2-3
PRECIPITATION STATISTICS FOR ANAHEIM STATION #040192(1989 – 2012)

	Precipitation Monthly Averages (inches)			Total Snowfall (inches)	
	High	Low	Mean	Mean	High
Annual	41.23	4.86	14,09	0.0	0.0
Winter	26.34	1.86	8.83	0.0	0.0
Spring	8.37	0.00	3.22	0.0	0.0
Summer	1.24	0.00	0.23	0.0	0.0
Fall	8.13	0.00	1.81	0.0	0.0

3.2.3 Soils

The USDA National Resources Conservation Service (NRCS) Web Soil Survey (Soil Survey Staff, 2020) of has mapped six soil types within the boundary of the BSA for the original proposed alignment. These soils types and some of their properties are presented in in **Figure 11**, *USDA Soils* (see **Appendix A**) and **Table 3.2-4**, *USDA NRCS Soils Mapped Within the BSA*, shown below.

Table 3.2-4
USDA NRCS SOILS MAPPED WITHIN THE BSA

Soil Map Unit Name	Map Unit Symbol	Parent Material	Natural Drainage Class	Hydric? (Y/N)	Hydric Criteria
Chino silty clay loam, drained	140oc, 140	Alluvium derived from sedimentary rock	Somewhat poorly drained	No	N/A
Urban land, frequently flooded, 0 to 5 percent slopes	1261, 1261LA	Not Specified	Not Rated	No	N/A
Urban land-Ballona-Typic Xerorthents, fine substratum complex, 0 to 5 percent slopes	1137, 1137LA	Discontinuous human-transported material over young alluvium derived from sedimentary rock	Well drained	No	N/A
Urban land-Biscailuz-Hueneme, drained complex, 0 to 2 percent slopes	1005	Discontinuous human-transported material over mixed alluvium derived from granite and/or sedimentary rock	Somewhat poorly drained	No	N/A
Urban land-Hueneme, drained-San Emigdio complex, 0 to 2 percent slopes	1000	Discontinuous human-transported material over mixed alluvium derived from granite and/or sedimentary rock	Somewhat poorly drained	No	N/A
Urban land-Metz-Pico complex, 0 to 2 percent slopes	1000LA	Discontinuous human-transported material over mixed alluvium derived from granite and/or sedimentary rock	Somewhat excessively drained	No	N/A

3.2.4 Biological Conditions in the Study Area

The BSA is mainly developed and consists of residential and commercial buildings with ornamental trees, paved roads and disturbed areas. Three different land cover types occur within the BSA, they are developed/ornamental, concrete-lined channel and disturbed. Land cover types for the proposed project can be seen in **Figure 12**, *Land Cover Types*.

Wildlife observed in the BSA (directly or by sign) included one special-status Coastal whiptail (*Aspidoscelis tigris stejnegeri*; CDFW Species of Special Concern, S-Rank = S3) as well as sixteen additional common wildlife species were detected (visually or aurally) during the survey. These include the mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), least sandpiper (*Calidris minutilla*), killdeer (*Charadrius vociferus*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), black phoebe (*Sayornis nigricans*), and two bat species, big brown bat (*Eptesicus fuscus*) and Mexican free-tailed bat (*Tadarida brasiliensis*). A complete list of plant and wildlife species observed in the BSA is located in **Appendix H**, *List of*

Species Observed During Surveys. Representative site photos are located in **Appendix G**, *Site Photographs*.

3.2.5 Habitat Connectivity

The BSA is not within a regional CDFW designated Essential Connectivity Area or Natural Landscape Block (see **Figure 13**, *CDFW Regional Wildlife Corridors*). Coyote Creek and Coyote Creek North Fork are concrete-lined flood control channels that lack vegetation; the BSA also lacks vegetation and does not support sensitive biological habitats or plant species.

3.2.6 Regional Species, Habitat, and Natural Communities of Concern

3.2.6.1 Regional Natural Communities of Concern

Based on the literature review and CNDDB search, five sensitive natural communities have the potential to occur within the BSA. The CNDDB sensitive natural communities are were initially based on Robert F. Holland's Preliminary Descriptions of the Terrestrial Communities of California (Holland, 1986) and appear in the CNDDB query results[8]. The five sensitive natural communities and their Holland classification codes are listed below. CDFW considers natural communities with ranks of S1-S3 to be sensitive natural communities that meet the CEQA definition of rare, threatened, or endangered (CEQA Guidelines, §§ 15380, 15063, 15065) to be addressed in CEQA (CEQA Guidelines, § 15125[c]). These sensitive plant communities, Holland classification code, and its presence is listed below in **Table 3.2-4**, *CNDDB Sensitive Communities Within Ten Miles of the Project Site*. Please note that this classification system is no longer current with the commonly used MCV2 *(*Sawyer et al., 2009), which replaced Holland (1986) to characterize natural and semi-natural vegetation communities. If natural or semi-natural communities exist onsite, the Holland (1986) description would then be "cross-walked" compare and parallel to the current natural community, as defined by the MCV2 (Sawyer et al., 2009), to determine the status of the vegetation community. The crosswalk was not necessary for this project, due to the overwhelming presence of developed and ornamental land cover types and lack of natural communities.

Table 3.2-5
CNDDB SENSITIVE COMMUNITIES WITHIN TEN MILES OF THE PROJECT SITE

Sensitive Plant Habitats	Holland Element Code	Present (P)/Absent (A) in the BSA
California walnut woodland	71210	**A**
Southern California arroyo chub/Santa Ana sucker stream	N/A	**A**
Southern Coastal salt marsh	52120	**A**
Southern coast live oak riparian forest	61310	**A**
Southern willow scrub	63320	**A**

Note: The Holland Element Code number is taken from Robert F. Holland's *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986).

8 Please note that this classification system is no longer current with the commonly used MCV2 (Sawyer et al., 2009), which replaced Holland (1986) to characterize natural and semi-natural vegetation communities.

3.2.6.2 Regional Plant Species of Concern

For this report, plant species, subspecies, or varieties are considered "special-status" if they meet any of the following criteria:

- Taxa with official status under the federal Endangered Species Act (ESA). These include plants federally listed as endangered or threatened (50 Code of Federal Regulations [CFR] § 17.12); plants proposed for listing as endangered or threatened (50 CFR § 17.12); plants proposed for delisting (or down listing from endangered to threatened) (50 CFR § 17.12); and plants that are candidates for federal listing.

- Taxa with official status under the CESA. These include plants listed by the California Fish and Game Commission as endangered or threatened (California Fish and Game Code § 2062 and § 2067); plants that the Fish and Game Commission has formally published in the California Regulatory Notice Register as being under review by the CDFW for addition to the list of endangered or threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (California Fish and Game Code § 2068); and plants that the Fish and Game Commission has formally published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species from either list.

- Taxa with official status under the CNPPA. This includes plants listed by the California Fish and Game Commission as rare (California Fish and Game Code § 1900 et seq.).

- Taxa listed in the CNPS's Inventory of Rare and Endangered Plants of California.

- Taxa that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) § 15380(b) and (d). Species that may meet the definition of rare or endangered include the following (CDFG, 2009):

    - Taxa considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2) in their Inventory of Rare and Endangered Plants of California. In general, CRPR 3 plants (plants about which more information is needed) and CRPR 4 plants (plants of limited distribution) may not warrant consideration under CEQA § 15380. These plants may be included on special-status plant lists such as those developed by counties where they would be addressed under CEQA § 15380. However, CRPR 3 and CRPR 4 plants are also included in the CNDDB's Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2015a).

    - Taxa that may warrant consideration on the basis of local significance or recent biological information.

    - A taxon that is considered a locally important species, that is, a species that is not rare from a statewide perspective, but is rare or uncommon in a local context such as within a county or region (CEQA § 15125 [c]) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G) (CDFG, 2009). Examples

include a species at the outer limits of its known range or a species occurring on an uncommon soil type (CDFG, 2009).

The literature review provided a list of 25 special-status plant species (plant inventory) within the study area. **Figure 14**, *CNDDB Plant Species and Habitats* (located in **Appendix A**) gives a broad overview of plants of regional concern, within a two-mile radius of the BSA. The potential to occur analysis table can be found in **Appendix D**, *Plant Special-Status Species Inventory and Potential Occurrence Determination*. The table provides both the taxonomic name (scientific name) and common name of each plant species. Plant taxonomic order is based on The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al., 2012). In addition, **Appendix D**, *Plant Special-Status Species Inventory and Potential Occurrence Determination*, describes each species' status and describes each species' requirements and preferred habitat.

Each special-status plant species was assessed for its potential to occur within the BSA by comparing its elevational range and distribution, retrieved from CNPS and other databases and literature, with the BSA's location and elevation range. A species was determined as being "absent" within the BSA if the BSA is well outside the species' known distribution and/or the species' known elevation range.

3.2.6.3 Regional Wildlife Species of Concern

For this report, wildlife species or subspecies are considered "special-status" if they meet any of the following criteria:

- Taxa with official status under the FESA. These include wildlife federally listed as endangered or threatened (50 Code of Federal Regulations [CFR] § 17.11); wildlife proposed for listing as endangered or threatened (50 CFR § 17.11); wildlife proposed for delisting (or down listing from endangered to threatened) (50 CFR § 17.11); and wildlife that are federal candidates for listing.

- Taxa with official status under the CESA. These include wildlife listed by the California Fish and Game Commission as endangered or threatened (California Fish and Game Code § 2062 and § 2067); wildlife that the Fish and Game Commission has formally published in the California Regulatory Notice Register as being under review by the CDFW for addition to the list of endangered or threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (California Fish and Game Code § 2068); and wildlife that the Fish and Game Commission has formally published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species from either list.

- Taxa designated by CDFW as species of special concern on the Special Animals List (CDFW, 2019).

- Taxa designated as state fully protected species by CDFW (California Fish and Game Code § 5515, § 5050, § 3511, and § 4700).

- Taxa identified as sensitive, unique or rare by the USFWS or by CDFW.

- Taxa protected under the BGEPA and other laws and regulations.

- Considered a locally important species, that is, a species that is not rare from a statewide perspective, but is rare or uncommon in a local context such as within a county or region (CEQA § 15125 [c]) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range.

This database search provided a list of 43 special-status wildlife species (wildlife inventory). Each special-status wildlife species was assessed for its potential to occur within the BSA and project site by comparing its elevational range (if known) and distribution, retrieved from databases and literature, with the BSA's location and elevation range. A species was determined as being "Absent" within the BSA or project site if the BSA is well outside the species' known distribution and/or the species' known elevation range, or if the only recorded observations of the species are historic (i.e., the observation was recorded over 20 years ago; for the purpose of this report, if the observation was recorded prior to 1997).

Appendix E, *Wildlife Special-Status Species Inventory and Potential Occurrence Determination*, summarizes conclusions from the literature review and field surveys regarding the potential occurrence of special-status wildlife species within the BSA. **Figure 15**, *CNDDB Wildlife Species* (located in **Appendix A**) gives a broad overview of sensitive wildlife within a two-mile radius of the BSA.

4.0 Results: Biological Resources, Discussion of Impacts and Mitigation

The following impacts were analyzed using the details provided in **Section 1.3,** *Project Description*.

4.1 Land Cover Types and Natural Communities within the BSA

The project site is essentially a concrete bottomed and walled flood control channel with adjacent bare dirt right of way that is currently used as a maintenance access road (See **Appendix G**, *Site Photographs*). This existing maintenance access road is proposed to be paved to provide a smooth all-weather surface for cyclists. At two roadways and two railroads, underpasses will be provided as a part of the project.

The literature review and field surveys determined that the BSA does not contain any sensitive plant communities but does contain three non-sensitive land cover types.

- Developed/Ornamental
- Concrete-lined Channel
- Disturbed

4.1.1 Developed/Ornamental

Developed lands are non-vegetated features within the BSA that describe areas occupied by man-made structures, paving and other impermeable surfaces that cannot support vegetation. Inside the BSA, developed lands consist of paved streets, paved access roads, parking lots, driveways, sidewalks, shipping containers, and other permanent structures. These developed areas provide virtually no habitat for wildlife species. Landscaping (ornamental trees, shrubs, turf, etc.) associated with the developed lands are also included within this category. These developed areas provide virtually no habitat for wildlife species; however, birds could use the ornamental trees for foraging and nesting. Developed lands and ornamental vegetation do not have a global or state rank and are not considered a sensitive plant community.

Within the BSA, this land cover type covers approximately 70.5 acres and makes up most of the 126.2-acre BSA.

4.1.2 Concrete-lined Channel

This land cover type mainly consists of the unvegetated, concrete-lined Coyote creek channel. At the time of the surveys, the channel contained water.

Within the BSA, this land cover type covers approximately 32.2 acres and comprises the second most commonly occurring land cover type of the 126.2-acre BSA.

4.1.3 Disturbed

The disturbed land cover type contains areas that lack vegetation or have non-native vegetation as dominant; some of the non-native vegetation observed include Russian thistle (*Salsola tragus*), Mexican fan palm tree (*Washingtonia robusta*), and Eucalyptus tree (*Eucalyptus* sp.). They provide little to no habitat value for wildlife. Disturbed habitats observed within the BSA do not fit any

classification described in *A Manual of California Vegetation Second Edition* (Sawyer et al., 2009) or *Preliminary Descriptions of the Terrestrial Communities of California* (Holland, 1986). Disturbed habitats are not considered a sensitive plant community. Within the BSA, disturbed habitat mainly consists of dirt maintenance roads running alongside Coyote Creek.

Within the BSA, this land cover type covers approximately 23.4 acres of the 126.2-acre BSA.

Table 4.1-1, *Land Cover Types Recorded in the BSA*, lists the land cover types with approximate acreages mapped.

Table 4.1-1
LAND COVER TYPES RECORDED IN THE BSA

Land Cover Type	Holland Community Name and Element Code	Sawyer et al. Community Name	CaCode	Global and State Rank
Concrete-lined channel	N/A	N/A	N/A	N/A
Disturbed	N/A	N/A	N/A	N/A
Developed/Ornamental	N/A	N/A	N/A	N/A

The Land Cover Areas (acreage and square feet) in the BSA are provided in **Table 4.1-2**, *Land Cover Area in the BSA*, and shown in **Figure 12**, *Land Cover Types.*

Table 4.1-2
LAND COVER AREA IN THE BSA

Land Cover Type	Area
	Acres
Developed/Ornamental	70.49
Concrete-lined Channel	32.23
Disturbed	23.45
TOTAL IN BSA	**126.16** **126.2 (rounded)**

4.1.4 Potential Impacts to Land Cover Types and Natural Communities of Concern

4.1.4.1 Direct Impacts

No natural communities or sensitive habitats were observed within the BSA during the field surveys; therefore, no direct impacts to natural communities or sensitive habitats are anticipated as a result of construction of the project.

Impacts to land covers are shown on **Figure 16a-m**, *Impacts to Land Cover Mapbook* (figure is located in **Appendix A**). Impacted land cover acreages are summarized in **Table 4.1-3**, *Area of Anticipated Direct Impacts to Land Cover in the BSA.* Calculations were based on the currently proposed

development designs in conjunction with vegetation mapping from the field survey and aerial imagery.

Table 4.1-3
AREA OF ANTICIPATED DIRECT IMPACTS TO LAND COVER IN THE BSA

Land Cover Type	Total Mapped Acreage within the BSA	Total Mapped Acreage within the Project Boundary	Total Impact Acreage within the Project Boundary[1]		
			Permanent	Temporary	Total
Developed/Ornamental	70.49	7.18	4.38	2.80	7.18
Concrete-lined Channel	32.23	1.60	1.09	0.52	1.60
Disturbed	23.45	10.48	7.44	3.05	10.48
Total Acreage:	**126.17 126.2 (rounded)**	**19.26**	**12.91**	**6.37**	**19.26**

*The total mapped acreage discussed in this report is rounded to 126.2 acres.
[1] If the UPRR overcrossing option is taken, these acreages would not change significantly.

Direct, temporary impacts would occur within the project work limits during construction, but would be restored to the preconstruction contours and elevations when construction is complete.

4.1.4.2 Indirect Impacts

No indirect impacts are anticipated.

4.1.4.3 Mitigation Measures

Indirect impacts are not anticipated; therefore, mitigation measures are not required.

4.1.4.4 Cumulative Impacts

Direct and indirect impacts to natural communities or sensitive habitats are not anticipated as a result of construction of the project; therefore, it is anticipated that the project, in combination with other past, present and reasonably foreseeable activities would have no cumulative effects on natural communities or sensitive habitats in the region.

4.2 Potential Impacts to Protected Trees

UltraSystems performed a tree inventory within the project's impact area to identify, record location via GPS unit, measure and perform a health assessment of any trees impacted in the City of Buena Park. See **Table 4.2-1**, *Protected Tree Inventory*, below. (see **Figure 17**, *Tree Inventory Map*).

Table 4.2-1
PROTECTED TREE INVENTORY

Tree #	Common Name	Scientific Name	Tree Dimensions			Health Assessment	
			Height (approx.)	# of Trunks	Diameter at Breast Height	Tree Health	Comment
1	Carrotwood	*Cupaniopsis anacardioides*	20 ft.	1	24.0 ft.	4	Trimmed on top
2	Ficus tree	*Ficus* sp.	20 ft.	1	21.0 ft.	3	Significantly pruned
3	Ficus tree	*Ficus* sp.	20 ft.	1	14.5 ft.	3	Significantly pruned
4	Ficus tree	*Ficus* sp.	20 ft.	1	15.4 ft.	3	Significantly pruned
5	Ficus tree	*Ficus* sp.	20 ft.	1	14.9 ft.	3	Significantly pruned
6	Ficus tree	*Ficus* sp.	20 ft.	1	18.4 ft.	3	Significantly pruned
7	Ficus tree	*Ficus* sp.	20 ft.	1	19.0 ft.	3	Significantly pruned
8	Ficus tree	*Ficus* sp.	20 ft.	1	27.8 ft.	4	Significantly pruned
9	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	9.8 ft.	4	Pruned
10	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.4 ft.	4	Pruned
11	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.0 ft.	4	Pruned
12	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	7.0 ft.	4	Pruned
13	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	8.2 ft.	4	Pruned
14	Crape myrtle	*Lagerstroemia indica*	25 ft.	1	7.9 ft.	4	Pruned
15	London Plane	*Platanus acerifolia*	28 ft.	1	7.6 ft.	4	Pruned
16	Brisbane Box	*Lophostemon confertus*	30 ft.	1	6.4 ft.	5	No visible signs of stress, disease of pest infestation
17	Myoporum	*Myoporum laetum*	15 ft.	4	1.0+1.0+2.0+ 2.0 = 6.0 ft	5	No visible signs of stress, disease of pest infestation
18	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.8 ft.	5	No visible signs of stress, disease of pest infestation

Tree #	Common Name	Scientific Name	Tree Dimensions			Health Assessment	
			Height (approx.)	# of Trunks	Diameter at Breast Height	Tree Health	Comment
19	London Plane	*Platanus acerifolia*	20 ft.	1	7.3 ft.	5	No visible signs of stress, disease of pest infestation
20	London Plane	*Platanus acerifolia*	20 ft.	1	7.5 ft.	5	No visible signs of stress, disease of pest infestation
21	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.5 ft.	5	No visible signs of stress, disease of pest infestation
22	Brisbane Box	*Lophostemon confertus*	30 ft.	1	7.3 ft.	5	No visible signs of stress, disease of pest infestation

Tree Acronyms

Brisbane Box (LOCO) Ficus tree (FISP)
Carrotwood (CUAN) London Plane (PLAC)
Crape myrtle (LAIN) Myoporum (MYLA)

Tree Health Criteria Rating

3 - Tree in moderate health.
4 - Tree in very good health.
5 - Tree in excellent health.

4.2.1 Direct Impacts

Direct impacts by removal of some or all trees listed in **Table 4.2-1**, *Protected Tree Inventory*, are anticipated to occur within the project area along La Mirada Boulevard in the City of Buena Park, no trees would be removed within the Cities of La Mirada or Cerritos. The final tree count to be removed will be decided by the contractor in the field, therefore, it is presumed that all 22 ornamental street trees will be impacted through removal or trimming.

4.2.2 Indirect Impacts

No indirect impacts are anticipated to occur to adjacent urban forest protected trees, which will be avoided and "protected-in-place" with implementation of the mitigation measures stated below. Therefore, no indirect effects to protected trees will occur as a result of this project.

4.2.3 Mitigation Measures

Direct impacts to trees in the City of Buena Park are anticipated to occur as a result of this project, implementation of the mitigation measures below will help to avoid, eliminate or reduce direct or indirect effects on impacted trees. These include: **BIO-1: Qualified Biological Monitor**, **BIO-2: Worker Environmental Awareness Program (WEAP)**, **BIO-3: Project Limits and Designated Areas**, **BIO-4: General Vegetation Avoidance and Protection Measures** and **BIO-5: Tree Removal Permit.**

- **BIO-1: Qualified Biologist/Biological Monitor**

  Although the project is being constructed on an existing dirt/asphalt maintenance path with no vegetation (with minor exception of 280 feet of La Mirada Blvd), if required by

forthcoming regulatory agency authorizations, a focused biological monitor will be on site to monitor activities at locations that result in the clearing or grading of areas (initial vegetation removal and grading activities) known to contain or potentially contain native wildlife (i.e., coyotes, American crows, common ravens, etc.), special-status species (such as the Coastal Whiptail), as well as grading, excavation, and/or other ground-disturbing activities in jurisdictional areas to ensure that effects do not exceed the limits of grading and to minimize the likelihood of inadvertent impacts to special-status species and protected trees. Where appropriate, the biological monitor will mark/flag the limits of sensitive areas (such as active bird nests/sensitive bird habitat) to restrict project activities near the areas. These restricted areas will be monitored to protect the species during construction. The biological monitor will ensure that all biological mitigation measures, BMPs, avoidance and protection measures described in the relevant project permits, approvals, licenses, and environmental reports are in place and are adhered to. Monitoring will cease when the sensitive habitats and jurisdictional areas have been cleared or affected. All observations of special-status species will be documented and mapped in monitoring logs. Monitoring logs will be completed for each day of monitoring. All special-status species recordings will be submitted to the CNDDB.

The biological monitor will have the authority to temporarily halt all construction activities and all non-emergency actions if sensitive areas and special-status species are identified and will be directly affected by project activities. The monitor will notify the County, the County will then notify the appropriate resource agency and consult if needed. If needed, and if possible, the biological monitor will relocate the individual outside of the work area where it will not be harmed. Work can continue at the location if Orange County Public Works (OCPW) and the consulted resource agency determine that the activity will not result in impacts to the species.

The biological monitor will notify the project proponent, who will notify the appropriate agencies if a dead or injured protected special-status species is located within the project site. Written notification must be made within 15 days of the date and time of the finding or incident (if known) and must include; location of the carcass, a photograph, cause of death (if known), and other pertinent information.

- **BIO-2: Worker Environmental Awareness Program**

  If required by forthcoming regulatory agency authorizations, prior to project construction activities, a qualified biologist will prepare and conduct a Worker Environmental Awareness Program (WEAP) training that will describe the biological constraints of the project. All personnel who will work within the project site will attend the WEAP prior to performing any work. The WEAP should cover the results of any pre-construction surveys, jurisdictional area locations, and sensitive biological resources (such as Coastal Whiptail) potentially present on the site. In addition, the training should cover restrictions, avoidance and protection measures, mitigation measures, and individual responsibilities associated with the project, including measures provided within the forthcoming regulatory permits. The program will include the steps to take if workers encounter a sensitive wildlife species (i.e. notifying the biological monitor or the construction foreman, who will then notify the biological monitor). Training materials will be language-appropriate for all construction personnel. Upon completion of the WEAP, workers will sign a form stating that they attended the program, understand all protection measures, and will abide by all the rules of the WEAP. A record of all trained personnel will be kept with the construction foreman onsite. If new construction personnel are added to the project later, the construction foreman will ensure

that new personnel receive training before they start working. The biologist will prepare and provide written hard copies of the WEAP and photos of the sensitive biological resources to the construction foreman.

- **BIO-3: Project Limits and Designated Areas**

  To avoid impacts to environmentally sensitive areas (ESAs), if any are later identified, surrounding habitats and wildlife, OCPW and/or its assigned contractor, will implement the following measures prior to project construction and commencement of any ground-disturbing activities or vegetation removal.

  - Project footprint will be set at the minimum size to accomplish necessary work, resulting in minimal impacts to sensitive biological resources.
  - Specifications for the project boundary, limits of grading, project related parking, storage areas, laydown sites, and equipment storage areas will be mapped and clearly marked in the field with temporary fencing, signs, stakes, flags, rope, cord, or other appropriate markers. All markers will be maintained until the completion of activities in that area.
  - To minimize the amount of disturbance, the construction/laydown areas, parking areas, staging areas, storage areas, spoil areas, and equipment access areas will be restricted to designated areas. Designated areas will comprise of existing disturbed areas (parking lots, access roads, graded areas, etc.) to the extent possible.
  - Project-related work limits will be defined and work crews will be restricted to designated work areas. Disturbance beyond the actual construction zone will be prohibited without site-specific surveys. If sensitive biological resources are detected in an area to be affected, then appropriate measures would be implemented to avoid effects (i.e., flag and avoid, erect orange construction fencing, biological monitor present during work, etc.). However, if avoidance is not possible and the sensitive biological resources will be directly affected by project activities, the biologist will mark and/or stake the site(s) and map the individuals on an aerial map and with a GPS unit. The biologist will then contact the appropriate resource agencies to develop additional avoidance, minimization and/or mitigation measures prior to commencing project activities.
  - ESAs will be identified, mapped, clearly marked in the field, and avoided to the maximum extent practicable in order to avoid and minimize effects to sensitive biological resources.
  - Existing roads will be utilized wherever possible to avoid unnecessary impacts. Project-related vehicle traffic will be restricted to established roads, staging areas, and parking areas. Travel outside construction zones will be prohibited.

  Monitoring would occur periodically during the length of construction activities to ensure project limits, designated areas (parking, storage, etc.), and ESAs are still clearly marked.

- **BIO-4: General Vegetation Avoidance and Protection Measures**

  OCPW, or its assigned contractor, would implement the following general avoidance and protection measures to protect vegetation, to the extent practical.

  - Although no vegetation was noted along the bikeway route efforts would be made to minimize vegetation removal. Cleared or trimmed vegetation and woody debris would be disposed of in a legal manner at an approved disposal site.
  - If any invasive species are subsequently discovered within the temporary disturbance areas they would be controlled to the maximum extent feasible using hand pulling or hand tool removal methods only. Limiting control methods to hand pulling or hand tools would further protect the surrounding habitat.
  - To minimize the transfer of exotic weed seed, vehicles and all equipment would be washed before first use at the project site. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc. would also be washed. All washing would take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill.

  Contractors, subcontractors, employees, and site visitors would be prohibited from collecting plants.

- **BIO-5: Tree Removal Permit**

  City of Buena Park Ordinance 12.20.040 states the following:

  "A. Persons desiring to remove any standing or growing trees or shrubbery or any ornament or improvement from a parkway adjacent to property owned or lawfully occupied by such persons shall apply to the director of public works for a permit. The application for such permit shall be in writing and set forth the reasons such removal is desired.

  B. If the director finds upon investigation that the tree, shrub, ornament or improvement desired to be removed constitutes a private nuisance, is not of the type or species designated for such street or for other good cause shown, he or she shall issue a permit allowing such tree, shrub, ornament or improvement to be removed.

  C. The permit for the removal of any tree, shrub, ornament or improvement shall prescribe the method or manner in which such tree, shrub, ornament or improvement shall be removed by the applicant, shall be conditioned upon the fact that all expenses and costs shall be borne by the applicant and shall contain a provision signed by the applicant that the applicant agrees to save, indemnify and keep harmless the city against all liabilities, judgments, costs and expenses which may in any wise accrue against the city in consequence of the granting of the permit or in consequence of the use or occupancy of any sidewalk, street or other public place or in any other wise by virtue thereof and will in all things strictly comply with the conditions of the permit and of this code, all ordinances, rules and regulations of the city.

  D. The permit for the removal of any tree may require the replanting of another tree after the removal, and, if a replacement is required, the applicant shall deposit a sum

fixed by the city council for each tree to be replaced before the permit shall be issued. If all the conditions of the permit are not complied with, the deposit required by this section will be forfeited to the city. If the conditions are complied with, the deposit shall be refunded to the applicant.

E. Any person aggrieved by the refusal of the director to issue a permit for the removal of any tree, shrub, ornament or improvement or by the requirements of such permit may appeal to the city council. The city council shall have the right and authority upon investigation and findings to issue the permit. (Ord. 1505 § 1, 2007)"

4.2.4 Cumulative Impacts

Implementing the recommended mitigation measures described in Section 4.2.3 will help to avoid, reduce or eliminate potential direct and indirect impacts to protected trees; therefore, it is anticipated that the project in combination with other past, present and reasonably foreseeable activities in the environment around the project site would have little to no cumulative effects on protected trees in the region.

4.3 Potential Impacts to Special-Status Plant Species

No listed endangered, threatened, candidate or state rare plant species or sensitive plant species were observed within the BSA during any of the field surveys. The literature review and field surveys concluded that habitat conditions within the BSA create a moderate potential for one sensitive plant species to occur: lucky morning-glory (*Calystegia felix*) (CRPR: 1B.1).

4.3.1 Discussion of Lucky Morning Glory

Lucky Morning Glory is not known to be extant in the wild. All extant occurrences are associated with well-watered landscaping on recently completed industrial, commercial, and residential developments (Provance and Sanders, 2013).

4.3.1.1 Survey Results

Even though Lucky Morning Glory was not observed during the survey, this species has a low potential to occur within the project footprint. The project site is located within this plant's known distribution and elevation range, but contains limited potential suitable habitat; most of the project site is developed or disturbed.

4.3.1.2 Direct Impacts

No direct impacts to Lucky Morning Glory or any other special-status plants are anticipated as a result of construction of the project, as no special-status plants were observed during field surveys. Only small pockets of unpaved, suitable habitat exist within the project footprint.

4.3.1.3 Indirect Impacts

Construction of the project is not expected to result in indirect reasonably foreseeable impacts to special-status plant species located adjacent to the project work site.

4.3.1.4 Mitigation Measures

No special-status plant species were observed during any survey, therefore, impacts to special-status plants are not anticipated as a result of the project. Mitigation is not required for special-status plants.

Cumulative Impacts

Direct impacts to special-status plant species are not anticipated as a result of construction of the project, however, implementing the general recommended mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, and, **BIO-4** help to avoid, reduce or eliminate potential indirect impacts to vegetation; therefore, it is anticipated that the project in combination with other past, present and reasonably foreseeable activities in the environment around the project site would have little to no cumulative effects on special-status plants in the region.

4.4 Potential Impacts to Special-Status Wildlife

One special-status wildlife species, Coastal Whiptail (CDFW Species of Special Concern, S-Rank = S3) was observed during the field surveys; and one sensitive wildlife species, the Western Mastiff Bat (*Eumops perotis californicus*)(CDFW Species of Special Concern), has moderate potential to occur based on the literature review and habitat conditions observed during the field surveys.

Sixteen additional common wildlife species were detected (visually or aurally) during the survey. These include the mallard, red-tailed hawk, least sandpiper, killdeer, rock pigeon, American crow, common raven, American kestrel, mourning dove, house finch, house sparrow, northern mockingbird, black phoebe and two bat species, big brown bat and Mexican free-tailed bat. Stage Road bridge contained a bat colony, as noted by sign (excrement) and aural cues (vocalizations and movement sounds). The focused acoustic bat survey conducted on July 14 and 15, 2020 confirmed a roosting colony on Stage Road Bridge and all other bridges were deemed as low risk for presence of a bat colony due to lack of suitable crevices or cavities and a lack of bat guano. The focused acoustic bat survey also confirmed suitable roosting habitat for the Western Mastiff Bat. Focused pre-construction surveys will be conducted to determine presence of roosting bats and to determine the particular bat species using the bridges.

4.4.1 Discussion of MBTA-Protected Bird Species

The BSA is situated within the boundary of the Pacific Flyway, which is a major north-south flyway for large populations of migrating birds. The Pacific Flyway extends from Alaska to South America and encompasses eight western states: Washington, Oregon, California, Idaho, western Montana, Nevada, Utah, and Arizona (EAFB, 2008). Migrating birds travel the flyway in the spring and fall following food sources and to breed or overwinter.

4.4.1.1 Survey Results

The BSA supports trees, vegetation, and other physical features that could potentially provide foraging, nesting, and cover habitats to support a diverse assortment of bird species (year-round residents, seasonal residents, and migrants). A majority of the birds observed during the field surveys and those birds that could potentially breed within the BSA are protected by the MBTA and California Fish and Game Code § 3503, § 3503.5, and § 3513. The statutes make it unlawful to take native breeding birds, and their nests, eggs, and young. Therefore, the project has the potential to directly and indirectly take individual breeding birds, their nests, young, or eggs. Project development is not

expected to cause a substantial impact to bird species that only forage at the site or occur as transient visitors.

4.4.1.2 Direct Impacts

Activities which are most likely to result in take of migratory birds during the breeding bird season when eggs or young are likely to be present include, but are not limited to, clearing or grubbing of bird nesting habitat (such as birds that nest in bridges or ground nesting birds) during the nesting season (generally between February and September); structure demolition; operation and maintenance activities; or vegetation trimming or clearing.

Due to lack of habitat, project construction is not expected to impact bird species that only fly over the site, forage at the site, or occur as transient visitors. Therefore, project construction is not anticipated to directly affect breeding habitat for these species.

4.4.1.3 Indirect Impacts

If construction occurs during the nesting season, indirect impacts on breeding birds could occur from increased noise, vibration, lighting and dust during construction, which could adversely affect the breeding behavior of some birds and lead to the loss (take) of eggs and chicks, or nest abandonment.

4.4.1.4 Mitigation Measures

Implementing the recommended mitigation measures described in Section 4.2.3 combined with the mitigation measures below will help to minimize or avoid direct and indirect effects on MBTA-protected bird species, common and special-status species. These include: **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-6: Nesting Bird Surveys**, and **BIO-7: General Wildlife Avoidance and Protection Measures**.

MM BIO-6 Nesting Bird Surveys

To aid compliance with the MBTA and the California Fish and Game Code, and to minimize or avoid direct and indirect impacts to migratory non-game breeding birds, and their nests, young, and eggs, the following measures should be implemented.

- Project activities that will remove or disturb potential nest sites should be scheduled outside the nesting bird season, if feasible. The nesting bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, usually depending on weather conditions. Raptors are known to begin nesting early in the year. The raptor nesting bird season begins January 31.
- If project activities that will remove or disturb potential nest sites cannot be avoided during January 31 through September 15, a qualified biologist will conduct a pre-construction survey for breeding bird activity or active nests within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. A lapse of no more than seven days should occur between nesting bird surveys.
- If no breeding bird activity or active nests are observed during the pre-construction survey(s), or if they are observed and will not be affected, then

project activities may begin and no further nesting bird monitoring will be required.

- If an active bird nest is located during the pre-construction survey and potentially will be affected, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 500 feet for special-status avian species and raptors, or up to 100 feet for non-special status avian species. Materials used to demarcate the nests will be removed as soon as work is complete or the fledglings have left the nest. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be affected by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone.
- If special-status bird species, such as the Least Bell's Vireo, are observed within the project site during the pre-construction surveys, then a qualified biologist will delineate individual species' nesting territories, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary, and (2) select suitable mitigation measures. Project activities may not begin within the area until concurrence is received from the appropriate resource agencies.

BIO-7 General Wildlife Avoidance and Protection Measures

The project site contains habitats which can support some wildlife species. Although few wildlife species were observed utilizing this urban area[9] (please see **section 3.2.4** for full list) during the two field surveys, including bats at Stage Road and the Coastal Whiptail, OCPW, or its contractor, would implement the following general avoidance and protection measures to protect wildlife, to the extent practical.

- To minimize construction-related mortalities of nocturnally active species such as mammals and snakes, it is recommended that all work be conducted during daylight hours. If nighttime work is required, the Qualified Biologist will assess the construction area to determine if there are any biological concerns for nighttime work. Nighttime work (and use of artificial lighting) would not be permitted unless specifically authorized by the wildlife agencies. If required, night lighting would be directed away from the preserved open space areas. All unnecessary lights would be turned off at night to avoid attracting wildlife such as insects, migratory birds, and bats.
- If any wildlife is encountered during project activities, it will be allowed to freely leave the area unharmed.

9 Wildlife survey limitations include: (1) A two-day survey cannot be used to conclusively determine presence or absence of a wildlife species, (2) biological surveys were conducted during daylight hours to maximize the ability to observe most wildlife, and (3) Many species are nocturnal, move about a territory, may have become dormant for the season, or are less active during weather extremes.

- Wildlife would not be disturbed, captured, harassed, or handled. Fishing would be prohibited at the project site. Animal nests, burrows and dens would not be disturbed without prior survey and authorization from a qualified biologist.
- Active nests cannot be removed or disturbed. Nests can be removed or disturbed if determined inactive by a qualified biologist.
- To avoid impacts to wildlife, OCPW, or its contractor, would comply with all litter and pollution laws and would institute a litter control program throughout project construction. All contractors, subcontractors, and employees would adhere to this program. Trash and food items would be disposed of promptly in predator-proof containers with resealing lids, or will be removed off the site each day. These covered trash receptacles would be placed at each designated work site and the contents would be properly disposed at least once a week. Trash removal would reduce the attractiveness of the area to opportunistic predators such as common ravens (*Corvus corax*), northern raccoons (*Procyon lotor*), Virginia opossums (*Didelphis virginiana*), and coyotes (*Canis latrans*).
- Contractors, subcontractors, employees, and site visitors would be prohibited from feeding wildlife and collecting wildlife.
- To avoid the potential for mortality and harassment of wildlife, all non-security related firearms, weapons, and domestic dogs would be prohibited from the project site.
- All pitfalls (trenches, holes, bores, detention basins, and other excavations) greater than two feet deep would be completely covered at the end of each work day, or escape ramps provided.

4.4.1.5 Cumulative Impacts

Implementing the mitigation measures **BIO-1** though **BIO-4**, **BIO-6** and **BIO-7** will help to avoid, reduce, or eliminate direct or indirect impacts on migratory non-game breeding birds, and their nests, young, and eggs; therefore it is anticipated that the project, in combination with past, present, and reasonably foreseeable probable future projects in the environment around the project site, would have little to no cumulative impacts on migratory non-game breeding birds, and their nests, young, and eggs in the region.

4.4.2 Discussion of Coastal Whiptail

The Coastal Whiptail is found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage such as deserts, chaparral and semiarid. Also found in woodland and riparian areas. The Coastal Whiptail probably occurs in oak woodlands because they have been detected in riparian areas (Schoenherr, 1976). The Coastal Whiptail can be found in open, often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations (Benes, 1969). The Coastal Whiptail is known to use compacted, firm, sandy, and/or rocky soil substrates.

4.4.2.1 Survey Results

A Coastal Whiptail was observed within the BSA (but outside of project limits) during the February 21, 2020 survey. It was observed in the disturbed area immediately east of 15250 Desman Road, La Mirada, CA.

4.4.2.2 Direct Impacts

Potential direct impacts to common (see Section 3.2.4 for a list of common wildlife observed during the field surveys) and sensitive wildlife, such as Coastal Whiptail, could occur from construction related mortality, injury, or harassment of individuals as a result of construction and from the removal and direct loss of breeding, foraging, and/or sheltering habitats. Project development could also reduce the amount of habitat available for common and special-status wildlife species utilizing onsite habitats. Direct permanent impacts include all areas within the limits of grading in the project footprint.

Ground disturbing and habitat altering activities could involve substantial disturbance to common and special-status ground-dwelling animals or nesting birds. Examples include grading, clearing, disking, grubbing, excavation, trenching, paving, and heavy equipment compacting. Direct impacts to less mobile fossorial animals that are underground during most of the day or year (e.g., small mammals or lizards) or have a life stage in the soil or on plants (e.g., amphibians, nesting birds, insects) could occur from encounters with vehicles or heavy equipment as many of these animals do not run away from construction vehicles/equipment and would most likely be killed. These species could be expected to experience direct mortality, injury, harassment, and displacement from increased human activity and vehicle/equipment travel if they are present onsite within the project footprint at the time of construction. Individual losses are more likely, especially during clearing and grubbing activities. Individuals could also be injured, disturbed, or killed from encounters with workers' or visitors' pets. However, project impacts to common native species are expected to be minor for this urban project.

4.4.2.3 Indirect Impacts

Indirect impacts could occur within areas located adjacent to the limits of construction in the project footprint. Indirect impacts are more subtle than direct ones. Impacts may either be short-term related to construction or long-term and may affect populations and habitat quality over an extended period of time, long after construction activities have been completed. It is hard to predict indirect impacts from project construction. Examples of indirect impacts that could potentially occur from the project include the following.

- The permanent loss of habitats and physical features that could occur from clearing and grading could indirectly impact wildlife species through the loss of foraging, roosting, denning, and/or breeding habitat available. Habitat loss could displace species from existing territories and reduce the home range of those species and impact nearby populations of similar species. Displaced species would then have to compete for and/or find new territories and compete for food with resident species. This could result in delayed nest building, fewer nest attempts, reduced clutch size, and an overall reduction in reproductive output.

- Project construction could result in temporary increased ambient noise levels, dust, vibration, lighting and/or human intrusion in and near habitats. This could disrupt natural foraging, roosting, denning, and/or breeding behavior of wildlife species. Wildlife species stressed by these factors may disperse from habitat in the project site and project vicinity. In addition, increased noise levels could interfere with territorial and mating vocalizations, thereby interfering with wildlife reproduction.

- Project construction could increase fugitive dust, pollution, runoff, siltation, sedimentation, and erosion. This could result in degradation and alteration of habitats, soils, and water

quality of onsite washes. Consequently, the ability of onsite and adjacent plant communities to support wildlife populations may decrease.

- Nighttime construction work and use of artificial lighting could disrupt natural foraging and breeding behaviors and/or alter wildlife movement patterns and migratory routes of nocturnally active species such as mammals and snakes. Most animals would attempt to avoid moving in or near the lighting; however, some animals such as insects, migratory birds, and bats might be attracted to the lighting, increasing construction-related mortalities. Artificial lighting could also indirectly affect wildlife by increasing detection by predators.

- An increase and continuation of human activities within and adjacent to the project site could lead to mortality, injury, or harassment of common and special-status wildlife species by providing food in the form of trash and litter or water which attracts predators such as the common raven (*Corvus corax*), Virginia opossum (*Didelphis virginiana*), and coyote (*Canis latrans*).

Habitat quality could be altered and reduced with the potential of illegal hiking trails in native habitat, introduction of invasive plant species, and compaction of soils. Future conditions could harm special-status wildlife species if noxious weeds become established and displace native vegetation that serve as forage and breeding habitat for the animals. The introduction of noxious weeds could also lead to increased wildfire.

4.4.2.4 Mitigation Measures

Implementing the recommended mitigation measures described in Section 4.2.3 and Section 4.4.1.4 combined with the mitigation measures below will help to avoid, eliminate or reduce direct or indirect effects on the Coastal Whiptail, common and special-status species. These include: **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-7,** and **BIO-8: Pre-Construction Survey for Coastal Whiptail.**

- **BIO-8: Pre-Construction Survey for Coastal Whiptail**
    - Preconstruction surveys for these species shall be conducted by the project's assigned biological monitor or a qualified biologist immediately prior to initiation of excavation and/or daily work involving earth-moving activities. Survey will be done within 300 feet of where it was observed (disturbed area immediately east of 15250 Desman Road, La Mirada, CA)
    - If the Coastal Whiptail does not leave the project site on its own, it should be coaxed to move out of harm's way, outside of the project area, using an object to "steer" it away from the project site, such as a snake stick or piece of plywood. Relocation out of harm's way of the Coastal Whiptail shall only be conducted by the project's assigned biological monitor or a qualified biologist prior to any site preparation.

4.4.2.5 Cumulative Impacts

Implementing mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-7,** and **BIO-8: Pre-Construction Survey for Coastal Whiptail** will help to avoid, reduce, or eliminate direct or indirect impacts on Coastal Whiptail; therefore, it is anticipated that the project in combination with past, present, and reasonably foreseeable probable future projects in the environment around the project site would have little to no cumulative impacts on Coastal Whiptails in the region.

4.4.3 Discussion of Western Mastiff Bat

Western Mastiff Bats are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, (Alhorn, 2000; Cockrum, 1960; Allen, 1987) and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western Mastiff Bats can also be found in similar crevices in large boulders and buildings (Pierson and Rainey, 1996; Pierson, 1998). When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight.

4.4.3.1 Survey Results

Even though the Western Mastiff Bat was not observed during the survey, this species has a moderate potential to occur within the BSA. The BSA is located within this mammal's known distribution and contains suitable habitat (CDFW, 2020e; CDFW, 2020f; Gogol-Prokurat, 2016).

On February 21st, 2020, UltraSystems Biologists heard bats on the underside of Stage Road bridge and the Interstate 5 bridge, while surveying from Coyote Creek Channel. For proper identification of the specific bat species present, a focused survey was conducted using Titley Scientific Anabat Walkabout bat detector, operated by a qualified bat biologists Courtney McCammon and Christian Nordal.

All other bridges within the BSA were also inspected for bat activity and/or potential for maternal colonies. The other bridges were determined to have no or low potential based on the absence of guano, noise and/or crevices (see **Figure 18**, *Potential Bat Maternity Colonies*).

Focused bat surveys

The only bridge containing roosting bats is Stage Road. Bat guano was abundant in areas in the wash where active flow was not occurring. Over 100 bats were observed emerging from this roost at sunset. Two species were recorded over the course of surveys; big brown bat, and Mexican free-tailed bat. Bats from this roost were observed foraging in areas around other bridges, but no bats were observed emerging from other bridges. No bats were recorded at other bridges during the time period where bats had previously been recorded emerging from the occupied roost.

Bats were observed foraging around the following bridges; North Firestone Boulevard, proposed Pedestrian/Cyclist Bridge North of Stage Road, and La Mirada Boulevard.

4.4.3.2 Direct Impacts

Direct impacts to bats are not anticipated as a result of this project because none of the existing bat roosts or surfaces of the underpasses that typically contain substrates that can be utilized as bat habitat will be altered during construction.

4.4.3.3 Indirect Impacts

The same indirect impacts described for Coastal Whiptail may similarly impact the Western Mastiff Bat. These impacts are described in Section 4.4.2.3.

4.4.3.4 Mitigation Measures

Implementing the recommended mitigation measures described in Section 4.2.3 and Section 4.4.1.4 combined with the mitigation measure below will help to avoid, eliminate or reduce direct or indirect effects on roosting bats, the Western Mastiff Bat, common and other special-status wildlife species. These include: **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-7,** and **BIO-9: Bat Mitigation.**

- **BIO-9 Bat Mitigation**

  BIO-9a: Safety Measure, Standard Operating Procedures

  Safety Measure, Standard Operating Procedures: A safety measure concerning the presence of bats within the Coyote Creek channel should be included in the Standard Operating Procedures by the contractor for the onsite construction crews. The safety measure should include precautions for working within 150 feet of any bridge with bat colonies, for the safety of the crews. The safety measure should disclose potential risk of disease from bat bites/scratches and inhalation of guano; requirements for use of Personal Protective Equipment; and responsibilities and actions of crews if a negative interaction with a bat is reported. Although negative interactions with bats are extremely rare, guidance for the contractor and construction crews is recommended.

  - Every effort should be made to avoid displacement of the special-status bats during the construction phase.

  - If work cannot occur simultaneously with the presence of special-status bats, due to safety hazard for the crew or the bats, the animals may require exclusionary method prior to construction, within 150 feet of bat occupied structures.

  - If an exclusionary method is required, OCPW, or its contractor, will prepare a Bat Exclusion and Monitoring Plan (BEMP), for review and approval by CDFW. The BEP, will detail alternate habitat to be provided if bats are to be excluded from maternity roosts. A roost with comparable spatial and thermal characteristics will be constructed as directed by a project biologist. (see BIO-9c, below)

  BIO-9b: Pre-construction Bat Survey (Stage Road Bridge Only)

  Pre-Construction Bat Survey: Within 30 days before construction, and if work is to be done near Stage Road during bat pupping season, generally from May 1 to August 31 (4 months), a project biologist who is qualified to survey for special-status bats will conduct pre-construction surveys[10] for presence of roosting bat colonies (including the western mastiff bat). If roosting bat colonies or special-status bat species are present, the following should be implemented:

  - Saw cutting, jackhammering, piledriving, or similar activities within 150 feet of structures occupied by maternal bat roosts (colonies) should not occur without prior consultation with CDFW. Maternal roosts are typically present between May 1 and August 31.

10 OCPW may alternatively confer with CDFW for other options.

- Avoid Jackhammering, piledriving, or similar activities within 150 feet of the maternal roost until all young bats have left the roost, or as determined by a project biologist, or through consultation with CDFW.
- If special-status bats are present, but there is not an active maternity roost, a consultation with the CDFW will be entered into to determine the approved best management practices, without directly impacting the bat colony.

Preconstruction Survey Methods. Bat species with potential to occur in the project area employ varied roost strategies, from solitary roosting in foliage of trees to colonial roosting in trees and artificial structures, such as buildings and bridges. Daily and seasonal variations in habitat use are common. To obtain the highest likelihood of detection, preconstruction bat surveys will include these components.

- Identification of potential roosting habitat within project area.
- Daytime search for bats and bat sign in and around identified habitat.
- Evening emergence surveys at potential day-roost sites, using night-vision goggles and/or active full-spectrum acoustic monitoring where species identification is sought.
- Passive full-spectrum acoustic monitoring and analysis to detect bat use of the area from dusk to dawn over multiple nights.
- Additional onsite night surveys as needed following passive acoustic detection of special status bats to determine nature of bat use of the structure in question (e.g., use of structure as night roost between foraging bouts).
- Qualified biologists will have knowledge of the natural history of the species that could occur in the project area and experience using full-spectrum acoustic equipment. During surveys, biologists will avoid unnecessary disturbance of occupied roosts.
- Note that preconstruction surveys are triggered only if the project requires construction activities producing unusually loud activities or activities causing shaking or vibration of the bridge, generally resulting from jackhammering, piledriving, or similar activities (within 150 feet of the bat colony).

BIO-9c: Bat Exclusion and Monitoring Plan (Stage Road Bridge Only)

Bat Exclusion and Monitoring Plan: If roosting bats, including the western mastiff bat, are identified using the bridge structures, the bat biologist will determine if the project is likely to cause the failure of special-status maternal (breeding) colonies. To avoid impacts to maternal bat colonies a BEMP would be prepared for implementation during the construction phase of the project.

- The BEMP would provide project-specific measures for noise attenuation devices, acoustic and visual monitoring during high-vibration and sound activities (such as saw cutting, jackhammering, and pile driving), visual disturbance buffers, and the installation of bat exclusion devices to safely and humanely evict bats outside of the maternity season, in the event they are needed.

- If the BEMP is necessary, consultation with the California Department of Fish and Wildlife would occur to finalize preparation of the BEMP for inclusion in the Streambed Alteration Agreement under Section 1600-1616 of the Fish and Game Code. Each SAA usually contains a section titled Measures to Protect Fish and Wildlife Resources, for which this plan would be incorporated.

- Note that the BEMP is triggered only if the project requires high-vibration and sound activities causing shaking or vibration of the bridge, generally resulting from saw cutting, jackhammering, pile driving, or similar activities (within 150 feet of the bat colony).

4.4.3.5 Cumulative Impacts

Implementing the recommended mitigation measures **BIO-1**, **BIO-2**, **BIO-3**, **BIO-4**, **BIO-7,** and **BIO-9: Bat Mitigation** will help to avoid, reduce or eliminate potential direct and indirect impacts to special-status wildlife; therefore, it is anticipated that the project in combination with other past, present and reasonably foreseeable activities in the environment around the project site would have little to no cumulative effects on roosting bats and Western Mastiff bats in the region.

4.5 Potential Impacts to Waters of the U.S. and State

This Section discloses impacts for regulatory permitting required for work within the jurisdictional waterway, namely Coyote Creek.

4.5.1 Sections 401 and 404 of the Clean Water Act

Temporary impacts to waters of the U.S. are defined as "Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not in the measurement of loss of waters of the United States" (WTI, 2017, p. 337). Project-related impacts to waters of the U.S. (e.g. scaffolding) will be restored to their preconstruction contours and elevations before construction is complete; therefore, all impacts to waters of the U.S. will be temporary impacts.

4.5.2 Section 1602 of the California Fish and Game Code

The absence of riparian vegetation combined with the developed nature of the areas adjacent to channels were the overwhelming factors in making the determination that the top of the channel comprised the lateral extent of the waters of the State (CDFW; refer to **Figures 19a** to **19o,** *Jurisdictional Areas Mapbook*, in **Appendix A**, for locations of delineated waters of the State). Observed Jurisdictional Status

Using the results of the field investigation described in Section 3.1.1.1 of this document, the preliminary determination was made that Coyote Creek North Fork and Coyote Creek are waters of the U.S. and State. Both creeks are jurisdictional to the USACE under § 404 of the CWA; and to the SWRCB under § 401 of the CWA, as well as the California Porter-Cologne Water Quality Control Act, because the water flow from both channels discharge into the San Gabriel River and, ultimately, to the Pacific Ocean, a known water of the U.S.

It can be said with certainty that the project area lacks the 3-parameter USACE wetland per the Manual (1987) as the project area lacked hydrophytic vegetation and hydric soils. The Manual

defines it as "an area should be considered vegetated (and a potential wetland) if there is 5 percent or more areal cover of plants at the peak of the growing season. Unvegetated areas have less than 5 percent plant cover. Patchy vegetation is a mosaic of both vegetated and unvegetated areas. In some cases, the unvegetated portions of a site may be considered as other waters of the United States if they exhibit ordinary high water (OHWM) indicators (33 CFR 328.3)". UltraSystems biologists used the approved OHW indicators such as "water staining, wrack line, and debris" along the margins of the waterway (USACE, 1987). These OHWM indicators were located at an average of 15 feet above the channel bottom along the flood control channel and were used as an estimate to guide the digitization of the OHWM location via GIS mapping software for the desktop delineation.

Coyote Creek North Fork and Coyote Creek are determined to be waters of the State under the jurisdiction of the California Department of Fish and Wildlife under §§ 1602 through 1616 of the California Fish and Game Code in that

1. All streams in the State of California are under CDFW jurisdiction under § 1602 of the Fish and Game Code; and

2. Coyote Creek North Fork and Coyote Creek, within the limits of the BSA, meet the definition of a watercourse as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" as provided by Brady and Vyverberg (2013).

Final jurisdictional status will be provided by the USACE, SWRCB, and CDFW. **Figure 19**, *Jurisdictional Areas Mapbook*, depicts the jurisdictional boundaries of the waters of the U.S. and waters of the State that were delineated within the affected portion of the BSA. Photographs of the project area are located in the Jurisdictional Delineation Report (**Appendix I**).

Should the USACE decline jurisdiction over Coyote Creek and Coyote Creek North Fork, the SWRCB could regulate project-related discharges under Porter-Cologne through the issuance of a Waste Discharge Requirement (WDRs; SWRCB Resolution No. 2019-0015).

4.5.3 Potential Impacts

Potential impacts to areas under the jurisdiction of the USACE (under § 404 CWA), SWRCB (under § 401 CWA and the California Porter-Cologne Water Quality Control Act), and CDFW (under the jurisdiction of § 1602 FGC)were calculated by overlaying the project design, grading, and work areas on the mapped results of the digital delineation. Refer to **Figure 20,** *Impacts to Jurisdictional Areas Mapbook*, for location details of impact areas.

Within the project boundary, construction of Segment O (approximately 5,087 linear feet) would result in temporary impacts of 0.48 acre (see **Table 4.5-1,** *Jurisdictional Areas and Impacts Summary Table*). Within Segment P (approximately 3,540 linear feet), the project would result in approximately 0.05 acre of temporary impact; and within Segment Q (approximately 5,975 feet in length), construction would result in approximately 0.15 acre of temporary impact to waters of the U.S., as shown in **Table 4.5-1**.

Within the project boundary, construction of Segment O would result in approximately 1.21 acres of temporary impacts to waters of the State. Construction of Segment P would result in 0.05 acre of

temporary impacts, and construction of Segment Q would result in 0.22 acre of temporary impacts to waters of the State, as shown in **Table 4.5-1**.

Table 4.5-1
JURISDICTIONAL AREAS AND IMPACTS SUMMARY TABLE

Waters Jurisdictional Designation	Length of Segment (feet)	Temporary Impact (acres)	Permanent Impact (acres)	Total Impacts (acres)
Waters of the U.S.				
Segment O	5,087	0.48	0	0.48
Segment P	3,540	0.05	0	0.05
Segment Q	5,975	0.15	0	0.12
Total	**14,602**	**0.69**	**0**	**0.69**
Waters of the State				
Segment O	5,087	1.21	0	1.20
Segment P	3,540	0.05	0	0.05
Segment Q	5,975	0.22	0	0.17
Total	**14,602**	**1.48**	**0**	**1.48**

As stated in the 2017 Nationwide Permit (NWP) Program (NWP 14 Linear Transportation Projects), "The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands." The project complies with USACE Los Angeles District Regional Conditions for the 2017 Nationwide Permits Program, and to all General Conditions. Due to the lack of permanent impacts (i.e., losses of waters of the U.S.), the project is not required to submit a Preconstruction Notification (PCN) pursuant to General Condition 32; however, in the interest of transparency, it is recommended that the project submit a PCN to the USACE, Los Angeles District.

The project will be required to submit an application for Water Quality Certification (under § 401 CWA, and in compliance with the Porter-Cologne Water Quality Control Act) to the SWRCB. The project will also be required to submit a Lake or Streambed Alteration Notification (under § 1602 FGC) to the South Coast Regional Office of CDFW.

Please note that impacts to the maintenance roads and waterways associated with the Coyote Creek and Flood Control Channel jurisdiction will need to be disclosed during the permitting process for the authorizations required under the Section 14 of the Rivers and Harbors Act of 1899, as amended and codified at 33 USC 408 (Section 408) with USACE and for the encroachment permit with the appropriate flood control district.

4.5.4 Indirect Impacts to Wetlands and Waters

Indirect effects could occur within jurisdictional areas located adjacent to the limits of construction. Examples of reasonably foreseeable indirect, temporary effects include construction-related erosion, runoff, siltation, sedimentation, soil compaction, and alteration of drainage patterns could affect

habitat and natural communities by altering site conditions so that the location in which plants are growing becomes unfavorable. Another example of indirect effects includes the introduction and spread of new invasive, exotic plants by removing established vegetation and creating areas of exposed soil, grading and other construction activities which could result in permanent indirect impacts to downstream riparian vegetation communities.

4.5.5 Cumulative Impacts to Wetlands and Waters

Combined temporary impacts to waters of the U.S. and State will measure 2.17 acre (includes 0.69 acre of Waters of the U.S. and 1.48 acre of Waters of the State); however, areas of temporary impact will be restored to preconstruction contours and elevations when construction is complete. No permanent impacts to waters of the U.S. or waters of the State are anticipated due to construction. A search of the CEQAnet Web Portal (CEQAnet; OPR 2020) resulted in 169 recreational projects filed in Los Angeles County and 50 recreational projects filled in Orange County between May 1, 2015 and May 1, 2020.

Out of the 169 projects in Los Angeles county only five were within the Lower San Gabriel Watershed and contained some type of trail and a jurisdictional waterway nearby; in Orange County only three of the 50 projects that resulted from the inquiry were within the Lower San Gabriel Watershed and contained some type of trail and a jurisdictional waterway nearby. A review of the jurisdictional, hydrology and water quality impacts of these individual projects revealed that all their impacts are less than significant due to implementation of construction stormwater BMPs, post-construction structural BMPs are detailed in project WQMPs, and other mitigation measures,

Therefore, cumulative impacts of the proposed project to the waters of the Lower San Gabriel River Watershed would also be less that significant because the proposed project would minimize or avoid water impacts to receiving wasters through implementation of site-specific stormwater construction BMPs as directed in the required SWPPP, and would also implement any project-specific mitigation required by reviewing agencies (i.e., the SWRCB and the South Coast Region of CDFW).

Compliance with all permit-required conditions, and implementation of standard construction best management practices, will avoid or minimize adverse effects to waters of the U.S. and State. It is anticipated that the project, in combination with other past, present and reasonably foreseeable activities proximate to OC Loop Segments O, P, and Q and within the Brea Creek-Coyote Creek watershed would result in less than significant cumulative impacts to the waters and receiving waters of the Brea Creek-Coyote Creek Watershed.

4.5.6 Mitigation Measures

The project has no permanent impacts to wetlands or other waters of the US and State, or to water quality. With implementation of site-specific stormwater construction BMPs to minimize or avoid construction-related impacts, as detailed in the required SWPPP, potential impacts would be temporary in nature and less than significant. Mitigation is not required.

4.6 Potential Impacts to Wildlife Corridors

The literature review and field surveys determined that the BSAs do not function as wildlife movement corridors. Coyote Creek Channel is a concrete-lined channel devoid of vegetation within the project limits, hence, does not provide habitats to support a large amount of species. No direct or indirect impacts on wildlife corridors are anticipated as a result of construction of the project;

therefore, no avoidance and minimization measures are required and no compensatory mitigation is required. (Please see **Figure** 13, *CDFW Regional Wildlife Corridors*, located in **Appendix A**).

4.6.1 Direct Impacts

No direct impacts will occur on wildlife corridors, as none exist within the BSAs. Therefore, no effects will occur as a result of this project.

4.6.2 Indirect Impacts

No indirect impacts will occur on wildlife corridors, as none exist within the BSAs. Therefore, no effects will occur as a result of this project.

4.6.3 Mitigation Measures

Impacts to regional wildlife corridors are not anticipated, as this project does not occur within a regional wildlife corridor. Therefore, no mitigation is required and mitigation is not proposed.

4.6.4 Cumulative Impacts

No effects on Wildlife Corridors will occur; therefore, no cumulative impacts are anticipated as a result of this project.

4.7 Potential Impacts to USFWS Critical Habitats

The literature review determined that the BSA is not located within designated or proposed critical habitats and the nearest designated critical habitat (coastal California gnatcatcher) is approximately 1.14 miles northeast from intersection of Coyote Creek Channel and La Mirada Boulevard (near the northern end of the project site). (See **Figure 21**, *Critical Habitats*)

4.7.1 Direct Impacts

No direct impacts will occur on USFWS Critical Habitat, as none exist within the BSA. Therefore, no effects on USFWS Critical Habitat will occur.

4.7.2 Indirect Impacts

No indirect impacts will occur on USFWS Critical Habitat, as none exist within the BSA. Therefore, no effects on USFWS Critical Habitat will occur.

4.7.3 Mitigation Measures

No USFWS Critical Habitat exists within the BSA. Therefore, no mitigation is required and mitigation is not proposed.

4.7.4 Cumulative Impacts

No cumulative adverse impacts to USFWS Critical Habitat are anticipated as a result of this project. Therefore, no effect will occur.

4.8 Potential Impacts to Significant Ecological Areas

4.8.1 Direct Impacts

No direct impacts will occur on SEAs, as none exist within the BSA. Therefore, no effects will occur as a result of this project.

4.8.2 Indirect Impacts

No indirect impacts will occur on SEAs, as none exist within the BSA. Therefore, no effects on SEAs will occur as a result of this project.

4.8.3 Mitigation Measures

No SEAs exist within the BSA. Therefore, no mitigation is required and mitigation is not proposed.

4.8.4 Cumulative Impacts

No cumulative adverse impacts to SEAs are anticipated as a result of this project. Therefore, no effect will occur as a result of the project.

5.0 Conclusions and Regulatory Determination

Each project must comply with federal, state, and local environmental laws and regulations. The mix of regulatory permits and approvals required to construct the project depends on several factors, including the final project layout and the proximity of necessary construction to protected resources. Additional requirements may be identified upon further consultation with the resource agencies and as project design and layout become more refined. Consultation with resource agencies has not been initiated yet, except as described within Section 5.2, below. The following sections describe the process to obtain the potential and necessary permits and approvals.

5.1 Federal Endangered Species Act Consultation Summary

The project is located outside of the jurisdiction of the NOAA; therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries are anticipated.

Effects determinations for the federal threatened and endangered species and USFWS Critical Habitats obtained from the USFWS list of species that may occur in the BSA is provided below.

- Pacific pocket mouse Effect Determination: *No effect.*
- California least tern Effect Determination: *No effect.*
- Coastal California gnatcatcher Effect Determination: *No effect.*
- Least Bell's vireo Effect Determination: *No effect.*
- Light-footed clapper rail Effect Determination: *No effect.*
- Southwestern willow flycatcher Effect Determination: *No effect.*
- Western snowy plover: *No effect.*
- Santa Ana sucker Effect Determination: *No effect.*
- San Diego fairy shrimp Effect Determination: *No effect.*
- Nevin's Barberry Effect Determination: *No effect.*
- Salt Marsh Bird's-beak Effect Determination: *No effect*.
- San Diego Button-celery Effect Determination: *No effect.*
- Ventura Marsh Milk-vetch Effect Determination: *No effect.*
- USFWS Coastal California gnatcatcher Critical Habitat Effect Determination: *No effect.*

5.2 Wetlands and Other Waters Coordination Summary

One telephone conversation between Veronica Li (USACE) and Michelle Tollett (UltraSystems) occurred on April 3, 2020, to discuss the preparation of a desktop delineation for the OC Loop project. It was decided that the desktop delineation would be prepared using the ordinary high water mark locations, as observed during the previous field surveys (February 21 and March 6, 2020) and as shown in site photographs, and then digitized using Google Earth imagery, in an effort to avoid field work within the flood control channel, given the forecasted rainstorms, combined with the stay-at-home order, issued by Governor Gavin Newsom on March 19, 2020. During this conversation, Veronica Li also suggested that the project applicant submit the notification "application" for the Dredge and Fill Permit, under Section 404 of the Clean Water Act, and the Permission to Alter a USACE Civil Works Project, under Section 14 of the Rivers and Harbors Act of 1899 [as amended and codified at 33 USC 408 (Section 408)] (pers. comm., 2020)

Coordination has not yet been initiated with the SWRCB, or CDFW with regard to wetlands and other waters of the U.S. and State.

5.2.1 Clean Water Act § 404 Nationwide Permit

Waters of the U.S., including wetlands, are subject to the USACE jurisdiction under § 404 of the CWA. The project would qualify for a §404 Nationwide Permit 14 for Linear Transportation Projects from the USACE. §404 of The CWA requires linear transportation projects that will result in the permanent loss of 0.10 acre or more of waters of the U.S. to submit a PCN to the USACE.

As stated in the 2017 Nationwide Permit (NWP) Program (NWP 14 Linear Transportation Projects), "The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands." The project complies with USACE Los Angeles District Regional Conditions for the 2017 Nationwide Permits Program, and to all General Conditions. Due to the lack of permanent impacts (i.e., losses of waters of the U.S.), the project is not required to submit a PCN pursuant to General Condition 32; however, in the interest of transparency, it is recommended that the project submit a PCN to the USACE, Los Angeles District.

The USACE will review the PCN and determine if the project qualifies for the requested NWP. If the USACE issues an NWP, the permit would specify required BMPs, avoidance and protection measures, and/or compensatory mitigation measures for impacts to jurisdictional waters of the U.S. Compliance with the requirements of the USACE's regulatory program and implementation of mitigation measures required by the NWP would offset the loss of waters of the U.S. and minimize potential project-related adverse effects.

Approximately 0.69 acre of waters of the U.S. will be temporarily impacted by the project. Waters of the U.S. that are temporarily filled, flooded, excavated, or drained, but restored to preconstruction contours and elevations after construction, are not included in the calculation of loss of waters of the U.S. When construction of the bikeway is complete, the project would restore all temporarily impacted areas to their preconstruction contours and elevations.

5.2.2 Clean Water Act § 401 Water Quality Certification

The USEPA has given California's SWRCB and its nine RWQCBs the authority to issue, waive, or deny WQC that a proposed activity maintains compliance with federal water quality standards, pursuant to §401 CWA. For most construction projects, SWRCB and RWQCBs usually use the 401 Program to implement water quality standard and regulations pursuant to the California Porter-Cologne Water Quality Control Act (Porter-Cologne). Pursuant to Porter-Cologne, all waters in the state of California are waters of the State, and waters of the U.S. are a subset of these.

Section 401 of the CWA requires every applicant for a federal license, federal permit to conduct any activity which may result in any discharge of dredge or fill material into waters of the U.S., or whose activity has potential may result in any discharge of dredge or fill material, or other pollutants into waters of the State provide a certification that any project-related discharges will comply with the CWA, state water quality laws (e.g., Porter-Cologne), and other appropriate state regulations (e.g., California Water Code), including water quality standard requirements.

The project will be required to submit an application for Water Quality Certification (under § 401 CWA, and in compliance with the Porter-Cologne Water Quality Control Act) to the SWRCB. No permanent impacts to waters of the U.S. and State would result from construction of the project. Approximately 0.69 acre of Waters of the U.S. and 1.48 acres of Water of the State will be temporarily

impacted by the project (refer to **Figure 19a-m**, *Jurisdictional Areas Mapbook,* and **Figure 20a-m**, *Impacts to Jurisdictional Areas Mapbook*, in **Appendix A**).

5.2.3 § 1602 Lake or Streambed Alteration Agreement

The project will not permanently impact Waters of the State but will temporarily impact 1.48 acres (refer to **Figure 19a-m**, *Jurisdictional Areas Mapbook*, and **Figure 20a-m**, *Impacts to Jurisdictional Areas Mapbook* in **Appendix A**). The project would be required to submit a notification package to the Lake or Streambed Alteration Division at CDFW pursuant to §§ 1600-1616 FGC. CDFW regulates waters of the State through its Lake and Streambed Alteration Program. § 1602 requires an entity to notify CDFW prior to any activity that may "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" or that may that derives benefit from the river, stream, or lake.

Prior to the issuance of grading or building permits for the project, and prior to any impacts to the drainages, OCPW will obtain a Lake or Streambed Alteration Agreement (Agreement) from CDFW pursuant to §§ 1600-1616 FGC, authorizing specific impacts to waters of the State under their jurisdiction. The Agreement will mandate BMPs, avoidance and protection measures, and compensatory mitigation measures for impacts to waters of the State regulated by § 1602. Authorized impacts and mitigation related the project will be defined by the conditions of the Agreement between OCPW and the CDFW. All measures to protect fish and wildlife resources required by the Agreement will be incorporated into the project design as appropriate. Compliance with the requirements of the Agreement and implementation of mitigation measures required by the permit would offset the loss of waters of the State and minimize or avoid potential project-related impacts.

5.3 Invasive Species

Non-native, invasive plant species observed in the BSA during the field survey include Russian thistle, and Mexican fan palm.

Non-native wildlife species observed during the survey include house sparrow and rock pigeons.

As described in **MM BIO-4: General Vegetation Avoidance and Protection Measures**, invasive species within temporary disturbance areas would be controlled to the maximum extent feasible using hand pulling or hand tool removal methods only. Limiting control methods to hand pulling or hand tools would further protect the surrounding habitat. To minimize the transfer of exotic weed seed, vehicles and all equipment would be washed before first use at the project site. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc., would also be washed. All washing would take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill.

There is no feasible method for the project to control non-native birds such as the house finch, and the project does not propose any measures to prevent the spread of this already wide-spread species.

5.4 Migratory Bird Treaty Act

Protected MBTA Species observed in the BSA include the mallard, red-tailed hawk, least sandpiper, killdeer, American crow, common raven, American kestrel, mourning dove, house finch, northern mockingbird, and the black phoebe.

As described in **MM BIO-6: Nesting Bird Surveys**, to be in compliance with the MBTA and the California Fish and Game Code, and to avoid and reduce direct and indirect impacts to migratory non-game nesting birds, and their nests, young, and eggs, the following measures should be implemented:

- Project activities that will remove or disturb potential nest sites should be scheduled outside the nesting bird season, if feasible. The nesting bird nesting season is typically from February 15 through September 15, but can vary slightly from year to year, or bird species, usually depending on weather conditions. Raptors are known to begin nesting early in the year. The raptor nesting bird season begins January 31.
- If project activities that will remove or disturb potential nest sites cannot be avoided during January 31 through September 15, a qualified biologist will conduct a pre-construction survey for nesting birds within the limits of project disturbance up to seven days prior to mobilization, staging and other disturbances. It will end no more than three days prior to vegetation, substrate, and structure removal and/or disturbance.
- If no breeding bird activity or active nests are observed during the pre-construction survey(s), or if they are observed and will not be affected, then project activities may begin and no further nesting bird monitoring will be required.
- If an active bird nest is located during the pre-construction survey and potentially will be affected, a no-activity buffer zone will be delineated on maps and marked by fencing, stakes, flagging, or other means up to 500 feet for special-status avian species and raptors, or 100 feet for non-special status avian species. Materials used to demarcate the nests will be removed as soon as work is complete or the fledglings have left the nest. The biologist will determine the appropriate size of the buffer zone based on the type of activities planned near the nest and bird species because some bird species are more tolerant than others to noise and other disturbances. Buffer zones will not be disturbed until a qualified biologist determines that the nest is inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, or the young will no longer be affected by project activities. Periodic monitoring by a biologist will be performed to determine when nesting is complete. After the nesting cycle, project activities may begin within the buffer zone.

If special-status bird species, such as the least Bell's vireo, are observed within the project site during the pre-construction surveys, then a qualified biologist will delineate individual species' nesting territories, and notify the appropriate resource agency to: (1) determine if additional or focused protocol surveys are necessary, and (2) select suitable mitigation measures. Project activities may begin within the area after concurrence is received from the appropriate resource agency.

It is anticipated that implementation of this mitigation measure would avoid impacts to breeding and nesting birds and there would be no project-related impacts to migratory bird species.

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APPENDIX D1

PHASE I CULTURAL RESOURCES INVENTORY

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CULTURAL RESOURCES INVENTORY

FOR THE

OC LOOP SEGMENTS O, P, AND Q PROJECT
ORANGE COUNTY PUBLIC WORKS,
ORANGE COUNTY, CALIFORNIA

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Key Words: Coyote Creek Channel; Orange County Public Works; City of Buena Park; City of Cerritos; City of La Palma; City of La Mirada; *Los Alamitos, Whittier, La Habra, Calif*. USGS 7.5' topo maps; pedestrian survey; negative findings

PHASE I
CULTURAL RESOURCES INVENTORY

FOR THE

OC LOOP SEGMENTS O, P AND Q PROJECT
ORANGE COUNTY PUBLIC WORKS, ORANGE COUNTY, CALIFORNIA

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TABLE OF CONTENTS

1.0 Introduction 1-1
1.1 Overview 1-1
1.1.1 Methods 1-2
1.1.2 Disposition of Data 1-2

2.0 Background Settings 2-1
2.1 Natural Setting 2-1
2.2 Cultural Setting 2-1
2.2.1 Prehistoric Context 2-1
2.2.2 Ethnohistoric Context 2-2
2.2.3 Historic Context 2-4

3.0 Research Methods 3-1
3.1 Records Search 3-1
3.2 Field Survey 3-1
3.3 Native American Outreach 3-1

4.0 Findings 4-1
4.1 Records Search 4-1
4.1.1 Recorded Archaeological Sites 4-1
4.1.2 Previous Cultural Resource Investigations 4-1
4.2 Native American Outreach 4-5
4.3 Pedestrian Survey Results 4-5

5.0 Management Considerations 5-1
5.1 Site Evaluation Criteria 5-1
5.2 Potential Effects 5-1

6.0 Conclusions and Recommendations 6-1

7.0 References 7-1

TABLES

Table 4.1-1 - Known Cultural Resources Within a 0.5-Mile Radius 4-1
Table 4.1-2 - Known Cultural Resource Studies Within a 0.5-Mile Radius 4-2

FIGURES

Figure 4.3-1 – Start of Segment O at North Fork of Coyote Creek Channel; View to the Northwest **4-8**
Figure 4.3-2 – West Channel Embankment Between the North Fork and Valley View Avenue Bridge; View to the Northeast **4-8**
Figure 4.3-3 - Coyote Creek Channel Embankment Between Valley View Avenue and Artesia Boulevard; View to the East **4-9**
Figure 4.3-4 – Artesia Boulevard Bridge; View to the East 4-9
Figure 4.3-5 – Homeless Encampment Under Artesia Boulevard Bridge; View to the West 4-10

Figure 4.3-6 – Oil Pipeline and Railroad Bridge Over the Channel in Segment P; View to the Northeast 4-10
Figure 4.3-7 – Railroad Bridge and Oil Pipeline Over Coyote Creek Channel; View to the Southeast 4-11
Figure 4.3-8 – Large Homeless Encampment at Railroad Bridge, South of S. Firestone Boulevard; View to the Northeast 4-11
Figure 4.3-9 – S. Firestone Boulevard Bridge Crossing the Channel; View to the Northeast 4-12
Figure 4.3-10 – Construction Work Along the Channel Between S. Firestone Blvd., the Santa Ana Freeway, and N. Firestone Blvd.; View to the Northeast 4-12
Figure 4.3-11 – West Channel Embankment with Commercial Buildings on Both Sides, North of the Santa Ana Freeway; View to the East 4-13
Figure 4.3-12 – Knott Avenue Bridge Over the Channel; View to the East 4-13
Figure 4.3-13 – Railroad Bridge over the Channel, East of Knott Avenue; View to the East 4-14
Figure 4.3-14 – Commercial Buildings on the West Side and Residential on the East Side of the Channel; View to the Northeast 4-14
Figure 4.3-15 – Raiload Bridge Over the Channel South of Stage Road; View to the Northeast 4-15
Figure 4.3-16 – Stage Road Bridge Over the Coyote Creek Channel; View to the Northeast 4-15
Figure 4.3-17 – Landscaping on Both Sides of the Channel Embankments with La Mirada Boulevard Bridge in Background; View to the Northeast 4-16
Figure 4.3-18 – Ornamental Landscaping Along Proposed Bike Trail Beside La Mirada Boulevard; View to the Southeast 4-16

ATTACHMENTS

Attachment A Project Maps
Attachment B Personnel Background
Attachment C Native American Heritage Commission Records Search and Native American Contacts
Attachment D CHRIS Records Search

1.0 Introduction

1.1 Overview

This Phase I Cultural Resource Inventory report was prepared by UltraSystems Environmental (UEI) at the request of Orange County Public Works and GHD for the OC Loop Segments O, P and Q Project (herein referred to as "project"). The project consists of the construction of a 2.7-mile Class I Bikeway component of a larger and longer 66-mile regional bikeway corridor called the OC Loop. UEI conducted this cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

The proposed alignment of the project is located along the northwest Orange County/southwest Los Angeles County border from its point of origin along the Coyote Creek storm drain channel in the City of Cerritos on the south to the City of Buena Park to the north (see **Attachment A, Figure 1**).

The project site includes both hardscaped and landscaped areas. Coyote Creek is a hardscaped flood control channel consisting of trapezoidal and box-shaped concrete lining. The proposed alignment is located within a fully urbanized area with commercial and light industry businesses in the south and central portions of the project area, as well as both single- and multi-family residences in the northern portion, along the sides of channel. The background research and archival study included a one-half-mile buffer surrounding the project site's Area of Potential Effect (APE) (see **Attachment A, Figure 3**).

Segments O, P and Q are located along the length of the Coyote Creek flood control channel upstream and downstream of the Santa Ana Freeway (I-5 Freeway). Segments O, P and Q begin at the existing Coyote Creek Bikeway (in the cities of Cerritos and La Palma) where the flood channel divides into north and east forks, running 2.7 miles connecting to another portion of the Coyote Creek Bikeway at La Mirada Boulevard/Malvern Avenue in the cities of Buena Park and La Mirada (see **Attachment A, Figure 2**). The project area is visible on the *Los Alamitos, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NE ¼ of the NE ¼, the SE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of Section 33; R 11 W, T 3 S, in the NW ¼ of the NW ¼, the NE ¼ of the NW ¼, and the NW ¼ of the NE ¼ of Section 34; R 11 W, T 3 S, in the SW ¼ of the SE ¼ of Section 27. The project can also be found on the *Whittier, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NW ¼ of the SE ¼, the NE ¼ of the SE ¼, and the SW ¼ of the SE ¼ of Section 27; R 11 W, T 3 S, in the NW ¼ of the SW ¼, the NE ¼ of the SW ¼, and the SW ¼ of the NE ¼ of Section 26; as well as *La Habra, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the SW ¼ of the NE ¼, and the NE ¼ of the NE ¼ of Section 26 (see **Attachment A, Figure 3**).

The proposed alignment of the project includes the construction of a 2.7-mile Class I Bikeway as a component of the OC Loop. This construction would include installation of two pre-fabricated pedestrian bridges; construction of six under-crossings at the Valley View Avenue, Artesia Boulevard, Union Pacific Railroad (UPRR) Industrial Lead (or, alternatively, construction of a pedestrian/cyclist truss bridge), South Firestone, I-5 and North Firestone, and BNSF/Metrolink Railway Line bridges; and installation of three at-grade crossings at Knott Avenue, at a potentially non-operational railroad line, and at Stage Road.

Area of Potential Effect

The APE for the undertaking encompasses the maximum extent of ground disturbance required by the project design (see **Attachment A, Figure 2**).

1.1.1 Methods

A cultural resources records search was completed on February 18, 2020 at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton, which is the local California Historic Resources Information System (CHRIS) facility. The records search was conducted to identify previously recorded cultural resources (prehistoric and historic archaeological sites/isolates, historic buildings, structures, objects, or districts) within the project area and to determine if previous cultural resource surveys were conducted. The project site and a one-half-mile buffer zone are included in the search radius for archival studies. These records included a review of previously recorded prehistoric and historic archaeological resources and a review of listed cultural resource survey reports within that same geographical area.

Stephen O'Neil, M.A., RPA, contacted the Native American Heritage Commission (NAHC) and requested a Sacred Lands File (SLF) search as well as a list of interested local tribal organizations and potentially affiliated Native American individuals. The identified parties were contacted in outreach to Native American tribal organizations. The cultural resources record search was conducted on February 18, 2020 by Mrs. Megan Black Doukakis, M.A., and an intensive pedestrian cultural resources survey was conducted by Mr. O'Neil on February 6, 2020. Mr. O'Neil served as the Principal Investigator, who qualifies as Principal Prehistoric Archaeologist and Historic Archaeologist per United States Secretary of the Interior Standards (see **Attachment B**).

1.1.2 Disposition of Data

This report will be filed with the SCCIC at California State University, Fullerton; the County of Orange; and UEI, Irvine, California. All field notes and other documentation related to the study will remain on file at the Irvine office of UEI.

2.0 Background Settings

2.1 Natural Setting

The City of Buena Park is located in the northern portion of Orange County, and the cities of La Mirada and Cerritos are located in the southeastern portion of Los Angeles County. All three cities are within the Los Angeles Basin which is an open plain. This region is quite flat with the project site's elevation at approximately 70 feet average mean sea level (AMSL). The region's environment is characterized by a warm-summer Mediterranean climate, with the average maximum temperature in July reaching 82°F (degrees Fahrenheit) and the average minimum temperature in January at around 66°F. Rainfall is typically less than 14 inches annually (Weatherspark.com, 2020).

The surface geology of the project consists of younger Quaternary Alluvium with older Quaternary Alluvium at the very most northern portion. Both of the deposits are derived as alluvial fan deposits from the Puente Hills to the north from Coyote Creek that is adjacent to almost all of the proposed project area (McLeod, 2020:1).

2.2 Cultural Setting

2.2.1 Prehistoric Context

The term "prehistoric period" refers to the period of pre-contact Native California lifeways and traditions prior to the arrival of Euro-Americans.

It is widely acknowledged that human occupation in the Americas began about 13,000 or more years ago (all dates presented here are calibrated radiocarbon ages or calendar dates). However, recent discoveries in areas outside of California have pushed that age back several thousand years more to about 15,000 or even perhaps up to nearly 20,000 years ago (Smith and Barker, 2017).

To describe and understand the cultural processes that occurred during prehistory, archaeologists have routinely developed a number of chronological frameworks to correlate technological and cultural changes recognized in the archaeological record. These summaries bracket certain time spans into distinct archaeological horizons, traditions, complexes, and phases.

There are many such models even for the various sub-regions of Southern California (cf. Grayson, 2011; Warren, 1984; Jones and Klar, 2007). Given the variety of environments and the mosaic of diverse cultures within California, prehistory is typically divided into specific sub-regions that include: the Interior of Southeastern California and the Mojave Desert (Warren and Crabtree, 1986) and San Diego and the Colorado Desert (Meighan, 1954; True, 1958, 1970).

Many archaeologists tend to follow the regional syntheses adapted from a scheme developed by William J. Wallace in 1955 and modified by others (Wallace, 1978; Warren, 1968; Chartkoff and Chartkoff, 1984; Moratto 1984; Sutton et al., 2007 and others). Although the beginning and ending dates vary, the general framework of prehistory in the Southern California area consists of the following four periods:

- **Paleoindian and Lake Mojave Periods** [Pleistocene and Early Holocene] (ca. 11000 B.C. to 6000 B.C.). This time period is characterized by highly mobile foraging strategies and a broad spectrum of subsistence pursuits. These earliest expressions of aboriginal occupation in America were marked by the use of large dart or spear points (Fluted and Concave Base

Points) that are an element of the Western Clovis expression. Following the earliest portions of this time span there was a change in climate coincident with the retreat of the glaciers. Large bodies of water existed and lakeside aboriginal adaptations were common. Large stemmed points (Western Stemmed Series – Lake Mojave and Silver Lake point types) were accompanied by a wide variety of formalized stone tools and were employed with the aid of atlatls (dart throwing boards). The latter archaeological materials are thought to be representative of an adaptation that was in part focused on lacustrine and riverine environments.

- **Millingstone Horizon** [Middle Holocene] (ca. 6000 B.C. to A.D. 1000). During this time span mobile hunter-gatherers evolved and became more sedentary. Certain plant foods and small game animals came to the forefront of indigenous subsistence strategies. This prehistoric cultural expression is often notable for its large assemblage of millingstones. These are especially well-made, deep-basin metates accompanied by formalized, portable handstones (manos). Additionally, the prehistoric cultural assemblage of this time period is dominated by an abundance of scraping tools (including scraper planes and pounding/pulping implements), with only a slight representation of dart tipped - projectile points (Pinto, Elko and Gypsum types).

- **Late Prehistoric Period** (ca. A.D. 1000 to 1500). Following the Millingstone Horizon were cultures that appeared to have a much more complex sociopolitical organization, more diversified subsistence base and exhibited an extensive use of the bow and arrow. Small, light arrow points (Rose Spring Series), and, later, pottery mark this period along with the full development of regional Native cultures and tribal territories.

- **Protohistoric Period** (ca. A.D. 1500 to 1700s). This final cultural period ushered in long-distance contacts with Europeans, and thereby led to the Historic Period (ca. A.D. 1700 to contemporary times). Small arrow points recognized as Desert Side-notched and Cottonwood forms are a hallmark of this time period.

2.2.2 Ethnohistoric Context

The project lies within the territory of the Gabrielino (Tongva) ethnolinguistic group (Bean and Smith, 1978:538), who speak a language classified as a member of the Uto-Aztecan language family. This language is further affiliated as an element of the Northern Takic Branch of that linguistic group (Golla, 2011:179).

The Gabrielino, with the Chumash, were considered the most populous, wealthiest, and therefore most powerful ethnic nationalities in aboriginal Southern California (Bean and Smith, 1978:538). Unfortunately, most Gabrielino cultural practices had declined before systematic ethnographic studies were instituted. Today, the leading sources on Gabrielino culture are Bean and Smith (1978), Johnson (1962), and McCawley (1996).

According to the recent research, Takic groups were not the first inhabitants of the region. Archaeologists suggest that a Takic in-migration may have occurred as early as 2,000 years ago, replacing or intermarrying with a more ancient indigenous people represented by speakers of a Hokan language (Howard and Raab, 1993; Porcasi, 1998). By the time of European contact, the Gabrielino territory included the southern Channel Islands and the Los Angeles Basin. Their territory reached east into the present-day San Bernardino-Riverside area and south to the San Joaquin Hills in central Orange County.

Different groups of Gabrielino adopted several subsistence strategies, based on gathering, hunting, and fishing. Because of the similarities to other Southern California tribes in economic activities, inland Gabrielino groups' industrial arts, exemplified by basket weaving, exhibited an affinity with those of their neighbors (Kroeber, 1925). Coastal Gabrielino material culture, on the other hand, reflected an elaborately developed artisanship most recognized through the medium of steatite, which was rivaled by few other groups in Southern California.

The intricacies of Gabrielino social organization are not well known. There appeared to have been at least three hierarchically ordered social classes, topped with an elite consisting of the chiefs, their immediate families, and other ceremonial specialists (Bean and Smith, 1978). Clans owned land, and property boundaries were marked by the clan's personalized symbol. Villages were politically autonomous, composed of non-localized lineages, each with its own leader. The dominant lineage's leader was usually the village chief, whose office was generally hereditary through the male line. Occasionally several villages were allied under the leadership of a single chief. The villages frequently engaged in warfare against one another, resulting in what some consider to be a state of constant enmity between coastal and inland groups.

The first Franciscan establishment in Gabrielino territory and the broader region was Mission San Gabriel, founded in A.D. 1772. Priests from the mission proselytized the Tongva throughout the Los Angeles Basin. As early as 1542, however, the Gabrielino were in peripheral contact with the Spanish during the historic expedition of Juan Rodríguez Cabrillo. However, it was not until 1769 that the Spaniards took steps to colonize the territory of aboriginal Californians. Within a few decades, most of the Gabrielino were incorporated into Mission San Gabriel and other missions in Southern California (Engelhardt, 1931). Due to introduced diseases, dietary deficiencies, and forceful *reduccion* (removal of non-agrarian Native populations to the mission compound), Gabrielino population dwindled rapidly from these impacts. By 1900, the Gabrielino community had almost ceased to exist as a culturally identifiable group. In the late 20th century, however, a renaissance of Native American activism and cultural revitalization of Gabrielino descendants took place. Among the results of this movement has been a return to a traditional name for the tribe, the Tongva, which is employed by several of the bands and organizations representing tribal members. Many of the Tongva bands focus on maintaining and teaching traditional knowledge, with special focus on language, place names and natural resources.

The Tongva community of *Povuu'nga* was situated about seven miles to the southwest along the San Gabriel River in what is now the City of Long Beach (McCawley, 1996:69-70), near what later became the headquarters of the Rancho Alamitos. This was a prominent village of the Tongva and a major trading center. *Povuu'nga* and the other surrounding villages later contributed converts to Missions San Gabriel and San Juan Capistrano. Chester King's map of Takic language speakers' settlements (2017) suggests that the Tongva village of *Jaysobit* was associated with the Rancho Los Coyotes, probably along Coyote Creek approximately one mile north of the project site. Residents of this village appear in both the Mission San Gabriel and Mission San Juan Capistrano baptismal registers (Merriam, 1968: 11, 116, 128, and 135) with a combined contribution of 99 neophytes; this number would have been a fraction of the population during the pre-Contact era. This portion of the Los Angeles Basin, with the nearby San Gabriel River and Coyote Creek, would have provided a rich set of both gathering and hunting resources used by the local indigenous communities. Native American settlement in the immediate area lasted well into the late 19th Century. Two "Indian Camps" are shown on the "Map of Part of Los Angeles County" prepared around 1870 located "…along the present course of Coyote Creek northwest of the modern community of Buena Park" (McCawley, 1996:59). These two camps are also shown on the 1873 map of the Abel Sterns Rancho at

approximately one half to a mile to the northwest and west of the project area (Baker, 1873). These were likely settlements for Tongva and other southern California Indians who worked in the surrounding cattle and agricultural farms. To the northwest of the project site were *Chokiishnga* along the west bank of the San Gabriel River about five miles to the northwest in Santa Fe Springs, and the Native "community of *Huutgna* was also located in this [same] vicinity" (McCawley 1996:58). In the Los Nietos area of Santa Fe Springs, about six miles to the north, was the village of *Naxaaw'nga* which "was lost long ago to a rampaging flood on the San Gabriel River" (McCawley 1996:58), which demonstrates the wide meanderings of this river and extent of its floodplain. The Puente Hills would have provided a rich set of both gathering and hunting resources used by the surrounding indigenous communities.

2.2.3 Historic Context

2.2.3.1 Spanish/Mexican Era

The earliest known direct European involvement with the land that became Buena Park, La Mirada, and Cerritos occurred in 1784. It was then that Corporal Manuel Nieto, formerly a member of Don Gaspar de Portolá's 1769/70 expedition through Alta California, successfully petitioned the governor of Alta California, Captain Pedro Fages (the two had served together in the Portolá Expedition) for the right to graze on land that included the Buena Park, La Mirada, and Cerritos area (Strawther, 2012). The Nieto Tract consisted of all the lands between the San Gabriel and Santa Ana Rivers, and from the Whittier Hills to the Pacific Ocean (Bandy and Bandy, 1998:188); a full 300,000 acres for pasturage of his horses and cattle. The extent was protested by Mission San Gabriel and later reduced to a "mere" 167,000 acres, where he and his family lived, grew, built adobe haciendas through Spanish rule and into the Mexican republic. Following 1832, the Rancho Los Nietos was divided into five smaller ranchos and given to Nietos' heirs, each grant still ranging in tens of thousands of acres. The cities of Buena Park, La Mirada, and Cerritos sit on the portion that was carved out of what once was the Rancho Los Coyotes, which had been inherited by Juan Jose Nieto, the eldest son (Bandy and Bandy, 1998:192). Rancho Los Coyotes passed from Nieto ownership in 1840 to Juan Bautista Leandri, an Italian immigrant, and then on to subsequent owners and divided into farms during the American era. The modern towns of Cerritos, La Mirada, Stanton, and Buena Park occupy the lands that were the Rancho Los Coyotes, extending across the Los Angeles and Orange County border.

Mexico rebelled against Spain in 1810, and by 1821, Mexico, including its California province, achieved independence. The Mexican Republic began to grant private land to citizens to encourage emigration to California. Huge land grant ranchos took up large sections of land in California. Ranchos surrounded the mission lands in all directions. The Mission San Gabriel lands were used for the support of the mission and provided for the large population of Tongva Native Americans. The mission lands were held in trust for Native peoples by the Franciscan missionaries for eventual redistribution. The lands along the coast, however, were open for early settlement by the colonists from New Spain.

The Mexican-American War of 1846 saw the invasion of California from both land and sea. Following several skirmishes in the San Diego and Los Angeles areas, and the capture of the territorial capital in Monterey, the United States rule was firmly established. Following the rapid influx of population to the north because of the Gold Rush of 1849, California was made a state in 1850. The economic and social order was slow to change in the southern portion of the state, however, and rancheros were left in control of their vast estates through the 1860s. The Los Angeles region, which included the future Orange County area through the 19th century, was a part of the "Cow Counties" and had

little representation in the state legislature because of the sparse population. This allowed the predominantly Anglo population of the north to pass laws aimed at breaking up the ranches for settlement by Eastern farmers and, coupled with devastating droughts that crippled many livestock raisers, their dismemberment soon came. This helped pave the way for the "Boom of the Eighties" which saw an influx of people from the rest of the United States and the beginning of many of the towns we see today (Dumke, 1944). This was the first spurt of growth for Los Angeles, and smaller communities in the region started to form to the west, east, and the south such as Anaheim, Tustin, and Santa Ana, serving as residential and commercial centers for the surrounding farms and orchards on the plains. Portions of the remaining ranchos, especially in the hill terrain, remained used largely for cattle ranching.

2.2.3.2 The American Period to Founding of Buena Park, La Mirada, and Cerritos

The growth of communities in the southeastern part of Los Angeles County initiated a desire for a new county. In 1889, these communities formed Orange County, which included the area that became Buena Park. The areas that would become La Mirada and Cerritos remained part of Los Angeles County. Coyote Creek became the northwestern border for Orange County and southeastern border for Los Angeles County (Armor, 1921).

Buena Park

In 1860, Abel Stearns, a business man from Massachusetts, had acquired Rancho Los Coyotes along with Rancho La Habra, Rancho San Juan Cajón de Santa Ana, Rancho Las Bolsas, Rancho La Bolsa Chica, Rancho Jurupa and Rancho La Sierra (Buena Park History, 2020). Forming what was briefly known as "the Stearns Rancho," these holdings were purchased with the plan to resell portions as large and small tracts to be turned into farms and subdivisions. James A. Whitaker, a wholesale grocer from Chicago, purchased 690 acres of the Stearns Rancho in 1887. Whitaker intended to create a cattle ranch, but Santa Fe Railway officials convinced him a better use of the land would be for a new town (Orange County.net, 2020). There are multiple stories of how Buena Park got its name. It was said that under the Los Coyotes adobe there was a "spring of good water and grass for animals. It has been called 'Plaza Buena' meaning 'good place' or 'good park'." (Chamberlin, 1971:7). The other possibility is that it is named after the eponymous Chicago suburb that the Whitaker family was from (Brigandi, 2006:13).

Buena Park originally gained recognition as a dairy center and the first industry in the city came with the opening of The Lily Creamery in 1889 (OrangeCounty.net, 2019). The Pacific Condensed Milk, Coffee and Canning Co. established the evaporated milk cannery here and it was the first in California (HMdb.org, 2020). The Bixby family owned and operated the factory from 1896 until it closed in 1907. Later the plant was used as a tomato cannery.

Much of the city's financial and physical growth is attributed to the Knott Family. Walter and Cordelia Knott opened a 20-acre berry farm in 1920 and established a roadside stand to sell their produce along Beach Boulevard (VisitBuenaPark.com, 2020). As their business started growing, Cordelia opened a tea room where she served and sold jams and jellies. After hearing about a berry strain that was developed as a cross of blackberries, raspberries and loganberries, Walter Knott sought out the developer, Rudolph Boysen and his berry plants. Knott was able to plant a specimen (VisitBuenaPark.com, 2019) which did well, and he soon expanded the crop. Cordelia soon expanded her tea room by serving biscuits, fried chicken and boysenberry pies. As their popularity grew, Knott developed the Ghost Town with material from his uncle's silver mill and part of the actual Calico

ghost town that he acquired in 1951 (VisitBuenaPark.com, 2020). The city of Buena Park was incorporated in 1953 (OrangeCounty.net, 2020).

Cerritos

As in Buena Park, the area that would become the City of Cerritos focused on dairy farming through the late 19th century and into the early 20th century. Originally part of Artesia in Rancho Los Coyotes, Cerritos sought autonomy in the 1950s. On the southeastern side of Coyote Creek, the city that would become La Palma incorporated under the name Dairyland and Cypress incorporated under the name Dairy City. Following the trend of the area, the City of Cerritos incorporated under the name Dairy Valley in 1956 (Cenovich, 1995).

In the early 1960s, two large freeways were built through the area, Coyote Creek and the San Gabriel River were undergoing flood control construction, and some parts of the city were re-zoned for development. With this urbanization, many dairy farms were displaced, and the industry decreased. In 1967, the City of Dairy Valley changed its name to the City of Cerritos. Despite having been part of Rancho Los Coyotes, the city took its name from the nearby Cerritos College which, in turn, had taken its name from Rancho Los Cerritos (Cenovich, 1995).

La Mirada

In 1888, Andrew McNally, co-founder of the Rand McNally Publishing Company, purchased 2,300 acres from the Abel Stearns Rancho Trust in Los Angeles County and became the last private owner of Rancho Los Coyotes. McNally sold a few 20 acre parcels to ranchers while the rest of the land was used for the Windermere Ranch (City of La Mirada, 2020). In its heyday the Windermere Ranch had six hundred acres of olive trees and produced 15% of California's olive oil supply, and two hundred acres of lemon trees, as well as alfalfa, grapefruit, and oranges (Discover La Mirada, 2020).

The area continued to be used for ranches and agriculture until World War II. In 1953, then owner William "Bill" Neff sold 2,218 acres to the Pioneer Land and Realty Company of Los Angeles which rapidly constructed 7,800 residences on the land by 1956 (City of La Mirada, 2020). La Mirada was slated to be one of the nation's first pre-planned cities, and the post-war population boom of the 1950s brought families to these residences (Discover La Mirada, 2020).

The City of La Mirada was incorporated in 1960 under the name Mirada Hills. The city's name was converted to La Mirada after a proposition in the November 1960 elections passed (City of La Mirada, 2020). By this time, the population had grown to 19,455 residents and contained 7.9 square miles (Discover La Mirada, 2020).

Coyote Creek

Coyote Creek is a tributary of the San Gabriel River Watershed which receives drainage from Los Angeles County and originates in the San Gabriel Mountains (California Waterboards, 2020). Coyote Creek originates in the hills of La Habra and empties in Seal Beach. Before flood control infrastructure was installed, the project area was known for flooding, and Coyote Creek regularly overflowed into the Hawaiian Gardens area (Cenovich, 1995).

In 1915, California adopted the Los Angeles County Flood Control Act, establishing the Los Angeles County Flood Control District, after a disastrous regional flood in 1914. This act authorized the

construction of flood control infrastructure throughout the county, much of which finished construction in 1937, one year before another large flood in 1938 (LACDPW, 2020; KCET, 2020). A history of floods from the surrounding tributaries of Coyote Creek necessitated flood control infrastructure in the project area, which was built during the 1930s and into the 1960s. This included dams, reservoirs, and encasing the streams of the Coyote Creek watershed in concrete channels (Cenovich, 1995).

2.2.3.3 Project Site Land Use History

Historic aerial maps for the area, the earliest dating to 1952, show that the project site continued to be used for farming through the 1950s (NETROnline, 2020). Oil tanks are visible in the aerials from 1953 to 1972, and imprints from the tanks are visible in the 1994 aerial (NETROnline, 2020). The Santa Ana Branch of the Union Pacific Railroad and the San Diego Branch of the Burlington Northern Santa Fe Railroad can be seen in all available aerials (NETROnline, 2020). By 1963, the Interstate 5 (I-5) Freeway had been constructed, and Coyote Creek had been encased in a concrete channel (NETROnline, 2020). Although much of the surrounding land is still agricultural in the 1963 aerial, structures can be seen where the I-5 Freeway intersects Coyote Creek, and residential development is visible in the City of Buena Park (NETROnline, 2020). By 1972, the entire area had been developed for commercial and residential use (NETROnline, 2020).

Topographic maps are also available for the project area with the earliest in 1896 (USGS, 1896). The 1896 through 1902 topographic maps do not show any buildings present on or near the immediate project area aside from the two railroads (USGS, 1896, 1899, 1902). In the 1923 topographic map, oil tanks for the "Standard Oil Co. Pumping Station" are visible to the north-northwest of the project site (USGS, 1923). In the 1942 through 1945 maps, buildings are present near the southwest end of the project site (USGS, 1942, 1945). By the time of the 1964 and 1965 maps, the immediate project area has been fully developed and multiple structures are present along the I-5 Freeway (USGS, 1965).

3.0 Research Methods

This cultural resources inventory and related archival research included a background cultural resources records check (archival research) at the SCCIC, California State University, Fullerton. Additionally, a search of their SLF was requested from the NAHC, as well as a list of local Native American groups and individuals for outreach. Finally, a pedestrian cultural resource survey of the entire project site was conducted.

3.1 Records Search

A cultural resource records search to identify cultural resources on or near the project site was completed by Megan Black Doukakis at the SCCIC on February 18, 2020. The local CHRIS facility for Orange County, maintained at the SCCIC, was also reviewed to identify resources that have been previously evaluated for historic significance, as well as to identify any previous completed cultural resources survey reports for the area.

The official records and maps were searched and reviewed for cultural resources and surveys in Orange County, National Register of Historic Places; Listed Properties and Determined Eligible Properties (2012); and the California Register of Historical Resources (2012).

For the current study, the scope of the records search included a 0.5-mile buffer zone from the project's footprint (see **Attachment A, Figure 3**). The research effort was completed to assess the sensitivity of the project site for both surface and subsurface cultural resources and to assist in determining the potential to encounter such resources, especially prehistoric—i.e., Native American—cultural remains, during earth-moving activities associated with the proposed project.

3.2 Field Survey

On February 6, 2020, archaeologist Stephen O'Neil visited the project site to conduct a pedestrian survey, during which the project site was carefully inspected for any indication of human activities dating to the prehistoric or historic periods (i.e., 50 years or older).

3.3 Native American Outreach

On January 28, 2020, Mr. O'Neil contacted the NAHC via email notifying them of the project activities, requesting a search of their SLF, and requesting a list of local tribal organizations and individuals to contact for project outreach. The NAHC replied on February 11, 2020 with a letter dated the same day reporting on the SLF search findings and a list of five individuals to contact representing five tribal organizations. Letters to local tribes were sent on February 17, 2020 to all of the tribal organizations and individuals listed in the NAHC February 11, 2020 letter (**Attachment C**).

4.0 Findings

4.1 Records Search

4.1.1 Recorded Archaeological Sites

Based on the cultural resources records search, it was determined that two cultural resources have been previously recorded within the project site boundary. Within the half-mile buffer zone, there have been four recorded historic-era cultural resources, one of which includes possible paleontological resources. **Table 4.1-1** summarizes the resources found within the half-mile buffer zone and within the project site boundary.

The two historic cultural resources found within the project site boundary are segments of the Union Pacific Railroad and the Burlington Northern Santa Fe Railway. These segments run southeast to northwest across the Los Angeles and Orange County border, resulting in both a Los Angeles and Orange County site number. The project site is located along the border with the Union Pacific Railroad (19-186110/30-176630) intersecting Segment P and the Burlington Northern Santa Fe Railway (19-186804/30-176663) intersecting Segment Q (Ashkar, 1999; Ballester and Tang, 2002).

The Union Pacific Railroad site (19-186110/30-176630) intersects Segment P in Los Angeles County. This segment of the Union Pacific Railroad was evaluated and determined to be eligible for the National Register of Historic Places (NRHP) listing. It was not assessed for eligibility under the California Register of Historical Resources (CRHR) (Ashkar, 1999).

The Burlington Northern Santa Fe (BNSF) Railway (19-186804/30-176663) intersects Segment Q in Orange County. This segment of the BNSF Railway was evaluated for the NRHP and determined to not meet the criteria to qualify. It was not assessed for eligibility under the CRHR (Ballester and Tang, 2002).

Table 4.1-1
KNOWN CULTURAL RESOURCES WITHIN A 0.5-MILE RADIUS

Site Number	Author(s)	Date	Type	Description
19-186110 / 30-176630	S. Ashkar	1999	Historic	Segment of the Union Pacific Railroad.
19-186804 / 30-176663	Daniel Ballester and Bai "Tom" Tang	2002	Historic	Segment of the Burlington Northern Santa Fe Railway
19-187549	Scott M. Hudlow	2006	Historic	Historic two-story KFI transmitter building.
30-120020	Unknown	Unknown	Historic / Paleontological	Two privies, historic trash pits, and possible segments of the La Habra fossil bearing.

4.1.2 Previous Cultural Resource Investigations

According to the records at the SCCIC, there have been 20 previous cultural resource studies within a half-mile buffer of the project site (**Table 4.1-2**) (see **Attachment D**). Ten of these studies are located outside of the project boundary while ten of them, LA-07871/OR-03298,

LA-03356/OR-00814, LA-07844/OR-03276, LA-08255/OR-03373, and LA-04834/OR-02094, intersected the project site itself. The ten studies within the project site concerned potential placement of wireless facilities, Metrolink improvements, or I-5 Santa Ana Freeway improvements and had linear study areas. These study areas intersect Segments P and Q along the Los Angeles County and Orange County border, resulting in both Los Angeles County and Orange County report numbers for each study.

Table 4.1-2
KNOWN CULTURAL RESOURCE STUDIES WITHIN A 0.5-MILE RADIUS

Report Number	Author(s)	Date	Title	Resources
LA-03356/ OR-00814	Romani, John F.	1982	Archaeological Survey Report for the Route I-5 Santa Ana Transportation Corridor Route 405 in Orange County to Route 605 in Los Angeles County P.m. 21.30/44.38 0.00/6.385	NA
LA-03371	Maki, Mary K.	1996	Negative Phase I Archaeological Survey of 3.4 Acres West of Trojan Way Street From Desman Road to Firestone Boulevard, City of La Mirada, Los Angeles County, California	NA
LA-04152	Mason, Roger D. and Wayne H. Bonner	1998	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: La-316-03 City of La Mirada, California	NA
LA-04834/ OR-02094	Ashkar, Shahira	1999	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties	19-186110, 19-186111, 30-176630
LA-05199	Duke, Curt	2001	Cultural Resource Assessment Cingular Wireless Facility No. Sm 083-02 Los Angeles County, Ca	NA
LA-06174	Duke, Curt	2001	Cultural Resource Assessment Cingular Wireless Facility No. Sm 083-02 Los Angeles County, Ca	NA
LA-07730	Hudlow, Scott M.	2006	A Phase I Cultural Resources Survey for KFI Tower Project, City of La Mirada, California	19-187549
LA-07844/ OR-03276	Kane, Diane	1998	Historic Architectural Survey Report for I-5 HOV Lane Improvement Project	

Report Number	Author(s)	Date	Title	Resources
LA-07871 / OR-03298	Tang, Bai "Tom" and Teresa Woodard	2003	Historical Resource Compliance Report – Third Main Track and Grade Separation Project Hobart (mp 148.9) to Basta (mp 163.3), BNSF/Metrolink East-west Main Line Railroad Track, Vernon to Fullerton, Los Angeles and Orange Counties, California	19-186753, 19-186754, 19-186755, 19-186756, 19-186757, 19-186758, 19-186759, 19-186760, 19-186761, 19-186762, 19-186763, 19-186764, 19-186765, 19-186766, 19-186767, 19-186768, 19-186769, 19-186770, 19-186771, 19-186772, 19-186773, 19-186774, 19-186775, 19-186776, 19-186777, 19-186778, 19-186779, 19-186780, 19-186781, 19-186782, 19-186783, 19-186784, 19-186785, 19-186786, 19-186787, 19-186788, 19-186789, 19-186790, 19-186791, 19-186792, 19-186793, 19-186794, 19-186795, 19-186796, 19-186797, 19-186798, 19-186799, 19-186800, 19-186801, 19-186804, 30-176663

Report Number	Author(s)	Date	Title	Resources
LA-08255 / OR-03373	Arrington, Cindy and Nancy Sikes	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	NA
LA-09117	Bonner, Wayne H.	2007	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA0858D (Messe, Inc.), 16404 Knott Avenue, La Mirada, Los Angeles County, California	19-186804, 19-187549
LA-11498	Meyer, Donna	2011	Section 106 Consultation for Installation of Communications Equipment for Integrated Public Alert and Warning System, La Mirada, Los Angeles County	NA
OR-00121	Desautels, Roger J.	1976	Archaeological Survey Report on a Parcel of Land Located in the City of La Palma, Orange County	NA
OR-00424	Desautels, Roger J.	1979	Cultural Resources Report on an Archaeological, Historical and Paleontological Records Search and Survey of Approximately 3 Acres of Property Located in Buena Park, California	NA
OR-01671	Mason, Roger D.	1997	Cultural Resources Record Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility Cm 085-04, in the City of La Palma, California	NA
OR-02608	Duke, Curt	2003	Cultural Resource Assessment Cingular Wireless Facility No. Cm 085-04 Orange County, California	NA
OR-02609	Duke, Curt	2003	Request for SHPO Review of FCC Undertaking 5600 Fresca Dr., La Palma, California	NA
OR-02793	Bonner, Wayne H.	2001	Records Search Results for Sprint PCS Facility OG54XC458A (Gordon Square Shopping Center), 5301 Beach Blvd., Buena Park, Orange County, California	NA
OR-02806	Duke, Curt	2002	Cultural Resource Assessment AT&T Wireless Services Facility No. 13018a Orange County, California	NA

Report Number	Author(s)	Date	Title	Resources
OR-03045	Demcak, Carol R.	2005	Report of Archaeological Assessment for Beach Boulevard/Malvern Avenue Intersection Improvement, City of Buena Park, California	NA

4.2 Native American Outreach

On January 28, 2020, Mr. O'Neil contacted the NAHC via email and facsimile notifying them of the project, requesting a search of their SLF and asking for a list of local tribal organizations and individuals to contact for project outreach. The results of the search request were received February 11, 2020, at the office of UEI from Mr. Steven Quinn, Associate Governmental Program Analyst. The NAHC letter stated that "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative [emphasis in the original]." (See **Attachment C**.)

UEI prepared letters to each of the five tribal contacts representing five tribal organizations describing the project and a map showing the project's location, requesting a reply if they have knowledge of cultural resources in the area, and asked if they had any questions or concerns regarding the project (see **Attachment C**). On February 17, 2020, Mr. O'Neil mailed the letters with accompanying maps to all five tribal contacts, and also emailed identical letters and maps to each of the five tribal contacts for which email addresses were known, as well as sending facsimiles on February 17, 2020 to the two tribes with facsimile capability. There have been no responses to the letters and emails to date.

Following up on the initial letter and email contacts, telephone calls were conducted on April 2, 2020, to complete the outreach process. These calls were to the five tribal contacts who had not responded to UEI mailing and email. Four telephone calls were placed with no answer and so messages were left describing the project and requesting a response. These were to Chairperson Sandonne Goad, Chairperson of the Gabrielino/Tongva Nation; Mr. Charles Alvarez of the Gabrieleno-Tongva Tribe; Chairperson Andrew Salas of the Gabrieleño-Tongva Tribe; and Chairperson Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians. There have been no responses to date of the preparation of this report from these individuals.

During the telephone calls of April 2, 2020, Chairperson Robert Dorame of the Gabrielino Tongva Indians of California Tribal Council asked for us to resend the material to his email and if we do not receive a response then they have no concerns with the project. There have been no further responses from this tribe to date (see **Attachment C**).

4.3 Pedestrian Survey Results

A pedestrian survey was conducted along the proposed alignment (see **Attachment A, Figure 2**) on February 6, 2020 by Mr. Stephen O'Neil. The survey consisted of walking, visually inspecting, and photographing the exposed ground surface and landscaped areas of the project site using standard archaeological procedures and techniques. Access to the channel is limited to gates at several of the road crossings, which are generally locked. On the day the cultural resources survey was conducted, Mr. Camden Cabrinha and his crew were conducting their engineering survey of portions of the

channel for the OC Loop Project along the entire project length and provided gate access at several points.

Survey of the ground surface was conducted in linear and opportunistic manner; walking transects over the north and west channel embankment above the channel itself. The embankment ranged from approximately 20 to 60 feet wide with an asphalt road approximately ten feet wide along the channel-side edge. The asphalt road was occasionally well maintained, but frequently was not and was more gravely in constitution. There was a boundary chain-link fence along the entire boundary line on the north/west side. The embankment from the road to the fence was sometimes level, and occasionally sloped up to the fence, and ranged from ten feet to 55 feet away from the road. This open area was consistently devoid of vegetation.

The survey started at the southern end of Segment O (see **Attachment A, Figure 2**, western red portion), where the main Coyote Creek Channel is joined by the North Fork – Coyote Creek. A pedestrian bridge would be built across the North Fork to the main channel side (**Figure 4.3-1**). The west side of the channel was walked northward, observing commercial buildings adjacent to the embankment up to the Valley View Avenue bridge crossing the channel (**Figure 4.3-2**) where there would be a bicycle trail undercrossing. Markings on this bridge provided its Caltrans identification number B1658. The transect was continued eastward. Structures lining the channel boundary between Valley View Avenue and the end of Segment O at Artesia Boulevard are industrial and commercial businesses, including large warehouse structures (**Figure 4.3-3**) on both sides of the creek.

The Artesia Boulevard bridge (**Figure 4.3-4**), south end of Segment P (see **Attachment A, Figure 2**, central green portion), would have a bicycle trail undercrossing. Markings on this bridge provided its Caltrans identification number 3145. While continuing the survey transect along the narrow, concrete walkway under the bridge, a small encampment (representing one or two residents) was observed (**Figure 4.3-5**). The transect was continued northeastward along the channel embankment until it reached an oil pipeline crossing and the adjacent Union Pacific Railroad bridge crossing, both of which block transit along the channel embankment (**Figure 4.3-6** and **Figure 4.3-7**). At this point there would be a bicycle trail undercrossing (or alternatively a pedestrian/cyclist truss bridge); however, at present there is no flat embankment between the pipeline and railroad, and one has to go up to the railroad crossing level and cross the railroad tracks, and then go back down to the level of the embankment on the north side (railroad bridges had no Caltrans identification number). Walking over this railroad crossing, a medium-sized encampment of approximately five makeshift lodging structures was observed at the northern corner of the crossing (**Figure 4.3-8**); no one appeared to be home at the time.

Within approximately 425 feet to the north of the railroad bridge the S. Firestone Boulevard bridge crosses the Coyote Creek Channel (**Figure 4.3-9**). The road lies adjacent to the Santa Ana/I-5 Freeway, with N. Firestone Boulevard adjacent to the freeway on the north side. These three bridges would have a single bicycle trail undercrossing them all. Markings on the S. Firestone Boulevard bridge indicate that it was built in 1950, and provided its Caltrans identification number B1011. Due to active construction on the interface between the S. Firestone Boulevard bridge and the I-5 Freeway (**Figure 4.3-10**), it was not possible to continue the survey along the channel embankment below these three bridges or to look for markings indicating the year of construction or designation for the freeway bridge.

Starting at the southeast corner of N. Firestone Boulevard and Trojan Way, there is access to the channel embankment which now turns eastward. Along both sides of the channel boundary fence

there are industrial buildings, including warehouses (**Figure 4.3-11**). Section P continues east to the Knott Avenue bridge crossing the channel (**Figure 4.3-12**). At this point the bicycle trail would proceed up to street level where it would cross Knott Avenue on the north side of the bridge and then go back down to the level of the embankment on the east side. Markings on this bridge provided its Caltrans identification number B1657.

The pedestrian survey continued on to Segment Q (see **Attachment A, Figure 2**, eastern purple portion), which starts at the Knott Avenue bridge. Beyond Knott Avenue within approximately 425 feet there is a small railroad line that crosses the channel (**Figure 4.3-13)**. At this point the bicycle trail would proceed up to street elevation where it would cross the railroad bridge on the north side of the bridge and then go back down to the level of the embankment on the east side. The survey continued along the west channel embankment as the channel turns to the northeast. In this area, while commercial buildings still line the west side of the channel fencing, there were single-family residences on the east side of the channel (**Figure 4.3-14**). The BNSF railroad bridge crosses the channel on this stretch (**Figure 4.3-15**) where the bicycle trail would use an undercrossing; at this point on the east side of the channel there is a single large commercial building. Approximately 450 feet to the north of the railroad bridge the channel is crossed by Stage Road (**Figure 4.3-16**). Just before the street bridge the bicycle trail would cross to the east side of the channel on a proposed pedestrian bridge. The trail would use an undercrossing at the Stage Road bridge and then continue on to the La Mirada Boulevard bridge over the channel (**Figure 4.3-17**). Between Stage Road and La Mirada Boulevard both embankments are wide with an intensively landscaped patch at the west embankment's edge of shrubs and trees probably reflecting the activity of the adjacent residential lot, and trees line the boundary on the east embankment. The Stage Road and La Mirada Boulevard bridges did not have identifiable identification numbers.

The trail would leave the channel embankment at La Mirada Boulevard, entering the sidewalk along the east-bound lane of the street. Along the sidewalk there is ornamental landscaping in a flowerbed between the street and a large retail building (**Figure 4.3-18**). The bike trail would cross La Mirada Boulevard at the signaled intersection for shopping centers on opposite sides of the street, and then continue on the sidewalk west to the existing bicycle trail along the Coyote Creek Channel's west embankment. This is the northern terminus of Segment Q.

The result of the pedestrian survey was negative for both prehistoric and any previously unrecorded historic cultural resources. Photographs of the project site were taken during the cultural resources survey to document the observations.

Figure 4.3-1
START OF SEGMENT O AT NORTH-FORK OF COYOTE CREEK CHANNEL; VIEW TO THE NORTHWEST



Figure 4.3-2
WEST CHANNEL EMBANKMENT BETWEEN THE NORTH FORK AND VALLEY VIEW AVENUE BRIDGE; VIEW TO THE NORTHEAST



Figure 4.3-3
COYOTE CREEK CHANNEL EMBANKMENT BETWEEN VALLEY VIEW AVENUE AND ARTESIA BOULEVARD; VIEW TO THE EAST



Figure 4.3-4
ARTESIA BOULEVARD BRIDGE; VIEW TO THE EAST



Figure 4.3-5
HOMELESS ENCAMPMENT UNDER ARTESIA BOULEVARD BRIDGE; VIEW TO THE WEST



Figure 4.3-6
OIL PIPELINE AND RAILROAD BRIDGE OVER THE CHANNEL IN SEGMENT P; VIEW TO THE NORTHEAST



Figure 4.3-7
RAILROAD BRIDGE AND OIL PIPELINE OVER COYOTE CREEK CHANNEL; VIEW TO THE SOUTHEAST



Figure 4.3-8
LARGE HOMELESS ENCAMPMENT AT RAILROAD BRIDGE, SOUTH OF S. FIRESTONE BOULEVARD; VIEW TO THE NORTHEAST



Figure 4.3-9
S. FIRESTONE BOULEVARD BRIDGE CROSSING THE CHANNEL; VIEW TO THE NORTHEAST



Figure 4.3-10
CONSTRUCTION WORK ALONG THE CHANNEL BETWEEN S. FIRESTONE BLVD., THE SANTA ANA FREEWAY, AND N. FIRESTONE BLVD.; VIEW TO THE NORTHEAST



Figure 4.3-11
WEST CHANNEL EMBANKMENT WITH COMMERCIAL BUILDINGS ON BOTH SIDES, NORTH OF THE SANTA ANA FREEWAY; VIEW TO THE EAST



Figure 4.3-12
KNOTT AVENUE BRIDGE OVER THE CHANNEL; VIEW TO THE EAST



Figure 4.3-13
RAILROAD BRIDGE OVER THE CHANNEL, EAST OF KNOTT AVENUE; VIEW TO THE EAST



Figure 4.3-14
COMMERCIAL BUILDINGS ON THE WEST SIDE AND RESIDENTIAL ON THE EAST SIDE OF THE CHANNEL; VIEW TO THE NORTHEAST



Figure 4.3-15
RAILROAD BRIDGE OVER THE CHANNEL SOUTH OF STAGE ROAD; VIEW TO THE NORTHEAST



Figure 4.3-16
STAGE ROAD BRIDGE OVER THE COYOTE CREEK CHANNEL; VIEW TO THE NORTHEAST



Figure 4.3-17
LANDSCAPING ON BOTH SIDES OF THE CHANNEL EMBANKMENTS WITH LA MIRADA BOULEVARD BRIDGE IN BACKGROUND; VIEW TO THE NORTHEAST



Figure 4.3-18
ORNAMENTAL LANDSCAPING ALONG PROPOSED BIKE TRAIL BESIDE LA MIRADA BOULEVARD; VIEW TO THE SOUTHEAST



5.0 Management Considerations

5.1 Site Evaluation Criteria

Evaluation of significance under the California Environmental Quality Act (CEQA) uses criteria found in eligibility descriptions from the CRHR. Generally, a resource is to be considered historically significant if it meets the criteria for listing in the California Register [Public Resources Code § 5024.1; California Code of Regulations § 15064.5(a)(3)]. These criteria provide that a resource may be listed as potentially significant if it:

- Is associated with the events that have made a significant contribution to the broad patterns of California history and cultural heritage.
- Is associated with the lives of persons important in our past.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
- Has yielded, or may be likely to yield, information important in prehistory or history.

5.2 Potential Effects

The Union Pacific Railroad (19-186110/30-176630) intersects Segment P in Los Angeles County. This segment of the Union Pacific Railroad was evaluated and determined to be eligible for the NRHP listing; it was not assessed for eligibility under the CRHR (Ashkar, 1999). The Burlington Northern Santa Fe Railway (19-186804/30-176663) intersects Segment Q in Orange County. This segment of the Union Pacific Railroad was evaluated for the NRHP and determined to not meet the criteria to qualify; it was not assessed for eligibility under the CRHR (Ballester and Tang, 2002).

No other CRHR or NRHP resources are located within the project boundary or adjacent to the project. The two railroads and their bridges over Coyote Creek Channel would not be directly impacted by the project. No other cultural resources would be adversely affected by the project. However, the presence of buried cultural (prehistoric and/or historic archaeological) resources cannot be ruled out. If prehistoric and/or historic artifacts are observed during subsurface excavation, work should be stopped in that area and a qualified archaeologist monitor should be called to assess the finds.

6.0 Conclusions and Recommendations

No prehistoric or historic archaeological resources were identified during the pedestrian field survey of the project. The potential for subsurface cultural deposits is also minimal.

Five Native American tribes were contacted by mail, email and telephone. None of the five tribes responded to the contacts and thus provided no information on potential concerns about the project or the potential for tribal cultural resources in the project site or surroundings area. (See Section 4.2 and **Attachment C**).

The results of the pedestrian assessment indicate no impacts to prehistoric or historical resources are anticipated during project construction. The cultural resources study findings suggest that there is a low potential for the presence of prehistoric cultural resources. Soil along the Coyote Creek Channel is entirely light grey sandy alluvium which has been extensively graded, with any remaining natural banks cut-and-filled by the early 1960s to allow the complete concrete channelization of the creek along the entire length of the project boundary. The only potentially native soil remaining might be found in landscaping at the extreme northern point of the project where the channel crosses South La Mirada Boulevard/Malvern Avenue, along the partial block of Malvern Avenue east of the creek, and this has been heavily disturbed due to road and utility line work and intensive ornamental landscaping. Therefore, it is not recommended that archaeological monitoring be conducted during subsurface ground construction work.

If human remains are encountered during excavations associated with this project, work would halt in that area and the Orange County Coroner would be notified (§ 5097.98 of the Public Resources Code). The Coroner would determine whether the remains are of recent human origin or older Native American ancestry. If the coroner, with the aid of the supervising archaeologist, determines that the remains are prehistoric, they would contact the NAHC. The NAHC would be responsible for designating the most likely descendant (MLD), who would make recommendations as to the manner for handling these remains and further provide for the disposition of the remains, as required by § 7050.5 of the California Health and Safety Code. Following notification by the NAHC, the MLD would make these recommendations within 48 hours of having access to the project site following notification by the NAHC. These recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials (§ 7050.5 of the Health and Safety Code).

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1943 *Downey, Calif*. 7.5', USGS Quadrangle map.

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1965 *Whittier, Calif*. 7.5', USGS Quadrangle map.

1972 *Los Alamitos, Calif*. 7.5', USGS Quadrangle map.

1972 *Whittier, Calif*. 7.5', USGS Quadrangle map.

1974 *Los Alamitos, Calif*. 7.5', USGS Quadrangle map.

1974 *Whittier, Calif*. 7.5', USGS Quadrangle map.

1981 *Los Alamitos, Calif*. 7.5', USGS Quadrangle map.

1981 *Whittier, Calif*. 7.5', USGS Quadrangle map.

ATTACHMENTS

ATTACHMENT A

PROJECT MAPS

Figure 1
PROJECT REGIONAL LOCATION MAP



Figure 2
PROJECT STUDY AREA

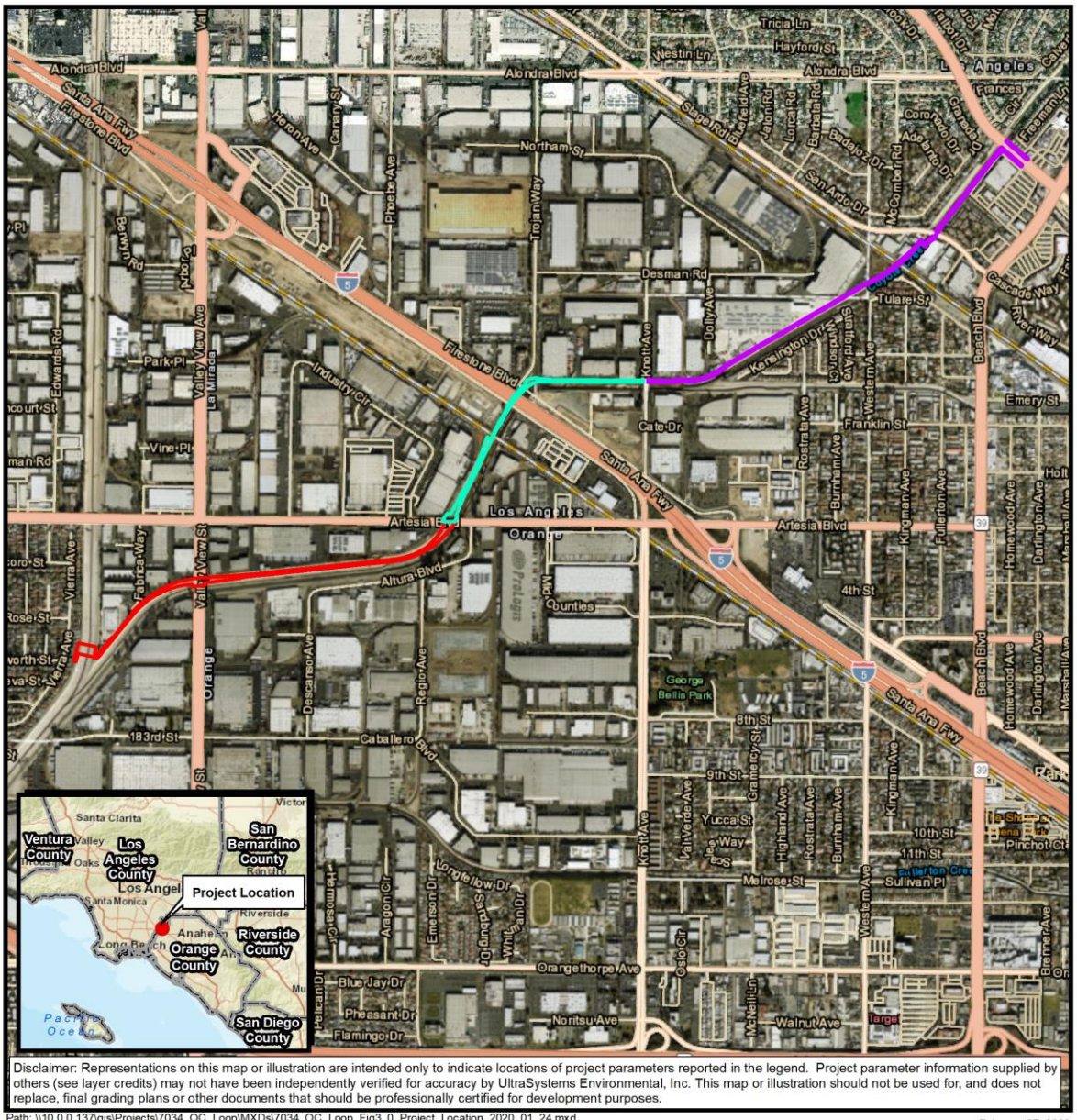
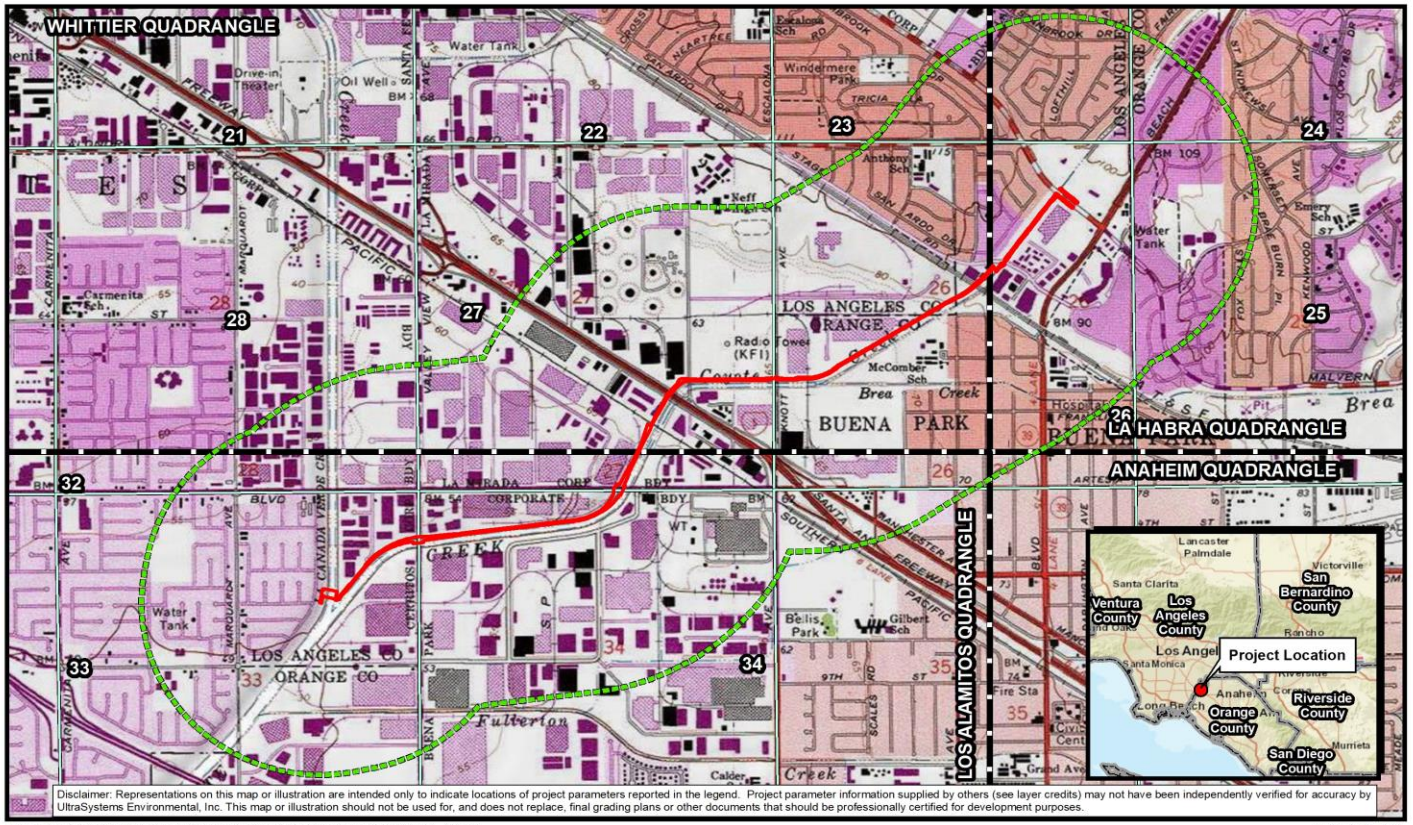


Figure 3
USGS TOPO MAP OF PROJECT STUDY AREA



ATTACHMENT B

PERSONNEL BACKGROUND

Stephen O'Neil, M.A., RPA

Cultural Resources Manager, Cultural Anthropology/Archaeology

Education

- M.A., Anthropology (Ethnography emphasis), California State University, Fullerton, CA, 2002
- B.A., Anthropology, California State University, Long Beach, CA, 1979

Professional and Institutional Affiliations

- California Mission Studies Association
- City of Laguna Beach Environmental Sustainability Committee, appointed 2012
- Orange County Natural History Museum; Board Member
- Pacific Coast Archaeological Society; Board Member and Past President
- Society of California Archaeology

Professional Registrations and Licenses

- Register of Professional Archaeologists (No. 16104) (current)
- Riverside County, CA, Cultural Resource Consultant (No. 259) (current)
- Cultural Resource Field Director, BLM Permit (CA-13-19) – California, 2013
- NEPA and CEQ Consultation for Environmental Professionals; course by the National Association of Environmental Professionals, 2013

Professional Experience

Mr. O'Neil has 30 years of experience as a cultural anthropologist in California. He has researched and written on archaeology, ethnography, and history. Mr. O'Neil has archaeological experience in excavation, survey, monitoring, and lab work. Most of this has been on Native American prehistoric sites, but also includes Spanish, Mexican, and American period adobe sites. His supervisory experience includes excavation and survey crew chief and project director of an adobe house excavation. He has a wide range of expertise in Phase I & II Environmental Site Assessments, archaeological resource assessment surveys, salvage operations, and cultural background studies for various EIR projects. Mr. O'Neil has worked for cultural resource management firms as well as government agencies and Native American entities. He has prepared technical reports as well as published journal articles.

Select project experience

Inglewood Avenue Corridor Widening Project, City of Lawndale, Los Angeles County, CA: 2013–2014

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. The City of Lawndale is widening Inglewood Avenue from Marine Avenue north. The project uses Caltrans funds and the cultural resources report was prepared in Caltrans format. A separate historic properties report was prepared as well. Prepared for Huitt-Zollars Engineering.

Via Ballena Storm Drain Relocation, City of San Clemente, Orange County, CA: 2013

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. This residential area has a damaged storm drain under Via Ballena that was causing earth movement and erosion. The meet requirements for state funding, and cultural resources inventory report was required. Prepared for the City of San Clemente

Pine Canyon Road – Three Points Road to Lake Hughes Road, Los Angeles County, CA: 2013

Mr. O'Neil directed and conducted archaeological field survey, cultural resource records search, Native American contacts and report writing for this project. This nine-mile portion of Pine Canyon Road lies partially within the Angeles National Forest. A series of widening and culvert repairs is planned by the Los Angeles County Department of Public Works (LACDPW). An assessment was made of possible cultural resources, historic and prehistoric that may be affected by the construction, and four historic sites were recorded. Prepared for LACDPW.

Alton Parkway Extension Project, Cities of Irvine and Lake Forest, Orange County, CA: 2012

Mr. O'Neil directed and conducted archaeological and paleontological monitoring, archaeological excavation, cultural resource records search, Native American contacts and report writing for this project. Alton Parkway was extended 2.1 miles between the cities of Irvine and Lake Forest. For the portion within the City of Irvine, UltraSystems conducted monitoring and excavation services. One prehistoric site was excavated and reported on; a series of living features were discovered and also reported. The final monitoring report described the paleontological and archaeological findings. A separate technical report on the archaeological excavations was also prepared. Mr. O'Neil directed research into historic and prehistoric background, and prepared the final assessment of potential impacts. Prepared for the Orange County Department of Public Works.

NEPA and CEQA Documentation, Los Angeles Regional Interoperable Communications System (LA-RICS), Los Angeles County, CA: 2011–2014

Mr. O'Neil is part of UltraSystems team currently preparing technical studies and NEPA and CEQA documentation toward the construction of LA-RICS, an $800-million emergency communications system due to be operational in 2016. LA-RICS will provide a highly coordinated emergency communications system to all first-responders to natural and man-made disasters throughout Los Angeles County. Mr. O'Neil is the cultural and historical resources studies team leader, directing five researchers. These studies include coordination of field visits to all 260-plus locations for an archaeologist and/or an architectural historian with agency escorts to observe and record any onsite prehistoric and historic features, performing records and literature searches at archaeology information centers and local archives, contacting local agencies for historically listed structures and districts, coordinate public notices of the project throughout Los Angeles County, consultation with the NAHC and all local tribal organizations, and direct consultation with the California State Historic Preservation Officer (SHPO). This information was compiled by Mr. O'Neil and is used to prepare FCC historical resource forms which were submitted to the SHPO for review.

Megan B. Doukakis, M.A.

Archaeological Technician

Education

- M.A. Public Archaeology, California State University, Northridge, 2012–2018
- B.A., Anthropology, California State University, Long Beach, 2011
- University of California, Los Angeles - Pimu Catalina Archaeological Field School, 2010
- International Scholar Laureate Program: Delegation on Anthropology and Archaeology in China, 2009
- Earthwatch Institute, "Unearthing Mallorca's Past" archaeological excavation, Mallorca, Spain, 2005

Professional and Institutional Affiliations

- Phi Kappa Phi National Honor Society, 2011
- Sigma Alpha Lambda, National Leadership and Honor Organization, 2010
- Society for California Archaeology Membership 2012–2015

Professional Experience

Mrs. Doukakis has worked in the field of cultural resource management for seven years at environmental firms. Before this Mrs. Doukakis had participated in multiple field schools in Southern California and abroad. She has experience in survey, excavation, laboratory work, and information searches. Mrs. Doukakis holds the title of Archaeological Technician at UltraSystems Environmental. Prior to this, she completed a CRM internship at UltraSystems. These positions have provided her with the opportunity to contribute to proposals, final reports, project scheduling, archaeological record searches and paleontological, archaeological and Native American monitor organizing for projects.

Select project experience

Results of the Condition Assessment, Site Monitoring, and Effects Treatment Plan (CASMET) Marine Corps Base Camp Pendleton, San Diego County, CA

Client: Marine Corps Base Camp Pendleton, Duration: 5/11 to 9/11

Mrs. Doukakis conducted survey and excavation for the USMC Base Camp Pendleton condition assessment project. Areas were tested around Camp Pendleton for the presence and condition of cultural material previously recorded. She also conducted laboratory work and curation for the material collected within excavations. Mrs. Doukakis contributed to the final report with background records searches and prehistoric and historic background writing for the report.

Archaeological Excavation Results Report for the Alton Parkway Extension Project, Orange County, CA

Client: Orange County Department of Public Works; Contract: $357,170, 10/10 to 6/12

Mrs. Doukakis participated in the Alton Parkway project, City of Irvine, Orange County, CA. She was responsible for cleaning and cataloging the artifacts recovered from the excavation and surface collections. She also contributed to the final report by compiling the historical background information.

Identification and Evaluation of Historic Properties ADA Wheelchair Access Ramp Improvement Project, City of Lake Forest, Orange County, CA

Client: City of Lake Forest/Penco, Contract: $2,981.62, Duration: 6/12 to 7/12

Mrs. Doukakis contributed to the cultural resource records search, field survey, Native American contacts and report writing for this project. This residential area required wheelchair access ramps on every corner in this neighborhood. An assessment of the possible cultural resources that may be affected with this construction was made for the City of Lake Forest. Mrs. Doukakis contributed the historic and prehistoric background, and the assessment of the possible resources in the area.

Tenaska Solar Projects Imperial Solar Energy Center–South; Imperial Solar Energy Center–West; and Wistaria Ranch, Imperial County, CA

Client: Tenaska/CSOLAR Development, Contract: $3,441,809, 10/13 to 8/15.

Mrs. Doukakis conducted Native American contacts for field monitoring, coordinated with subcontractors to initiate cultural and paleontological field surveys, for the several solar energy projects being handled by UltraSystems Environmental in the El Centro area, Imperial County, CA. She contributed different parts of the survey report and monitoring program documents, including historic and prehistoric background, editorial review. At ISEC- West, Mrs. Doukakis was responsible for contacting and organizing Tribal monitors for this project. She contacted tribal organizations and inquired about their interest in providing tribal monitors for this project, directly organized with Native American groups to sign agreements, and fill out tax paperwork. She was also responsible for organizing and keeping track of and gathering field log from monitors from six tribal groups. She also recovered previously recorded artifacts in the field before the start of the project.

NEPA and CEQA Documentation, Los Angeles Regional Interoperable Communications System -Long Term Evolution, Los Angeles County, CA

Client: LARICS Joint Powers Authority, Contract: $3,051,312, 1/12 to 1/15.

UltraSystems' team prepared technical studies and NEPA and CEQA documentation toward the construction of LA-RICS-LTE, an $800-million emergency communications system that will provide a highly coordinated emergency communications system to all first-responders to natural and man-made disasters throughout Los Angeles County. For this project Mrs. Doukakis conducted record searches at the South Central Coastal Information Center for the Department of Commerce on over 300 project sites throughout the County of Los Angeles. She helped prepare letters to the NAHC and tribal organizations associated with the project area. Mrs. Doukakis contributed to contacting, organizing, and scheduling architectural historians to conduct historical research around the project areas. Letters were written for contact to local agencies and cities. A public notice was constructed and published in three local newspapers. Mrs. Doukakis also constructed hundreds of Federal Communications Commission 620 and 621 forms for submission to California State Historic Preservation Office.

Newton Canyon Monitoring Project, CA

Client: County of Los Angeles Department of Public Works, Contract: $2,930.00, Duration: 7/13 to 12/13

Mrs. Doukakis was an archaeological monitor for this project. She monitored all ground disturbing activities as well as lightly surveying the area for cultural material. Mrs. Doukakis also conducted the records center research at the South Central Coastal Information Center at CSUF. Through email, letter, and telephone correspondence, Mrs. Doukakis contacted the NAHC and associated tribal groups.

Lisa Ahn, B.A.

Archaeological Assistant

PROFESSIONAL SUMMARY

Lisa Ahn has over three years of archaeological experience in California. She has conducted pedestrian archaeological surveys, test and full-scale excavations, and archaeological monitoring. She has extensive experience in the curation of archaeological materials in compliance with NAGPRA, state and federal historic preservation laws, and best practices. Lisa Ahn also has experience with the California Historical Resources Information System, Phase I and II Cultural Resource Inventories, ISMNDs, ICRMPs, EIR documents and project proposals.

SELECT PROJECT EXPERIENCE

Historic Brochures/Signage for Naval Air Station North Island (NASNI), NAVFAC SW, Coronado, California

UltraSystems Environmental Inc. was tasked with the design and production of information panels and a brochure that describes and illustrates the installation's cultural resource program or related theme. Lisa Ahn contributed to the production of professional, interpretive signs related to a cultural resource theme as identified in the Task Order, suitable for public display. An informational brochure was produced, along with two sets of informational panels on the military history of Rockwell Field and NAS North Island.

Phase I Cultural Resource Inventory for Los Alamitos High School Multi-Story STEMS Building Project IS/MND, Los Alamitos, California

UltraSystems Environmental Inc. was tasked with providing historical and archaeological cultural services in support of an Initial Study and Mitigated Negative Declaration for the construction of a multi-story building. Lisa Ahn assisted in an intensive pedestrian survey of the project area. During the survey, the project site was carefully inspected for any indication of human activities dating to the prehistoric or historic periods (i.e. 50 years or older).

Archaeological Survey Report for the City of Fontana Safe Routes to School Project, Fontana, California

UltraSystems Environmental Inc. was tasked with providing historical and archaeological cultural services for the City of Fontana's Pedestrian Improvements Project. Lisa Ahn assisted in conducting research through the California Historical Resources Information System at the South Central Coastal Information Center. This information was incorporated into the Archaeological Survey Report.

Phase I Cultural Resource Inventory for North County ITS Palmdale Extension Project IS/MND, Palmdale, California

UltraSystems Environmental Inc. was tasked with providing historical and archaeological cultural services in support of an Initial Study and Mitigated Negative Declaration for the installation of fiber optic infrastructure and traffic upgrades. Lisa Ahn assisted in research and technical writing for the Cultural Resource Inventory letter report.

ATTACHMENT C

NATIVE AMERICAN HERITAGE COMMISSION RECORDS SEARCH AND NATIVE AMERICAN CONTACTS

UltraSystems
environmental•management•planning

January 28, 2020

Government Program Analyst
Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, California 95691

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear NAHC Staff,

UltraSystems Environmental, Inc. (UEI) has been contracted by GHD Inc. to conduct a cultural resources inventory in support of the Orange County Loop Segments O, P, and Q Project (Project). The Project consists of the proposed construction of 2.7 miles of OC Loop Segments O, P and Q for continuous off-road facility for bikes and pedestrians in the cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County. I am requesting a Native American contact list of interested tribes, organizations and individuals in the general Project area, and a search of the Sacred Lands File for potential traditional cultural sites.

The proposed Project would include the construction of 2.7 miles of continuous off-road facility for bikes and pedestrians along the Los Coyotes Creek. The project begins in Segment O where the existing bikeway along Coyote Creek turns north along the North Fork of the channel and ends in Segment Q at La Mirada Blvd. Several architectural elements will be added including several pedestrian/bike bridge and pathways undercrossings at roads and railroad corridors.

The Project is located in the cities of Cerritos, La Palma, Buena Park and La Mirada, and is specifically located along the Los Coyotes Creek from the conjunction of the Los Coyotes Creek and the La Canada Verde Creek in the west to where the Los Coyotes Creek meets La Mirada Blvd in the east. The project can be found on the *Los Alamitos, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NE ¼ of the NE ¼, the SE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of Section 33; R 11 W, T 3 S, in the NW ¼ of the NW ¼, the NE ¼ of the NW ¼, and the NW ¼ of the NE ¼ of Section 34; R 11 W, T 3 S, in the SW ¼ of the SE ¼ of Section 27. The project can also be found of the *Whittier, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NW ¼ of the SE ¼, the NE ¼ of the SE ¼, and the SW ¼ of the SE ¼ of Section 27; R 11 W, T 3 S, in the NW ¼ of the SW ¼, the NE ¼ of the SW ¼, and the SW ¼ of the NE ¼ of Section 26; as well as *La Habra, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the SW ¼ of the NE ¼, and the NE ¼ of the NE ¼ of Section 26. The Project site is located in a fully urbanized area with single family residences, commercial businesses in all directions. This is shown on the enclosed map and the Project area is depicted with a half-mile buffer zone.

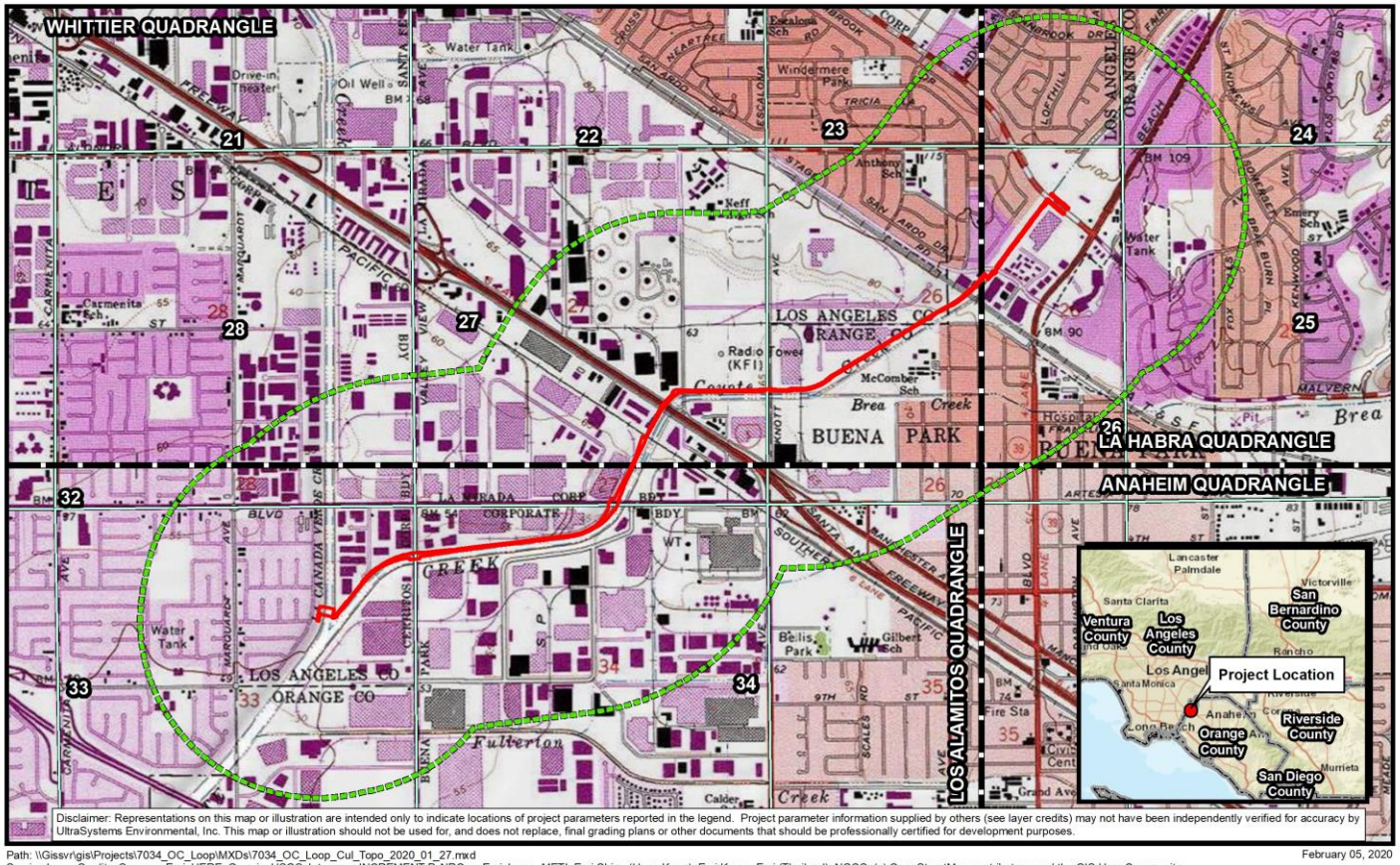
If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
Website: www.ultrasystems.com



Path: \\Gissvr\gis\Projects\7034_OC_Loop\MXDs\7034_OC_Loop_Cul_Topo_2020_01_27.mxd
February 05, 2020
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community,
Copyright:© 2013 National Geographic Society, i-cubed; CA Dept. of Conservation, 2011; UltraSystems Environmental, Inc., 2020

Scale: 1:24,000

N

0 1,000 2,000 Feet

0 250 500 Meters

Legend

- Project Boundary
- Half-Mile Radius
- Quadrangle Boundary
- Section Boundary

OC Loop Segments O, P, and Q

Topographic Map
USGS Quadrangle: La Habra, Los Alamitos, Whittier
Township: 3S Range: 11W
Sections 26, 27, 33, 34

UltraSystems

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Joseph Myers
Pomo

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 11, 2020

Stephen O'Neil
UltraSystems

Via Email to: soneil@ultrasystems.com

Re: Orange County Loop Segments O, P, and Q Project, Orange County

Dear Mr. O'Neil:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Associate Governmental Program Analyst

Attachment

Page 1 of 1

Native American Heritage Commission
Native American Contact List
Orange County
2/11/2020

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Orange County Loop Segments O, P, and Q Project, Orange County.

PROJ-2020-000719 02/11/2020 07:48 AM 1 of 1

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February 17, 2020

Charles Alvarez
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, CA, 91307

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear Mr. Alvarez,

UltraSystems Environmental, Inc. (UEI) has been contracted by GHD Inc. to conduct a cultural resources inventory in support of the Orange County Loop Segments O, P, and Q Project (Project). The Project consists of the proposed construction of 2.7 miles of OC Loop Segments O, P and Q for continuous off-road facility for bikes and pedestrians in the cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County. UltraSystems is conducting a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

The proposed Project would include the construction of 2.7 miles of continuous off-road facility for bikes and pedestrians along the Los Coyotes Creek. The project begins in Segment O where the existing bikeway along Coyote Creek turns north along the North Fork of the channel and ends in Segment Q at La Mirada Blvd. Several architectural elements will be added including several pedestrian/bike bridge and pathway undercrossings at roads and railroad corridors.

As part of the cultural resources study for the project I am writing to request the Gabrielino-Tongva Tribe input on potential Native American resources in or near the Area of Potential effect (APE). In a letter dated February 11, 2020, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative [emphasis in the original]."

The Project is located in the cities of Cerritos, La Palma, Buena Park and La Mirada, and is specifically located along the Los Coyotes Creek from the conjunction of the Los Coyotes Creek and the La Canada Verde Creek in the west to where the Los Coyotes Creek meets La Mirada Blvd in the east. The project can be found on the *Los Alamitos, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NE ¼ of the NE ¼, the SE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of Section 33; R 11 W, T 3 S, in the NW ¼ of the NW ¼, the NE ¼ of the NW ¼, and the NW ¼ of the NE ¼ of Section 34; R 11 W, T 3 S, in the SW ¼ of the SE ¼ of Section 27. The project can also be found of the *Whittier, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NW ¼ of the SE ¼, the NE ¼ of the SE ¼, and the SW ¼ of the SE ¼ of Section 27; R 11 W, T 3 S, in the NW ¼ of the SW ¼, the NE ¼ of the SW ¼, and the SW ¼ of the NE ¼ of Section 26; as well as *La Habra, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the SW ¼ of the NE ¼, and the NE ¼ of the NE ¼ of Section 26. The Project site is located in a fully urbanized area with single family residences, commercial businesses in all directions. This is shown on the enclosed map and the Project area is depicted with a half-mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
Website: www.ultrasystems.com

UltraSystems

February 17, 2020

Robert Dorame, Chairperson
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA, 90707

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear Chairperson Dorame,

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The proposed Project would include the construction of 2.7 miles of continuous off-road facility for bikes and pedestrians along the Los Coyotes Creek. The project begins in Segment O where the existing bikeway along Coyote Creek turns north along the North Fork of the channel and ends in Segment Q at La Mirada Blvd. Several architectural elements will be added including several pedestrian/bike bridge and pathway undercrossings at roads and railroad corridors.

As part of the cultural resources study for the project I am writing to request the Gabrielino Tongva Indians of California Tribal Council input on potential Native American resources in or near the Area of Potential effect (APE). In a letter dated February 11, 2020, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative [emphasis in the original]."

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If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
Website: www.ultrasystems.com

UltraSystems

February 17, 2020

Sandonne Goad, Chairperson
Gabrielino /Tongva Nation
106 ½ Judge John Aiso St., #231
Los Angeles, CA, 90012

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear Chairperson Goad,

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If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
Website: www.ultrasystems.com

UltraSystems

February 17, 2020

Anthony Morales, Chairperson
Gabrielino/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA, 91778

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear Chairperson Morales,

UltraSystems Environmental, Inc. (UEI) has been contracted by GHD Inc. to conduct a cultural resources inventory in support of the Orange County Loop Segments O, P, and Q Project (Project). The Project consists of the proposed construction of 2.7 miles of OC Loop Segments O, P and Q for continuous off-road facility for bikes and pedestrians in the cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County. UltraSystems is conducting a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

The proposed Project would include the construction of 2.7 miles of continuous off-road facility for bikes and pedestrians along the Los Coyotes Creek. The project begins in Segment O where the existing bikeway along Coyote Creek turns north along the North Fork of the channel and ends in Segment Q at La Mirada Blvd. Several architectural elements will be added including several pedestrian/bike bridge and pathway undercrossings at roads and railroad corridors.

As part of the cultural resources study for the project I am writing to request the Gabrielino/Tongva San Gabriel Band of Mission Indians' input on potential Native American resources in or near the Area of Potential effect (APE). In a letter dated February 11, 2020, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative [emphasis in the original]."

The Project is located in the cities of Cerritos, La Palma, Buena Park and La Mirada, and is specifically located along the Los Coyotes Creek from the conjunction of the Los Coyotes Creek and the La Canada Verde Creek in the west to where the Los Coyotes Creek meets La Mirada Blvd in the east. The project can be found on the *Los Alamitos, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NE ¼ of the NE ¼, the SE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of Section 33; R 11 W, T 3 S, in the NW ¼ of the NW ¼, the NE ¼ of the NW ¼, and the NW ¼ of the NE ¼ of Section 34; R 11 W, T 3 S, in the SW ¼ of the SE ¼ of Section 27. The project can also be found of the *Whittier, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NW ¼ of the SE ¼, the NE ¼ of the SE ¼, and the SW ¼ of the SE ¼ of Section 27; R 11 W, T 3 S, in the NW ¼ of the SW ¼, the NE ¼ of the SW ¼, and the SW ¼ of the NE ¼ of Section 26; as well as *La Habra, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the SW ¼ of the NE ¼, and the NE ¼ of the NE ¼ of Section 26. The Project site is located in a fully urbanized area with single family residences, commercial businesses in all directions. This is shown on the enclosed map and the Project area is depicted with a half-mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

Corporate Office – Orange County
16431 Scientific Way
Irvine, CA 92618-7443
Telephone: 949.788.4900, ext. 276
Facsimile: 949.788.4901
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UltraSystems

February 17, 2020

Andrew Salas, Chairperson
Gabrielino Band of Mission Indians – Kizh Nation
P.O. Box 393
Covina, CA, 91723

Subject: Cultural Resources Study, Orange County Loop Segments O, P, and Q Project, in the Cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County, California. UltraSystems Environmental Project No. 7034.

Dear Chairperson Salas,

UltraSystems Environmental, Inc. (UEI) has been contracted by GHD Inc. to conduct a cultural resources inventory in support of the Orange County Loop Segments O, P, and Q Project (Project). The Project consists of the proposed construction of 2.7 miles of OC Loop Segments O, P and Q for continuous off-road facility for bikes and pedestrians in the cities of Cerritos, La Palma, Buena Park and La Mirada, Orange County. UltraSystems is conducting a cultural resources study to evaluate the potential presence of prehistoric and historic resources within the project boundary.

The proposed Project would include the construction of 2.7 miles of continuous off-road facility for bikes and pedestrians along the Los Coyotes Creek. The project begins in Segment O where the existing bikeway along Coyote Creek turns north along the North Fork of the channel and ends in Segment Q at La Mirada Blvd. Several architectural elements will be added including several pedestrian/bike bridge and pathway undercrossings at roads and railroad corridors.

As part of the cultural resources study for the project I am writing to request the Gabrielino Band of Mission Indians – Kizh Nation's input on potential Native American resources in or near the Area of Potential effect (APE). In a letter dated February 11, 2020, the Native American Heritage Commission stated: "A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative [emphasis in the original]."

The Project is located in the cities of Cerritos, La Palma, Buena Park and La Mirada, and is specifically located along the Los Coyotes Creek from the conjunction of the Los Coyotes Creek and the La Canada Verde Creek in the west to where the Los Coyotes Creek meets La Mirada Blvd in the east. The project can be found on the *Los Alamitos, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NE ¼ of the NE ¼, the SE ¼ of the NE ¼, and the SW ¼ of the NE ¼ of Section 33; R 11 W, T 3 S, in the NW ¼ of the NW ¼, the NE ¼ of the NW ¼, and the NW ¼ of the NE ¼ of Section 34; R 11 W, T 3 S, in the SW ¼ of the SE ¼ of Section 27. The project can also be found of the *Whittier, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the NW ¼ of the SE ¼, the NE ¼ of the SE ¼, and the SW ¼ of the SE ¼ of Section 27; R 11 W, T 3 S, in the NW ¼ of the SW ¼, the NE ¼ of the SW ¼, and the SW ¼ of the NE ¼ of Section 26; as well as *La Habra, Calif.*, USGS topographical quadrangle, R 11 W, T 3 S, in the SW ¼ of the NE ¼, and the NE ¼ of the NE ¼ of Section 26. The Project site is located in a fully urbanized area with single family residences, commercial businesses in all directions. This is shown on the enclosed map and the Project area is depicted with a half-mile buffer zone.

If you require additional information or have any questions, please contact me.

Thank you for your help.

Sincerely,

Stephen O'Neil, M.A., RPA
Cultural Resources Manager
soneil@ultrasystems.com

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OC Loop Segments O, P and Q Project, Orange County, California. [UEI #7034]
Native American Contact Log

Name	Tribe/Affiliation	Letter and Fax Contacts	E-mail Contacts	Telephone Contact	Comments
Steven Quinn, Associate Governmental Program Analyst	Native American Heritage Commission	January 28, 2020 (Fax)	January 28, 2020;	N/A	Request for Sacred Lands File search and local Native American representatives contact information. Response from Mr. Quinn on February 11, 2020 stating negative findings in the Sacred Lands File and providing a list of 5 local tribal contacts.
Andrew Salas, Chairperson	Gabrieleño Band of Mission Indians - Kizh Nation	February 17, 2020 (letter)	February 17, 2020 (email)	Telephone call made April 2, 2020	Letter and email describing project and requesting input on concerns was sent March 9, 2020. A telephone call was made April 2, 2020. There was no answer; the answering machine was full so no message was left. There has been no response to date.
Anthony Morales, Chairperson	Gabrieleno/ Tongva San Gabriel Band of Mission Indians	March 9, 2020 (letter& fax)	February 17, 2020 (email)	Telephone call made April 2, 2020	Letter, fax and email describing project and requesting input on concerns was sent March 9, 2020. A telephone call was made April 2, 2020. There was no answer; a message was left. There has been no response to date.
Sandonne Goad, Chairperson	Gabrielino /Tongva Nation	February 17, 2020 (letter)	February 17, 2020 (email)	Telephone call made April 2, 2020	Letter email describing project and requesting input on concerns was sent March 9, 2020. A telephone call was made April 2, 2020. There was no answer; a message was left. There has been no response to date.
Robert Dorame, Chairman	Gabrielino - Tongva Indians of California Tribal Council	February 17, 2020 (letter& fax)	February 17, 2020 (email)	Telephone call made April 2, 2020	Letter, fax and email describing project and requesting input on concerns was sent March 9, 2020. A telephone call was made April 2, 2020. The Chairman asked that we resend our material for their review. If we don't hear from them then they have no concerns with the project.

Name	Tribe/Affiliation	Letter and Fax Contacts	E-mail Contacts	Telephone Contact	Comments
Charles Alvarez, Councilmember	Gabrielino - Tongva Tribe	February 17, 2020 (letter)	February 17, 2020 (email)	Telephone call made April 2, 2020	Letter and email describing project and requesting input on concerns was sent March 9, 2020. A telephone call was made April 2, 2020. There was no answer; a message was left. There has been no response to date.

ATTACHMENT D

CHRIS RECORDS SEARCH BIBLIOGRAPHY

Report List

7034 GHD_OCLoop

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-03356		1982	Romani, John F.	Archaeological Survey Report for the Route I-5 Santa Ana Transportation Corridor Route 405 in Orange County to Route 605 in Los Angeles County P.m. 21.30/44.38 0.00/6.85	Caltrans	
LA-03371		1996	Maki, Mary K	Negative Phase 1 Archaeological Survey of 3.4 Acres West of Trojan Way Street From Desman Road to Firestone Boulevard, City of La Mirada, Los Angeles County, California	Fugro West, Inc.	
LA-04152		1998	Mason, Roger D. and Bonner, Wayne H.	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunications Facility: La-316-03 City of La Mirada, California	Chambers Group, Inc.	
LA-04834		1999	Ashkar, Shahira	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties	Jones & Stokes Associates, Inc.	19-186110, 19-186111, 30-176630
LA-05199		2001	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sm 083-02 Los Angeles County, Ca	LSA Associates, Inc.	
LA-06174		2001	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sm 083-02 Los Angeles County, California	LSA Associates, Inc.	
LA-07730		2006	Hudlow, Scott M.	A Phase I Cultural Resources Survey for Kfi Tower Project, City of La Mirada, California	Hudlow Cultural Resource Associates	19-187549
LA-07844		1998	Kane, Diane	Historic Architectural Survey Report for I-5 Hov Lane Improvement Project	California Department of Transportation, District 7	

Page 1 of 4

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Report List

7034 GHD_OCLoop

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-07871		2003	Tang, Bai "Tom" and Teresa Woodard	Historical Resource Compliance Report - Third Main Track and Grade Seperation Project Hobart (mp 148.9) to Basta (mp 163.3), Bnsf/metrolink East-west Main Line Railroad Track, Vernon to Fullerton, Los Angeles and Orange Counties, California	CRM Tech	19-186753, 19-186754, 19-186755, 19-186756, 19-186757, 19-186758, 19-186759, 19-186760, 19-186761, 19-186762, 19-186763, 19-186764, 19-186765, 19-186766, 19-186767, 19-186768, 19-186769, 19-186770, 19-186771, 19-186772, 19-186773, 19-186774, 19-186775, 19-186776, 19-186777, 19-186778, 19-186779, 19-186780, 19-186781, 19-186782, 19-186783, 19-186784, 19-186785, 19-186786, 19-186787, 19-186788, 19-186789, 19-186790, 19-186791, 19-186792, 19-186793, 19-186794, 19-186795, 19-186796, 19-186797, 19-186798, 19-186799, 19-186800, 19-186801, 19-186804, 30-176663
LA-08255		2006	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	SWCA Environmental Consultants, Inc.	
LA-09117		2007	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, LLC Candidate LA0858D (Messe, Inc.), 16404 Knott Avenue, La Mirada, Las Angeles County, California	Michael Brandman Associates	19-186804, 19-187549
LA-11498		2011	Meyer, Donna	Section 106 Consultation for Installation of Communications Equipment for Integrated Public Alert and Warning System, La Mirada, Los Angeles County	Federal Emergency Management Agency	
OR-00121		1976	Desautels, Roger J.	Archaeological Survey Report on a Parcel of Land Located in the City of La Palma, Orange County	Scientific Resource Surveys, Inc.	
OR-00424	Paleo -	1979	Desautels, Roger J.	Cultural Resources Report on an Archaeological, Historical and Paleontological Records Search and Survey of Approximately 3 Acres of Property Located in Buena Park, California	Scientific Resource Surveys, Inc.	

Report List

7034 GHD_OCLoop

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00814		1982	Romani, John F.	ARCHAEOLOGICAL SURVEY REPORT for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 605 in Los Angeles County Pm 21.30/44.38; 0.00/6.85	Caltrans	
OR-01671		1997	Mason, Roger D.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 085-04, in the City of La Palma, Ca.	Chambers Group, Inc.	
OR-02094		1999	Ashkar, Shahira	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties	Jones & Stokes Associates, Inc.	19-186110, 19-186111, 30-176630
OR-02608		2003	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Cm 085-04 Orange County, California	LSA Associates, Inc.	
OR-02609		2003	Duke, Curt	Request for Shpo Review of Fcc Undertaking 5600 Fresca Dr., La Palma, California	LSA Associates, Inc.	
OR-02793		2001	Bonner, Wayne H.	Records Search Results for Sprint PCS Facility OG54XC458A (Gordon Square Shopping Center), 5301 Beach Blvd., Buena Park, Orange County, California	Michael Brandman Associates	
OR-02806		2002	Duke, Curt	Cultural Resource Assessment at & T Wireless Services Facility No. 13018a Orange County, California	LSA Associates, Inc.	
OR-03045		2005	Demcak, Carol R.	Report of Archaeological Assessment for Beach Boulevard/malvern Avenue Intersection Improvement, City of Buena Park, California	Archaeological Resource Management Corp.	
OR-03276		1998	Kane, Diane	Historic Architectural Survey Report for I-5 Hov Lane Improvement Project	California Department of Transportation, District 7	
OR-03298		2003	Tang, Bai "Tom" and Teresa Woodard	(see LA7871) Historical Resource Evaluation Report Third Main Track and Grade Seperation Project Hobart (mp 148.9) to Basta (mp 163.3), Bnsf/metrolink East-west Main Line Railroad Track, Vernon to Fullerton, Los Angeles and Orange Counties, California	CRM Tech	

Report List

7034 GHD_OCLoop

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-03373		2006	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	SWCA Environmental Consultants, Inc.	

APPENDIX D2

PALEONTOLOGICAL RESOURCES RECORD REPORT

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

13 February 2020

UltraSystems Environmental
16431 Scientific Way
Irvine, CA 92618-7443

Attn: Stephen O'Neil, Cultural Resources Manager

Re: Paleontological Records Search for the proposed Orange County Loop Segments O, P, and Q Project, UltraSystems Environmental Project No. 7034, in the Cities of Cerritos, La Mirada, and Buena Park, Los Angeles and Orange Counties, project area

Dear Stephen:

We have conducted a thorough search of our Vertebrate Paleontology records for the proposed Orange County Loop Segments O, P, and Q Project, UltraSystems Environmental Project No. 7034, in the Cities of Cerritos, La Mirada, and Buena Park, Los Angeles and Orange Counties, project area as outlined on the portions of the Whittier, La Habra, and Los Alamitos USGS topographic quadrangle maps that Megan Black Doukakis sent to me via e-mail on 30 January 2020. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have localities nearby from the same sedimentary deposits that occur within the proposed project area, either at the surface or at depth

Almost all of the proposed project area has surficial deposits of younger Quaternary Alluvium. In the very northern portion of the proposed project area, just south of Stage Road, geologic mapping shows surficial deposits of older Quaternary Alluvium. Both of these are derived as alluvial fan deposits from the Puente Hills to the north via Coyote Creek that currently flows adjacent to almost all of the proposed project area. These deposits typically do not contain significant vertebrate fossils in the very uppermost layers, but they may well contain significant fossil vertebrate remains at shallow depth. Our closest vertebrate fossil locality from the older Quaternary deposits is LACM 3347, north of the northeastern portion of the proposed project

area, north of Leffingwell Road and east of La Mirada Boulevard, that produced a fossil specimen of horse, *Equus*, at a depth of only two feet below the surface.

Nearly adjacent to the northern terminus of the proposed project area there are deposits of the late Pleistocene La Habra Formation exposed in Coyote Creek and those deposits may occur at shallow depth in the proposed project area. We have numerous La Habra Formation localities immediately north of the proposed project area, particularly along Coyote Creek adjacent to Beach Boulevard and along Rosecrans Avenue east of Beach Boulevard. These localities include LACM 4178, 4185-4187, 4195-4201, 6689, 7053-7054, and 7088-7089. Miller (1971) published on the fauna from LACM 6689, the earliest recorded of the Coyote Creek sites, under the name La Mirada (see appendices for list of publications on LACM specimens from the La Habra Formation). In particular, Miller (1971, pg. 50) figured the skull and jaws of a fossil bear, *Ursus americanus*, from locality LACM 6689. In addition, Hutchison (1987) published on a fossil mole, *Scapanus latimanus*, from locality LACM 7053. A composite fossil fauna list from the LACM La Habra Formation localities is provided in an appendix.

Just north of the proposed project area there are exposures of the marine Pleistocene San Pedro Sand that may also occur at depth in the proposed project area. Our closest San Pedro Sand localities are LACM 3536-3537 and 5011-5012, all just north of the proposed project area to both the east and west, that produced fossil specimens of salmon shark, *Lamna*, bony fish, Osteichthyes, and whales, Cetacea. Our San Pedro Sand locality LACM 3861, further northeast of the proposed project area in the West Coyote Hills, produced a specimen of the fossil diving duck, *Chendytes milleri*.

Shallow excavations in the uppermost few feet of the younger Quaternary sediments exposed in the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations in the proposed project area that extend down into older sedimentary deposits, however, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosures: appendices; invoice

Publications on specimens in the LACM collections from the La Habra Formation in the West Coyote Hills

Howard, Hildegarde. 1936. A New Record for *Parapavo californicus* (Miller). Condor, 38(6):249-250.

Hutchison, J. Howard. 1987. Moles of the *Scapanus latimanus* group (Talpidae, Insectivora) from the Pliocene and Pleistocene of California. Natural History Museum of Los Angeles County Contributions in Science, 386:1-15.

Miller, Wade E. 1971. Pleistocene Vertebrates of the Los Angeles Basin and Vicinity (Exclusive of Rancho La Brea). Bulletin of the Los Angeles County Museum of Natural History, 10:1-124.

Steadman, David W. 1980. A Review of the Osteology and Paleontology of Turkeys (Aves: Meleagridinae). Natural History Museum of Los Angeles County Contributions in Science, 330:131-207.

Yerkes, R. F. 1972. Geology of the Eastern Los Angeles Basin, Southern California. U.S. Geol. Surv. Prof. Paper, 420C.

Composite La Habra Formation Fossil Fauna
based on specimens in the LACM collections

- Osteichthyes
  - Cypriniformes
    - Cyprinidae
- Amphibia
  - Anura
    - Bufonidae
      - *Bufo*
    - Ranidae
      - *Rana*
  - Urodela
    - Salamandridae
      - *Taricha*
- Reptilia
  - Chelonia
    - Emydidae
      - *Clemmys* *marmorata*
  - Squamata
    - Crotalidae
      - *Crotalus*
- Aves
  - Anseriformes
    - Anatidae
      - *Anas* *acuta*
      - *Chen*
      - *Chendytes*
      - *Oxyura* *jamaicensis*
  - Galliformes
    - Meleagridae
      - *Meleagris*
    - Phasianidae
      - *Lophortyx*
  - Gruiformes
    - Gruidae
      - *Grus*
    - Rallidae
      - *Fulica* *americana*
      - *Gallinula*
  - Passeriformes
  - Podicipediformes
    - Podicipedidae
      - *Podiceps*
- Mammalia
  - Artiodactyla
    - Antilocapridae
      - *Antilocapra*
      - *Capromeryx*
    - Bovidae
      - *Bison*
- Mammalia
  - Artiodactyla
    - Camelidae
      - *Camelops*
      - *Palaeolama*
    - Cervidae
      - *Odocoileus* *hemionus*
  - Carnivora
    - Canidae
      - *Canis* *dirus*
      - *Canis* *latrans*
      - *Urocyon* *cinereoargenteus*
    - Felidae
      - *Lynx* *rufus*
    - Mustelidae
      - *Mephitis* *mephitis*
    - Procyonidae
      - *Bassariscus* *astutus*
    - Ursidae
      - *Ursus* *americanus*
  - Insectivora
    - Talpidae
      - *Scapanus* *latimanus*
  - Lagomorpha
    - Leporidae
      - *Lepus* *californicus*
      - *Sylvilagus* *audubonii*
      - *Sylvilagus* *bachmani*
  - Perissodactyla
    - Equidae
      - *Equus*
  - Proboscidea
    - Elephantidae
      - *Mammuthus*
    - Mammutidae
      - *Mammut*
  - Rodentia
    - Cricetidae
      - *Microtus* *californicus*
      - *Neotoma*
      - *Peromyscus*
    - Geomyidae
      - *Thomomys* *bottae*
    - Heteromyidae
      - *Dipodomys*
    - Sciuridae
      - *Spermophilus*
  - Xenarthra
    - Megalonychidae
      - *Megalonyx*