PUBLIC REVIEW DRAFT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

FAIRVIEW BRIDGE REPLACEMENT AND STREET IMPROVEMENTS (9TH STREET TO 16TH STREET) PROJECT

SANTA ANA, ORANGE COUNTY, CALIFORNIA









LSA

April 2020

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SANTA ANA, ORANGE COUNTY, CALIFORNIA

Submitted to:

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20 Civic Center Plaza
Santa Ana, California 92701

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April 2020

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
AB	Assembly Bill
ac	acre/acres
ACM	asbestos-containing material
ACS	American Community Survey
af	acre-feet
amsl	above mean sea level
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
ASR	Archeological Survey Report
Basin	South Coast Air Basin
Basin 8-1	Coastal Plain of Orange County Groundwater Basin
Basin Plan	Santa Ana Regional Water Quality Control Board's Water Quality Control Plan
BMP	Best Management Practice
BSA	Biological Study Area
C2	General Commercial
CAAQS	California Ambient Air Quality Standards
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CH_4	methane

City	City of Santa Ana
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
EIS	Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
ft	foot/feet
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GC	General Commercial
GCC	global climate change
GGUSD	Garden Grove Unified School District
GHG	greenhouse gas
GSA	Groundwater Sustainability Agency
GSP	groundwater sustainability plan
HA	Hydrologic Area
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbons
HPSR	Historical Property Survey Report
HRER	Historical Resources Evaluation Report
HRI	Historic Resources Inventory

HSA	Hydrologic Subarea
HU	Hydrologic Unit
ICU	intersection capacity utilization
in/sec	inches per second
ISA	Initial Site Assessment
IS/MND	Initial Study/Mitigated Negative Declaration
LACM	Natural History Museum of Los Angeles County
lbs/day	pounds per day
LED	light-emitting diode
L_{dn}	day-night average noise level
L_{eq}	equivalent continuous sound level
LID	Low Impact Development
L_{max}	maximum instantaneous noise level
LOS	level of service
LR-7	Low-Density Residential
mi	mile/miles
MLD	Most Likely Descendant
MPAH	Master Plan of Arterial Highways
mph	miles per hour
MRZ	Mineral Resource Zone
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NADR	Noise Abatement Decision Report
NAHC	Native American Heritage Commission
NALMA	North American Land Mammal Age
NB	noise barrier
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study

NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Service
NOI	Notice of Intent
NOT	Notice of Termination
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
O	Open Space Land
O_3	ozone
OC	Orange County
OCFA	Orange County Fire Authority
OCTAM	Orange County Transportation Analysis Model
OHWM	ordinary high water mark
OPR	Office of Planning and Research
OS	Open Space
PCB	polychlorinated biphenyl
PFC	perfluorocarbons
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRDs	Permit Registration Documents
Project	Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project
R1	Single-Family Residence
R2	Two-Family Residence
REC	Recognized Environmental Condition
R factor	Revised Universal Soil Loss Equation
RMS	root-mean-square

ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SART	Santa Ana River Trail
SAUSD	Santa Ana Unified School District
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	square feet
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SMARA	Surface Mining and Reclamation Act
SMARTS	Storm Water Multiple Application and Report Tracking System
SO_2	sulfur dioxide
sq mi	square miles
SR	State Route
State	State of California
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TIA	Traffic Impact Analysis
TMN 2.5	Traffic Noise Model Version 2.5
TMP	Traffic Management Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VdB	vibration velocity decibels
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
WDID	Waste Discharge Identification Number
WQMP	Water Quality Management Plan

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1.0 PROJECT INFORMATION

1. Project Title:

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

2. Lead Agency Name and Address:

City of Santa Ana
Public Works Agency
20 Civic Center Plaza
Santa Ana, California 92701

3. Contact Person and Phone Number:

Kenny Nguyen, P.E.
Senior Civil Engineer
20 Civic Center Plaza
Santa Ana, California 92701
Phone: (714) 647-5632

4. Project Location:

The Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project (Project) is located in the northwestern portion of Santa Ana in Orange County.

5. Project Sponsor's Name and Address:

City of Santa Ana
Public Works Agency
20 Civic Center Plaza
Santa Ana, California 92701

6. General Plan Designation:

The City of Santa Ana (City) General Plan Circulation Element designates Fairview Street as a six-lane Major Arterial. The adjacent land uses are designated Low-Density Residential (LR-7), Open Space (OS), and General Commercial (GC).

7. Zoning:

The Project site is a public street, and the adjacent land uses are zoned Single-Family Residence (R1), Two-Family Residence (R2), Open Space Land (O), and General Commercial (C2).

8. Description of Project:

The following describes the proposed Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project (Project) that is the subject of this Initial Study/Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA). The purpose of this IS/MND is to evaluate whether the proposed Project would result in any potential significant environmental effects.

Project Purpose and Need. Fairview Street consists of a north/south major arterial located in the northwestern portion the City. South of 9th Street, Fairview Street provides three lanes in each direction that are reduced to two lanes in each direction north of 9th Street, across the existing four-lane bridge, to 16th Street. The Fairview Street segment between 9th Street and 16th Street is the only constraint for Fairview Street to be built out to its planned width of six lanes. This condition causes a traffic "bottleneck" during peak hours. In addition, there are no sidewalks, bikeways, or lighting on the existing bridge. Pedestrians and bicyclists currently use the roadway shoulder to cross the bridge.

Additionally, the existing Fairview Street bridge has insufficient safety barriers and capacity to handle existing and projected traffic levels in the Project Area and is operating with the following deficiencies within the Project limits:

- No sidewalks, bike lanes, center median or barrier, or lighting; and
- Congestion on and around the existing bridge due to high traffic demands and a limited number of lanes relative to areas north and south of the bridge.

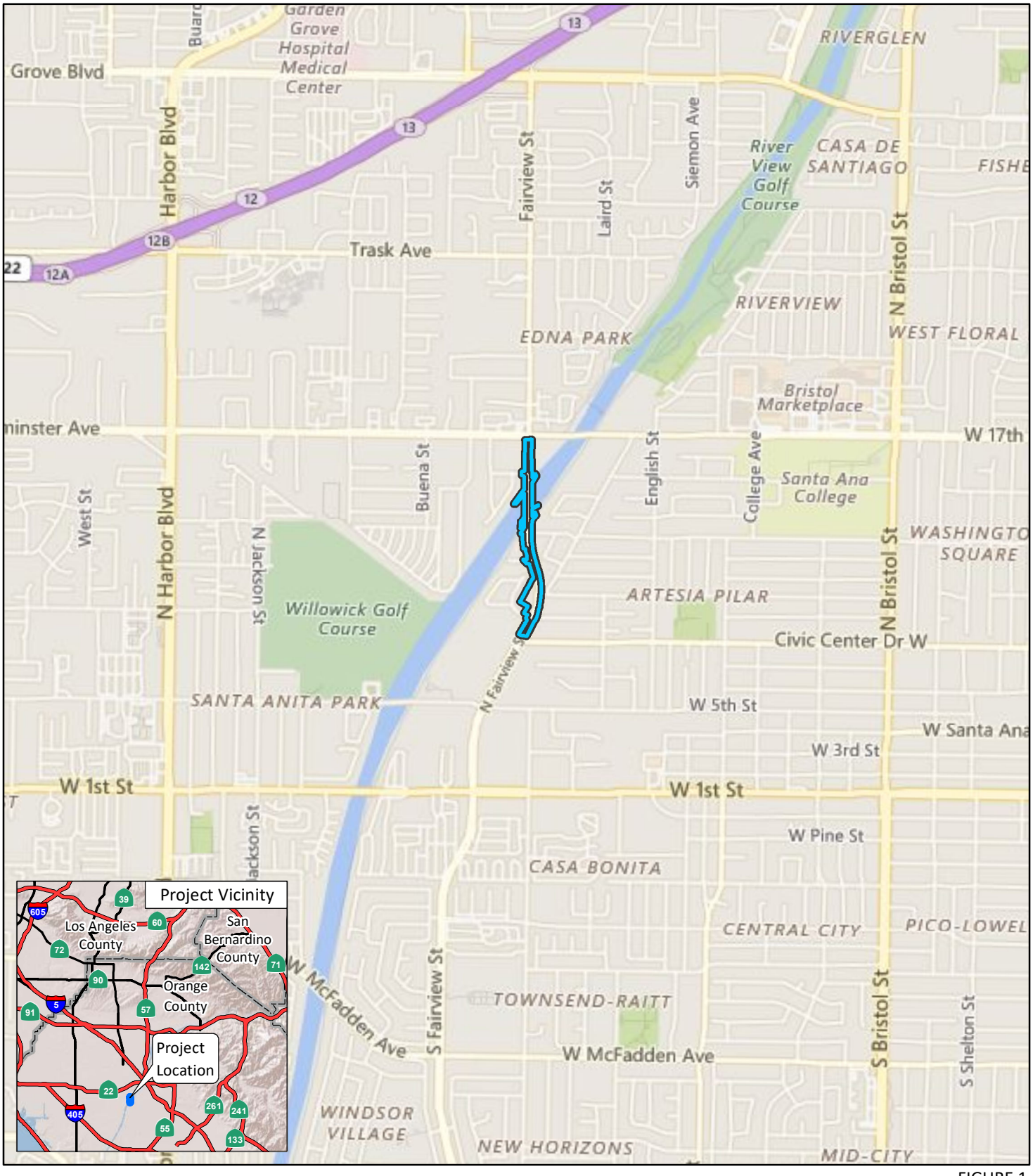
The purpose of the proposed Project is to improve pedestrian/bicyclist safety and traffic flow on and in the vicinity of Fairview Street bridge. The following goals/objectives have been identified for the proposed Project:

- Make the Fairview Street bridge design and capacity consistent with the Orange County Master Plan of Arterial Highways and the City of Santa Ana General Plan Circulation Element; and
- Provide for adequate vehicular capacity and greater pedestrian and bike safety on Fairview Street bridge.

As described below, the proposed Project would improve traffic flow and alleviate congestion in the study area. The proposed Project would also increase pedestrian safety at Fairview Street bridge by constructing new barrier rails, sidewalks, bicycle lanes, a raised median, and lighting on the proposed bridge structure.

Project Description. The proposed Project includes replacing the Fairview Street bridge over the Santa Ana River and widening Fairview Street between 9th Street and 16th Street. The proposed Project would widen Fairview Street from two lanes in each direction to three lanes in each direction in Santa Ana (refer to Figures 1 and 2). The Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting.

The proposed bridge would be expanded from approximately 52 feet (ft) to 100 ft in width and would have the same roadway profile as the existing bridge. The eight pier walls that support the existing bridge would be removed, and four new pier walls would be constructed to support the new bridge.



LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

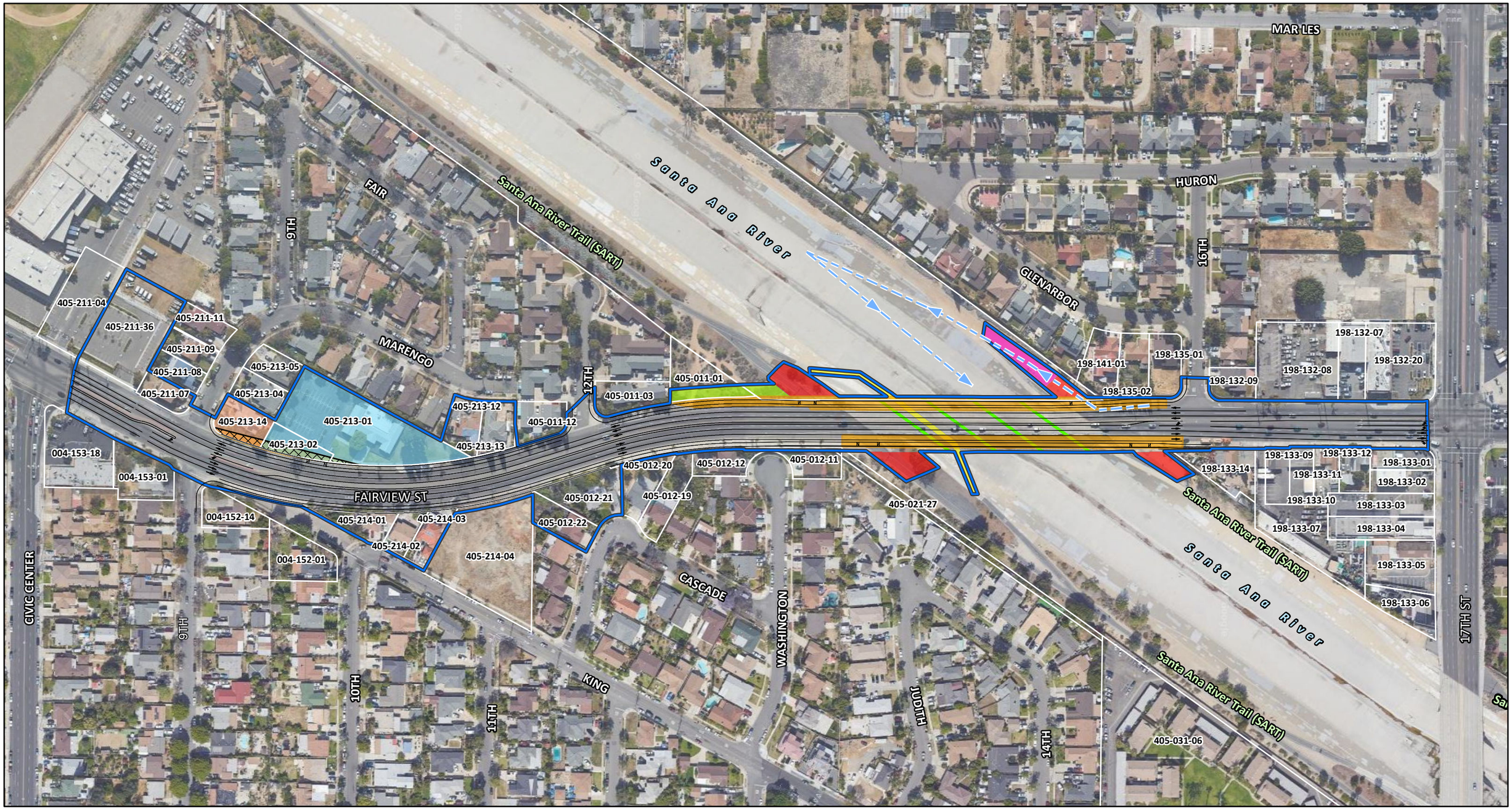
SOURCE: Bing (2015)

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Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Project Location

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LEGEND

- Project Area
- Proposed Roadway Widening
- Proposed Line of Sight Clearance
- Proposed Roadway Modifications
- Proposed Bridge Piers
- Partial Acquisition
- Full Acquisition
- Reconstruction of Access Road
- Potential Detour in River
- Grading / Revegetation / BMPS
- Construction Staging Area
- Proposed Construction Access

0 100 200
FEET

SOURCE: WKE (3/2018); Google (2016)

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FIGURE 2

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Proposed Project

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The proposed Project would include partial right-of-way acquisition from two parcels (two commercial parcels [Assessor's Parcel Numbers (APNs) 405-213-02 and 405-213-01]). The proposed Project would require one full residential acquisition (a multi-family residence; APN 405-213-14), as shown in Figure 2. Full acquisition of the residential property would be required, as the proposed road widening would result in the loss of a portion of the side yard and a corner of the structure.

Property acquisition is required to provide adequate line of sight (safe viewing distance) for vehicles turning onto Fairview Street from 9th Street. View obstructions taller than 2.5 ft (such as a property wall) would be removed to maintain line of sight. Access to all properties would be maintained during construction. The two commercial parcels with partial acquisitions would not require relocation or disruption to the current function of those properties.

An existing 12-inch water line and a bank of 12 phone conduits cross the Santa Ana River, suspended under the deck of the existing bridge. These utilities would be temporarily relocated during construction and then permanently relocated to the new bridge. In addition, there is the potential for relocation of one or more utility poles along the Project alignment.

Water quality best management practices (BMPs) would be included to treat storm water runoff such as a vegetated swale adjacent to Fairview Street in the Fairview Triangle rest area.

Fairview Street would remain open during the construction period with two southbound lanes and one northbound lane, with lanes shifted to one side of the bridge while the other side is replaced. Therefore, no detours would be required for vehicles traveling along Fairview Street. Access to properties would be maintained.

During construction, pedestrians and bicyclists would be detoured away from the Fairview Street bridge to the 17th Street bridge to cross the Santa Ana River by way of the Santa Ana River Trail (SART) between the hours of 9:00 a.m. and 7:00 p.m., when the gates to the SART are open and unlocked. After hours, pedestrians and bicyclists wishing to cross the Santa Ana River would be detoured to adjacent Santa Ana streets such as King Street.

Construction of the proposed Project would require temporary closures of a portion of the SART for the demolition and placement of the bridge superstructure. The SART includes a Class I bike path on the eastern side and a regional riding and hiking trail on the western side. The portion of the SART affected by Project construction would need to be temporarily closed four times for approximately 8 hours each time during two summer periods for the placement of precast concrete girders. During these periods, SART users would be detoured, and signage would be provided to display the dates of the closures and to identify the detour routes. Work on the north and south sides of the bridge would be completed during separate periods so that SART users can be detoured to the trail on the opposite side of the Santa Ana River at 5th Street (refer to Figures 3a and 3b for the detour plans). There are gates and ramps located on both sides of the SART at 5th Street that provide access to bicyclists and pedestrians for these detours. Details regarding the detour are being coordinated with Orange County (OC) Parks. Other short-term closures of up to 15 minutes would be allowed with flagmen.

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LEGEND

- Project Area
- NB Trail Detour
- SB Trail Detour
- Potential Detour in River
- Trail Closure

0 225 450
FEET

SOURCE: WKE (3/2018); Google (2016)

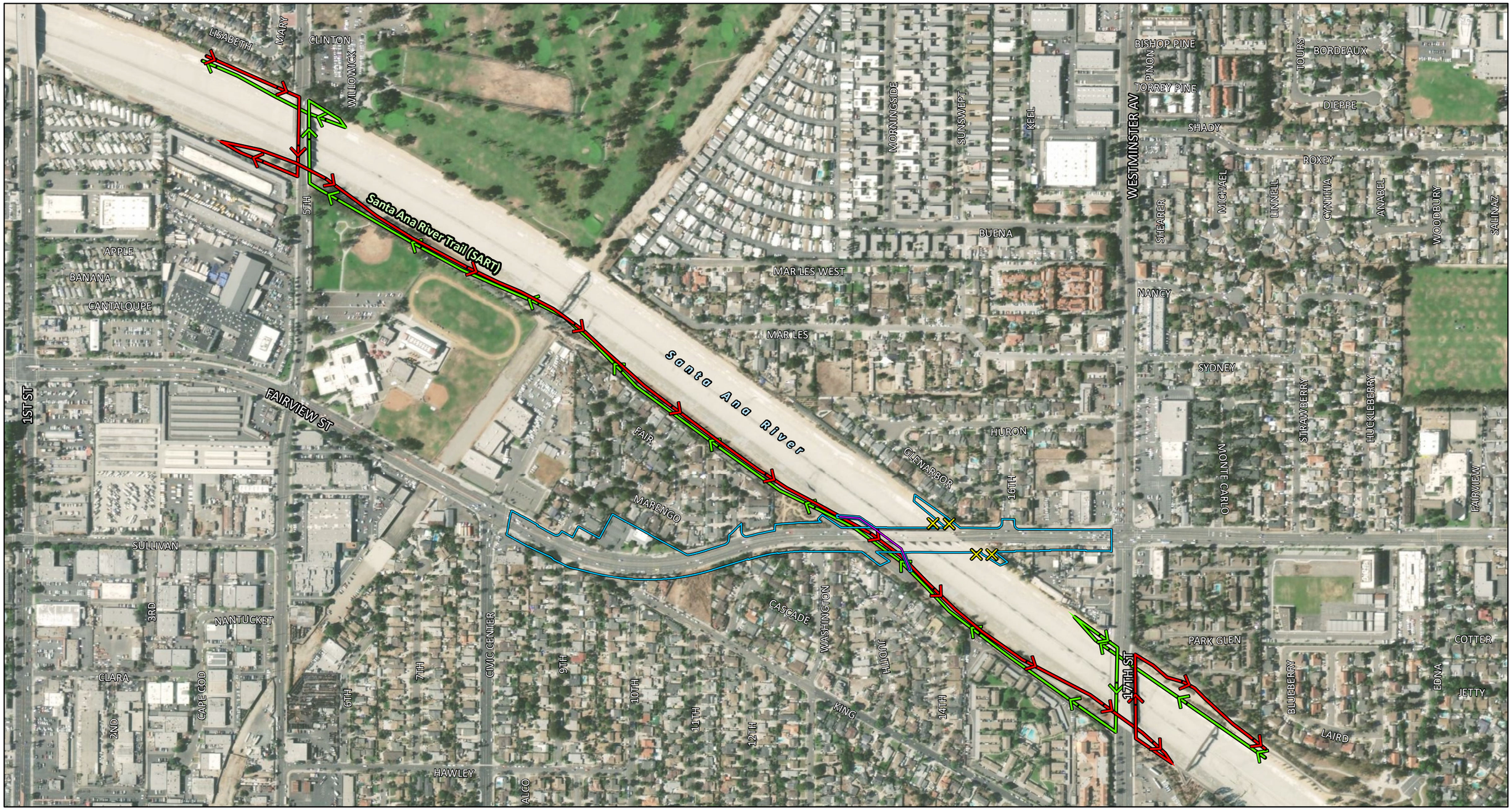
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FIGURE 3A

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Detour for Eastern Trail Closure

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LEGEND

- Project Area
- NB Detour
- SB Detour
- Potential Detour in River
- Trail Closure

0 225 450
FEET

SOURCE: WKE (3/2018); Google (2016)

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FIGURE 3B

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Detour for Western Trail Closure

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A temporary detour within the riverbed may be required as a contingency. This would involve construction of dirt and gravel ramps with asphalt topping to and from the SART and the riverbed as shown on Figure 2.

Construction vehicles would access the Santa Ana River from the gate and ramp at the County of Orange access road at the northwest corner of the bridge, and would use the existing concrete access ramp into the river approximately 250 ft west of the Project area (Figure 2). All access roads to the SART that are utilized by construction vehicles or for detour routes would be reconstructed and restored to preconstruction conditions or better prior to Project completion.

9. Surrounding Land Uses and Setting:

The Fairview Street bridge spans the Santa Ana River. The SART (Class I bikeway; i.e., an off-street bikeway) runs on the east side of the Santa Ana River. In addition, Fairview Street is surrounded by a variety of land uses, including single-family and multifamily residences, parks, restaurants, commercial uses, light industrial uses, and vacant lands.

10. Other Public Agencies Whose Approval Is Required (e.g., permits, financial approval, or participation agreements):

Approvals from the following agencies are required for the proposed Project:

- California Department of Transportation (Caltrans) Local Assistance Division: Roadway and Bridge Plans, National Environmental Policy Act (NEPA) compliance for use of federal funding, E-76 approval, and right-of-way certification
- United States Army Corps of Engineers (USACE): Compliance with the Nationwide Permit Program under Section 404 of the Clean Water Act and Section 408 of the Clean Water Act
- California Department of Fish and Wildlife (CDFW): Streambed Alteration Agreement under Section 1602 of the Fish and Game Code
- Santa Ana Regional Water Quality Control Board (RWQCB): Water Quality Certification under Section 401 of the Clean Water Act
- Orange County Flood Control District: Encroachment permits

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

California Native American tribes traditionally and culturally affiliated with the Project site and area were notified of the proposed Project on April 11, 2018. No tribes requested consultation pursuant to PRC Section 21080.3.1; therefore, the City has fulfilled its obligations pursuant to Assembly Bill (AB) 52.

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2.0 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" as indicated by the checklist in Chapter 3.0.

☐ Aesthetics	☐ Agriculture/Forestry 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

2.1 DETERMINATION

On the basis of this initial evaluation:

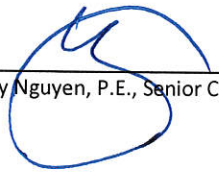
☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.



Kenny Nguyen, P.E., Senior Civil Engineer

4/1/20
Date

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
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 a 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?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

3.1.1 Existing Setting

The Project area is characterized by suburban development and is surrounded by residential, commercial, and recreational uses. The current City of Santa Ana (City) General Plan Scenic Corridors Element designates Fairview Street as a secondary City entries corridor. The City's General Plan defines secondary corridors as corridors provide "stitching" to link neighborhoods, District Centers, and Mixed Use Corridors together. Their continuity is interrupted by the primary corridors; these intersection points should be used to give the traveler a sense of entering major activity centers.

The California Department of Transportation (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the State Streets and Highways Code, Sections 260–263. State highways are classified as either Eligible for Scenic Designation, Officially Designated, or Connecting Federal Highway. Within Orange County, there is one Officially Designated State Scenic Highway (State Route 91 [SR-91]) and four Eligible State Scenic Highways (SR-1, SR-57, SR-74, and SR-91).[1]

3.1.2 Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

No Impact. Scenic vistas can generally be defined as natural landscapes that form views of unique flora, geologic, or other natural features that are generally free from urban intrusions. Typical scenic

[1] California Department of Transportation. 2011. *California Scenic Highway Mapping System, Orange County*. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed August 2019).

vistas include views of mountains and hills, large, uninterrupted open spaces, and waterbodies. Although the Fairview Street bridge crosses the Santa Ana River, this portion of the river is engineered and concrete-lined and does not contain vegetation. The Project area is not designated as a scenic vista by the City.

As identified above, Fairview Street is designed in the City's General Plan as a secondary City entries corridor. Although construction and operation of the proposed Project would result in a change in the visual environment, this change would be minimal because the proposed improvements would connect with the existing circulation system and would be similar to existing conditions. In addition, the proposed Project would replace the existing bridge structure with a new bridge of similar size and scale that would not block any of the existing views in the vicinity of the Project area. Therefore, the proposed Project would not substantially block or disrupt any views to scenic vistas compared to existing conditions. Therefore, there would be no impact to scenic vistas, and no mitigation is required.

b. 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. Scenic resources are isolated occurrences of aesthetically pleasing natural or human-made forms. Although the Fairview Street bridge crosses the Santa Ana River, this portion of the river is engineered and concrete-lined and does not contain vegetation. Views of the Santa Ana River are accessible from the existing Fairview Street bridge and from the Santa Ana River Trail (SART). The replacement of the existing Fairview Street bridge over the Santa Ana River would not create a change in the existing nature and magnitude of the SART, and would not block any of the existing views of the Santa Ana River.

The nearest scenic highways to the Project area include SR-1, located approximately 8 miles (mi) west of the Project, designated as a State Highway Eligible for State Scenic Highway, and SR-91, located approximately 8 mi northeast of the Project, designated as an Officially Designated State Scenic Highway. The Project area is not visible from either scenic highway as classified by the Caltrans Scenic Highway Program in Orange County. Therefore, the proposed Project does not have the potential to damage scenic resources from designated scenic highways. There would be no impact to scenic resources or historic buildings within a designated State Scenic Highway. No mitigation is required.

c. In non-urbanized areas, would the project 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 a 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?

No Impact. The Project area is located in an urban area and is surrounded by residential, commercial, and recreational uses. The visual character immediately surrounding the Project area is representative of a built-out urban area containing a mix of residential, commercial, and open space uses. Implementation of the proposed Project would result in a minimal change in the existing visual environment because the proposed improvements would connect with the existing circulation system and would be similar to existing conditions. In addition, the proposed Project would replace

the existing bridge structure with a new bridge of similar size and scale that would not block any of the existing views in the vicinity of the Project area. The proposed Project would also include a concrete barrier rail that would be integrated with the sidewalk on the bridge. Pedestrian-scale lights would be mounted on the concrete barrier rail on the bridge. The concrete barrier rail and street lights would be analyzed and determined during final design; however the proposed barrier rail and lights would be compatible with the existing character of the neighborhood and would be similar in concept to the First Street bridge over the Santa Ana River. The proposed materials and design of the proposed Project improvements would be consistent with the existing visual environment. In addition, the proposed Project is consistent with current zoning and applicable development standards, and with the General Plan Land Use designation and applicable General Plan policies. No impacts would occur, and no mitigation is required.

d. 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 with Mitigation Incorporated. Fairview Street currently includes street lighting; however, the existing bridge structure does not have any street lighting. The proposed Project would include street lighting to improve safety on the bridge. As identified above, the proposed Project would also include a concrete barrier rail that would be integrated with the sidewalk on the bridge and would include mounted pedestrian-scale lights. These fixtures would be analyzed and determined during final design; however the proposed barrier rail and street lights would be compatible with the existing character of the neighborhood and would be similar in concept to the First Street bridge over the Santa Ana River. In addition, proposed street lighting would be typical of pole-mounted street lights used for bridges in the City, with lighting directed onto the roadway. The bridge would not include any reflective components that could increase glare. With implementation of Mitigation Measure AES-1, proposed street lighting would not result in excess illumination and light spillover to the Santa Ana River. Therefore, the proposed Project's potential light and glare impacts on daytime or nighttime views in the Project area would be less than significant with mitigation.

3.1.3 Mitigation Measures

Mitigation Measure AES-1 **Street Lighting.** Low-light level, energy-efficient, and directed illumination, and separate pedestrian-scale lighting integrated with an aesthetically enhanced bridge barrier shall be specified in the design and construction of the proposed Project.

3.2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.2.1 Existing Setting

Maps of designated farmlands are compiled by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), pursuant to the provisions of Section 65570 of the California Government Code. These maps use data from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey and current land use information utilizing eight mapping categories, and represent an inventory of agricultural resources within the State. The maps depict currently urbanized lands and a qualitative sequence of agricultural designations. Maps and statistics are produced biannually using a process that integrates aerial photo interpretation, field mapping, a computerized mapping system, and public review. Orange County FMMP maps were reviewed to determine the potential for impacts to farmland as a result of the proposed Project.

3.2.2 Impact Analysis

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 Project area is classified as Urban and Built-Up Land, according to the FMMP.[2] The Project area is not located on land that is designated as Prime Farmland or Farmland of Statewide

[2] California Department of Conservation. 2014. *Orange County Important Farmland 2014*. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/ora14.pdf (accessed August 2019).

Importance. Therefore, implementation of the proposed Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the Orange County Important Farmland Map, to a nonagricultural use. The proposed Project would not convert any farmland to a nonagricultural use. Therefore, there would be no impact, and no mitigation is required.

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

No Impact. The Project area consists of low-density residential, open space, and general commercial land uses as designated by the City General Plan Land Use Element.[3] There are no agricultural uses on or in the vicinity of the Project area. In addition, the Project area is not enrolled in a Williamson Act contract.[4] Therefore, the proposed Project would not conflict with any zoning for agricultural uses or any Williamson Act contract, and no impacts would occur. No mitigation is required.

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

No Impact. As stated above, the Project area consists of low-density residential, open space, and general commercial land uses. The Santa Ana River, which runs directly underneath the Fairview Street bridge, is zoned for open space use. As stated above, no land on or in the vicinity of the Project area is zoned for agricultural uses. There are no existing agricultural or farmland operations on the Project site or in the surrounding area. Therefore, the proposed Project would not conflict with existing zoning for forest land or timberland, and no impacts would occur. No mitigation is required.

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

No Impact. As stated above, no land on or in the vicinity of the Project area is zoned for forest land. Therefore, the proposed Project would not result in the loss of forest land or the conversion of forest land to nonforest use, and no impacts would occur. No mitigation is required.

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 stated above, no land on or in the vicinity of the Project site is zoned for agricultural or forest land. The proposed Project would not include other changes in the existing environment that would result in conversion of farmland to nonagricultural use, or forest land to nonforest use. Therefore, no impacts would occur. No mitigation is required.

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3 City of Santa Ana. 1998b. *City of Santa Ana General Plan Land Use Element.* February 2.

4 California Department of Conservation. 2014. op. cit.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. 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?	☐	☒	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Existing Setting

The following section is based on air quality modeling and analysis conducted by LSA. The air quality modeling worksheets are provided in Appendix B.

The Project area is located within Santa Ana, which is part of the South Coast Air Basin (Basin). The Basin includes all of Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality within the Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD adopted the 2016 Air Quality Management Plan (AQMP) in March 2017.[5]

The main purpose of an AQMP is to describe air pollution control strategies that will bring the area into attainment in a timely manner. A nonattainment area is considered to have worse air quality than the National Ambient Air Quality Standards (NAAQS) and/or the California Ambient Air Quality Standards (CAAQS), as defined in the federal Clean Air Act. The Basin is in nonattainment for the federal and State standards for ozone (O_3) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). In addition, the Basin is in nonattainment for the State particulate matter less than 10 microns in diameter (PM_{10}) standard, and in attainment/maintenance for the federal PM_{10} and carbon monoxide (CO) standards.

For transportation-related projects, the most effective way to reduce air pollution impacts is to reduce emissions from mobile sources, the principal contributor to the air basin. The 2016 AQMP also includes transportation control measures developed by the Southern California Association of Governments (SCAG) from the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2016–2040 RTP/SCS includes chapters on the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and State requirements placed on SCAG. Local

[5] South Coast Air Quality Management District. 2016. *Final 2016 Air Quality Management Plan*. March.

governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under the California Environmental Quality Act (CEQA).

3.3.2 Impact Analysis

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

No Impact. Consistency with the 2016 AQMP for the Basin would be achieved if a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and State air quality standards. Per the SCAQMD California Environmental Quality Act Air Quality Handbook,[6] there are two main indicators of a project's consistency with the applicable AQMP: (1) whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the 2016 AQMP; and (2) whether the project would exceed the 2016 AQMP's assumptions for 2030 or yearly increments based on the year of project buildout and phasing.

For the proposed Project to be consistent with the AQMP, the project should be listed in the RTP/SCS. The proposed Project is listed in the financially constrained list of projects in the 2016 RTP/SCS under RTP ID: 2A0704 and listed in the Federal Transportation Improvement Program (FTIP) under ID# ORA170007. The 2017 FTIP Consistency Amendment 17-18 was approved by SCAG on February 23, 2018, and by the Federal Transit Administration (FTA)/Federal Highway Administration (FHWA) on March 26, 2018. The design concept and scope of the proposed Project is consistent with the project description in the 2016 RTP and 2017 FTIP and the "open to traffic" assumptions of SCAG's regional emissions analysis. Therefore, the proposed Project would not conflict with or obstruct implementation of the AQMP, and no impacts would occur.

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 with Mitigation Incorporated. The SCAQMD is currently designated as nonattainment for the federal and State standards for O_3 and $PM_{2.5}$. In addition, the Basin is in nonattainment for the State PM_{10} standard. The SCAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

6 South Coast Air Quality Management District. 1993. CEQA Air Quality Handbook. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993) (accessed June 2019).

In developing thresholds of significance for air pollutants, the SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the proposed Project.

The SCAQMD used the NAAQS/CAAQS emission concentrations as a guide to establish the CEQA project-level thresholds for reactive organic gases (ROG), oxides of nitrogen (NO_X), CO, sulfur dioxide (SO_2), PM_{10}, and $PM_{2.5}$. The SCAQMD has established thresholds of significance for criteria pollutant emissions generated during both construction and operation of projects as shown in Table 3.3.A below.

Table 3.3.A: SCAQMD Construction and Operation Thresholds of Significance (lbs/day)

	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Thresholds	75	100	550	150	150	55
Operation Thresholds	55	55	550	150	150	55

Source: SCAQMD (1993).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
ROG = reactive organic gases
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide

The following sections describe the proposed Project's construction- and operation-related air quality impacts.

Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are anticipated and would include CO, NO_X, ROG, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants (TACs; e.g., diesel exhaust particulate matter).

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, and paving roadway surfaces. Construction-related effects on air quality from most roadway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate CO, NO_X, ROG, PM_{10}, and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after drying. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would also depend on soil moisture, the silt content of soil, wind speed, and the amount of equipment operating at the time. Larger dust

particles would settle near the source, while finer particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, NO_X, ROG, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site. Areas within 500 feet (ft) of California Air Resource Board (CARB) defined sensitive land uses would be labeled as no-idle areas where material storage/transfer and equipment maintenance activities are not to occur.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 parts per million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under State law and CARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so SO_2-related issues due to diesel exhaust would be minimal.

The construction emissions were estimated for the proposed Project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0, which is consistent with the guidance provided by the SCAQMD for evaluating construction impacts from roadway projects. The maximum amount of construction-related emissions during a peak construction day is presented in Table 3.3.B. The PM_{10} and $PM_{2.5}$ emissions assume a 50 percent control of fugitive dust as a result of watering and associated dust-control measures.[7] The Project construction emissions presented below are based on the best information available at the time of calculations and specify that the schedule for Project construction is anticipated to take approximately 2 years.

As shown in Table 3.3.B, with the implementation of standard construction measures (providing 50 percent effectiveness) such as frequent watering (e.g., a minimum of twice per day), construction emissions associated with the proposed Project would be less than significant for ROG, CO, PM_{10}, and $PM_{2.5}$ emissions; however, NO_x emissions would exceed the SCAQMD threshold, resulting in a potentially significant impact. Additional emission reduction methods such as applying water or a dust palliative, a dust control plan, track-out reduction measures, equipment maintenance, spill control, and reducing vehicle idling are necessary to avoid substantial criteria pollutant impacts. Mitigation Measure AQ-1 includes these emission reduction methods and an additional measure to require cleaner engines. Table 3.3.C shows the proposed Project's mitigated construction emissions.

7 South Coast Air Quality Management District. 2007. *Fugitive Dust Mitigation Measure Tables. Table XI-A: Construction & Demolition*. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/fugitive-dust (accessed November 2019).

Table 3.3.B: Maximum Daily Project Construction Emissions without Mitigation

Project Phase	ROG	CO	NO_X	Total PM_{10}	Total $PM_{2.5}$
Grubbing/Land Clearing (lbs/day)	2.47	20.23	28.14	8.71	1.67
Grading/Excavation (lbs/day)	17.10	125.59	198.35	15.98	8.52
Drainage/Utilities/Subgrading (lbs/day)	10.86	85.86	118.05	12.81	5.55
Paving (lbs/day)	2.89	31.02	29.87	1.73	1.64
Maximum (lbs/day)	**17.10**	**125.59**	**198.35**	**15.98**	**8.52**
SCAQMD Threshold (maximum lbs/day)	**75.0**	**550.0**	**100.0**	**150.0**	**55.0**
Exceeds?	**No**	**No**	**Yes**	**No**	**No**

Source: Sacramento Metropolitan Air Quality Management District *Road Construction Emissions Model* (May 2018), compiled by LSA (July 2018).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gases
SCAQMD = South Coast Air Quality Management District

Table 3.3.C: Maximum Daily Project Construction Emissions with Mitigation

Project Phase	ROG	CO	NO_X	Total PM_{10}	Total $PM_{2.5}$
Grubbing/Land Clearing (lbs/day)	1.39	26.74	4.94	7.76	1.77
Grading/Excavation (lbs/day)	7.94	150.72	17.92	8.54	2.41
Drainage/Utilities/Subgrading (lbs/day)	4.96	95.18	12.94	8.23	2.16
Paving (lbs/day)	1.82	35.13	9.10	0.42	0.32
Maximum (lbs/day)	**7.94**	**150.72**	**17.92**	**8.54**	**2.41**
SCAQMD Threshold (maximum lbs/day)	**75.0**	**550.0**	**100.0**	**150.0**	**55.0**
Exceeds?	**No**	**No**	**No**	**No**	**No**

Source: Sacramento Metropolitan Air Quality Management District *Road Construction Emissions Model* (May 2018), compiled by LSA (July 2018).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gases
SCAQMD = South Coast Air Quality Management District

As shown in Table 3.3.C, with the implementation of standard construction measures (providing 50 percent effectiveness) such as frequent watering (e.g., a minimum of twice per day) as well as other emission reduction methods specified in Mitigation Measure AQ-1, all criteria pollutant emissions would be below SCAQMD daily thresholds. Fugitive dust, exhaust, and NO_x emissions from construction activities would not 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. Therefore, impacts would be less than significant with mitigation incorporated.

Long-Term (Operational) Emissions. The purpose of the proposed Project is to improve pedestrian/bicyclist safety and traffic flow on and in the vicinity of the Fairview Street bridge. The proposed Project would not construct or permit the construction of any trip-generating land uses. Because the Project would add lane capacity to the Fairview Street bridge, some traffic currently using other routes would use the widened Fairview Street bridge, which would

increase VMT in the area, which could increase criteria pollutant emissions. On the other hand, the improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which would have the potential to reduce vehicle trips and increase the use of alternate means of transportation. Therefore, the Project would not result in a significant increase in the generation of vehicle trips that would increase criteria pollutant emissions. The proposed Project would result in low levels of off-site emissions due to energy generation associated with lighting along the roadway segment and the Fairview Street bridge. However, these emissions would be minimal and would not exceed the pollutant thresholds established by the SCAQMD.

In addition, the Project's Traffic Impact Analysis (TIA; Appendix A) shows that the intersections of Fairview Street/17th Street and Fairview Street/9th Street operate at unsatisfactory level of service (LOS) E or worse during one or both peak hours in existing conditions. The unsatisfactory LOS (average vehicle delay at intersections in the Project area) cause more idling emissions to occur.

The proposed widening of Fairview Street from four through lanes to six through lanes between 9th Street and 16th Street would accommodate future traffic volumes with satisfactory LOS. The increase in traffic capacity would increase average vehicle speeds and reduce the average vehicle delay during peak-hour traffic, both of which would reduce the rate of vehicle emissions. Therefore, the proposed Project would result in a beneficial impact to regional and local air quality. As a result, Project operation would not 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, and no mitigation is required.

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

Less Than Significant with Mitigation Incorporated. Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors include the single-family and multifamily residences located adjacent to Fairview Street. In addition, the REACH Academy Community Day Intermediate and High School is located adjacent to the southern border of the Project site.

Construction of the proposed Project may expose these surrounding sensitive receptors to airborne particulates and fugitive dust, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). The Construction Contractor would be required to minimize emissions by following standard construction practices and complying with SCAQMD rules (i.e., Rules 402 and 403). Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. As described in Response 3.3.2(b), additional construction emissions reduction methods would be implemented as specified in Mitigation Measure AQ-1. With implementation of Mitigation Measure AQ-1, sensitive receptors would not be exposed to substantial pollutant concentrations during construction.

As discussed above, increase in traffic capacity would increase average vehicle speeds and reduce the average vehicle delay during peak-hour traffic, both of which would reduce the rate of vehicle emissions. Therefore, the proposed Project would result in a beneficial impact to regional and local air quality. As such, the proposed Project would not result in an increase in air pollution compared to existing conditions. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project operation.

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. SCAQMD's *CEQA Air Quality Handbook* identifies various secondary significance criteria related to odorous air contaminants. Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills, or heavy manufacturing uses. The proposed Project does not include any such uses or activities that would result in other emissions such as those leading to odors. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during construction of the proposed Project that could be noticed by people adjacent to the construction area. However, these construction odors would be limited to the construction period, would disperse quickly, and would not adversely affect a substantial number of people. Therefore, construction impacts would be less than significant, and no mitigation is required.

The proposed Project would consist of road widening and bridge replacement, which would not produce other emissions leading to odors that would adversely affect a substantial number of people. Project operation impacts would be less than significant, and no mitigation is required.

3.3.3 Mitigation Measures

Mitigation Measure AQ-1 **Construction Emissions Control.** The Construction Contractor will adhere to the following procedures during construction and will provide the City of Santa Ana (City) Public Works Director or designee with documentation that these procedures were implemented during construction activities:

- The contractor will adhere to the Greenbook (2018 or most current) specification: Section 3-12.2 Air Pollution Control. The Contractor will not discharge smoke, dust, equipment exhaust, or any other air contaminants into the atmosphere in such quantity as will violate any federal, State, or local regulations. The contractor will also abate dust nuisance by cleaning, sweeping and spraying with water, or other means as necessary.

- The contractor will adhere to the Caltrans Standard Specifications for Construction, Sections 14.9-01, 14.9-02, 14-9.03, 18-1.02C, and 18-1.03 (or Greenbook [2018 or most current] equivalent specifications). Section 14-9-02 specifically

requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

- Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line in compliance with the SCAQMD Rule 403 (Fugitive Dust).

- Soil binder will be spread on any unpaved roads used for construction purposes, and on all Project construction parking areas (providing an estimated 50 percent reduction of fugitive emissions) in compliance with the SCAQMD Rule 403 (Fugitive Dust).

- Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions in compliance with the SCAQMD Rule 403 (Fugitive Dust).

- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low-sulfur fuel as required by CCR Title 17, Section 93114.

- A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities in compliance with the SCAQMD Rule 403 (Fugitive Dust).

- Equipment and material storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly in compliance with the SCAQMD Rule 402 (Nuisance).

- Environmentally sensitive areas will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited to the extent feasible [as required by CCR Title 13, Section 2485(c)].

- Track-out reduction measures will be used, such as gravel pads at Project access points to minimize dust and mud deposits on roads affected by construction traffic, in accordance with the

State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4).

- All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation in compliance with the SCAQMD Rule 403.

- Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce PM emissions [State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4)].

- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times (consistent with the traffic control plan approved by the City of Santa Ana Traffic Engineer).

- Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown PM in the area. Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may require controls such as dampened straw [Caltrans Standard Specifications for Construction, Sections 18.1-02C (Dust Control Binders) and 18-1.03 (Construction – Dust Palliatives) or Greenbook (2018 or most current) equivalent].

- During demolition, clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized to prevent excessive amounts of dust. These control techniques will be indicated in Project specifications. Visible dust beyond the property line

emanating from the Project will be prevented to the maximum extent feasible.

- Project construction plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.

- All trucks that are to haul excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

- Construction activities will adhere to the City Special Provisions, Greenbook (2018 or most current) standard specifications, or California Department of Transportation (Caltrans) Standard Specifications for Construction, Sections 14-9.02 and 14-9.03, as applicable.

- Should the Project geologist determine that asbestos-containing materials (ACMs) are present at the Project area during final inspection prior to construction, the appropriate methods will be implemented to remove ACMs.

- All construction vehicles both on and off site shall be prohibited from idling in excess of 5 minutes.

- The Construction Contractor shall require that all off-road diesel-powered construction equipment with greater than 50 horsepower used for the Project meets the California Air Resources Board Tier 4 emissions standards.

3.4 BIOLOGICAL RESOURCES

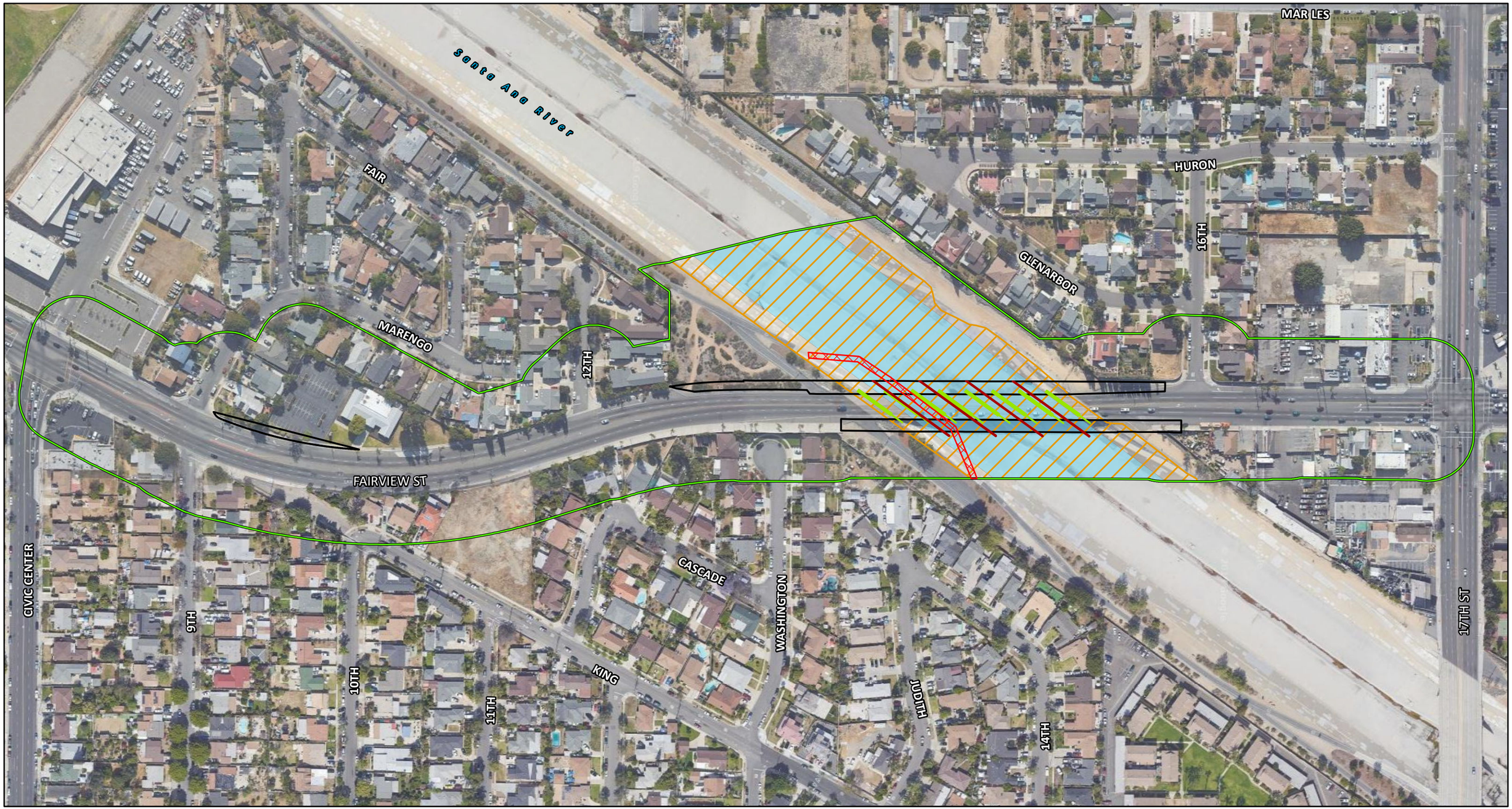
	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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 Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.4.1 Existing Setting

The discussion of existing biological resources in, and in the vicinity of, the Project area and the analyses of the potential effects of the proposed Project on those resources provided in this section are based on the Natural Environment Study[8] (NES; Appendix A) for the Project.

The Biological Study Area (BSA) is located in Santa Ana in Orange County along Fairview Street between Civic Center Drive and 17th Street, as shown in Figure 4. The 27.32-acre (ac) BSA encompasses the Project direct impact areas (temporary and permanent) as well as a buffer area to account for any potential proximity effects (e.g., noise, vibration, dust, or lighting) that may occur outside the direct impact areas.

[8] LSA. 2018a. *Natural Environment Study (Minimal Impacts)*. December.



LSA

LEGEND

- Biological Study Area (BSA)
- Existing Pier Walls (0.09 acres total)
- Proposed Pier Walls (0.05 acres total)
- Potential Bike Detour in River*
- Proposed Roadway Widening
- Corps of Engineers (4.18 acres)
- CDFW (5.55 acres)

*Note: Potential bike detour footprint is approximate.

0 100 200
FEET

SOURCE: Google (2018)

I:\WKE1702\GIS\AquaticResources.mxd (2/17/2020)

FIGURE 4

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Aquatic Resources

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The BSA is almost entirely developed with residential, commercial, and transportation uses. Vegetation within the BSA primarily consists of ornamental trees and shrubs, lawns, and several disturbed and barren areas. Fairview Triangle Park contains ornamentally planted native trees and shrubs, and is located in the central portion of the BSA adjacent to the Santa Ana River.

Elevations range from approximately 80 to 95 ft above mean sea level (amsl) across the entire BSA. The topography of the BSA gently slopes downhill from east to west. The climate is classified as Mediterranean (i.e., arid climate with hot, dry summers and moderately mild, wet winters), with the average annual precipitation being 13.6 inches. Although most of the precipitation occurs from November through March, thunderstorms may occur at other times of the year and can cause high precipitation rates. On average, monthly high temperatures range between 69 degrees Fahrenheit (°F) and 85°F, and monthly low temperatures range between 46°F and 64°F.

The proposed Project is located within the Santa Ana River Watershed, which covers an area of approximately 210 square miles (sq mi) in Orange County. The headwaters of the entire 2,650 sq mi Santa Ana River Watershed begin in the San Bernardino Mountains and cross Riverside and Orange Counties before ultimately entering the Pacific Ocean. Flows within the Santa Ana River can be attributed to storm water runoff, urban runoff, and treated wastewater.

3.4.1.1 Biological Conditions in the Study Area

The primary vegetation/land cover type in the BSA is classified as developed with four subtypes, including flood control channel, transportation, ornamental landscaping, and disturbed or barren. The BSA is located within urban portions of Santa Ana with no connection to undisturbed or natural lands.

3.4.1.2 Habitats and Natural Communities of Concern

Jurisdictional Waters. Section 404 of the Clean Water Act (CWA) and Section 1602 of the California Fish and Game Code regulate activities affecting resources under the jurisdiction of the United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife (CDFW), respectively. “Waters of the United States” under the jurisdiction of USACE include navigable coastal and inland waters, lakes, rivers, and streams and their tributaries; interstate waters and their tributaries; wetlands adjacent to such waters; intermittent streams; and other waters that could affect interstate commerce.

The BSA contains one jurisdictional drainage feature (the Santa Ana River), as discussed in further detail in the corresponding *Jurisdictional Delineation Report* (Appendix D of the NES).

Special-Status Plant Species. Plant species are considered to be of special concern based on the following: (1) federal, State, or local laws regulating impacts to them; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring in the vicinity of the BSA. One plant species (Ventura marsh milk-vetch), which is federally and State-listed as endangered, was identified by the United States Fish and Wildlife Service (USFWS) as potentially occurring within the vicinity of the BSA, although there are no known nearby occurrence records. The CDFW California Natural Diversity Database (CNDDB) indicated three additional special-status plant species (Gambel’s water cress, salt spring checkerbloom, and chaparral sand-verbena) with

historical occurrences within 3 mi of the BSA. However, all of these historical occurrences are presumed extirpated, and no suitable habitat for these plant species occurs within the BSA.

Special-Status Animal Species. Animal species are considered to be of special concern based on the following: (1) federal, State, or local laws regulating impacts to them; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring in the vicinity of the site. The coastal California gnatcatcher is the only listed species identified by the USFWS as potentially occurring within the vicinity of the BSA.[9] However, there are no known occurrences of this species within the BSA or immediate vicinity, and suitable habitat for the species is absent from the BSA. The CNDDB indicated six additional special-status wildlife species (coast horned lizard, Crotch bumble bee, western yellow-billed cuckoo, California black rail, peregrine falcon, and western mastiff bat) with historical occurrences within 3 miles of the BSA. However, most of these historical occurrences are presumed extirpated and, with the exception of marginally suitable habitat for western mastiff bat, suitable habitat for these wildlife species is absent from the BSA.

The BSA contains suitable habitat for two nonlisted, special-status avian species identified in the CNDDB records search (Cooper's hawk and California horned lark). The existing Fairview Street bridge also contains suitable roosting habitat for several common and nonlisted, special-status bat species, and foraging habitat for these bat species is present within the BSA along the Santa Ana River. Each of these species is discussed in further detail below.

3.4.2 Impact 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 Game or U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated. Potential impacts to special status species are described below.

Special-Status Plant Species. Based on survey results, no special-status plant species were observed or are expected to occur within the BSA due to a lack of suitable habitat. A list of plant species observed in the BSA during the surveys is included in Appendix B of the NES. Therefore, the proposed Project is not expected to affect any special-status plant species because they are considered absent from the BSA. As such, no compensatory mitigation or minimization measures are warranted because special-status plant species are considered absent from the BSA.

Special-Status Animal Species. As indicated above, the BSA contains suitable habitat for two nonlisted, special-status avian species identified in the CNDDB records search (the Cooper's hawk and California horned lark). The existing Fairview Street bridge also contains suitable roosting habitat for several common and nonlisted, special-status bat species, and foraging

[9] United States Fish and Wildlife Service. 2018. *Information, Planning, and Conservation System (IPaC) Trust Resource Report*. Website: https://ecos.fws.gov/ipac/ (accessed February 2018).

habitat for these bat species is present within the BSA along the Santa Ana River. Each of these species is discussed in further detail below.

- **Cooper's Hawk.** The Cooper's Hawk is a medium-sized raptor that occurs in wooded areas and is frequently encountered in urban areas with mature trees and open foraging areas such as parks. It is a California Special Animal, which is an administrative designation made by the CDFW and carries no formal legal status. However, Section 15380 of the *State CEQA Guidelines* indicates that these species should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein. The species is fairly common within the vicinity of the BSA and urban areas that contain large trees and open fields. Several mature ornamental trees located along the streets and residential areas within the BSA serve as potentially suitable nesting habitat for this species.

  The Cooper's hawk is the only special-status animal species observed within the BSA during the field surveys. An individual Cooper's hawk was observed flying over the BSA and perching on several large trees during the survey conducted on February 20, 2018. No evidence of nesting by this species was observed in the BSA during the surveys, and mature trees are limited in number within the BSA.

  The proposed Project is not expected to directly or adversely impact the Cooper's hawk because potentially suitable nesting habitat is limited in the BSA, and the removal of ornamental vegetation along Fairview Street would not impact suitable nesting habitat for this species. However, potential impacts to the Cooper's hawk and other nesting birds protected under the California Fish and Game Code would be mitigated by avoiding disruptions to nesting activity consistent with the Fish and Game Code. Mitigation Measure BIO-1, as detailed in Section 3.4.3 (Mitigation Measures BIO-1 through BIO-9), includes specific requirements to conduct a preconstruction nesting bird survey if vegetation removal, construction, or grading activities are planned to occur within the nesting bird season (February 1 to September 30) consistent with CDFW requirements.

  With implementation of Mitigation Measure BIO-1, potential impacts to the Cooper's hawk and other nesting birds would be less than significant.

- **California Horned Lark.** The California horned lark is a small songbird that is known to occur within the vicinity of the BSA. It is a subspecies of horned lark and is considered a California Special Animal, which is an administrative designation made by the CDFW and carries no formal legal status. However, Section 15380 of the *State CEQA Guidelines* indicates that these species should be included in an analysis of Project impacts if they can be shown to meet the criteria of sensitivity outlined therein. The subspecies utilizes open grasslands and fields and prefers bare ground for nesting. Several disturbed or barren areas in the BSA provide potentially suitable habitat for this subspecies, but it is considered marginal because of the proximity to busy urban streets and associated anthropogenic disturbances.The field survey was conducted during the breeding season, and no California horned larks were observed in or near the BSA.

The proposed Project is not expected to impact the California horned lark because it has a low probability of occurrence in the BSA. During the breeding season, the California horned lark is the only subspecies of horned lark in nondesert Southern California; however, from September through April or early May, other subspecies visit the area. Like the Cooper's hawk, impacts to the California horned lark would be mitigated by avoiding disruptions to nesting activity consistent with the Fish and Game Code. Mitigation Measure BIO-1, as identified above, includes specific requirements to conduct a preconstruction nesting bird survey if vegetation removal, construction, or grading activities are planned to occur within the nesting bird season (February 1 to September 30) consistent with CDFW requirements. Therefore, with implementation of Mitigation Measure BIO-1, potential impacts to the California horned lark would be less than significant.

- **Special-Status Bat Species.** The BSA contains potentially suitable habitat for seven special-status bat species. Two of these species are considered California Special Animals (the Yuma myotis and hoary bat), and the remaining five bat species are California Species of Special Concern (the pallid bat, western mastiff bat, southwestern yellow bat, pocketed free-tailed bat, and big free-tailed bat). "Species of Special Concern" is an administrative designation from the CDFW and carries no formal legal status. However, all bat species (regardless of listing status) and other nongame mammals are protected by California Fish and Game Code Section 4150, which states that all nongame mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the California Fish and Game Commission. Activities resulting in the mortality of nongame mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats) or disturbance that results in the loss of a maternity colony of bats (including the death of young) may be considered a "take" by the CDFW. Furthermore, any structure occupied by a bat maternity colony of any species is considered a native wildlife nursery site that is essential to the viability of local populations.Many bats use crevices or hollow cavities in bridges and culverts as day roosts and/or the open spaces between bridge beams or girders for night roosting. Bat species that commonly use human-made structures for day and/or night roosting include the pallid bat and Yuma myotis. Other species that may use these types of roosts occasionally include the western mastiff bat, pocketed free-tailed bat, and big free-tailed bat, although the pocketed free-tailed bat and big free-tailed bat are more commonly found in rocky desert areas and are considered rare in California. Bats may also roost in trees situated in the vicinity of human-made structures. Although bat roosts in structures can be relatively easy to identify, tree roosts are more cryptic and require close examination. Some species of bats (e.g., the western yellow bat and hoary bat) day roost in the foliage of trees. Other bat species (e.g., the pallid bat) commonly day roost in crevices or cavities found in mature trees and snags.

  Within the BSA, suitable bat roosting habitat is present within the existing Fairview Street bridge, and suitable foraging habitat is present along the Santa Ana River.

  The Fairview Street bridge over the Santa Ana River is a concrete tee beam bridge. This type of bridge contains structural elements that are suitable for and commonly used by both day- and night-roosting bats. Crevice habitat suitable for day-roosting bats (including maternity

colonies) is present in the two hinges and in portions of a longitudinal joint near the middle of the structure, while night-roosting habitat is present throughout the bridge structure in the spaces between the concrete girders (refer to Appendix C, Representative Site Photos, of the NES). These girders form cavities in the underside of the bridge deck that trap warm air and offer shelter from the wind. Cliff swallow mud nests were also present throughout the girders of the bridge at the time of the assessment. The swallow mud nests may also provide day-roosting habitat for bat species, including the Yuma myotis and Mexican free-tailed bats, which have been documented day roosting in swallow mud nests and may use the mud nests observed on the bridge structure.

Although the Santa Ana River is unvegetated and concrete-lined in the vicinity of the Fairview Street bridge, water within the channel as well as ornamental vegetation associated with nearby residences provides foraging habitat for a variety of bat species, thereby increasing the likelihood that this structure is used for roosting.

No bats were observed during the daytime habitat assessment or the nighttime emergence survey; however, some scattered guano was observed beneath the hinges, confirming the use of these crevices by individual bats.

A concrete double-box culvert is situated within 300 ft of the Fairview Street bridge over the Santa Ana River. This culvert structure was not entered during the assessment because the entrances to each box were partially gated and because there were indications of human habitation, both of which presented potential safety considerations and reduced the likelihood that roosting bats were present.

Since the existing Fairview Street bridge over the Santa Ana River will be demolished for the proposed Project, potential direct and indirect impacts to roosting bats may occur. However, there is no evidence of maternity colonies roosting within the BSA. Potential impacts to bats would be mitigated by avoiding potential for take of individual roosting bats, incorporating alternate bat roosting habitat into the design of the new bridge, removing swallow nests in the fall (i.e., September or October) and ensuring they do not fall to the ground or are otherwise destroyed, minimizing indirect impacts during nighttime work associated with lighting, and designing new bridge lighting such that light would not overspill into the Santa Ana River.

Mitigation Measures BIO-2 and BIO-3 include specific requirements to minimize the potential for take of individual roosting bats and impacts to suitable day- and night-roosting bat habitat within the Fairview Street bridge over the Santa Ana River. Mitigation Measure BIO-4 includes requirements to avoid potential impacts to bats day roosting in the swallow mud nests at the Fairview Street bridge over the Santa Ana River. In addition, Mitigation Measures BIO-5 and BIO-6 include requirements to minimize any potential indirect impacts to bats foraging and night roosting at the Fairview Street bridge over the Santa Ana River.

Since the proposed Project would not affect the culverts and any potential impacts to bats would be avoided by implementing Mitigation Measures BIO-2 through BIO-6 above, potential impacts to bats would be reduced to a less-than-significant level.

Therefore, with implementation of Mitigation Measures BIO-1 through BIO-6, the proposed Project would not 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 CDFW or USFWS. Impacts would be less than significant with mitigation incorporated.

b. Would the project 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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact. Habitats are considered to be of special concern based on the following: (1) federal, State, and/or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals.

There are no habitats or natural communities of concern within or immediately adjacent to the BSA. The BSA is composed entirely of developed areas, with some ornamental and weedy vegetation. The BSA has low biological value to native plant and wildlife species. Therefore, the proposed Project would not 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 CDFW or USFWS. This impact would be less than significant. No mitigation is required.

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 with Mitigation Incorporated. As identified above, the BSA contains one jurisdictional drainage feature (the Santa Ana River), as discussed in further detail in the corresponding *Jurisdictional Delineation Report* (Appendix D of the NES). The Santa Ana River within the BSA is an unvegetated, concrete-lined intermittent drainage feature. This channel conveys flows attributed to local urban runoff and seasonal storm water. The low-flow channel located within the center of the channel bed had standing water at the time of the field survey. The Santa Ana River has an ordinary high water mark (OHWM) determined to be 21 ft up from the channel bed. Downstream of the BSA, the channel has a direct nexus to the Pacific Ocean (a navigable Water of the United States) and is tidally influenced at its mouth. However, the tidal influence does not extend to the BSA, and there are no waters subject to jurisdiction under Section 10 of the Rivers and Harbors Act. There are no wetlands or riparian areas present within the BSA. The total acreage of potential nonwetland USACE jurisdiction within the BSA is 4.18 ac.

Because there is no current publicly issued guidance on determining Regional Water Quality Control Board (RWQCB) jurisdictional areas, jurisdiction was determined based on the federal definition of Waters of the United States as recommended by the State Water Resources Control Board's *Workplan: Filling the Gaps in Wetland Protection*.[10] RWQCB jurisdiction is considered coincident with USACE jurisdiction (4.18 ac) for purposes of CWA Section 401 certification.

[10] Regional Water Quality Control Board. 2004. *Workplan: Filling the Gaps in Wetland Protection*.

Under California Fish and Game Code Section 1602, the CDFW takes jurisdiction over rivers, streams, and lakes. The State's jurisdiction generally includes the streambed/lakebed to the top of the bank and to the outer edge of associated riparian vegetation, where present. Within the BSA, California Fish and Game Code aquatic resources extend beyond the OHWM to the top of the bank within the trapezoidal portions of the Santa Ana River. There is no associated riparian vegetation within the BSA. The total acreage of potential CDFW streambed jurisdiction within the BSA is 5.55 ac.

The proposed Project involves replacing the existing Fairview Street bridge with a wider roadway bridge. As shown on Figure 4, eight existing pier walls within the riverbanks (totaling approximately 0.09 ac) would be replaced with four new pier walls (totaling approximately 0.05 ac) within delineated USACE/RWQCB and CDFW nonwetland aquatic resources. The total proposed permanent fill is 0.05 ac for USACE/RWQCB- and CDFW-delineated aquatic resources. Since the proposed support structures are smaller in area than the existing support structures, a net increase in channel capacity/Waters of the United States would occur under the proposed Project.

Specifically, there would be a net decrease of 0.0175 ac of permanent fill within delineated Waters of the United States, and a net decrease of 0.04 ac of permanent fill within delineated CDFW aquatic resources.

As shown on Figure 4, a potential temporary bike detour route would be constructed within the Santa Ana River channel. This potential detour route would be constructed and deconstructed during dry-season work within the channel. The detour route would have a dirt base with an asphalt surface, and would be entirely removed following construction of the proposed Project. Impacts associated with the potential bike detour route shown on Figure 4 would amount to 0.11 ac of temporary fill within delineated Waters of the United States and 0.13 ac of temporary fill within delineated CDFW aquatic resources. In addition, temporary fills associated with dewatering activities and/or materials staging within the BSA will likely be required to complete the bridge removal and replacement. Such temporary fills would not permanently reduce channel capacity or result in the loss of aquatic resources. Indirect effects such as dust and construction-related runoff are also possible, but such impacts would be effectively avoided or minimized by implementing standard best management practices (BMPs) during construction.

No compensatory mitigation is required because the proposed Project would not adversely impact any jurisdictional wetlands, riparian areas, or Waters of the United States. A net increase of channel capacity/Waters of the United States would occur with implementation of the proposed Project.

Since work would be occurring within jurisdictional aquatic resources, resource agency permits (USACE Section 404 Nationwide Permit authorization, CDFW Section 1602 Streambed Alteration Agreement, and RWQCB Section 401 Water Quality Certification) will likely be required for the proposed Project. The purpose of these permits is to ensure that projects that impact jurisdictional areas do not impair water quality or habitat. The resource agency permits will include specific conditions to be implemented to avoid substantial impacts to water quality or habitat. Mitigation Measure BIO-7 requires the submittal of permit applications and compliance with permit conditions.

In order to avoid impacts to aquatic resources within the Santa Ana River and adjacent habitat areas, standard BMPs are necessary to protect water quality and prevent the spread of invasive

species. Mitigation Measure BIO-8 includes BMPs to prevent loose soil or pollutants associated with the proposed Project from inadvertently entering the channel to protect water quality. Mitigation Measure BIO-9 includes BMPs to prevent the spread of invasive plant species that could degrade aquatic habitat areas.

Therefore, with implementation of Mitigation Measures BIO-7 through BIO-9, the proposed Project would not 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. Impacts would be less than significant with mitigation incorporated.

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 Impact. An official Endangered Species Act Species List was obtained from the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) on March 16, 2018. An updated official species list was received on October 28, 2018, and is included in Appendix A of the NES. No Essential Fish Habitat is present in the BSA, and a *No Effect* determination was made for the Federal Endangered Species Act (FESA) listed species identified during the literature review; therefore, no further consultation with NOAA Fisheries is anticipated to be required.

As identified above, the BSA encompasses the Project direct-impact areas (temporary and permanent) as well as a buffer area to account for any potential proximity effects (e.g., noise, vibration, dust, or lighting) that may occur outside the direct-impact areas. The BSA is located within urban portions of Santa Ana with no connection to undisturbed or natural lands. The proposed Project would have limited permanent impacts to vegetation in the BSA, which mainly consists of ornamental or ruderal (weedy) species that have low habitat value for most native animal species. The wildlife species that occur in the Project vicinity are adapted to the urban–wildland interface, and the Project would not introduce new affects to the area. The noise, vibration, light, dust, or human disturbance within construction areas would only temporarily deter wildlife from using areas in the immediate vicinity of construction activities. These indirect effects could temporarily alter migration behaviors, territories, or foraging habitats in select areas. However, because these are temporary effects, it is likely that wildlife already living and moving in close proximity to urban development would alter their normal functions for the duration of the Project construction and then reestablish these functions once all temporary construction effects have been removed. The proposed Project would not place any permanent barriers within any known wildlife movement corridors or interfere with habitat connectivity. Therefore, the proposed Project would not have a substantial impact on native resident or migratory fish, migratory wildlife corridors, or native wildlife nursery sites. Impacts would be less than significant, and no mitigation is required.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The Project area is located in an urban setting. The City's General Plan Conservation Element establishes objectives that focus on the preservation of open space and cultural resources,

and protecting the public's health and welfare. In addition, the City's Municipal Code Chapter 33, Article VII, Regulation of the Planting, Maintenance, and Removal of Trees establishes policies, regulations, and standards to ensure that the City continues to realize the benefits provided by its urban forest. The Project would require removal of vegetation and ornamental trees and replacement of the existing bridge and would comply with the City's tree ordinance. No impact would occur, and no mitigation is required.

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 area is not within the boundaries of any an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan. Therefore, the proposed Project would not conflict with the provisions of an adopted HCP, NCCP, or other approved conservation plan, and no impacts would occur. No mitigation is required.

3.4.3 Mitigation Measures

Mitigation Measure BIO-1 **Nesting Bird Surveys and Avoidance.** If vegetation removal, construction, or grading activities are planned to occur within the nesting bird season (February 1 to September 30), the City of Santa Ana (City) Public Works Director or designee shall ensure that a qualified biologist conducts a preconstruction nesting bird survey no more than three days prior to the start of such activities. The nesting bird survey shall include the Project site and areas immediately adjacent to the site that could potentially be affected by Project-related activities such as noise, vibration, increased human activity, and dust, etc. For any active nest(s) identified, the qualified biologist shall establish an appropriate buffer zone around the active nest(s). The appropriate buffer shall be determined by the qualified biologist based on the species, location, and nature of the proposed activities. Project activities shall be avoided within the buffer zone until the nest is deemed no longer active by the qualified biologist.

Mitigation Measure BIO-2 **Bat Eviction/Exclusion.** To avoid direct mortality of individual bats, the City Public Works Director or designee shall ensure that humane evictions (if bats are present) and exclusions of roosting bats shall be performed under the supervision of a California Department of Fish and Wildlife (CDFW) approved bat biologist prior to bridge demolition activities. Eviction/exclusion activities shall be performed in the fall (September or October) prior to bridge demolition. Exclusion activities may be implemented in one or two phases at the discretion of the qualified bat biologist and in

coordination with the City Public Works Director or designee and Project Design Team.

Mitigation Measure BIO-3 **Alternate Bat Roosting Habitat.** The City Public Works Director or designee shall ensure that alternate bat roosting habitat is incorporated into the design of the new bridge to replace crevice habitat lost from removal of the existing Fairview Street bridge over the Santa Ana River. The specifications for this replacement habitat shall be designed in consultation with a qualified bat biologist.

Mitigation Measure BIO-4 **Swallow Nest Removal.** The City Public Works Director or designee shall ensure that if swallow nests are removed to prevent swallows from nesting within the Project area during construction activities, they shall be removed in the fall (i.e., September or October) prior to expected or potential overwintering use by bats, and in a manner that ensures they do not fall to the ground or are otherwise destroyed, unless the absence of bats is confirmed through inspection by a qualified bat biologist.

Mitigation Measure BIO-5 **Nighttime Lighting during Construction.** To minimize temporary indirect impacts during nighttime work for Project construction within 200 feet of the bridge structures, the Construction Contractor shall ensure that night lighting is used only in the area actively being worked on and focused on the direct area of work, and airspace access to and from the roost features of a structure shall not be obstructed except in direct work areas.

Mitigation Measure BIO-6 **New Bridge Lighting.** To avoid permanent indirect impacts to roosting and foraging bats, the City Public Works Director or designee shall ensure that bridge lighting on the new bridge is designed and installed in such a way that light overspill into the Santa Ana River and beneath the bridge is limited to the greatest extent practicable.

Mitigation Measure BIO-7 **Resource Agency Permits.** Prior to construction of the Project, the City Public Works Director or designee shall submit resource agency permit applications and obtain permits authorizations from the United States Army Corps of Engineers (USACE) (Section 404 Nationwide Permit authorization), CDFW (Section 1602 Streambed Alteration Agreement), and Regional Water Quality Control Board (Section 401 Water Quality Certification). The City Public Works Director or designee shall ensure compliance with all permit conditions.

Mitigation Measure BIO-8 **Best Management Practices (BMPs) during Construction.** The Construction Contractor shall ensure that all equipment

maintenance, staging, dispensing of fuel or oil, or any other such activities shall occur in designated upland areas. The designated upland areas shall be located in such a manner as to prevent any spill runoff from entering Waters of the United States and other jurisdictional waters. Silt fencing and straw wattle shall be placed in such a manner that they are able to catch or filter sediment or other construction-related debris to prevent it from entering aquatic areas, where necessary. All construction-related debris and trash shall be disposed of or secured to prevent any such waste from entering aquatic areas.

Mitigation Measure BIO-9

Invasive Species. In order to prevent the spread of invasive species (Executive Order 13112), the Construction Contractor shall ensure that any plants removed or soil disturbed during the course of construction are contained and properly disposed of off site. All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and any erosion-control BMPs implemented shall be free of invasive plant species seeds or propagules. No vegetation listed on the California Invasive Plant Council (Cal-IPC) inventory shall be installed on the Project, and all plant palettes proposed for the Project shall be reviewed by a qualified biologist during the Final Design phase.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Existing Setting

The discussion of cultural resources on and in the vicinity of the Project area and the analyses of the potential effects of the proposed Project on cultural resources provided in this section are based on the Historical Property Survey Report[11] (HPSR) and its attached reports (Historical Resources Evaluation Report [HRER] and Archeological Survey Report [ASR]) for the proposed Project.

The Area of Potential Effects (APE) for the proposed Project totals 11.93 ac, as shown in Appendix C. The APE includes areas where physical impacts as well as indirect effects from the proposed Project would occur. These are generally limited to the proposed Project's proposed and existing right-of-way and include the horizontal and vertical limits associated with ground-disturbing activities. The vertical APE within the areas of direct effects will extend to a maximum depth of 15 ft for bridge abutments.

3.5.1.1 Cultural and Archaeological Resources

On March 5, 2018, a record search was conducted at the South Central Coastal Information Center of the California Historical Resources Information System at California State University, Fullerton. The records search identified eight cultural resources studies that included parts of the APE. These studies include 4 surveys, 2 literature searches, 1 monitoring study, and 1 Environmental Impact Statement (EIS). An additional 31 studies have been conducted within 1 mi of the APE. These studies include 24 surveys, 2 literature searches, 3 evaluations/assessments, 1 project authorization, and 1 EIS.

There are no previously recorded sites within the APE. There have been 44 resources recorded within 1 mi of the APE (1 prehistoric and 43 historic). The prehistoric resource (a habitation site that is no longer extant) is approximately 1 mi from the APE. Of the historic resources, 1 is a railroad bridge and the other 42 are buildings. The buildings include 28 single-family residences, 10 commercial buildings, 1 single-family residence/commercial building, 2 hotels/motels, and 1 school.

[11] LSA, 2019a. *Historic Property Survey Report*. June.

The Office of Historic Preservation Historic Property Data File includes properties in both Santa Ana and Garden Grove. There are 18 listed properties in Santa Ana within 1 mi of the APE. All of the properties are buildings constructed between 1898 and 1955. Seventeen of the buildings were determined ineligible for National Register of Historic Places (NRHP) listing, while one needs reevaluation. In Garden Grove, the Historic Resources Inventory (HRI) identifies 11 properties with 1 mi of the APE. These properties include nine buildings, an 1880 eucalyptus vat, and a 1976 storm drain. The storm drain was determined ineligible for National Register listing, while the eucalyptus vat needs reevaluation. The nine buildings were constructed between 1949 and 2000. All nine buildings were determined to be ineligible for listing in the National Register.

The earliest available online aerial photograph of the area dates from 1953. It shows that although there were residential housing tracts in the area, the land along what would become Fairview Street was still open agricultural land except at the north where Westminster Avenue/17th Street is, and at the south, where several buildings are just southwest of the current APE. A 1963 aerial photograph is the first to show Fairview Street and the Fairview Street bridge. By 1963, tract housing existed alongside the APE and the areas adjacent to the APE were more than half developed. A 1972 aerial photograph shows that the Fairview Street Bridge is much larger than that depicted on the 1963 aerial. The bridge on the 1972 aerial appears to be the currently existing bridge. By 1972, several undeveloped areas existed adjacent to the APE, although these did not exist in the next available aerial photograph dated 1995. Little change has occurred to the APE since 1995.

On March 16, 2018, LSA archaeologist Ivan Strudwick conducted a field survey of 3.92 ac of the total 11.93 ac APE. The survey areas consisted of approximately 2,650 ft of Fairview Street between Westminster Avenue/17th Street and Civic Center Drive West. The APE is mainly a paved, developed area, although patches of exposed sediment with some variation of ground visibility were found. One archaeological resource, an isolated fragment of marine shell, was found during the survey. Under CEQA, isolated finds are not considered important/significant resources. As such, the isolated shell fragment is not important and requires no additional evaluation for the proposed Project.

On April 4, 2019, architectural historians Casey Tibbet and Eugene Heck conducted an intensive-level pedestrian survey of the historic-period built environment in the APE. During the survey, Ms. Tibbet took digital photographs of the exteriors of the historic-period buildings and features and made detailed notations regarding their current conditions, integrity levels, physical characteristics, and setting. In addition, Ms. Tibbet and Mr. Heck completed a reconnaissance-level survey of the general setting and of the buildings and features.

3.5.2 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

No Impact. According to the HPSR, all resources were determined to be ineligible for listing in the National Register and are not eligible to qualify as historical resources as defined in Section 15064.5 of CEQA. As a result, there are no resources in the Project area that are considered historical resources as defined in Section 15064.5 of CEQA. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource. Therefore, no impacts to

historical resources would occur as a result of the construction and operation of the proposed Project. No mitigation is required.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less Than Significant with Mitigation Incorporated. A single shell fragment (*Chione californiensis*) was found in the APE in an undeveloped area on the west side of Fairview Street just south of the Santa Ana River. No other cultural resources were found in the vicinity; thus, the resource is an isolated find. Isolated finds are not considered important/significant under CEQA. As such, the isolated shell fragment found in the current APE is not an important resource and requires no further evaluation.

No additional archaeological resources were identified within the APE through archival research or the field survey. The majority of the APE consists of paved asphalt and concrete sidewalk along Fairview Street from Westminster Avenue/17th Street south to Civic Center Drive. A small amount of acreage also includes areas outside of the sidewalk including adjacent streets, and the building, lawn, and parking lot at 1002 Fairview Street.

All surveyable areas in the APE exhibited high levels of disturbance from road and bridge construction and adjacent home construction. Buried utilities have also added to the disturbance of the APE. The entire APE has been substantially altered during previous construction activities. As such, the likelihood of encountering intact archaeological resources is very low. However, if previously unidentified cultural materials are unearthed during construction, work should be halted in that portion of the Project area until a qualified archaeologist can assess the significance of the find. As a precautionary measure to avoid any impacts to potential archaeological resources, Mitigation Measure CULT-1 requires a professional archaeologist to evaluate any cultural material encountered during construction. Therefore, with implementation of Mitigation Measure CULT-1, the proposed Project would not cause a substantial adverse change in the significance of an archaeological resource.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant with Mitigation Incorporated. No known human remains are known to exist in or near the Project area. However, there is a possibility that unanticipated human remains may be encountered during ground-disturbing Project-related activities. As a precautionary measure, Mitigation Measure CULT-2 requires adherence to California Code of Regulations (CCR) Section 15064.5(e), State Health and Safety Code Section 7050.5, and Public Resources Code (PRC) Section 5097.98, with respect to discovery of human remains during construction activities. With implementation of Mitigation Measure CULT-2, the proposed Project would reduce the potential for impacts to unknown buried human remains to a less-than-significant level.

3.5.3 Mitigation Measures

Mitigation Measure CULT-1 **Cultural Resources Discovery.** If archaeological cultural resources are encountered during construction, the Construction Contractor shall ensure that work within 50 meters (165 feet) of the area of the discovery is stopped and will notify the City of Santa Ana (City) Public Works Director or designee. A professional archaeologist (i.e., an archaeologist registered with the Register of Professional Archaeologists) will be contacted and will visit the site to assess the nature and significance of the find. The archaeologist will then develop proper mitigation measures for the discovery. Work could continue on other parts of the Project while cultural resources mitigation takes place.

Mitigation Measure CULT-2 **Human Remains.** The City Public Works Director or designee shall verify that all construction plans specify the requirements of California Code of Regulations (CCR) Section 15064.5(e), State Health and Safety Code Section 7050.5, and Public Resources Code (PRC) Section 5097.98.

In the event that human remains are encountered in the Project area during construction activities, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of CCR Section 15064.5(e). If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials, preservation of Native American human remains and associated items in place, relinquishment of Native American human remains and associated items to the descendants for treatment, or any other culturally appropriate treatment.

Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the City Public Works Director or designee shall consult with the MLD, as identified by the NAHC, to develop an agreement for treatment and disposition of the remains.

3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Existing Setting

In 2002, the Legislature passed Senate Bill (SB) 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

The CEC is in the process of adopting the 2019 Integrated Energy Policy Report.[12] The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California electricity reliability, the natural gas outlook, and climate adaptation and resiliency.

3.6.2 Impact Analysis

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less Than Significant Impact. This analysis evaluates energy consumption for both construction and operation of the proposed Project, including diesel fuel use for construction off-road equipment.

[12] California Energy Commission. 2019. *2019 Integrated Energy Policy Report.* Docket #19-IEPR-01.

Construction. Construction of the proposed Project would require the use of energy to fuel grading vehicles, trucks, and other construction vehicles. All or most of this energy would be derived from nonrenewable resources. Construction activities are not anticipated to result in an inefficient use of energy, as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the proposed Project. Energy usage on the Project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, construction energy impacts would be less than significant. No mitigation is required.

Operation. Typically, energy consumption is associated with fuel used for vehicle trips and natural gas and electricity use. Energy use consumed during operation of the proposed Project would be associated with fuel used for vehicle trips and electricity consumption associated with the proposed Project. Operation of the proposed Project would not require the consumption of natural gas.

The purpose of the proposed Project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street, consistent with the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element. Currently, the Fairview Street bridge is utilized by bicyclists and pedestrians to cross over the Santa Ana River, but there are no existing sidewalks or bikeways on the bridge. As part of the proposed Project, the Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting. These features would improve the safety of the area for both motorized and nonmotorized travel.

Vehicles using the roadway would continue to consume energy. Because the Project would add lane capacity to the Fairview Street bridge, some traffic currently using other routes would use the widened Fairview Street bridge, which would increase VMT in the area, which could increase fuel demand. On the other hand, the improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which would allow for a decreased dependence on nonrenewable energy resources. In addition, non-vehicular energy use consumed by the proposed Project would be associated with minimal electricity consumption associated with lighting along the Project segment. Therefore, implementation of the proposed Project would not result in a long-term substantial demand for electricity and natural gas, nor would the Project require new service connections or construction of new off-site service lines or substations to serve the Project. The nature of proposed improvements would not require substantial amounts of energy for either construction or maintenance purposes. Therefore, the proposed Project would not use nonrenewable resources in a wasteful or inefficient manner. Therefore, operational energy impacts would be less than significant. No mitigation is required.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. As indicated above, energy usage in the Project area during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed Project would be relatively small in comparison to the State's available energy sources, and energy impacts would be negligible at the regional level. Because California's energy

conservation planning actions are conducted at a regional level, and because the Project's total impact on regional energy supplies would be minor, the proposed Project would not conflict with California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report. Further, the proposed Project includes pedestrian and bicycle safety improvements to promote the use of alternative modes of transportation, which allow for a decreased dependence on nonrenewable energy resources and a reduction in energy use. Thus, as shown above, the proposed Project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Impacts would be less than significant. No mitigation is required.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.7.1 Existing Setting

This section is based on the Preliminary Geotechnical Information study[13] and Paleontological Analysis Memorandum (Appendix A).[14]

3.7.1.1 Geologic and Soils Information

The Project area is located in the Los Angeles physiographic basin, which is a large, relatively flat, low-lying, coastal area surrounded by mountains on the north, east, and southeast. The Project area is located in the southeastern part of the basin known as the Tustin Plain. Regional geologic studies indicate that Holocene-age, flood-plain sediments extend to a depth of a few hundred feet and overlie coarse sand and gravel of the Holocene-age Talbert aquifer. Quaternary-age sediments are about 2,000 ft thick in the region. The Quaternary sediments overlie Tertiary-age sedimentary rocks. The Mesozoic–age crystalline basement rocks are about 14,000 ft below the Project area.

13 Earth Mechanics, Inc. 2018. *Preliminary Geotechnical Information*. March 20.

14 LSA. 2019d. *Paleontological Analysis of the Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project, Santa Ana, Orange County, California*. September 7.

The Project area is relatively flat and situated at an elevation of about 100 ft. In the natural regime, the Project area is within the Santa Ana River flood plain, and the portion of the river through the Project area is confined to a concrete-lined channel.

Exploratory boreholes, drilled in the years 2003 and 2004 in the Project area, show that the area is underlain by nonindurated alluvial sediments ranging from clay to sand to gravel. The soils are Holocene-age flood-plain sediments of the Santa Ana River. Generally, the soils within the Project area consist of alternating, interbedded layers of sand with varying fines content, lean clay with varying amounts of sand, and few silt layers. The deeper sand layers include trace to moderate amounts of fine to coarse gravel.

3.7.1.2 Paleontological Resources

Project plans, geologic maps of the Project area, and relevant geological and paleontological literature were reviewed to determine which geologic units are present in the Project area and whether fossils have been recovered in the Project area or from those or similar geologic units elsewhere in the region. In addition, a search for known fossil localities was conducted through the Natural History Museum of Los Angeles County (LACM) to determine the status and extent of previously recorded paleontological resources within and surrounding the Project area. A field survey of the Project area was also conducted to note the sediments at the surface; relocate any known paleontological localities, if present; and identify any unrecorded paleontological resources exposed on the surface of a Project area.

Results of the literature review indicate that the Project area is located at the northern end of the Peninsular Ranges Geomorphic Province, a 900 mi long northwest-southeast-trending structural block that extends from the Transverse Ranges in the north to the tip of Baja California in the south. Within this larger region, the Project is located in the Los Angeles Basin, a broad alluvial lowland bounded to the north and east by the San Gabriel and Santa Ana Mountains, respectively, and by the Pacific Ocean to the southwest.

Geologic mapping by Morton and Miller shows that the Project area contains Very Young Wash Deposits and Young Alluvial Fan Deposits. In addition, because the Project area has been previously developed, some amount of Artificial Fill is likely present at the surface above the geologic unit mapped by Morton and Miller. Ages for the geologic epochs and subdivisions are based on the International Chronostratigraphic Chart prepared by the International Commission on Stratigraphy and Walker et al.

Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition is dependent on the source and purpose. While Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study. As such, Artificial Fill has no paleontological sensitivity.

The Very Young Wash Deposits are late Holocene in age (less than 4,200 years ago) and consist of unconsolidated sand and gravel in active washes, channels on active alluvial fans, and ephemeral

streams. These deposits accumulated along river and stream channels as floods and debris flows carried sediment down from higher elevations. The size, color, and types of clasts in these deposits are dependent on the local bedrock from which they were derived, with boulder-size clasts more common closer to the mountains and in areas prone to flash floods. These deposits are mapped along the Santa Ana River channel in the Project area. Although Holocene deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200 to 11,700 years ago) are considered scientifically important. Older deposits that may contain scientifically important fossils may be encountered at undetermined depths below these late Holocene deposits. Therefore, the Very Young Wash Deposits are considered to have low paleontological sensitivity.

Young Alluvial Fan Deposits, which are Holocene to late Pleistocene in age (less than 126,000 years ago), consist of unconsolidated gravel, sand, and silt with occasional cobbles and boulders near mountain fronts. These sediments were deposited by flooding streams and debris flows coming down from higher elevations and generally form a fan or lobe shape at the base of hills and mountains. As noted above, only fossils from the middle to early Holocene (4,200 to 11,700 years ago) are considered scientifically important. These Holocene deposits overlie older Pleistocene deposits, which have produced scientifically important fossils elsewhere in the region. These older deposits span the end of the Rancholabrean North American Land Mammal Age (NALMA), which dates from 11,000 to 240,000 years ago and was named for the Rancho La Brea fossil site in central Los Angeles. The presence of *Bison* defines the beginning of the Rancholabrean NALMA, but fossils from this time also include other large and small mammals, reptiles, fish, invertebrates, and plants. There is a potential to find these types of fossils in the older sediments of this geologic unit, which may be encountered below a depth of approximately 10 ft. Therefore, these deposits are assigned low paleontological sensitivity from the surface to a depth of 10 ft and high sensitivity below that mark.

According to the locality search conducted by the LACM, there are no known fossil localities within the boundaries of the proposed Project. The LACM reports that the Project area is underlain by deposits of younger Quaternary alluvium overlying older Quaternary alluvium (i.e., Young Alluvial Fan Deposits). The museum notes that these deposits typically do not contain scientifically significant fossils in the uppermost layers however; they may produce important fossils at depth.

The closest vertebrate locality in these older Quaternary deposits is LACM 1339, south-southwest of the Project area near the top of the bluffs along Adams Avenue in Costa Mesa. This locality produced a specimen of horse (*Equus*) at a depth of 43 feet below the street. The next closest locality is LACM 2032, northeast of the Project area near the intersection of Mission Road and Daly Street. That locality yielded specimens of mammoth (*Mammuthus*) and camel (Camelidae) at a depth of 15 ft below the top of the bluff. Locality LACM 4943, which is located northeast of the Project area near the intersection of Glassell Street and Fletcher Avenue in Orange, produced a specimen of horse (*Equus*) at a depth of 8 to 10 ft below the surface.

The LACM believes that shallow excavations in the Young Alluvial Fan Deposits in the Project area are unlikely to encounter any scientifically important vertebrate fossils. However, the museum notes that deeper excavations into these deposits may encounter scientifically significant vertebrate remains and should be monitored to recover those remains. A copy of the letter describing the locality search results from the LACM is provided in Appendix A.

3.7.2 Impact Analysis

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. No active surface faults are mapped or known to cross Santa Ana, and Santa Ana is not located in an Alquist-Priolo Earthquake Fault Zone. However, Santa Ana is in close proximity to two major faults: the Newport-Inglewood Fault Zone and the Whittier-Elsinore Fault Zone. The San Andreas and Raymond Faults are also proximate to Santa Ana. However, the Project area is not located on any active faults or any inactive fault lines.

The proposed Project includes roadway improvements and would not include the construction or rehabilitation of structures for human occupancy. Therefore, potential for the exposure of people or structures to potential substantial adverse effects related to fault rupture as provided in the Alquist-Priolo Earthquake Fault Zoning Act is less than significant. No mitigation is required.

ii. Strong seismic ground shaking?

Less Than Significant Impact. Strong seismic ground shaking has the potential to occur in the Project area and in the surrounding area due to high rates of seismic activity throughout Southern California. The extent of ground shaking associated with an earthquake depends on the size of the earthquake and the geologic material of the underlying area. As discussed in Response 3.7.2(a)(i), no active surface faults are mapped or known to cross Santa Ana; however, Santa Ana is subject to seismic shaking from faults located outside Santa Ana. The Project improvements would comply with applicable provisions of the most recent California Building Code (CBC), as well as City roadway design requirements, including requirements regarding seismic design and structural features. These regulations detail specific measures, including seismic design parameters, to minimize the risk of loss, injury, or death resulting from strong ground shaking.

With adherence to seismic engineering and design criteria, seismic ground-shaking hazards at the proposed Project would be less than significant. No mitigation is required.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction occurs when shallow, loose, unconsolidated, fine- to medium-grained sediments saturated with water are subjected to shaking as a result of an earthquake. This causes the soils to lose cohesion, leading to liquefaction. The possibility of seismic-related liquefaction occurring in the Project area is dependent on the occurrence of a substantial earthquake in the vicinity, the presence of sufficient groundwater to cause high pore

pressures, soil grain size, plasticity, relative density, and the confining pressures of the soils in the Project area.

As discussed above, the proposed Project does not propose habitable structures and thus would not expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure (e.g., liquefaction). The original roadway design and proposed Project improvements are subject to California geotechnical standards and regulations (e.g., the CBC) to reduce impacts related to seismic hazards, including liquefaction. Therefore, the proposed Project would result in less-than-significant impacts related to seismic events, including liquefaction. No mitigation is required.

iv. Landslides?

No Impact. Seismically induced landslides and other slope failures are common occurrences during, or soon after, earthquakes in areas with significant ground slopes. Currently, there are no State-issued seismic hazard zone maps for the City.[15] The proposed Project would not introduce any new topographical features or elements that would increase the risk of landslide within the Project vicinity. Therefore, there would be no potential impacts to the proposed Project related to landslides. No mitigation is required.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The Project area is an existing roadway, and the majority of the area is paved. Because the Project area is developed, existing topsoil has already been removed or otherwise disturbed. However, during construction, earthwork and grading activities would disturb and expose soils along the shoulder of Fairview Street. Construction activities are subject to the CBC and would be required to comply with the Construction General Permit (CGP) issued by the State Water Resources Control Board (SWRCB).

The National Pollutant Discharge Elimination System (NPDES) program regulates storm water and non-storm water discharges associated with construction or demolition activities including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance equal to or greater than 1 ac. The NPDES program requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which will prescribe BMPs that the discharger will use to protect storm water runoff and provide erosion control. Implementation of a SWPPP and the BMPs would minimize the impacts related to soil erosion to less-than-significant levels. Compliance with the CGP and the City's Water Quality Ordinance will reduce potential impacts related to erosion and loss of topsoil associated with the proposed project to levels considered less than significant. No mitigation is required.

[15] California Department of Conservation. 2006. Seismic Hazard Zones. Website: http://maps.conservation.ca.gov/cgs/informationwarehouse/ (accessed August 2019).

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 off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. As discussed above in Response 3.7.2(a)(iii) and Response 3.7.2(a)(iv), liquefaction is not anticipated to be a concern, and the Project site is not located within an earthquake-induced-landslide area. The proposed Project would not introduce any new topographical features or elements that would change the existing geologic setting of the Project area. The proposed Project is located in a seismically active region; however the Project area is an existing roadway and the majority of the area is paved. As such, on-site geologic and soils issues such as on-site soil stability including landslides, lateral spreading, subsidence, liquefaction, and collapse are not significant due to the nature of the Project. Therefore, implementation of the proposed Project would not result in impacts associated with unstable geologic conditions. Impacts related to geologic unit stability that could result in lateral spreading, subsidence, liquefaction, or collapse would be less than significant. No mitigation is required.

d. Would the project 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?

Less Than Significant Impact. Expansive soils generally have a substantial amount of clay particles, which can give up water (shrink) or absorb water (swell) in response to dry and moist conditions and can result in cracking and structural failure of pavement and foundations. The extent or range of the shrink/swell is influenced by the amount and kind of clay present in the soil. The occurrence of these soils is often associated with geologic units having marginal stability. Soils comprised of sand and gravel are not expansive soils. The soils within the Project area consist of alternating, interbedded layers of sand with varying fines content, lean clay with varying amounts of sand, and few silt layers.[16] The deeper sand layers include trace to moderate amounts of fine to coarse gravel.[17] As soils within the Project area consist of sand, lean clay with sand, and silt layers, the proposed Project is not expected to create substantial risks to life or property due to expansive soils. In addition, the Project area is an existing roadway and the majority of the area is paved. Therefore, the Project would not create substantial risks to life or property due to expansive soils. Impacts would be less than significant and no mitigation is required.

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 is an improvement to the existing roadway and does not include the construction of, or connections to, a septic or alternative wastewater disposal system. Therefore, the proposed Project would not result in impacts related to the soil's capability to adequately support the use of septic tanks or alternative wastewater disposal systems, and no impacts would occur. No mitigation is required.

16 Earth Mechanics, Inc. 2018. op. cit.

17 Ibid.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated. A paleontological resources records search and literature review were conducted to determine the paleontological sensitivity of the Project area. The majority of Project excavation is anticipated to be shallower than a depth of 10 ft, with only the bridge abutments possibly extending to a depth of 15 ft. Any Artificial Fill present within the Project area has no paleontological sensitivity, the Very Young Wash Deposits have low paleontological sensitivity, and the Young Alluvial Fan Deposits have low paleontological sensitivity from the surface to a depth of 10 ft and high paleontological sensitivity below a depth of 10 ft. However, because much of the Project area has been previously developed, excavation into any existing native deposits for the abutments will have a limited impact area. Excavation of the proposed Project may inadvertently encounter and impact paleontological resources. Therefore, if paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find is required to be redirected, and a paleontologist is required to assess the find for scientific significance to avoid significant impacts to paleontological resources. Mitigation Measure GEO-1 includes these requirements. Therefore, with implementation of Mitigation Measure GEO-1, impacts to paleontological resources would be less than significant.

3.7.3 Mitigation Measures

Mitigation Measure GEO-1 **Paleontological Resources Discovery.** If paleontological resources are encountered during the course of ground disturbance, the Construction Contractor shall stop work in the immediate area of the find, notify the City Public Works Director or designee, and contact a qualified paleontologist to assess the find for scientific significance. If determined to be significant by the qualified paleontologist, the fossil shall be collected from the field. The qualified paleontologist may also make recommendations regarding additional measures, such as paleontological monitoring and documentation. If found, scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Existing Conditions

Global climate change (GCC) describes alterations in weather features (e.g., temperature, wind patterns, precipitation, and storms) that occur across the Earth as a whole. Global temperatures are modulated by naturally occurring components in the atmosphere (e.g., water vapor, carbon dioxide [CO_2], methane [CH_4], and nitrous dioxide [N_2O]) that capture heat radiated from the Earth's surface, which in turn warms the atmosphere. This natural phenomenon is known as the "greenhouse effect." That said, excessive human-generated greenhouse gas (GHG)[18] emissions can and are altering the global climate.

The CEQA statutes, the Governor's Office of Planning and Research (OPR) guidelines, and the changes to the *State CEQA Guidelines* currently prescribe specific quantitative thresholds of significance or a particular methodology for conducting an impact analysis related to GHG effects on global climate. In contrast, as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency.

Currently, there is no Statewide GHG emissions threshold that has been used to determine the potential GHG emissions impacts of a project. Thresholds and threshold methodology are still being developed and revised by air quality districts in the State. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Stakeholder Working Group. This Working Group proposed a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. The applicable tier for the proposed Project is Tier 3; if GHG emissions are less than 3,000 metric tons (MT) of CO_2 equivalent (CO_2e) per year, Project-level and cumulative GHG emissions would be less than significant.

Individual GHGs have varying global warming potentials and atmospheric lifetimes. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the Project's emission of GHGs. CO_2e is a consistent methodology for comparing GHG emissions because

[18] The principal greenhouse gases (GHGs) of concern contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is the largest naturally occurring GHG; however, it is not identified as an anthropogenic constituent of concern.

it normalizes various GHGs to the same metric. GHG emissions are typically measured in terms of metric tons of CO_2e. Therefore, for the purpose of this technical analysis, the concept of CO_2e is used to describe how much global climate change a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO_2 as the reference. The GHG emissions estimates were calculated using the Roadway Construction Emissions Model Version 9.0.0. In addition, the Project's consistency with the City's adopted City Climate Action Plan (CAP)[19] is discussed below.

3.8.2 Impact Analysis

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. The following sections describe the proposed Project's construction- and operation-related GHG impacts.

Construction GHG Emissions. GHG emissions associated with the proposed Project would occur over the short term from construction activities, consisting primarily of emissions from equipment and vehicle exhaust. The calculation presented below includes construction emissions in terms of annual CO_2e GHG emissions.

Construction activities produce combustion emissions from various sources such as grubbing/land clearing, grading/excavation, drainage/utilities/subgrading, paving, construction equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change. Table 3.8.A presents the annual construction emissions based on the Roadway Construction Emissions Model emission estimates. Results indicate that Project construction would generate approximately a total of 1,693.17 MT of CO_2e.

Table 3.8.A: Project Construction Greenhouse Gas Emissions

Project Phase	CO_2 (tons/phase)	CH_4 (tons/phase)	N_2O (tons/phase)	CO_2e (tons/phase)
Grubbing/Land Clearing (lbs/day)	114.49	0.03	0.00	105.22
Grading/Excavation (lbs/day)	1,794.29	0.53	0.02	1,645.73
Drainage/Utilities/Subgrading (lbs/day)	1,302.57	0.31	0.02	1,193.70
Paving (lbs/day)	442.70	0.10	0.02	409.16
Maximum (tons/phase)	2,012.65	0.56	0.03	1,845.34
Total (tons/construction project)	**3,654.05**	**0.97**	**0.06**	**3,353.81**
Amortized Emissions	**146.16**	**0.04**	**0.00**	**134.15**

Source: Sacramento Metropolitan Air Quality Management District *Road Construction Emissions Model* (May 2018), compiled by LSA (July 2018).
CH_4 = methane CO_2e = carbon dioxide equivalent MT = metric tons
CO_2 = carbon dioxide lbs/day = pounds per day N_2O = nitrous oxide

19 City of Santa Ana. 2015. *Final Climate Action Plan.* December.

Per SCAQMD guidance, due to the long-term nature of the GHGs in the atmosphere, instead of determining the significance of construction emissions alone, the total construction emissions are amortized over 30 years (an estimate of the life of a project) and included in the operations analysis. To amortize the emissions over the life of a project, the SCAQMD recommends calculating the total GHG emissions for the construction activities and dividing that total by a 30-year project life. Amortized over 30 years, the total construction emissions would generate approximately 134.15 MT of CO_2e per year.

As discussed above, according to SCAQMD, a project would have less-than-significant GHG emissions if it would result in less than 3,000 MT of CO_2e per year. Based on the analysis results, the proposed Project would result in approximately 134.15 MT of CO_2e per year, which would be well below the SCAQMD's numeric threshold of 3,000 MT of CO_2e per year. Therefore, construction of the proposed Project would not generate significant GHG emissions that would have a significant effect on the environment. Therefore, construction emissions would be less than significant, and no mitigation is required.

Operational Emissions. The purpose of the proposed Project is to improve pedestrian/bicyclist safety and traffic flow on and in the vicinity of the Fairview Street bridge. The proposed Project would not construct or permit the construction of any trip-generating land uses. Because the Project would add lane capacity to the Fairview Street bridge, some traffic currently using other routes would use the widened Fairview Street bridge, which would increase VMT in the area, which could increase GHG emissions. On the other hand, the improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which would have the potential to reduce vehicle trips and increase the use of alternate means of transportation. Therefore, the Project would not result in a substantial increase in the generation of vehicle trips that would increase GHG emissions. The proposed Project would result in low levels of off-site emissions due to energy generation associated with lighting along the roadway segment and the Fairview Street bridge. However, these emissions would be minimal and would not exceed the pollutant thresholds established by the SCAQMD. Therefore, the proposed Project would not generate any GHG emissions or result in new vehicle trips that would contribute to an increase in GHG emissions. GHG emissions generated by the proposed Project would be less than significant, and no mitigation is required.

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. The City's CAP represents the City's commitment to improving the quality of life by reducing carbon pollution and energy use, both from its own operations and from the community as a whole. To develop this CAP, an inventory was conducted to determine baseline GHG emissions from the community and from municipal operations for the calendar year 2008. A forecast was made of business-as-usual emissions in the absence of any emissions reduction actions. This forecast was then adjusted to account for the emissions reduction expected from Statewide policies and from actions that have already been taken by the City since the baseline inventory.

The CAP establishes emissions reduction goals. For community-wide emissions, the reduction goal is 15 percent below the baseline year 2008 by 2020, and 30 percent below the baseline year 2008 by

2035. For municipal operations emissions, the reduction goal is 30 percent by 2020 and 40 percent by 2035. The CAP includes measures related to transportation and land use; energy; and solid waste, water, and wastewater to work toward the reduction goals.

Many of the measures included in the CAP were established for new development projects and municipal operations and would not be applicable to the proposed Project, as the proposed Project is a roadway improvement project. CAP measures that are applicable to the proposed Project relate to implementing a Safe Routes to School program, improving bike/pedestrian/transit connectivity, and converting street lights to light-emitting diode (LED). The proposed Project would be consistent with these measures, as the purpose of the proposed Project is to improve pedestrian/bicyclist safety and traffic flow on and in the vicinity of the Fairview Street bridge. These fixtures would be similar in type to other street lights throughout the City, and would be typical of pole-mounted street lights used for bridges in the City, with lighting directed onto the roadway. With implementation of Mitigation Measure AES-1, the proposed Project would include low-light level, energy-efficient lighting, consistent with the CAP measure. As discussed above, because the Project would add lane capacity to the Fairview Street bridge, some traffic currently using other routes would use the widened Fairview Street bridge, which would increase VMT in the area. On the other hand, the improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which would allow for increased use of alternate means of transportation. Therefore, the proposed Project would be consistent with the CAP and would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant, and no mitigation is required.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
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?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Existing Conditions

An Initial Site Assessment (ISA)[20] was prepared for the proposed Project that reviews, evaluates, and documents present and past land uses and practices, and visually examines site conditions to identify Recognized Environmental Conditions (RECs). An REC is defined as the presence or likely presence of any hazardous substances or petroleum hydrocarbons on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum hydrocarbons into structures or into the ground, groundwater, or surface water of the subject property. Several of the following responses are based on the results of the ISA.

[20] Group Delta. 2019. *Initial Site Assessment Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project*. May 30.

The Project area conditions listed below are not considered RECs in the ISA but may require special handling:

- Historic use of the Project site includes agriculture, which is often associated with impacts from pesticide use. However, based on redevelopment of the Project area, former use of the site as agricultural land is not considered an REC.

- Utility poles exist along the Project alignment. The poles consist of creosote-treated wood, which consists of preserving chemicals that protect wood from insect predation and fungal decay during use.

- Several pole-mounted transformers were observed along Fairview Street. Historically, pole-mounted transformers have contained polychlorinated biphenyls (PCBs).

- Yellow striping exists along portions of Fairview Street. It is assumed that the striping contains lead and chromium.

- Materials associated with buildings and structures commonly contain hazardous materials.

3.9.2 Impact Analysis

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 with Mitigation Incorporated. A significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during the construction of the proposed Project could result from the improper handling or use of hazardous substances or an inadvertent release resulting from an unforeseen event (e.g., fire, flood, or earthquake). The severity of any such exposure is dependent upon the type, amount, and characteristic of the hazardous material involved; the timing, location, and nature of the event; and the sensitivity of the individual or environment affected.

Construction of the proposed Project will require the use of limited quantities of hazardous materials, such as fuels, oils, lubricants, and solvents. The small quantities of hazardous materials that would be transported, used, or disposed of would be well below reportable quantities. The improper use, storage handling, transport, or disposal of hazardous materials during construction could result in accidental release exposing construction workers, the public, and the environment, including soil and/or ground or surface water, to adverse effects. Construction activities would follow standard construction practices and applicable California Division of Occupational Safety and Health Administration, California Health and Safety Code, and other safety regulations to minimize the risk to the public. Compliance with federal, State, and local hazardous-materials laws and regulations would minimize the risk to the public and environment presented by these materials during construction of the proposed Project, such that no significant impacts would occur.

In addition, the removal of existing fill soil, utility poles and pole-mounted transformers, yellow traffic striping, wood waste, and hazardous building materials (e.g. asbestos and lead-based paint) would have the potential to create a significant hazard to the public or the environment. However, there are specific procedures for handling and disposing of these materials during demolition and renovation activities in the CCR and SCAQMD Rules and Regulations such that these materials do not adversely impact people or the environment. Mitigation Measure HAZ-1 cites compliance with these regulations as well as specific procedures to manage anticipated and unknown hazardous materials. Therefore, with implementation of Mitigation Measure HAZ-1, impacts associated with the transport or disposal of existing known or unknown hazardous materials in the Project area would be less than significant. Once operational, the proposed Project would not routinely generate, use, or dispose of hazardous materials. Impacts would be less than significant with mitigation incorporated.

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. The potential for releasing hazardous materials into the environment would primarily involve vehicles on the roadway, but could involve future subsurface contamination from nearby locations and off-site contaminated groundwater. This potential exists today and would not be substantially greater with roadway widening and bridge replacement. Vehicles and trucks may transport hazardous substances that could spill and impact the roadway, adjacent properties, or resources. However, transport of hazardous materials is subject to strict regulations established by local police and fire departments trained in emergency response procedures for safely responding to accidental spills of hazardous substances on public roads, which further reduces impacts. Therefore, Project impacts associated with hazards from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be similar to existing conditions and are considered less than significant, and no mitigation is required.

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 with Mitigation Incorporated. The REACH Academy Community Day Intermediate and High School is located adjacent to the southern border of the Project site. As discussed in Section 3.3, Air Quality, the Project would not substantially increase the concentrations of hazardous materials in the area. As discussed in Response 3.9.2(a), above, construction of the proposed Project will require the use of limited quantities of fuels, oils, lubricants, and solvents. In addition, the removal of utility poles and pole-mounted transformers, yellow striping, wood waste, and building materials would have the potential to generate hazardous emissions. The Project would comply with local, State, and federal regulations with respect to the transport, use, and disposal of hazardous waste during construction activities and will comply with specific hazardous-materials procedures specified in Mitigation Measure HAZ-1. Once operational, the proposed Project would not generate hazardous emissions. Impacts would be less than significant with mitigation incorporated.

d. Would the project 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?

No Impact. According to the Department of Toxic Substances Control EnviroStor database,[21] the Project site is not located on a federal Superfund site, State response site, voluntary-cleanup site, school cleanup site, evaluation site, school investigation site, military evaluation site, tiered permit site, or corrective-action site. In addition, the Project site is not included on the list of hazardous-materials sites compiled pursuant to Government Code Section 65962.5.[22] As a result, no impacts related to hazardous-materials sites would occur. No mitigation is required.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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 Project site is the John Wayne Airport, which is located approximately 6.6 mi southeast of the Project site; however, the Project site is not located within the Airport Land Use Plan. The proposed Project's operation would be similar to the existing conditions. Because the Project area is not located within an Airport Land Use Plan, the proposed Project would not involve the introduction of residential or employment uses in the Project area, the proposed Project would not significantly change the roadway from existing conditions, and the proposed Project would result in no impacts related to aviation-related safety hazards or excessive noise for construction workers or travelers using the bridge or SART. No mitigation is required.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant with Mitigation Incorporated. Fairview Street would remain open during the construction period (at least one lane with a pedestrian/bicyclist area); northbound and southbound traffic would be shifted to one side of the bridge while the other side is replaced. Access to properties would be maintained. However, construction activities may temporarily restrict local vehicular traffic, which could affect emergency response or evacuation. There are no local adopted emergency responses or emergency evaluation plans applicable to the Project area. A Traffic Management Plan (TMP) is needed to ensure that adequate emergency response and evacuation will be maintained. Mitigation Measure TR-1, provided later in Section 3.17, Transportation, requires that a TMP be developed during final design to address impacts to local circulation during construction, including emergency access. The TMP would require that emergency service providers be notified prior to Project construction regarding any temporary limitations to emergency access. Therefore, with implementation of Mitigation Measure TR-1, potential impacts to emergency response and evacuation plans during construction would be reduced to less than significant.

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21 California Department of Toxic Substances Control. 2019. *EnviroStor.* Website: www.envirostor.dtsc.ca.gov/public (accessed August 2019).

22 California Environmental Protection Agency. 2019. *Government Code Section 65962.5(a).* Website: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/ (accessed August 2019).

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. According to the California Department of Forestry and Fire Protection, the Project site is within a designated Non Very High Fire Hazard Severity Zone (Non-VHFHSZ).[23] Construction of the proposed Project would be required to adhere to construction provisions in the City's Municipal Code. With adherence to development standards in the City's Municipal Code, there would be no impact associated with wildland fires, and no mitigation is required.

3.9.3 Mitigation Measures

Mitigation Measure HAZ-1 **Hazardous Materials Testing and Removal.** During Project design and construction, the Design Engineer and the Construction Contractor shall adhere to the requirements listed below. Documentation of compliance with these requirements shall be provided to the City of Santa Ana (City) Public Works Director or designee.

- Treated wood waste will either be disposed of as a hazardous waste or tested and handled in accordance with California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 34.
- If not tested for lead and chromium prior to removal, yellow traffic striping shall be managed consistent with California Department of Transportation (Caltrans) Standard Special Provision 14.11.12, *Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue*, or the equivalent.
- Affected pole-mounted transformers will be removed by Southern California Edison personnel or qualified contractors.
- A hazardous building materials survey, including asbestos-containing materials and lead-based paint, will be conducted on the Fairview Street bridge, as well as any additional structures to be disturbed. Hazardous building materials will be removed and disposed of consistent with the South Coast Air Quality Management District (SCAQMD) Rules and Regulations and the California Health and Safety Code.

[23] California Department of Forestry and Fire Protection. 2011. *Wildland Hazard and Building Codes*. November. Website: https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/ (accessed August 2019).

- Any suspect hazardous waste found during construction activities will be handled, treated, or disposed of consistent with local, State, and federal laws.

3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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 off-site;	☐	☒	☐	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☒	☐	☐
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	☐	☒	☐	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☒	☐	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

3.10.1 Existing Setting

This section is based on the Water Quality Memorandum[24] (Appendix A), Location Hydraulic Study[25] (Appendix A), and River Hydraulics Analysis[26] (Appendix A) for the proposed Project.

3.10.1.1 Surface Waters

The Project area is within the Santa Ana River Watershed, which is within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB jurisdiction is approximately 2,800 sq mi in portions of Orange, Riverside, and San Bernardino counties and mostly consists of the 2,650 sq mi Santa Ana River Watershed. Specifically, the Project area is within the Lower Santa Ana River Watershed, which extends from Prado Dam to the Pacific Ocean.

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24 LSA. 2019e. *Water Quality Memorandum: Fairview Street Improvements from 9th Street to 16th Street and Bridge Replacement Project BRLS 5063(184)*. September 16.

25 Civil Works Engineers. 2019a. *Location Hydraulic Study. Santa Ana River Bridge at North Fairview Street. State Bridge No. 5063 (184)*. October.

26 Civil Works Engineers. 2019b. *River Hydraulics Analysis. Fairview Avenue Widening & Bridge Replacement Santa Ana, CA 91303.* October.

For regulatory purposes, the Santa Ana RWQCB designates watershed areas in Hydrologic Units (HUs), which are further divided into Hydrologic Areas (HAs) and Hydrologic Subareas (HSAs). As designated by the Santa Ana RWQCB, the Project area is located within the Santa Ana River HU, the Lower Santa Ana River HA, and East Coast Plain HSA.[27]

The Santa Ana River extends approximately 96 mi from its headwaters to where it drains into the Pacific Ocean. The headwaters for the Santa Ana River and its tributaries originate in the San Gabriel, San Bernardino, and Santa Ana Mountains. From the San Bernardino and San Gabriel Mountains, the Santa Ana River flows through San Bernardino and Riverside Counties, then through the Prado Basin and a narrow pass in the Santa Ana Mountains. From the Santa Ana Mountains, the Santa Ana River flows southwesterly through Orange County to the Pacific Ocean. The Santa Ana River is divided into six reaches. The Fairview Street bridge crosses Reach 1 of the Santa Ana River, which is defined as the portion of the river between the tidal prism and 17th Street in Santa Ana. The Santa Ana River within the Project area is a concrete-lined, trapezoidal channel and is devoid of vegetation. Intermittent flows within the Santa Ana River can be attributed to storm water runoff, urban runoff, and treated wastewater.

3.10.1.2 Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 0659C0144J,[28] the Santa Ana River within the Project area is designated Special Flood Hazard Area Zone A; such areas are subject to inundation by the 1 percent annual chance flood (100-year flood) with no base flood elevations determined. The remainder of the Project area (outside of the Santa Ana River) is designated as Other Areas of Flood Hazard Zone X; such areas have a reduced flood risk due to levee.

3.10.1.3 Groundwater Hydrology

The Project area is above the Coastal Plain of Orange County Groundwater Basin, which underlies the Lower Santa Ana River Watershed. The basin is bounded on the north by the Puente and Chino Hills, on the east by the Santa Ana Mountains, on the south by the San Joaquin Hills, on the southwest by the Pacific Ocean, and on the northwest by low topographic divide at approximately the Orange County–Los Angeles County line.[29]

For regulatory purposes, the Santa Ana RWQCB divides the Coastal Plain of Orange County Groundwater Basin into three Groundwater Management Zones. The Project area is within the Orange County Groundwater Management Zone.[30] The Orange County Groundwater Management Zone is bounded to the north by the Chino Hills, to the east by the Santa Ana Mountains, to the

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27 Santa Ana Regional Water Quality Control Board. 1995. *Water Quality Control Plan, Santa Ana River Basin*. Updated 2008 and 2011.

28 United States Federal Emergency Management Agency. 2009. Flood Insurance Rate Map (FIRM) No. 0659C0144J. December 3.

29 California Department of Water Resources. 2004. *California's Groundwater, Bulletin* 118—*South Coast Hydrologic Region, Coastal Plain of Orange County Groundwater Basin*. February.

30 Santa Ana Regional Water Quality Control Board. 1995. op. cit.

southeast by SR-55, to the south by the Pacific Ocean, and to the northwest by the Orange County–Los Angeles County line.

Recharge to the Coastal Plain or to the Orange County Groundwater Basin occurs from percolation of Santa Ana River flow, infiltration of precipitation, and injection into wells.[31] A portion of the flow from the Santa Ana River directly below the Prado Dam is diverted to recharge groundwater.[32]

Based on exploratory boreholes drilled in 2003 and 2004, groundwater levels are 25 to 30 ft below ground surface.[33]

3.10.2 Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant with Mitigation Incorporated. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. According to the Draft Water Quality Management Plan (WQMP)[34] prepared for the proposed Project, the disturbed soil area during construction would be 1.15 ac. However, Project construction may disturb additional area depending on any sound barriers incorporated into the proposed Project. In addition, there is a potential for chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste to be spilled or leaked and transported via storm runoff into receiving waters.

Construction activities within the Santa Ana River during bridge replacement have the greatest potential to impact water quality. However, construction within the river would not occur during the rainy season. Activities above and within the river are anticipated to include demolition of the existing concrete bridge; saw cutting and removal of the concrete invert (i.e., the channel lining below the bridge); excavation (3 ft deep at the channel bottom and 6 ft deep at the abutments); pile driving; and installation of concrete for the pile caps, columns, and reconstructed invert. A potential temporary bicycle detour route may be constructed within the Santa Ana River channel. This potential detour route would be constructed and deconstructed during dry-season work within the channel. The detour route would have a dirt base with an asphalt surface and would be entirely removed prior to completion of construction.

Diversion of flows within the Santa Ana River is not anticipated to be required because construction activities would not take place within the low-flow portion of the channel. However, sandbags or concrete K-rails with plastic sheets may be required upstream of the work area to ensure that any

31 California Department of Water Resources. 2004. op. cit.

32 Santa Ana Regional Water Quality Control Board. 2004. *Watershed Management Initiative*. November.

33 Earth Mechanics, Inc. 2018. op. cit.

34 Civil Works Engineers. 2019b. op. cit.

water that escapes the low-flow channel is diverted back to the low-flow channel before reaching the construction area. A staging area would be located along the riverbank. No materials or equipment would be stored within the river channel.

Projects that disturb more than 1 ac of soil are subject to the requirements of the CGP. However, projects that disturb between 1 and 5 ac are potentially eligible for a Small Construction Rainfall Erosivity Waiver, which would exempt the project from coverage under the CGP. To obtain a waiver, a project would need to demonstrate that there would be no adverse water quality impacts, because construction activities would only take place when there is a low erosivity potential (i.e., the rainfall erosivity value in the Revised Universal Soil Loss Equation [R factor] for a project is less than 5). Based on a 2-year construction schedule, the R factor for the proposed Project would be approximately 38. Because of the two-year construction schedule, the R factor is well above 5, and the proposed Project would not qualify for a CGP erosivity waiver. Therefore, the proposed Project would be required to obtain coverage under and comply with the requirements of the CGP.

Based on the Risk Determination methodology outlined in the CGP, the Project has a low Sediment Risk (the relative amount of sediment that can be discharged, given the Project location and construction schedule—i.e., no work in the river during the wet season) and a low Receiving Water Risk (the risk sediment discharges pose to the receiving waters), which results in a combined Risk Level of 1 (low risk to water quality). Risk Level 1 projects are subject to the BMPs and visual inspection requirements of the CGP.

To prevent significant water quality impacts during ground-disturbance activities, the Project would need to prepare and implement a SWPPP that includes construction BMPs that comply with the requirements of the CGP. These requirements are included in Mitigation Measure HYDRO-1. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site, Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters, and Entrance Control BMPs to mitigate any tracking from the Project. Construction BMPs around the work area within the Santa Ana River are anticipated to include a gravel bag or fiber roll perimeter barrier to contain spills and potential runoff, to be installed and maintained year-round. Additional Construction BMPs would be determined during preparation of the SWPPP. When Construction BMPs are properly designed, implemented, and maintained to address pollutants of concern, as required in Mitigation Measure HYDRO-1, pollutants of concern would be retained on site so that they would not reach receiving waters; therefore, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant with mitigation incorporated.

Groundwater dewatering may be required during construction of the bridge piles to ensure that groundwater levels are below the pile cap elevation.[35] Release of dewatered groundwater to surface waters can introduce total dissolved solids and other constituents to surface waters. To prevent significant impacts to water quality associated with dewatering during construction, the Project would need to comply with the requirements of the De Minimus Permit. Mitigation Measure HYDRO-2 specifies compliance with this permit for groundwater dewatering. In compliance with this

[35] Earth Mechanics, Inc. 2018. op. cit.

permit, groundwater would be tested and treated (as necessary) prior to release to surface waters to ensure that discharges do not exceed water quality limits specified in the permit. Therefore, with implementation of Mitigation Measures HYDRO-1 and HYDRO-2, the proposed Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, impacts would be less than significant with mitigation incorporated.

Expected pollutants of concern during operation of the proposed Project include suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/viruses), pesticides, oil and grease, toxic organic compounds, and trash and debris. The pollutants of concern for the Project are metals and oil and grease. The proposed Project would increase impervious surface area by approximately 8,500 sf (approximately 0.2 ac), which would increase the volume of runoff during a storm and more effectively transport pollutants to receiving waters. In addition, an increase in impervious surface area would increase the total amount of pollutants in the storm water runoff, which would increase the amount of pollutants discharged to downstream receiving waters.

In order to avoid impacts to water quality during Project operation, the proposed Project would need to prepare and implement a Final (design-level) WQMP that specifies the Low Impact Development (LID) BMPs, Source Control BMPs, Site Design BMPs, and/or Treatment Control BMPs to be incorporated into Project design to reduce the discharge of pollutants of concern to the maximum extent practicable. LID BMPs mimic a project site's existing hydrology by using design measures that capture, filter, store, evaporate, detain, and infiltrate runoff, rather than allowing runoff to flow directly to piped or impervious storm drains. Source Control BMPs are preventative measures that are implemented to prevent the introduction of pollutants into storm water. Site Design BMPs are storm water management strategies that emphasize conservation and use of existing site features to reduce the amount of runoff and pollutant loading generated from a project site. Treatment Control BMPs are structural BMPs designed to treat and reduce pollutants in storm water runoff prior to release to receiving waters.

Currently, proposed BMPs include a vegetated swale adjacent to Fairview Street in the Fairview Triangle rest area. Additional treatment BMPs to treat runoff from the bridge deck may be incorporated into the bridge design at a later date during final design and will need to be sized to treat runoff from new impervious surface. According to the Draft WQMP prepared for the proposed Project, proposed nonstructural Source Control BMPs include right-of-way landscape management, right-of-way litter control, right-of way catch basin inspection, and street sweeping. Structural source control BMPs include use of efficient irrigation systems and landscape design, water conservation, smart controllers, and source control.

Mitigation Measure HYDRO-3 requires preparation of a Final WQMP that refines the BMPs during final design, consistent with the requirements above. The BMPs would target and reduce constituents of concern from transportation facilities in compliance with the North Orange County MS4 Permit requirements.

In addition, infiltration of storm water could have the potential to affect groundwater quality in areas of shallow groundwater. Pollutants in storm water are generally removed by soil through absorption as water infiltrates. Therefore, in areas of deep groundwater, there is more absorption

potential and, as a result, less potential for pollutants to reach groundwater. Based on exploratory boreholes, groundwater levels are 25 to 30 ft below ground surface.[36] It is not expected that any storm water that may infiltrate during construction or operation would affect groundwater quality because there is not a direct path for pollutants to reach groundwater. Therefore, Project construction and operation would not violate any water quality standards or waste discharge requirements or substantially degrade groundwater quality. In addition, implementation of the proposed treatment BMPs would avoid any potential impacts to water quality before storm water would percolate into the groundwater basin. As such, when operational BMPs are implemented in accordance with NPDES Permit requirements as required by Mitigation Measure HYDRO-3, the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant with mitigation incorporated.

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. The Project site is located within the Orange County Groundwater Basin, which is managed by the Orange County Water District. The Orange County Water District works to manage and protect groundwater in three main ways: recharge, monitor, and purify.[37] According to the Orange County Water District, the Orange County Groundwater Basin has a capacity of 500,000 acre-feet (af) and currently has 243,769 af remaining in storage.[38]

Groundwater dewatering during construction of the proposed Project may be required during construction of the bridge piles to ensure that groundwater levels are below the pile cap.[39] However, groundwater dewatering would be temporary, and the volume of groundwater removed would be minimal compared to the size of the groundwater basin. Therefore, Project construction would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin, and impacts would be less than significant.

The Project would increase impervious surface areas on site, which can decrease infiltration. However, due to the large amount of impervious surface area in the vicinity of the Project area and within the Santa Ana River channel, minimal infiltration would be expected to occur in the existing conditions. Additionally, the increase in impervious surface area of 8,500 sf (approximately 0.2 ac) is minimal compared to the size of the watershed and the amount of existing impervious surface area in the vicinity of the Project area. Therefore, the increase in impervious area would substantially interfere with groundwater recharge. In addition, operation of the proposed Project would not require groundwater extraction. Therefore, the proposed Project would not substantially decrease

36 Earth Mechanics, Inc. 2018. op. cit.

37 Orange County Water District. 2019a. *Groundwater Management.* Website: https://www.ocwd.com/what-we-do/groundwater-management/ (accessed October 2019).

38 Orange County Water District. 2019b. *Groundwater Storage Level August 2019.* Website: https://www.ocwd.com/media/8151/groundwater-storage-august-2019.pdf (accessed October 2019).

39 Earth Mechanics, Inc. 2018. op. cit.

groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin, and 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:

i. Result in substantial erosion or siltation on- or off-site

Less Than Significant with Mitigation Incorporated. During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate; however, no construction would occur in the river during storm events. As discussed above in Response 3.10.2(a), Mitigation Measure HYDRO-1 requires compliance with the CGP and preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed Project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. Compliance with the CGP and implementation of the construction BMPs would ensure that construction impacts related to on- or off-site erosion or siltation would be reduced to less than significant with mitigation incorporated.

The proposed Project would increase impervious surface area on the Project site by approximately 0.2 ac compared to existing conditions, and could potentially increase on-site storm water runoff during a storm event. In the proposed condition, the impervious surface areas would not be prone to erosion or siltation. Erosion and siltation would be minimized in the landscaped areas, where soil would be stabilized by vegetation. Therefore, the proposed Project would not increase on-site erosion or siltation.

An increase in impervious surface area can potentially increase storm water runoff generated from a project and increase erosion and sedimentation in receiving waters. However, as discussed previously, the proposed Project would slightly increase the impervious surface area on the Project site compared to existing conditions (an increase of 0.2 ac), which would slightly increase the volume of storm water runoff generated from the Project site. However, post-construction BMPs would be implemented to treat new impervious surface runoff.

In addition, the Project includes BMPs that would reduce on-site erosion during storm events. Downstream erosion would not occur, as all pervious areas would be stabilized with landscaping and BMPs and the downstream conveyance channels that receive runoff from the Project area are engineered and hardened and not subject to erosion, siltation, or hydromodification (i.e., channel modification or channelization from alteration of flow).

The increase in impervious area would increase the volume of storm water runoff from the Project area into the Santa Ana River. However, the Santa Ana River is a stabilized concrete

channel and is not susceptible to hydromodification.[40] Therefore, increasing flow to this channel would not change sediment transport or increase downstream erosion and accretion. In addition, the proposed Project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site erosion or siltation would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite

Less Than Significant with Mitigation Incorporated. During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. As discussed above in Response 3.10.2(a), Mitigation Measure HYDRO-1 requires compliance with the CGP and preparation of a SWPPP to identify construction BMPs to be implemented as part of the proposed Project to manage and convey storm water during construction. Proper management of storm water during construction would reduce impacts associated with flooding. Therefore, impacts related to on- or off-site flooding would be less than significant with mitigation incorporated.

Once operational, the proposed Project would improve the hydraulics of the Santa Ana River. As part of the bridge replacement, the proposed Project would replace eight existing pier walls within the Santa Ana River (totaling an area of 0.09 ac) with four new pier walls (totaling an area of 0.05 ac). In the existing condition, a hydraulic jump occurs upstream of the bridge (i.e., flows transition from supercritical to subcritical, which represents a high energy loss with erosive potential). The proposed Project would improve the river hydraulics upstream of the bridge by lowering the water surface elevation and reducing the length of the subcritical flows by approximately 300 ft. Therefore, implementation of the proposed Project would have a beneficial effect on the river hydraulics upstream of the Project area. Additionally, the proposed Project would maintain the overall drainage patterns in the Project area.

Therefore, implementation of the proposed Project would have a beneficial effect on the flood control functions of the surface waters upstream of the Project area. Additionally, the proposed Project would maintain the overall drainage patterns in the Project area. Therefore, the proposed Project would not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. As such, operational impacts related to on-site or off-site flooding would be less than significant.

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

Less Than Significant with Mitigation Incorporated. As discussed above in Response 3.10.2(a), there is a potential for chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste to be spilled or leaked and transported via storm runoff

[40] County of Orange. 2012b. op. cit.

into receiving waters. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. Drainage patterns would be temporarily altered during grading and other construction activities, and construction-related pollutants could be spilled, leaked, or transported via storm runoff into adjacent drainages and downstream receiving waters. However, as specified in Mitigation Measure HYDRO-1, the proposed Project would be required to comply with the requirements set forth by the CGP and SWPPP, which would specify BMPs to be implemented to control the discharge of pollutants in storm water runoff as a result of construction activities. Therefore, construction of the proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant with mitigation incorporated.

In addition, as discussed above in Response 3.10.2(a), expected pollutants of concern during operation of the proposed Project include suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/viruses), pesticides, oil and grease, toxic organic compounds, and trash and debris. The pollutants of concern for the Project are metals and oil and grease. The proposed Project would increase impervious area by approximately 8,500 sf (approximately 0.2 ac), which would increase the volume of runoff during a storm and more effectively transport pollutants to receiving waters. In addition, an increase in impervious surface would increase the total amount of pollutants in the storm water runoff, which would increase the amount of pollutants discharged to downstream receiving waters.

As required by Mitigation Measure HYDRO-3, a final WQMP would be prepared for the proposed Project that would require implementation of operational BMPs to reduce pollutants of concern in storm water runoff. With implementation of operational BMPs, no substantial additional sources of polluted runoff would be discharged to the storm drain system. As such, when operational BMPs are implemented in accordance with Mitigation Measure HYDRO-3, operation of the proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant with mitigation incorporated.

iv. Impede or redirect flood flows?

Less Than Significant Impact. As discussed previously, once operational, the proposed Project would improve the hydraulics of the Santa Ana River. As part of the bridge replacement, the proposed Project would replace eight existing pier walls within the Santa Ana River (totaling an area of 0.09 ac) with four new pier walls (totaling an area of 0.05 ac). In the existing condition, a hydraulic jump occurs upstream of the bridge (i.e., flows transition from supercritical to subcritical, which represents a high energy loss with erosive potential). The proposed Project would improve the river hydraulics upstream of the bridge by lowering the water surface elevation and reducing the length of the subcritical flows by approximately 300 ft. Therefore, implementation of the proposed Project would have a beneficial effect on the river hydraulics upstream of the Project area. Additionally, the proposed Project would maintain the overall drainage patterns in the Project area. Therefore, implementation of the proposed Project would

not impede or redirect flood flows. This impact would be less than significant. No mitigation is required.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less Than Significant with Mitigation Incorporated.

Tsunami. Tsunamis are ocean waves generated by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rock falls, and exploding volcanic islands. Tsunamis can have wavelengths of up to 120 mi and travel as fast as 500 miles per hour (mph) across hundreds of miles of deep ocean. Upon reaching shallow coastal waters, the waves can reach up to 50 ft in height, causing great devastation to near-shore structures. The Project site is located approximately 9 mi from the Pacific Ocean shoreline and is not located within a tsunami inundation area. Therefore, the Project site is not subject to inundation from tsunamis, and there is no risk of release of pollutants due to inundation from tsunami.

Seiche Zones. Seiching occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and lakes). Such waves can cause retention structures to fail and flood downstream properties. Because there are no large lakes, reservoirs, or other water retention facilities in the vicinity of the Project site, the Project site is not at risk of inundation from seiche. Therefore, the Project site is not subject to inundation from seiche waves, and there is no risk of release of pollutants due to inundation from seiche.

Flood Hazard. As identified above, the Santa Ana River within the Project area is designated Special Flood Hazard Area Zone A; such areas are subject to inundation by the 1 percent annual chance flood (100-year flood) with no base flood elevations determined. The remainder of the Project area (outside of the Santa Ana River) is designated as Other Areas of Flood Hazard Zone X; such areas have reduced flood risk due to levees. In the unlikely event of levee failure and flooding during a storm, there would be a risk of inundation and pollutant risk on the Project site. As discussed above in Response 3.10.2(a), during construction, there is a potential for chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste to be spilled or leaked and transported via storm runoff into receiving waters. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. However, as specified in Mitigation Measure HYDRO-1, the proposed Project would be required to comply with the requirements set forth by the CGP and SWPPP, which would specify BMPs to be implemented to target and reduce pollutants of concern on the Project site.

In addition, as discussed above in Response 3.10.2(a), expected pollutants of concern during operation of the proposed Project include suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/viruses), pesticides, oil and grease, toxic organic compounds, and trash and debris. The pollutants of concern for the Project are metals and oil and grease. As required by Mitigation Measure HYDRO-3, a final WQMP would be prepared for the proposed Project that would require implementation of operational BMPs to reduce pollutants of concern in storm water runoff. With implementation of operational BMPs, no substantial additional sources of

polluted runoff would be discharged. Because BMPs would reduce introduction of pollutants, there would be a low potential for pollutants to be released from the Project site in the unlikely event of levee failure and inundation of the Project site. Therefore, with implementation of Mitigation Measures HYDRO-1 and HYDRO-3, the proposed Project would not risk release of pollutants due to Project inundation. This impact would be less than significant with mitigation incorporated.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact with Mitigation Incorporated. The proposed Project is within the jurisdiction of the Santa Ana RWQCB. The Santa Ana RWQCB adopted a Water Quality Control Plan (i.e., Basin Plan) that designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. As summarized below, the Project would comply with the applicable NPDES permits and would implement construction and operational BMPs to reduce pollutants of concern in storm water runoff.

As discussed in Response 3.10.2(a), during construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm water runoff into receiving waters. As specified in Mitigation Measure HYDRO-1, the proposed Project would be required to comply with the requirements set forth by the CGP, which require preparation of a SWPPP and implementation of construction BMPs to control storm water runoff and discharge of pollutants.

As discussed in Response 3.10.2(a), expected pollutants of concern during operation of the proposed Project include suspended solids/sediment, nutrients, heavy metals, pathogens (bacteria/viruses), pesticides, oil and grease, toxic organic compounds, and trash and debris. The pollutants of concern for the Project are metals and oil and grease. As required by Mitigation Measure HYDRO-3, a final WQMP would be prepared for the Project in compliance with the North Orange County MS4 Permit. The Final WQMP will detail the Site Design/LID, Source Control, and/or Treatment Control BMPs that would be implemented to treat storm water runoff and reduce impacts to water quality during operation. The proposed BMPs would capture and treat storm water runoff and reduce pollutants of concern in storm water runoff.

The proposed Project would comply with the applicable NPDES permit, which requires preparation of a SWPPP, preparation of a Final WQMP, and implementation of construction and operational BMPs to reduce pollutants of concern in storm water runoff. As such, the Project would not result in water quality impacts that would conflict with the Basin Plan. Impacts related to conflict with a water quality control plan would be less than significant, and no mitigation is required.

The Sustainable Groundwater Management Act (SGMA) was enacted in September 2014. SGMA requires governments and water agencies of high- and medium-priority basins to halt overdraft of groundwater basins. SGMA requires the formation of local Groundwater Sustainability Agencies

(GSAs), which are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins. SGMA provides authority for agencies to develop and implement groundwater sustainability plans (GSPs) or alternative plans that demonstrate the basin is being managed sustainably.

The Project site is located within the Coastal Plain of Orange County Groundwater Basin (Basin 8-1), which underlies the Lower Santa Ana River Watershed. For regulatory purposes, the Santa Ana RWQCB divides the Coastal Plain of Orange County Groundwater Basin into three Groundwater Management Zones. The Project area is within the Orange County Groundwater Management Zone. On January 1, 2017, the Orange County Water District, City of La Habra, and Irvine Ranch Water District submitted the Basin 8-1 Alternative to the California Department of Water Resources. The Basin 8-1 Alternative presents an analysis of basin conditions that demonstrates that Basin 8-1 has operated within its sustainable yield over a period of at least 10 years. In addition, the Basin 8-1 Alternative establishes objectives and criteria for management that would be addressed in a GSP and is designed to be "functionally equivalent" to a GSP. As shown in the Basin 8-1 Alternative, Basin 8-1 has been operated within its sustainable yield for more than 10 years without experiencing significant and unreasonable lowering of groundwater levels, reduction in storage, water quality degradation, seawater intrusion, inelastic land subsidence, or depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.[41]

As discussed in Response 3.10.2(a), with implementation of Mitigation Measures HYDRO-1 through HYDRO-3, the proposed Project would comply with the Construction General Permit and Municipal NPDES Permit and implement construction and operational BMPs to reduce impacts to water quality. The proposed Project's adherence to the regulatory standards and implementation of BMPs would ensure that potential construction and operational impacts related to the degradation of water quality would be less than significant. Therefore, the proposed Project would not conflict with or obstruct implementation of a water quality control plan with implementation of Mitigation Measures HYDRO-1 through HYDRO-3. The proposed Project would not substantially deplete groundwater supplies or interfere with groundwater recharge; therefore, it would not obstruct or conflict with a sustainable groundwater management plan, and no mitigation is required.

3.10.3 Mitigation Measures

Mitigation Measure HYDRO-1 **Construction General Permit.** Prior to commencement of construction activities, the City of Santa Ana (City) Public Works Director or designee shall obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) NPDES No. CAS000002, Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ, or any other

[41] Orange County Water District, City of La Habra, and Irvine Ranch Water District. 2017. *Basin 8-1 Alternative.* January 1. Website: https://www.ocwd.com/media/4918/basin-8-1-alternative-final-report-1.pdf (accessed November 2019).

subsequent permit. This shall include submission of Permit Registration Documents (PRDs), including permit application fees, a Notice of Intent (NOI), and other compliance-related documents required by the permit, to the State Water Resources Control Board via the Storm Water Multiple Application and Report Tracking System (SMARTS). Construction activities shall not commence until a Waste Discharge Identification Number (WDID) is obtained for the Project from SMARTS. Project construction shall comply with all applicable requirements specified in the Construction General Permit, including, but not limited to, preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of construction site best management practices (BMPs) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level identified for the Project. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and shall include BMPs, such as Sediment Control, Erosion Control, and Good Housekeeping BMPs, to control the pollutants in storm water runoff. Construction Site BMPs shall also confirm to the requirements specified in the latest edition of the Orange County Stormwater Program Construction Runoff Guidance Manual for Contractors, Project Owners, and Developers to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. Upon completion of construction activities and stabilization of the site, a Notice of Termination (NOT) shall be submitted via SMARTS.

Mitigation Measure HYDRO-2 **Groundwater Dewatering Permit.** If groundwater dewatering is required during construction, the City Public Works Director or designee shall ensure that the Construction Contractor obtains coverage under the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality (Order No. R8-2009-0003, NPDES No. CAG998001), or any subsequent permit. This shall include submission of a Notice of Intent (NOI) for coverage under the permit to the Santa Ana Regional Water Quality Control Board (RWQCB) at least 45 days prior to the start of dewatering. Groundwater dewatering activities shall comply with all applicable provisions in the permit, including water sampling, analysis, treatment (if required), and reporting of dewatering-related discharges. Upon completion of groundwater dewatering activities, an NOT shall be submitted to the Santa Ana RWQCB.

Mitigation Measure HYDRO-3 **Water Quality Management Plan.** During the final design phase, the City Public Works Director or designee shall insure that a Final Water Quality Management Plan (WQMP) be prepared for the Project in compliance with the *Waste Discharge Requirements for the County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff Orange County* (North Orange County MS4 Permit or most recently adopted North Orange County MS4 Permit), Order R8-2009-0030, NPDES No. CAS618030 (as amended by Order No. R8-2010-0062). The Final WQMP shall be prepared consistent with the requirements of the Model WQMP and Technical Guidance Document for the Preparation of Conceptual/Preliminary and/or Project WQMPs, or subsequent guidance manuals. The Final WQMP shall specify the BMPs to be incorporated into the Project design to target pollutants of concern in runoff from the Project area. The City Public Works Director or designee shall ensure that the BMPs specified in the Final WQMP are incorporated into the final Project design.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.11.1 Existing Setting

The Project area is within Census Tracts 752.01 and 891.04 in Santa Ana, Orange County. Within the Project limits, Fairview Street is bordered by single-family residences, multi-family residences, and a few commercial properties.

3.11.2 Impact Analysis

a. Would the project physically divide an established community?

No Impact. The physical division of an established community typically refers to the construction of a feature, such as interstate highway, or the removal of a means of access, such as a local road, that would impair mobility within an existing community or between a community and outlying areas. For example, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community. Development of the proposed Project would not create a physical barrier to travel within the Project area, as it would replace the existing Fairview Street bridge over the Santa Ana River, widen Fairview Street between 9th Street and 16th Street, and restripe the north and south ends to match the existing condition in Santa Ana. The proposed Project would improve accessibility and safety in the area for drivers, pedestrians, and bicyclists. As such, the proposed Project would not physically divide an established community, and no impacts would occur. No mitigation is required.

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?

No Impact. Fairview Street is designated as a six-lane Major Arterial, as shown in the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element. Major Arterials are roadways designed to move large volumes of traffic, linking freeways with local streets and providing access between cities and subregions. The proposed improvements would maintain consistency with this six-lane Major Arterial designation in the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element.

The Circulation Element states that the City supports proactive integration of pedestrian-oriented improvements and amenities within the City's circulation system to improve walkability. The existing

Fairview Street includes sidewalks on both sides of the street, with the exception of the segment on the bridge. Fairview Street does not include any bicycle facilities, such as bicycle lanes. The proposed Project would construct a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting to provide safe walkability and bicycle accommodations across the bridge consistent with the goals and policies of the Circulation Element.

The Circulation Element also identifies Fairview Street as a planned widening project in Santa Ana. The proposed Project includes replacing the existing four-lane bridge with a new six-lane bridge. Therefore, the proposed Project is consistent with the goals and policies in the Circulation Element and does not conflict with any plans applicable to the Project area and the proposed Project. Therefore, the Project is consistent with any applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, and no impacts would occur. No mitigation is required.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Existing Conditions

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act (SMARA), which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- **MRZ-2:** An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicates that significant measured or indicated resources are present. MRZ-2 areas are designated by the State Mining and Geology Board as being regionally significant. Such designations require that a lead agency's land use decisions involving designated areas are to be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the lead agency's jurisdiction.

3.12.2 Impact Analysis

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?

No Impact. The City's General Plan Conservation Element does not mention any mineral resources in the City.[42] In addition, the Orange County General Plan Resources Element does not identify the

[42] City of Santa Ana. 1998a. *City of Santa Ana General Plan Conservation Element.* September 20.

Project area as a mineral resource zone.[43] No other City planning documents identify any locally important mineral resources in the vicinity of the proposed Project. The Project area is located within a developed urban area and does not support mineral extraction operations. Therefore, no impacts related to the loss of availability of a known mineral resource that would be of value to the region and the residents of the State would result from Project implementation. No mitigation is required.

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 discussed above, the City's General Plan Conservation Element and the County's Resources Element do not identify any locally important mineral resources in the vicinity of the proposed Project. The proposed Project would not result in the loss of a locally important mineral resource. Therefore, no impacts related to 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 would result from Project implementation. No mitigation is required.

43 County of Orange. 2012a. *Orange County General Plan Chapter VI. Resources Element*.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
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?	☐	☒	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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 2 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?	☐	☐	☐	☒

3.13.1 Existing Setting

This section is based on the Noise Study Report[44] (NSR; Appendix A) and Noise Abatement Decision Report (NADR; Appendix A)[45] prepared for the Project.

The City of Santa Ana addresses noise in the Noise Element of the General Plan[46] and in the Municipal Code.[47] The City's interior and exterior noise standards are shown in Table 3.13.A below. Section 18-314 in Article IV, Noise Control, of the City's Municipal Code states that construction activities are exempt from the City's noise standards provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturday, or any time on Sunday or a federal holiday.

Table 3.13.A: Interior and Exterior Noise Standards, dB CNEL

Category	Land Use Category	Interior[1]	Exterior[2]
Residential	Single-family, duplex, multifamily	45[3]	65
Institutional	Hospital, school classroom/playground	45	65
	Church, library	45	-
Open Space	Parks	-	65

[1] Interior areas (including but not limited to bedrooms, bathrooms, kitchens, living rooms, dining rooms, closets, corridors/hallways, private offices, and conference rooms).

[2] Exterior areas shall mean private yards of single-family homes, park picnic areas, school playgrounds, common areas, and private open space such as atriums on balconies, and shall be excluded from exterior areas provided sufficient common area is included within the project.

[3] Interior noise level requirements contemplate a closed-window condition. A mechanical ventilation system or other means of natural ventilation shall be provided per Chapter 12, Section 1305, of the Uniform Building Code.

44 LSA. 2019c. *Noise Study Report*. January.

45 LSA. 2019b. *Noise Abatement Decision Report.* June.

46 City of Santa Ana. 1998c. *City of Santa Ana General Plan Noise Element*. September 20.

47 City of Santa Ana. 2019b. op. cit.

3.13.1.1 Existing Noise-Sensitive Land Uses in the Project Area

Noise-sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. Sensitivity to noise increases during the evening and at night. Noise-sensitive land uses located in the Project area are single-family and multifamily residences located adjacent to Fairview Street. Other non-noise-sensitive land uses located within the Project area include a medical office, a passive park (Fairview Triangle), a multiuse trail, vacant land, and commercial and light industrial uses. Recreational land uses in the Project area are not considered noise sensitive because there are no outdoor active-use areas where people would be regularly exposed to noise for an extended period of time.

3.13.1.2 Ambient Noise Levels

Short-term (20-minute) and long-term (24-hour) ambient noise measurements were conducted to document the existing noise environment in the Project vicinity. In total, 15 short-term measurement locations were conducted on April 17, 2018 and May 10, 2018, using Larson Davis Models 831, 824, and 820 Type 1 sound level meters. Table 3.13.B shows the results of these measurements and the descriptions of the physical locations of the noise monitoring sites. As shown in Table 3.13.B, daytime noise levels in the Project vicinity range from 50.0 to 74.0 A-weighted decibels equivalent continuous sound level (dBA L_{eq}).

Two long-term measurement sites were selected to capture the diurnal traffic noise level pattern in the Project area. Long-term ambient noise monitoring was conducted using one dosimeter at two representative locations in the Project area. The long-term noise level measurement at LT-1 was performed from 9:00 a.m. on Tuesday, April 17, 2018, to 9:00 a.m. on Wednesday, April 18, 2018, at a single-family residence at 1008 King Street. The noise levels ranged from 62 to 73 dBA L_{eq}. The long-term noise level measurement at LT-2 was performed from 2:00 p.m. on Wednesday, April 18, 2018, to 2:00 p.m. on Thursday, April 19, 2018, at a single-family residence at 2505 West 16th Street. The noise levels ranged from 57 to 67 dBA L_{eq}. Receptor locations are shown on Figure 5.

3.13.1.3 Existing Traffic Noise

The primary existing noise sources in the Project area are transportation facilities, which include Fairview Street. Traffic noise levels were predicted using the FHWA's Traffic Noise Model Version 2.5 (TNM 2.5).[48] Key inputs to TNM 2.5 were the locations of roadways, traffic mix, vehicle speeds, shielding features (e.g., topography and buildings), noise barriers, ground type, and receptors. The existing a.m. peak-hour traffic volumes obtained from the TIA[49] or the worst-case traffic operations (prior to speed degradation), whichever were lower, were coded into TNM 2.5 with existing roadway conditions. The a.m. peak-hour traffic volumes were selected over the p.m. peak-hour traffic volumes because the long-term (24-hour) noise level measurements indicate that the peak noise hour occurs during this period. A total of 92 receptor locations were modeled to represent land uses in the Project area as shown in Figure 5. Table B.1 in Appendix B of the NSR (Appendix A of this IS/MND) provides the results of the existing traffic noise modeling.

48 United States Federal Highway Administration. 2004. Traffic Noise Model (TNM) Version 2.5. April.

49 LSA. 2018b. *Traffic Impact Analysis*. June.

Table 3.13.B: Ambient Noise Measurement Results

Monitor No.	Date	Start Time	Duration (minutes)	dBA L_{eq}	Location Description	Noise Sources
ST-1	4/17/2018	9:23 AM	20	63.4	2234 West 9th Street, in the residence backyard	Traffic on Fairview Street, birds, and rooster crowing
ST-2	4/17/2018	9:23 AM	20	63.8	2507 9th Street, in the residence backyard	Traffic on Fairview Street
ST-3	4/17/2018	9:23 AM	20	64.9	1908 King Street, in the residence backyard	Traffic on Fairview Street and birds
ST-4	4/17/2018	10:28 AM	20	67.3	1007 Marengo Place, in the residence backyard	Traffic on Fairview Street and birds
ST-5	4/17/2018	10:28 AM	20	65.6	2332 West 12th Street, in the residence backyard	Traffic on Fairview Street
ST-6	4/17/2018	11:36 AM	20	64.7	2503 West 12th Street, in the residence backyard	Traffic on Fairview Street
ST-7	5/10/2018	11:10 AM	20	66.7	Fairview Triangle	Traffic on Fairview Street, birds, and wind
ST-8	4/17/2018	10:28 AM	20	56.7	2413 West Washington Avenue, in the residence backyard	Traffic on Fairview Street
ST-9	4/17/2018	1:53 PM	20	55.7	1322 Fair Way, in the residence backyard	Traffic on Fairview Street
ST-10	4/17/2018	1:54 PM	20	53.3	1334 Fair Way, in the residence backyard	Traffic on Fairview Street
ST-11	4/17/2018	12:19 PM	20	50.0	1321 North Glenarbor Street, in the residence backyard	Traffic on Fairview Street
ST-12	4/17/2018	12:19 PM	20	54.5	1413 North Glenarbor Street, in the residence backyard.	Traffic on Fairview Street
ST-13	4/17/2018	1:12 PM	20	55.7	1417 North Glenarbor Street, in the residence backyard	Traffic on Fairview Street
ST-14	5/10/2018	12:10 PM	20	63.0	2501 16th Street, in the residence front yard	Traffic on Fairview Street and light traffic on 16th Street
ST-15	4/17/2018	1:12 PM	20	74.0	South of 1609 Fairview Street, in the residence front yard	Traffic on Fairview Street

Source: Compiled by LSA Associates, Inc. (May 2018).
dBA L_{eq} = equivalent continuous sound level measured in A-weighted decibels
ST = short-term

3.13.2 Impact Analysis

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 with Mitigation Incorporated.

Construction. Two types of short-term noise level increases would occur during construction of the proposed Project. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project area that would incrementally raise noise levels on access roads leading to the area. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volumes in the Project vicinity. A high single-event noise exposure potential at a maximum level of 84 dBA maximum instantaneous noise level (L_{max}) from trucks passing at 50 ft will exist. However, the projected construction traffic volume would be minimal when compared to existing traffic volumes on Fairview Street



LEGEND

- Modeled Receptors
- Long-Term Monitoring Locations
- Short-Term Monitoring Locations
- Proposed Right of Way Acquisition
- Proposed Improvements
- Existing Right of Way
- Existing Walls
- Potential Sound Barriers

0 75 150
FEET

SOURCE: Google Aerial (12/2017); WKE (2017)

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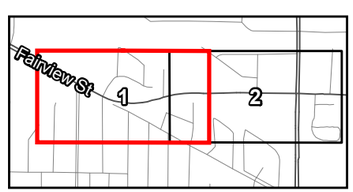


FIGURE 5
Sheet 1 of 2

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Modeled Noise Barrier and Receptor Locations

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LEGEND

- Modeled Receptors
- Long-Term Monitoring Locations
- Short-Term Monitoring Locations
- Proposed Right of Way Acquisition
- Proposed Improvements
- Existing Right of Way
- Existing Walls
- Potential Sound Barriers

0 75 150
FEET

SOURCE: Google Aerial (12/2017); WKE (2017)

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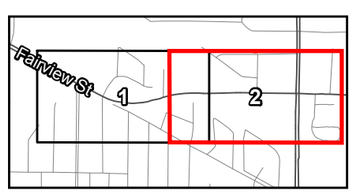


FIGURE 5
Sheet 2 of 2

Fairview Bridge Replacement and Street Improvements (9th Street to 16th Street) Project

Modeled Noise Barrier and Receptor Locations

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and other adjacent roadways, and the associated long-term noise level change would not be perceptible above the existing ambient noise level. Therefore, short-term construction-related worker commutes and equipment transport noise level increases would not be substantial.

The second type of short-term noise impact is related to noise generated during roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels in the Project area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 3.13.C lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments based on a distance of 50 ft between the equipment and a noise receptor.

Table 3.13.C: Typical Construction Equipment Noise Levels

Equipment Description	Spec 721.560[1] L_{max} at 50 ft (dBA)	Actual Measured[2] L_{max} at 50 ft (dBA)
Backhoes	80	78
Compactor (ground)	80	83
Cranes	85	81
Dozers	85	82
Dump Truck	84	76
Excavators	85	81
Flat Bed Trucks	84	74
Front-End Loaders	80	79
Graders	85	N/A[3]
Jackhammer	85	89
Pickup Truck	55	75
Pneumatic Tools	85	85
Pumps	77	81
Rock Drill	85	81
Roller	85	80
Scrapers	85	84
Tractors	84	N/A
Vibratory Pile Driver	95	101

Source: Federal Highway Administration *Roadway Construction Noise Model* (2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.

1 Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.

2 The maximum noise level was developed based on the average noise level measured for each piece of equipment during the CA/T program in Boston, Massachusetts.

3 Since the maximum noise level based on the average noise level measured for this piece of equipment was not available, the maximum noise level developed based on Spec 721.560 was used.

CA/T = Central Artery/Tunnel
dBA = A-weighted decibels
ft = foot/feet
L_{max} = maximum instantaneous noise level
N/A = not applicable
Spec = Specification

Typical noise levels at 50 ft from an active construction area range up to 88 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery (e.g., backfillers, bulldozers, and front loaders). Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed Project is expected to require the use of graders, bulldozers, and water trucks/pickup trucks. Noise associated with the use of construction equipment is estimated to be between 55 and 85 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table 3.13.C, the maximum noise level generated by each grader is assumed to be approximately 85 dBA L_{max} at 50 ft from the grader in operation.

Each bulldozer would generate approximately 85 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks/pickup trucks is estimated to be approximately 55 dBA L_{max} at 50 ft from these vehicles.

Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 88 dBA L_{max} at a distance of 50 ft from an active construction area. Based on a usage factor of 40 percent, the worst-case combined noise level during this phase of construction would be 84 dBA L_{eq} at a distance of 50 ft from the active construction area.

The closest residences are located approximately 50 ft from the Project construction areas. Therefore, the closest residences may be subject to short-term noise reaching 88 dBA L_{max} generated by construction activities in the Project area. As identified above, construction noise is exempt from noise standards in the City's Municipal Code, but construction activities are limited to daytime periods—i.e., no construction activities between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturdays, or at any time on Sundays and federal holidays.[50] The Project is also subject to Caltrans Standard Specifications or Greenbook (2018 or most current) equivalent specifications because the Project would utilize federal transportation funding.

In addition to adherence to the City's Municipal Code construction activity time limits, standard noise controls are required to be implemented to avoid potentially significant construction noise impacts to adjacent residences. These controls include maintaining mufflers on equipment, directing stationary noise away from the nearest receptors, and staging equipment as far as possible from receptors. These controls, as well as compliance with the City's Municipal Code hour restrictions, are included in Mitigation Measure NOI-1. Therefore, with implementation of Mitigation Measure NOI-1, short-term noise impacts related to construction of the proposed Project would be less than significant.

[50] City of Santa Ana. 2019b. op. cit.

Operation. Potential long-term noise impacts under the Future Plus Project condition are solely from traffic noise. Future traffic noise levels at all 92 receptor locations were determined using either the worst-case traffic operations (prior to speed degradation) or the 2040 a.m. peak-hour traffic volumes obtained from the TIA,[51] whichever were lower, as described above.

Long-term traffic noise impacts were evaluated based on the noise standards in the City's General Plan Noise Element. According to the Noise Element, the long-term operational noise standard for residential uses is 65 dBA Community Noise Level Equivalent (CNEL). A 3 dBA change is the lowest level that is barely perceptible by the average human ear in an outdoor environment. Under CEQA, a comparison is made between the Existing No Project and Future Plus Project noise levels. A receptor is considered significantly impacted under CEQA if an increase of 3 dBA or more occurs and the Future Plus Project traffic noise level is 65 dBA CNEL or more.

As shown in Table B.1 in Appendix B of the NSR (Appendix A of this IS/MND), the Project-related traffic noise increase (from Existing No Project to Future Plus Project) at all 92 modeled receptor locations would be less than 3 dBA and would not be perceptible to the human ear in an outdoor environment. Although noise level results from FHWA TNM 2.5 are described using the L_{eq} level and the City's noise standards are described using the CNEL level, the change in noise level from Existing No Project to Future Plus Project would be the same between the L_{eq} and CNEL. Therefore, long-term noise impacts related to operations of the proposed Project would be less than significant, and no mitigation is required.

The modeled future noise levels were also compared to the Caltrans Noise Abatement Criteria (NAC) to determine whether noise abatement should be considered under NEPA, because the Project would utilize federal transportation funding.

The following noise barriers (NBs) were analyzed to shield receptor locations that would be exposed to traffic noise levels approaching or exceeding the Caltrans NAC for the future Project conditions:

- **NB No. 1:** A 169 ft long barrier along the right-of-way and private property line on the northbound side of Fairview Street between Civic Center Drive and 9th Street was analyzed to shield Receptor R-5.
- **NB No. 2:** A 129 ft long barrier along the right-of-way and private property line on the southbound side of Fairview Street between Civic Center Drive and 9th Street was analyzed to shield Receptor R-8.
- **NB No. 3:** A 113 ft long barrier along the right-of-way and private property line on the southbound side of Fairview Street between West 9th Street and West 12th Street was analyzed to shield Receptor R-14.

51 LSA. 2018b. op. cit.

- **NB No. 4:** A 171 ft long barrier along the right-of-way and private property line on the southbound side of Fairview Street between West 9th Street and West 12th Street was analyzed to shield Receptor R-23.

- **NB No. 5:** A 705 ft long barrier along the right-of-way on the northbound side of Fairview Street between West 9th Street and West 12th Street was analyzed to shield Receptors R-24, R-25, and R-40.

- **NB No. 6:** A 184 ft long barrier along the right-of-way and private property line on the southbound side of Fairview Street between West 12th Street and the Santa Ana River was analyzed to shield Receptor R-46.

Based on the NADR, NB Nos. 2 through 5 were determined to be reasonable, and NB Nos. 1 and 6 were determined to be not reasonable because the estimated construction cost exceeded the total reasonable allowance. NB Nos. 2, 3 (at 12 ft and 14 ft high), 4, and 5 would require the property owner to donate their right-of-way (permanent and temporary easement) in order to achieve reasonableness. The property owners and nonowner occupants will be sent a noise barrier survey letter during the IS/MND public review period to request each owner's or occupant's opinion on whether or not they would prefer a noise barrier and what height they would prefer the barrier to be, based on the range of feasible and reasonable heights listed in Table 3.1 of the NADR (Appendix A of this IS/MND).

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Construction. Construction of the proposed Project could result in the generation of groundborne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in vibration velocity decibels (VdB) and will assess the potential for building damages using vibration levels in peak particle velocity (PPV, measured in inches per second [in/sec]) because vibration levels calculated in root-mean-square (RMS) are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage. The Transit Noise and Vibration Impact Assessment[52] indicates that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered-timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

[52] United States Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed October 2019).

Table 3.13.D shows the PPV and VdB values at 25 ft from a construction vibration source. As shown in Table 3.13.D, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB of groundborne vibration when measured at 25 ft, based on the Transit Noise and Vibration Impact Assessment. At this level, groundborne vibration would result in potential annoyance to residents and workers but would not cause any damage to the buildings.

Table 3.13.D: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).
[1] RMS in VdB is 1 µin/sec.
µin/sec = micro-inches per second
FTA = United States Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residences and commercial/office buildings in the Project vicinity). Outdoor site preparation for the proposed Project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to occur during the site preparation phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the Project boundary (assuming the construction equipment would be used at or near the Project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below:

$$L_vdB\ (D) = L_vdB\ (25\ ft) - 30\ Log\ (D/25)$$
$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

For typical construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 ft. The closest residences are located approximately 50 ft from the Project construction areas. Due to distance attenuation, the closest residences would experience vibration levels of up to 78 VdB (0.031 in/sec PPV), which is below the FTA threshold of 94 VdB (0.2 in/sec PPV) for building damage. Although construction vibration levels at the adjacent land uses would have the potential to result in annoyance, these vibration levels would no longer occur once construction of the proposed Project is completed.

Therefore, groundborne vibration and noise impacts generated by construction equipment would be less than significant. No mitigation measures are required.

Operation. Once operational, the proposed Project would generate a minimal amount of additional traffic, and regional traffic trips are expected to remain the same. Roads are not typically major sources of groundborne noise or vibration. Groundborne vibration is mostly associated with passenger vehicles and trucks traveling on roads with poor conditions (e.g., potholes, bumps, expansion joints, or other discontinuities in the road surface). Vibration effects of passenger vehicles and trucks (e.g., rattling of windows) are almost always a result of airborne noise.

The proposed Project would consists of asphalt pavement that was resurfaced in August 2018. As a result, there are no potholes, bumps, or other discontinuities in the road surface that would generate groundborne vibration or noise impacts from vehicular traffic traveling on Fairview Street. Therefore, groundborne vibration and noise impacts generated by vehicles traveling through the Project area would be less than significant. No mitigation is required.

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 2 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. The closest airport to the Project site is John Wayne Airport, which is located approximately 6.6 mi southeast of the Project site; however, the Project site is not located within the Airport Land Use Plan. The proposed Project would not expose people residing or working in the Project area to excessive noise levels from aircraft noise because the Project site is located more than 2 mi from John Wayne Airport, the Project site is not located within an Airport Land use Plan, and the proposed Project would not involve the introduction of residential or employment uses in the Project area. There would be no impact, and no mitigation is required.

3.13.3 Mitigation Measures

Mitigation Measure NOI-1 **Construction Noise Control**. During construction, the Construction Contractor will implement the standard noise controls provided below and will adhere to City of Santa Ana (City) Municipal Code construction noise restrictions. The Construction Contractor will provide the City Public Works Director or designee with documentation that the following requirements were adhered to during construction activities:

- During all Project area excavation and on-site grading, the Project contractors will equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.

- The Project contractor will place all stationary construction equipment so that emitted noise is directed away from receptors nearest the Project area.

- The construction contractor will locate equipment staging in areas that will create the greatest distance between construction-related noise sources and receptors nearest the Project area during all Project construction.

- During all Project area construction, the construction contractor will limit all construction-related activities to the hours between 7:00 a.m. and 8:00 p.m. Monday through Saturday. No construction activities will be permitted outside of these hours or on Sundays or federal holidays.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

3.14.1 Existing Setting

The Project area is in Santa Ana. According to the 2012–2016 American Community Survey (ACS),[53] there were 333,605 people and 71,000 households in Santa Ana. Based on SCAG 2012 adopted growth estimates, the population of Santa Ana will reach 337,600 persons by 2020 and 336,700 persons by 2035, and will reach 73,900 households by 2020 and 74,800 households by 2035.[54]

3.14.2 Impact Analysis

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 include roadway improvements. The proposed Project would not result in direct population growth, as the use proposed is not residential and would not contribute to permanent residency on site as it would replace the existing Fairview Street bridge over the Santa Ana River, widening Fairview Street between 9th Street and 16th Street, and restriping the north and south ends to match the existing condition in Santa Ana. The proposed Project would not generate growth beyond that anticipated in the General Plan. Therefore, the proposed Project would not directly or indirectly induce population growth, and no impacts would occur. No mitigation is required.

[53] The ACS is an ongoing survey conducted by the United States Census Bureau that provides data every year, giving communities the current information they need to plan investments and services. Information from the survey generates data that help determine how more than $400 billion in federal and State funds are distributed each year. (Source: United States Census Bureau. 2019. About the American Community Survey. Website: https://www.census.gov/programs-surveys/acs/about.html [accessed November 2019].)

[54] Southern California Association of Governments. 2012. Adopted 2012 RTP Growth Forecast. Website: http://gisdata.scag.ca.gov/Pages/SocioEconomicLibrary.aspx?keyword=Forecasting (accessed November 2019).

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less Than Significant Impact. The proposed Project would require one full acquisition of a residential property (two-family residence; APN 405-213-14) and partial right-of-way acquisition from two commercial parcels (APNs 405-213-02 and 405-213-01) along the north side of Fairview Street. Full acquisition of the residential property would be required, as the proposed road widening would result in the loss of a portion of the side yard. Full acquisition of the residence would displace all persons in the households. Based on the average persons-per-household data for the census tract in which the residence is located (Census Tract 752.01), full acquisition of the residence would result in the displacement of 11.56 persons. Based on a 4.8 percent vacancy rate for Santa Ana, there will be sufficient replacement residences that are equal to or better than the displacement property available for rent or purchase.

The two commercial parcels with partial acquisitions would not require business displacements or disruption to the current function of those properties. The proposed Project would not displace substantial numbers of existing people or housing, and no mitigation is required.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. Fire protection?	☐	☒	☐	☐
ii. Police protection?	☐	☒	☐	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

3.15.1 Existing Setting

Police protection services are provided to Santa Ana by the Santa Ana Police Department. The City's central police station is located at 60 Civic Center Plaza, and the City's substation is located at 3750 West McFadden Avenue. In addition, the police department maintains the Santa Ana Regional Transportation Public Safety Office and Jose Vargas Community Affairs Office. The closest police station to the Project site is the City's substation, located approximately 1.9 mi southwest of the Project site.

The City contracts fire department services with the Orange County Fire Authority (OCFA), which fulfills both fire protection and emergency medical responsibilities. The OCFA operates 10 stations throughout Santa Ana and has access to an additional 61 stations in its service area. These stations are well distributed, with approximately 1.5 mi service radii throughout Santa Ana. However, the overlapping responsibility of fire companies allows adequate response to emergencies. The first fire unit response goal (travel time) is less than 5 minutes. The closest fire station to the Project site is OCFA-Santa Ana Fire Station #71, located at 419 S. Franklin Street, approximately 1.4 mi southeast of the Project site.

The Project area between 9th Street and the Fairview Street bridge is in the Santa Ana Unified School District (SAUSD) service area, and the Project area between Fairview Street bridge and 17th Street is in the Garden Grove Unified School District (GGUSD) service area. SAUSD serves transitional-kindergarten through 12th-grade children with 36 elementary schools, 9 intermediate schools, 6 comprehensive high schools, 3 educational options secondary schools, 2 early college high schools, and 1 early learner childhood education special-needs development center.[55]

[55] Santa Ana Unified School District. 2019. *District Overview.* July 11. Website: https://www.sausd.us/domain/3 (accessed August 2019).

Approximately 48,000 students are enrolled in SAUSD schools.[56] SAUSD serves transitional-kindergarten through 12th-grade children with 48 preschools and elementary schools, 10 intermediate schools, 8 high schools, 2 special-education schools, 1 adult education school, and 1 career technical education school.[57] Approximately 43,300 students are enrolled in GGUSD schools.[58] The closest schools to the Project site include the REACH Academy Community Day Intermediate and High School located adjacent to the southern border of the Project site.

Library services are provided at the Santa Ana Public Library, Newhope Library Learning Center, Garfield Community Center, Roosevelt-Walker Community Center, and Jerome Community Center.[59] The closest library services to the Project site are provided at the Jerome Community Center, located approximately 1.5 mi south of the Project site.

Parks and recreational facilities in the vicinity of the Project area include the SART and Fairview Triangle, a trailside rest area with native plant restoration, seating, and interpretive signage.

3.15.2 Impact Analysis

a. 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:

i. Fire protection?

Less Than Significant with Mitigation Incorporated. The proposed Project would not result in any new land uses that would require fire protection. Fairview Street is currently used by the OCFA to access land uses in this part of Santa Ana. The proposed Project would reduce congestion along Fairview Street. No long-term road closures and no closures during peak travel hours are anticipated through the Project area during construction of the proposed improvements, and at least one through-traffic lane in each direction would be kept open at all times. However, construction activities may temporarily restrict local vehicular traffic, which could affect emergency response or evacuation. A TMP is needed to ensure that adequate emergency response and evacuation will be maintained. Mitigation Measure TR-1, provided later in Section 3.17, Transportation, requires that a TMP be developed during final design to address impacts to local circulation during construction, including emergency access. The TMP would require that emergency service providers be notified prior to Project construction regarding any temporary limitations to emergency access. Therefore, with implementation of

56 Santa Ana Unified School District. 2019. *District Overview.* July 11. Website: https://www.sausd.us/domain/3 (accessed August 2019).

57 Garden Grove Unified School District. 2019. *Which School Will My Child Attend?* Website: https://www.ggusd.us/schools/#elementary (accessed August 2019).

58 Ibid.

59 City of Santa Ana. 2019a. *Library Services.* Website: https://www.santa-ana.org/library (accessed August 2019).

Mitigation Measure TR-1, potential impacts to emergency response and evacuation plans during construction would be reduced to less than significant.

The proposed Project is anticipated to improve traffic along Fairview Street once the improvements are operational. Therefore, the completed Project should have a beneficial impact on emergency services response times in the Project area and vicinity. The proposed Project would not generate demand for fire protection, and no additional or expanded facilities would be needed. Therefore, impacts to emergency services related to fire protection would be less than significant with mitigation incorporated.

ii. Police protection?

Less Than Significant with Mitigation Incorporated. As discussed under Response 3.14.2(a)(i) above, the proposed Project would result in improvements to an existing roadway and would not result in any new land uses that would require police protection. Fairview Street is currently used by the Santa Ana Police Department to access land uses in this part of Santa Ana. The proposed Project would reduce congestion along Fairview Street. No long-term road closures and no closures during peak travel hours are anticipated through the Project area during construction of the proposed improvements, and at least one through-traffic lane in each direction would be kept open at all times. However, construction activities may temporarily restrict local vehicular traffic, which could affect emergency response or evacuation. A TMP is needed to ensure that adequate emergency response and evacuation will be maintained. Mitigation Measure TR-1, provided later in Section 3.17, Transportation, requires that a TMP be developed during final design to address impacts to local circulation during construction, including emergency access. The TMP would require that emergency service providers be notified prior to Project construction regarding any temporary limitations to emergency access. Therefore, with implementation of Mitigation Measure TR-1, potential impacts to emergency response and evacuation plans during construction would be reduced to less than significant.

The proposed Project is anticipated to improve traffic operations along Fairview Street once the improvements are operational. The proposed Project would not generate demand for police protection, and no additional or expanded facilities would be needed. Therefore, impacts to emergency services related to police protection would be less than significant with mitigation incorporated.

iii–v. Schools, Parks and Other Public Facilities?

No Impact. The proposed Project would not generate an increase in population and, therefore, would not result in the need for new or expanded school facilities, parks, or libraries. As discussed in in Section 3.16, Recreation, the Project would not alter the function of the SART or Fairview Triangle during construction or operation. Therefore, there would be no Project-related impact to schools, parks, or libraries. No mitigation is required.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

3.16.1 Existing Setting

Recreational facilities in the vicinity of the Project area include the SART and Fairview Triangle. The SART is a Class I bike path that runs on the east side of the Santa Ana River. Fairview Triangle is a trailside rest area with native plant restoration, seating, and interpretive signage. Although Fairview Triangle provides some function as a passive park, the primary purpose of the site is a rest area with native plant restoration.

3.16.2 Impact Analysis

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 purpose of the proposed Project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street. Currently, the Fairview Street bridge is utilized by bicyclists and pedestrians to cross over the Santa Ana River, but there are no existing sidewalks or bikeways on the bridge. As part of the proposed Project, the Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting. These features would improve the safety of the area for both motorized and nonmotorized travel. The improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which could facilitate access to the park by nonmotorized travel; however the proposed Project would not induce population or employment growth that would generate a significant increased demand for recreational facilities. Therefore, the proposed Project would not 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. Impacts would be less than significant, and no mitigation is required.

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. As discussed above, the purpose of the proposed Project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and

16th Street. Currently, the Fairview Street bridge is utilized by bicyclists and pedestrians to cross over the Santa Ana River, but there are no existing sidewalks or bikeways on the bridge. As part of the proposed Project, the Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting. These features would improve the safety of the area for both motorized and nonmotorized travel. The improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways, which could facilitate access to the park by nonmotorized travel; however the Project does not include recreational facilities or require the construction or expansion of recreational facilities because it involves bridge replacement, roadway widening, and restriping. Impacts would be less than significant, and no mitigation is required.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)	☐	☐	☒	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d. Result in inadequate emergency access?	☐	☒	☐	☐

3.17.1 Existing Setting

The analysis in this section is based on the TIA[60] (Appendix A), which summarizes the intersection LOS calculations using the intersection capacity utilization (ICU) methodology for signalized intersections and Highway Capacity Manual (HCM) methodology for unsignalized intersections, consistent with the City's Circulation Element and *Capacity Calculations and Level of Service Standards*. The traffic analysis analyzes the existing (2017) condition and future year (2021 and 2040) No Project and Plus Project conditions for the proposed Project.

The City's Circulation Element and the Orange County Transportation Authority Master Plan of Arterial Highways (MPAH) identify Fairview Street between Civic Center Drive and 17th Street (including a bridge over the Santa Ana River) as a six-lane, divided Major Arterial. The bridge currently provides two lanes in each direction. The segment of Fairview Street to the north of 16th Street currently provides two lanes in each direction, with the exception of a three-lane southbound segment between Avalon Avenue and Bolivar Circle. Fairview Street south of 9th Street currently provides three lanes in each direction. Fairview Street has a posted speed limit of 45 mph on segments north and south of the bridge.

Sidewalks exist on both sides of Fairview Street, with the exception of the segment on the bridge. Bicycle facilities, such as bicycle lanes, do not exist on Fairview Street; however, the SART runs along the Santa Ana River's eastern bank and has access points to both the northbound and the southbound sides of Fairview Street at the southern end of the bridge. The trail on the Santa Ana River's western bank does not have direct connections to Fairview Street.

Consistent with the intersection analysis methodology, existing intersection LOS was calculated for the five study intersections. To calculate the daily roadway LOS, existing daily traffic volumes along the roadway segments between the study intersections were compared against the design capacities of each segment. The City considers LOS D to be the upper limit of satisfactory

60 LSA. 2018b. op. cit.

intersection operations. Table 3.17.A depicts existing intersection LOS, while Table 3.17.B shows roadway segment LOS.

Table 3.17.A: Existing Intersection LOS Summary

Intersection		2017 Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		v/c Delay	LOS	v/c Delay	LOS
1	Fairview Street/17th Street	0.835	D	0.902	E
2	Fairview Street/16th Street[1]	31.6	D	20.0	C
3	Fairview Street/12th Street[1]	25.1	D	19.0	C
4	Fairview Street/9th Street[1]	>50.0	F	47.4	E
5	Fairview Street/Civic Center Drive	0.642	B	0.640	B

= unsatisfactory LOS

[1] The intersection is unsignalized and was assessed using the HCM methodology. Delay values shown are in seconds per vehicle.

>50.0 = HCM delay value is greater than 50.0 seconds per vehicle, LOS F.

HCM = Highway Capacity Manual

LOS = level of service

v/c = volume-to-capacity ratio

Table 3.17.B: Existing ADT Volumes and LOS

Roadway Segment		2017 Existing Conditions			
		Arterial Type	Capacity	ADT	LOS
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	42,440	F
	16th Street to 12th Street–Fairview Bridge	4 Lanes Undivided	25,000	41,890	F
	12th Street to 9th Street	4 Lanes Divided	37,500	40,980	F
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	41,720	C

= unsatisfactory LOS

ADT = average daily traffic

LOS = level of service

v/c = volume-to-capacity

As Table 3.17.A shows, the intersections of Fairview Street/17th Street and Fairview Street/9th Street currently operate at unsatisfactory LOS E or worse during one or both peak hours. The three other study intersections currently operate at satisfactory LOS D or better. As shown in Table 3.17.B, the segments of Fairview Street (including the bridge) that provide only four lanes of travel currently experience daily traffic volumes greater than their respective design capacities, meaning these roadway segments currently experience unsatisfactory LOS F.

3.17.2 Impact Analysis

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 with Mitigation Incorporated. Construction of the proposed Project may require temporary closure of one travel lane at a time on the bridge, which would temporarily delay

local vehicular traffic and could affect travelers on Fairview Street. In addition, construction of the proposed Project would require temporary closure of a portion of the SART for the demolition and placement of the bridge superstructure. The SART includes a Class I bike path on the eastern side and a regional riding and hiking trail on the western side. The portion of the SART affected by Project construction would need to be temporarily closed four times for approximately 8 hours each during two summer periods for the placement of precast concrete girders. During these periods, SART users would be detoured, and signage would be provided to display the dates of the closures and identify the detour routes. Work on the north and south sides of the bridge would be completed during separate periods so that SART users can be detoured to the trail on the opposite side of the Santa Ana River at 5th Street. There are gates and ramps located on both sides of the SART at 5th Street that provide access to bicyclists and pedestrians for these detours.

On May 16, 2018, a coordination meeting was held in order to discuss the potential SART closures required by the proposed Project. Attendees included staff from the City, Caltrans, and OC Parks as well as the Project engineer and environmental consultant. The detour plan was revised based on OC Parks input. In addition, requirements for SART closures, including warning signs and flagmen, were noted and have been included as part of the proposed Project. As discussed at the meeting, details regarding the bike detours would be coordinated with OC Parks during construction at least 30 days prior to the temporary closure of the SART so that OC Parks can also provide the closure information on its website. Other short-term closures of up to 15 minutes would be allowed with flagmen.

Potential impacts to travelers on Fairview Street or the SART in the Project area during construction would be avoided or minimized with development and implementation of a TMP that identifies how the safe movement of vehicular, pedestrian, and bike traffic would be safely handled during construction, including signage and bike detour routes and coordination with OC Parks. Mitigation Measure TR-1 requires that a TMP be prepared during final design and implemented during construction. Therefore, with implementation of Mitigation Measure TR-1, construction activities would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

In addition, LSA prepared future traffic forecasts for 2021 baseline (No Project) and Plus Project conditions as well as 2040 No Project and Plus Project conditions using the long-range traffic modeling tool, the Orange County Transportation Analysis Model (OCTAM). OCTAM is a travel demand model derived from SCAG's Regional Model that provides more specific land use and network information for Orange County. The 2021 baseline traffic forecasts represented the anticipated conditions at the anticipated Project completion year. The 2040 traffic forecasts represent long-range design year traffic conditions. Due to Project development delays, the current projected opening year is 2022.

The 2021 No Project and Plus Project traffic forecasts were developed based on interpolating the overall growth between existing (2017) volumes and 2040 No Build and Build forecasts. Specifically, the proportional growth from 2017 to 2021 (4 years) was scaled against the overall growth between 2017 and 2040 (23 years) to develop a growth ratio of 17.39 percent. This growth percentage was applied to the growth between 2017 and 2040 forecasts at each study intersection and roadway segment to arrive at 2021 No Build and Plus Project traffic forecasts.

The future year No Project conditions (2021 and 2040) are the baselines for analyzing the impacts associated with the Project itself (i.e., beyond that attributed to growth/cumulative projects).

2021 No Project Condition. As shown in Table 3.17.C, the intersections along Fairview Street are anticipated to operate at acceptable LOS with the exception of the following intersections:

- Fairview Street/17th Street (LOS E during the p.m. peak hour)
- Fairview Street/9th Street (LOS F in both the a.m. and p.m. peak hours)

This represents a general worsening of intersection operations under 2021 No Project condition.

Table 3.17.C: 2021 Intersection LOS

	Intersection	2017 Existing Condition				2021 No Project Condition				2021 Plus Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS
1	Fairview Street/ 17th Street	0.835	D	0.902	E	0.853	D	0.954	E	0.860	D	0.948	E
2	Fairview Street/ 16th Street[1]	31.6	D	20.0	C	33.9	D	20.7	C	>50.0	F	27.2	D
3	Fairview Street/ 12th Street[1]	25.1	D	19.0	C	26.0	D	19.7	C	22.1	C	18.0	C
4	Fairview Street/ 9th Street[1]	>50.0	F	47.4	E	>50.0	F	>50.0	F	>50.0	F	41.4	E
5	Fairview Street/ Civic Center Drive	0.642	B	0.640	B	0.664	B	0.651	B	0.691	B	0.665	B

= unsatisfactory LOS

[1] The intersection is unsignalized and was assessed using the HCM methodology. Delay values shown are in seconds per vehicle.

>50.0 = HCM delay value is greater than 50.0 seconds per vehicle, LOS F. LOS = level of service

HCM = Highway Capacity Manual v/c = volume-to-capacity ratio

As shown in Table 3.17-D, forecasted increases to daily traffic volumes along Fairview Street from existing to 2021 No Project condition are anticipated to continue to result in unsatisfactory roadway segment LOS for the four-lane segments of Fairview Street.

2021 Plus Project Condition. As shown in Table 3.17.C, the intersections along Fairview Street are anticipated to operate at acceptable LOS with the exception of the following intersections:

- Fairview Street/17th Street (LOS E during the p.m. peak hour)
- Fairview Street/16th Street (LOS F during the a.m. peak hour)
- Fairview Street/9th Street (LOS F during the a.m. peak hour and LOS E in the p.m. peak hour)

Several of the study intersections are shown to operate at higher levels of delay or capacity compared to the 2021 No Project condition because of the rerouting of regional north-south vehicular traffic from parallel routes that may now use Fairview Street due to the proposed improvements. Exceptions include the intersections of Fairview Street at 17th Street and

Table 3.17.D: 2021 ADT Volumes and Roadway Segment LOS

Roadway Segment		Arterial Type	Capacity	ADT	LOS
2017 Existing Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	42,440	F
	16th Street to 12th Street–Fairview Bridge	4 Lanes Undivided	25,000	41,890	F
	12th Street to 9th Street	4 Lanes Divided	37,500	40,980	F
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	41,720	C
2021 No Project Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	42,910	F
	16th Street to 12th Street–Fairview Bridge	4 Lanes Undivided	25,000	42,350	F
	12th Street to 9th Street	4 Lanes Divided	37,500	41,430	F
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	42,180	C
2021 Plus Project Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	43,620	F
	16th Street to 12th Street–Fairview Bridge	6 Lanes Divided	56,300	43,050	C
	12th Street to 9th Street	6 Lanes Divided	56,300	42,110	C
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	42,880	C

= unsatisfactory LOS
ADT = average daily traffic
LOS = level of service
v/c = volume-to-capacity ratio

12th Street, which operate better due to reductions in travel patterns (higher north-south through traffic, while lower east-west turning movements at 17th Street) and changes in access (12th Street).

Implementation of the proposed Project would result in prolonged delay for the eastbound left-turn movements at the intersection of Fairview Street at 16th Street. This represents a worsening of access conditions to 9 a.m. and 5 p.m. peak-hour conditions. As this resulting deficient operation is indicative of only the worst-performing movement (the eastbound left-turning vehicles in the p.m. peak hour), this delay value and LOS are not considered to be indicative of the overall intersection and are not considered a significant impact.

As Table 3.17.D shows, the proposed increase in roadway capacity to Fairview Street south of 16th Street is anticipated to accommodate both ambient existing to 2021 traffic growth and north-south regional traffic rebalancing at satisfactory LOS C. This is an improvement over both existing and 2021 No Project overcapacity traffic conditions. In addition, as shown in Table 3.17.D, Fairview Street from 17th Street to 16th Street would continue to result in unsatisfactory LOS F conditions. However, this segment is outside the Project limits. As described earlier, the City's General Plan Circulation Element identifies Fairview Street as a 6-lane Major Arterial Highway, including the segment between 17th Street and 16th Street. Implementation of additional lanes within this roadway segment, consistent with the General Plan, would eliminate the roadway deficiency. As part of its annual Capital Improvement Program (CIP), the City conducts ongoing monitoring and collects citywide traffic data for all arterials and intersections within the City. As part of this ongoing monitoring, the City determines needed improvements and prioritizes projects for funding to address identified congestion and/or safety concerns. The segment of Fairview Street between 17th Street and 16th Street is already identified as roadway link of concern.

2040 No Project Condition. As shown in Table 3.17.E, the intersections along Fairview Street are anticipated to operate at acceptable LOS with the exception of the following intersections:

- Fairview Street/17th Street (LOS F in both the a.m. and p.m. peak hours)
- Fairview Street/16th Street (LOS E during the a.m. peak hour)
- Fairview Street/9th Street (LOS F in both a.m. and p.m. peak hours)

Table 3.17.E: 2040 Intersection LOS

	Intersection	2017 Existing Condition				2040 No Project Condition				2040 Plus Project Condition			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS	v/c Delay	LOS
1	Fairview Street/ 17th Street	0.835	D	0.902	E	1.071	F	1.258	F	1.031	F	1.195	F
2	Fairview Street/ 16th Street[1]	31.6	D	20.0	C	48.1	E	24.9	C	>50.0	F	41.7	E
3	Fairview Street/ 12th Street[1]	25.1	D	19.0	C	32.0	D	23.4	C	30.6	D	22.3	C
4	Fairview Street/ 9th Street[1]	>50.0	F	47.4	E	>50.0	F	>50.0	F	>50.0	F	>50.0	F
5	Fairview Street/ Civic Center Drive	0.642	B	0.640	B	0.766	C	0.705	C	0.908	E	0.876	D

= unsatisfactory LOS

[1] The intersection is unsignalized and was assessed using the HCM methodology. Delay values shown are in seconds per vehicle.

>50.0 = HCM delay value is greater than 50.0 seconds per vehicle, LOS F.

LOS = level of service

v/c = volume-to-capacity ratio

This represents a general worsening of intersection operations under 2040 No Project condition.

As shown in Table 3.17.F, forecasted increases to daily traffic volumes along Fairview Street from existing to 2040 No Project condition are anticipated to continue to result in unsatisfactory roadway segment LOS for the four-lane segments of Fairview Street.

2040 Plus Project Condition. As shown in Table 3.17.E, the intersections along Fairview Street are anticipated to operate at acceptable LOS with the exception of the following intersections:

- Fairview Street/17th Street (LOS F during both the a.m. and the p.m. peak hours)
- Fairview Street/16th Street (LOS F during the a.m. peak hour and LOS E during the p.m. peak hour)
- Fairview Street/9th Street (LOS F during both the a.m. and the p.m. peak hours)
- Fairview Street/Civic Center Drive (LOS E during the a.m. peak hour)

Similar to the analysis results for the 2021 Plus Project condition, several of the study intersections are shown to operate at higher levels of delay or capacity under the 2040 Plus Project condition, compared to the 2040 No Project condition, because of the rerouting of regional north-south vehicular traffic from parallel routes that may now use Fairview Street

Table 3.17.F: 2040 ADT Volumes and Roadway Segment LOS

Roadway Segment		Arterial Type	Capacity	ADT	LOS
2017 Existing Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	42,440	F
	16th Street to 12th Street–Fairview Bridge	4 Lanes Undivided	25,000	41,890	F
	12th Street to 9th Street	4 Lanes Divided	37,500	40,980	F
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	41,720	C
2040 No Project Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	45,130	F
	16th Street to 12th Street–Fairview Bridge	4 Lanes Undivided	25,000	44,540	F
	12th Street to 9th Street	4 Lanes Divided	37,500	43,580	F
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	44,360	C
2040 Plus Project Condition					
Fairview Street	17th Street to 16th Street	4 Lanes Divided	37,500	49,200	F
	16th Street to 12th Street–Fairview Bridge	6 Lanes Divided	56,300	48,560	D
	12th Street to 9th Street	6 Lanes Divided	56,300	47,510	D
	9th Street to Civic Center Drive	6 Lanes Divided	56,300	48,360	D

= unsatisfactory LOS
ADT = average daily traffic
LOS = level of service
v/c = volume-to-capacity

due to the proposed improvements. Exceptions include the intersections of Fairview Street at 17th Street and 12th Street, which operate better due to reductions in travel patterns (higher north-south through traffic while lower east-west turning movements at 17th Street) and changes in access (12th Street).

The intersection of Fairview Street at 16th Street experiences a worsening of HCM-based delay values in the 2040 p.m. peak hour from an acceptable 24.9 second/vehicle LOS C in the No Project condition to an unacceptable 41.7 second/vehicle LOS E in the Plus Project condition. This represents the calculated delay of the worst-performing movement in a given intersection and is not indicative of the experience of the majority of vehicles traveling through these intersections. As this resulting additional deficient operation is indicative of only the worst-performing movement, in this case the 5 eastbound left-turning vehicles in the p.m. peak hour, this delay value and LOS are not considered to be indicative of the overall intersection and are not considered a significant impact.

Implementation of the proposed Project would result in an additional unsatisfactorily operating intersection (the intersection of Fairview Street and Civic Center Drive) compared to the deficient intersections identified under the 2040 No Build condition. Regional growth between the existing and 2040 No Project conditions would contribute to the unacceptable peak-hour operations at the intersection of Fairview Street at Civic Center Drive which could potentially result in a significant impact.

As shown in Table 3.17.F, the proposed increase in roadway capacity for Fairview Street south of 16th Street is anticipated to accommodate 2040 traffic growth and north-south regional traffic rebalancing resulting in satisfactory LOS D. This is an improvement over both existing and 2040 No Project overcapacity traffic conditions. In addition, as shown in Table 3.17.F, Fairview Street

from 17th Street to 16th Street would continue to result in unsatisfactory LOS F conditions. However, this segment is outside the Project limits. As described earlier, the City's General Plan Circulation Element identifies Fairview Street as a 6-lane Major Arterial Highway, including the segment between 17th Street and 16th Street. Implementation of additional lanes within this roadway segment, consistent with the General Plan, would eliminate the roadway deficiency. As discussed above, as part of its annual CIP, the City conducts ongoing monitoring and collects citywide traffic data for all arterials and intersections within the City. As part of this ongoing monitoring, the City determines needed improvements and prioritizes projects for funding to address identified congestion and/or safety concerns. The segment of Fairview Street between 17th Street and 16th Street is already identified as roadway link of concern.

The proposed improvement of Fairview Street from four through lanes to six through lanes could result in a significant impact at the intersection of Fairview Street and Civic Center Drive in the 2040 Plus Project a.m. peak-hour conditions. In order to mitigate the potentially impacted a.m. peak-hour condition, the intersection would need to be restriped to allow additional movements—specifically, restriping the westbound shared left-through lane to allow right turns as well (a shared left-through-right-turn lane).

The allowance of westbound right turns from the westbound shared left-through turn lane is anticipated to improve the 2040 Plus Project condition a.m. peak-hour intersection v/c ratio from a deficient 0.908 (LOS E) to an acceptable 0.842 (LOS D). The 2040 Plus Project condition p.m. peak-hour intersection v/c ratio is anticipated to improve from an acceptable 0.876 (LOS D) to an acceptable 0.810 (LOS D). As this impact and deficiency are not anticipated to occur until the 2040 Plus Project condition, it is recommended that this improvement not be implemented until deemed necessary. This should be done through intersection operations monitoring (particularly of the westbound right-turn movement) by City staff. The requirement to monitor this intersection and to implement the intersection modification when warranted is included in Mitigation Measure TR-2.

Unsignalized Queuing Analysis. To determine the necessary turn pocket lengths at the intersections of Fairview Street/16th Street and Fairview Street/9th Street that would be affected by the proposed Project, LSA conducted an HCM-based queuing analysis for the 2040 Plus Project traffic condition. Table 3.17.G shows the results of this queuing analysis.

Table 3.17.G: 2040 Plus Project Fairview Street Turn Pocket Queuing

Intersection	Movement	Existing Pocket Length (ft)	95th percentile queue (ft)[1]	
			AM Peak Hour	PM Peak Hour
Fairview Street/16th Street	Northbound Left	50	<25	<25
Fairview Street/9th Street	Northbound Left	55	33	38
	Southbound Left	95	48	<25

[1] Queue length is based on a design vehicle length of 25 ft. Queue lengths of less than one vehicle are noted as "<25" to signify that a minimum of one vehicle length of queueing storage should be provided.

ft = foot/feet

Because the existing intersection geometrics have storage lengths that exceed the calculated queue lengths, modifications to existing pocket lengths are not necessary to accommodate 2040 Plus Project traffic queues.

Pedestrian and bicyclist facilities along Fairview Street that currently exist on both sides of the bridge but not on the bridge itself would be connected by sidewalks and Class II bike lanes that are part of the proposed Project. The closure of this gap in the pedestrian network would benefit pedestrians traveling between destinations north of 17th Street, such as Leroy L. Doig Intermediate School, Samueli Academy, the Stater Bros. Market, the residential community south of the Santa Ana River and the Fairview Triangle park.

With implementation of Mitigation Measure TR-2, which will address the projected deficiency at the intersection of Fairview Street and Civic Center Drive, Project operation would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant with mitigation incorporated.

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?

Less Than Significant Impact. CEQA Guidelines section 15064.3 was certified and adopted in December 2018. Section 15064.3 provides that VMT is the most appropriate metric to assess transportation impacts. Other relevant considerations may include a project's effects on transit and nonmotorized travel. Section 15064.3, subdivision (b) further provides that transportation projects that reduce VMT should be presumed to cause a less-than-significant impact. For roadway capacity projects, a lead agency has "discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements." Based on CEQA Guidelines section 15064.3, VMT analysis will be required Statewide beginning July 1, 2020.

Consistent with CEQA Guidelines section 15064.3, the City adopted new Local Guidelines for Implementing the California Environmental Quality Act in June 2019, which included a requirement for a quantitative analysis of VMT associated with a transportation project that adds capacity. However, a quantitative analysis of Project-generated VMT was not conducted as the transportation analysis for this project was prepared prior to June 2019. As such, a qualitative analysis of potential VMT impacts associated with the proposed Project is provided below.

The purpose of the proposed Project is to reduce congestion and improve pedestrian and bicyclist safety on Fairview Street between 9th Street and 16th Street, consistent with the Orange County Master Plan of Arterial Highways and the City's General Plan Circulation Element. Currently, the Fairview Street bridge is utilized by bicyclists and pedestrians to cross over the Santa Ana River, but there are no existing sidewalks or bike lanes on the bridge or bike lanes between 9th Street and 16th Street. As part of the Project, the Fairview Street bridge would be replaced with a new six-lane bridge (three lanes in each direction), including a complete bridge deck with barrier rails, sidewalks, bicycle lanes, a raised median, and lighting and Class II bike lanes would be added between 9th Street and 16th Street. These features would improve the safety of the area for both motorized and nonmotorized travel.

Because the Project would add lane capacity to the Fairview Street bridge, some traffic currently using other routes would use a widened Fairview Street bridge, which would increase VMT in the area. On the other hand, the improved bridge may attract additional pedestrians and bicyclists due to added sidewalks and bikeways. Therefore, the proposed project would support nonmotorized travel. As such, the proposed Project would not conflict or be inconsistent with *State CEQA Guidelines* section §15064.3, subdivision (b). Impacts would be less than significant, and no mitigation is required.

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. The Project segment of Fairview Street bridge and the SART do not currently include hazardous design features, and operations of those facilities do not include any incompatible uses. The proposed Fairview Street bridge and SART modifications would be designed and constructed consistent with applicable CBC and Caltrans seismic design standards and would not include hazardous design features or incompatible uses. The construction of the proposed improvements would be completed with materials consistent with standard City requirements. Therefore, construction and operation of the proposed Project would not increase hazards due to a design feature or incompatible uses. This impact would be less than significant, and no mitigation is required.

d. Would the project result in inadequate emergency access?

Less Than Significant with Mitigation Incorporated. There are no hospitals, fire stations, or police stations on the Project segment of the Fairview Street bridge. However, Fairview Street provides a direct north-south route across the Santa Ana River in Santa Ana. Construction of the proposed Project would require temporary closure of one travel lane at a time on the bridge, which would temporarily delay local vehicular traffic and could temporarily affect emergency responders. Coordination with emergency responders with respect to reducing delays and identifying detour routes would avoid significant impacts with regards to emergency access. This requirement is included as part of the TMP specified in Mitigation Measure TR-1. Therefore, with implementation of Mitigation Measure TR-1, the proposed Project would not result in inadequate emergency access.

3.17.3 Mitigation Measures

Mitigation Measure TR-1

Transportation Management Plan. During the construction phase, the Construction Contractor shall be required to submit a TMP to the City of Santa Ana (City) Director of Public Works, or designee, for review and approval. During construction, the City Director of Public Works, or designee, shall require the Construction Contractor to adhere to all requirements of the Traffic Management Plan (TMP). The TMP shall include the following:

- Notices of lane closures in local media and posted on the City's website.

- Advance notice to the public and local emergency service providers regarding the timing, location, and duration of construction activities.

- Procedures for coordination with OC Parks to ensure appropriate bicycle/pedestrian detour routes and ensure appropriate signage is provided to display the dates of the closures and to identify the detour routes

- Procedures for coordination with emergency service providers to minimize temporary delays in emergency response times. Such coordination could include the identification of alternative routes for emergency vehicles and routes across the construction area.

Mitigation Measure TR-2 **Fairview Street/Civic Center Drive Intersection LOS Monitoring**. As part of the City's annual review of its Capital Improvement Program, the City Traffic Engineer will evaluate the function of the intersection of Fairview Street and Civic Center Drive to ensure that it operates at adequate level of service (LOS). If LOS is deficient, the City will restripe the westbound shared left-through turn lane to a shared left-through-right turn lane.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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) or	☐	☐	☐	☒
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.	☐	☐	☐	☒

3.18.1 Existing Setting

Assembly Bill (AB) 52, which became law on January 1, 2015, provides for consultation with California Native American tribes during the CEQA environmental review process, and equates significant impacts to "tribal cultural resources" with significant environmental impacts. PRC Section 21074 states that tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are one of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources.
- Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.
- 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A "historical resource" (PRC Section 21084.1), a "unique archaeological resource" (PRC Section 21083.2(g)), or a "nonunique archaeological resource" (PRC Section 21083.2 (h)) may also be a tribal

cultural resource if it is included or determined to be eligible for inclusion in the California Register. The consultation provisions of the law require that a public agency consult with local Native American tribes that have requested placement on that agency's notification list for CEQA projects. Within 14 days of determining that a project application is complete, or a decision by a public agency to undertake a project, the lead agency must notify tribes of the opportunity to consult on the project, should the tribes have previously requested to be on the agency's notification list. California Native American tribes must be recognized by the NAHC as traditionally and culturally affiliated with the project site and must have previously requested that the lead agency notify them of projects. Tribes have 30 days following notification of a project to request consultation with the lead agency.

The purpose of consultation is to inform the lead agency in its identification and determination of the significance of tribal cultural resources. If a project is determined to result in a significant impact on an identified tribal cultural resource, the consultation process must occur and conclude prior to adoption of a Negative Declaration or Mitigated Negative Declaration, or certification of an Environmental Impact Report (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

3.18.2 Impact Analysis

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) or

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.

No Impact. The City submitted letters on April 11, 2018, notifying California Native American tribes traditionally and culturally affiliated with the Project area and vicinity about the proposed Project. No tribes requested consultation pursuant to PRC Section 21080.3.1. Because no responses were received from California Native American tribes, the proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource. No impacts would occur. The correspondence related to tribal cultural resources defined in PRC Section 21074 is included in Appendix A.

Handling of previously unknown cultural resources or human remains discovered during construction is subject to State regulatory requirements and is included in Mitigation Measures CULT-1 and CULT-2, respectively.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☒	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Existing Setting

The Project area is subject to the requirements of the Santa Ana RWQCB and is served by the Irvine Ranch Water District Company. Electric services for Santa Ana are provided by Southern California Edison, and the Southern California Gas Company provides the natural gas services. An existing 12-inch water line and a bank of 12 phone conduits cross the Santa Ana River, suspended under the deck of the existing bridge. The water service provider in the Project area is Santa Ana Municipal Utility Works. The phone service providers in the Project area include AT&T U-Verse and Time Warner Cable. The closest landfill to the Project area is the Frank R. Bowerman Landfill, located in Orange County, approximately 14.4 mi east of the Project area.

3.19.2 Impact Analysis

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 with Mitigation Incorporated. Potential impacts related to 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, are discussed below.

Water and Wastewater. The 12-inch water line that cross the Santa Ana River, suspended under the deck of the existing bridge, would be temporarily relocated during construction and

then permanently relocated to the new bridge, which could halt water service for approximately 3 hours. Although standard construction procedures would be employed to avoid accidents or excessive disruptions to water service, there is a potential for an extended loss of water service. Any relocation of water facilities would occur during the construction phase such that water services are permanently maintained. To avoid any significant impacts to water service or other utilities during the construction phase, coordination with utility providers and completion of an updated utility search to determine utility conflicts that would require protection in-place or relocation are necessary. Any modifications to utility facilities are required to be coordinated with the applicable utility provider to minimize the risk of disruption of services and damage to the facilities, to ensure advance notification of any temporary service disruptions to the public, and to protect the safety of the construction workers and the general public. These requirements are specified in Mitigation Measures UTL-1 and UTL-2. Therefore, with implementation of Mitigation Measures UTL-1 and UTL-2, the relocation or construction of new water facilities would not cause significant environmental effects.

The proposed Project would not result in any new land uses that would consume water or generate wastewater. Water would be used during construction to reduce fugitive dust in compliance with SCAQMD Rules 402 and 403 and during operation for landscape irrigation. Landscaping would include native trees and low-water-use shrubs along Fairview Street, which would not demand a substantial increase in water used for irrigation in comparison to existing conditions in the Project area. The amount of water used during construction and operation would be minimal, and water use during construction would cease when construction is completed. No wastewater would be generated as a result of construction or operation of the proposed Project.

Stormwater Drainage. The proposed Project would improve the river hydraulics upstream of the bridge by lowering the water surface elevation and reducing the length of the subcritical flows by approximately 300 ft. Therefore, implementation of the proposed Project would have a beneficial effect on the flood control functions of the surface waters upstream of the Project area. A 60-inch storm drain exists from 17th Street to the northwest corner of the bridge, which has an outlet and drains into the Santa Ana River. However, the proposed Project would avoid impacting the storm drain outlet into the Santa Ana River. Additionally, the proposed Project would maintain the overall drainage patterns in the Project area and would not substantially increase the rate or amount of surface runoff in a manner that would result in on-site or off-site flooding. Therefore, the proposed Project would not result in the need for new storm water drainage facilities or the expansion of existing facilities.

Electric Power and Natural Gas. As discussed in Response 3.6.2(a), energy usage on the Project site during construction would be temporary in nature and would be relatively small in comparison to available energy sources. Once operational, the proposed Project would not require the consumption of natural gas. Electric power associated with the proposed Project would only be associated with minimal electricity consumption associated with lighting along the Project segment. As such, implementation of the proposed Project would not result in a long-term substantial demand for electric power and natural gas. However, there is the potential for relocation of one or more utility poles along the Project alignment. Any

modifications to utility poles are required to be coordinated with the applicable utility provider to minimize the risk of disruption of services and damage to the facilities, to ensure advance notification of any temporary service disruptions to the public, and to protect the safety of the construction workers and the general public. These requirements are specified in Mitigation Measures UTL-1 and UTL-2. Therefore, with implementation of Mitigation Measures UTL-1 and UTL-2, the proposed Project would not require or result in the relocation or construction of new or expanded electric power or natural gas facilities, the construction of which could cause significant environmental effects.

Telecommunication Facilities. The bank of 12 phone conduits that cross the Santa Ana River over the Santa Ana River would be temporarily relocated during construction and then permanently relocated to the new bridge. Telecommunication disruptions would generally not exceed 3 hours. As discussed above, Mitigation Measure UTL-1 requires coordination with utility providers during the construction phase, and Mitigation Measure UTL-2 requires conducting an updated utility search to determine all utility conflicts that would require protection in-place or relocation. Therefore, with implementation of Mitigation Measures UTL-1 and UTL-2, the relocation or construction of new or expanded telecommunications facilities would not cause significant environmental effects.

Summary. With implementation of Mitigation Measures UTL-1 and ULT-2, the proposed Project would not require or result in the relocation or construction of new or expanded facilities for water, wastewater treatment, storm drainage, electric power, natural gas, or telecommunications, the construction of which could cause significant environmental effects. Therefore, impacts would be less than significant with mitigation incorporated.

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. Refer to Response 3.19.2(a), above. As discussed in that response, water use during construction and operation would be minimal, and water supplies for construction activities would be temporary in nature, ceasing upon construction completion. In addition, the minor increase in water use during operation for irrigation would not require additional entitlements or resources. Therefore, construction and operation of the proposed Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, and no impact would occur. No mitigation is required.

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. No wastewater would be generated as a result of construction or operation of the proposed Project. Therefore, the proposed Project would not result in a determination by the wastewater treatment provider that serves or may serve the proposed Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, and no impact would occur. No mitigation is required.

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. The proposed Project would generate construction waste that would require disposal in local landfills. The closest landfill to the Project site is the Frank R. Bowerman Landfill, which is currently permitted to operate until December 2053 and has a remaining capacity of 205,000,000 cubic yards.[61] The maximum permitted daily capacity of the landfill is 11,500 tons per day. In addition, there is additional recycling capacity for the generated construction/demolition materials at the following facilities: Ewles Materials, All American Asphalt, Tierra Verde Industries, and Sunset Environmental in Irvine, and Madison Materials in Santa Ana. Therefore, these landfills would provide adequate waste disposal services in accepting construction waste generated by the proposed Project. Construction waste would be recycled as appropriate. Waste collected during road maintenance associated with operation of the proposed Project would be limited and would be similar to the amount of waste collected during maintenance of the existing roadway. The proposed 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 during construction or operation. Therefore, a less-than-significant impact would occur. No mitigation is required.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. Waste generated during construction of the proposed Project would be limited to construction debris (e.g., concrete, rebar, and vegetation associated with clearing and grading, and with the widening of Fairview Street and replacement of the bridge) and would not generate an excessive amount of solid waste that would exceed the capacity of the Frank R. Bowerman Landfill. Construction waste would be disposed of in accordance with federal, State, and local regulations related to recycling, including the California Integrated Waste Management Act of 1989 (AB 939). Operation of the completed Project would generate very limited waste material. Specifically, waste collected during maintenance would be collected and disposed of consistent with City policies. Therefore, the proposed Project would comply with all federal, State, and local statutes and regulations related to solid waste, and no impact would occur. No mitigation is required.

3.19.3 Mitigation Measures

Mitigation Measure UTL-1 **Coordination with Utility Providers.** During the construction phase, the Construction Contractor will coordinate with utility service providers in the area to minimize the risk of disruption of services and damage to any utility facilities present within the disturbance limits, to ensure advance notification of any temporary service disruptions to the public, and to protect the safety of the construction workers and the general public.

[61] OC Waste & Recycling. *Frank R. Bowerman Landfill*. Website: http://www.oclandfills.com/landfill/active/bowerman (accessed August 2019).

Mitigation Measure UTL-2 **Updated Utility Survey.** During the design phase, the Project Engineer will provide the City of Santa Ana (City) Director of Public Works, or designee, with an updated utility survey to update information on known utility facilities as well as previously unidentified/unknown or new utility facilities within the disturbance limits.

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.20.1 Existing Setting

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed camp fires, cigarettes, sparks from automobiles, and other ignition sources. According to the California Department of Forestry and Fire Protection, the Project site is within a designated Non-VHFHSZ.[62] The project is not located in or near state responsibility areas.

3.20.2 Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed Project is anticipated to improve traffic along Fairview Street once the improvements are operational. Therefore, the completed Project should have a beneficial impact on emergency response and evacuation in the Project area and vicinity. Moreover, since the Project area is not located in or near a VHFHSZ nor is it located in or near a State Responsibility Area, potential impacts associated with emergency response or evacuation would not pertain to wildfire and would more likely be associated with an urban fire or other emergency situations. Therefore, operation of the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. There would be no impact, and no mitigation is required.

62 California Department of Forestry and Fire Protection. 2011. op. cit.

b. 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 stated previously, the Project area is not located in or near a VHFHSZ nor is it located in or near a State Responsibility Area. Therefore, the proposed Project would not exacerbate wildfire risks due to slope and prevailing winds, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. There would be no impact, and no mitigation is required.

c. 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. Utility modifications and the proposed roadway improvements would not exacerbate fire risk due to the location of the Project in an urban area outside of a designated fire hazard zone. Therefore, the proposed Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that would exacerbate fire risk or result in temporary or ongoing impacts to the environment. There would be no impact, and no mitigation is required.

d. 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. Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking but can also occur as a result of erosion and downslope runoff caused by rain following a fire. As previously discussed in Response 3.7.2(a)(iv), the proposed Project would not introduce any new topographical features or elements that would increase the risk of landslide within the Project vicinity. Furthermore, as stated previously, the Project is not located in or near a VHFHSZ nor is it located in or near a State Responsibility Area. Therefore, the proposed Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, postfire slope instability, or drainage changes. There would be no impact, and no mitigation is required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does 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?	☐	☒	☐	☐
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.)	☐	☒	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 Impact Analysis

a. Does 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 with Mitigation Incorporated. As described in the analysis in this IS/MND, the proposed Project would not degrade the quality of the environment, substantially reduce the habitats of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal with implementation of Mitigation Measures BIO-1 through BIO-9 listed in Section 3.4, Biological Resources. In addition, the proposed Project would not eliminate important examples of major periods of California history or prehistory with implementation of Mitigation Measures CULT-1 and CULT-2 listed in Section 3.5, Cultural Resources, and Mitigation Measure GEO-1, listed in Section 3.7, Geology and Soils. With implementation of the mitigation measures listed above, impacts 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 with Mitigation Incorporated. As a roadway improvement project, the proposed Project would result in minor changes to the environmental setting. The proposed Project

would reduce traffic congestion and improve safety for motorized and nonmotorized travel. Other impacts are minor and would not be considered cumulatively considerable because they would be addressed through compliance with mitigation measures described throughout this document and regulatory requirements. Therefore, with mitigation incorporated, the proposed Project would not have impacts that are individually limited but cumulatively considerable.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant with Mitigation Incorporated. Implementation of the proposed Project has the potential to result in significant impacts related to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation, and utilities and service systems, which could indirectly impact human beings. However, with the exception of transportation, these impacts are related to construction activities, which are temporary and would cease once the project is operational. In addition, implementation of the mitigation measures described throughout this document would reduce all potential impacts to less-than-significant levels. Therefore, the proposed Project would not result in environmental impacts that would cause substantial adverse effects on human beings.

3.21.2 Mitigation Measures

Refer to 3.1, Aesthetics, for Mitigation Measure AES-1, Section 3.3, Air Quality, for Mitigation Measure AQ-1; Section 3.4, Biological Resources, for Mitigation Measures BIO-1 through BIO-9; Section 3.5, Cultural Resources, for Mitigation Measures CULT-1 and CULT-2; Section 3.7, Geology and Soils, for Mitigation Measure GEO-1; Section 3.9, Hazards and Hazardous Materials, for Mitigation Measure HAZ-1; Section 3.10, Hydrology and Water Quality, for Mitigation Measures HYDRO-1 through HYDRO-3; Section 3.13, Noise, for Mitigation Measure NOISE-1; Section 3.17, Transportation, for Mitigation Measures TR-1 and TR-2; and Section 3.19, Utilities and Service Systems, for Mitigation Measures UTL-1 and UTL-2.

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APPENDIX A

TECHNICAL REPORTS (ON CD)

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APPENDIX B

AIR QUALITY MODELING WORKSHEETS

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APPENDIX C

AREA OF POTENTIAL AFFECTS (APE) MAP

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APPENDIX D

MITIGATION MONITORING AND REPORTING PROGRAM

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